Vapor Intrusion Investigation and Sub-Slab Depressurization System Operation February 2012 Monitoring Report Lockheed Martin Middle River Complex 2323 Eastern Boulevard Middle River, Maryland

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ACRONYMS

2-D	two-dimensional
3-D	three-dimensional
ABC	Building A Basement, center
ABN	Building A Basement, north
ABS	Building A Basement, south
AC	Building A, central
AN	Building A, north
APS	Building A Plating Shop
AS	Building A, south
B	laboratory blank contamination
BBN	Building B Basement, north
BC	Building B, central
BN	Building B, north
BS	Building B south
BTEX	benzene, toluene, ethylbenzene, xylenes
BUC	Building B Utility Tunnel, center
BUN	Building B Utility Tunnel, north
BUS	Building B Utility Tunnel, south
ca	carcinogenic
CBS	Building C Basement machining area
CBC	Building C Basement, center
CBN	Building C Basement, north
CBS	Building C Basement, south
CC	Building C, central
cfm	cubic feet per minute
CN	Building C, north
COC	chemical(s) of concern
CS	Building C, south
DCA	dichloroethane
DCE	dichloroethene
°F	degrees Fahrenheit
FC	Fire Coat Building

DUP	duplicate
Freon 22	chlorodifluoromethane
GAC	granular activated carbon
GC/MS	gas chromatography/mass spectrometry
HVAC	heating, ventilation, and air conditioning
in. Hg	inch(es) of mercury
IA	indoor air
IAQ	indoor air quality
inch WC	inch(es) water column
IRIS	*Integrated Risk Identification System*
J	compound positively identified but quantitation is estimated
lbs	pound(s)
lbs/day	pound(s) per day
LMCPI	LMC Properties, Inc.
Lockheed Martin	Lockheed Martin Corporation
MDE	Maryland Department of the Environment
µg/m^3	microgram(s) per cubic meter
mph	mile(s) per hour
MRC	Middle River Complex
MTBE	methyl-tertiary-butyl ether
nc	non-carcinogenic
NJ	presumptive evidence of compound and estimated concentration
PCE	tetrachloroethene
R	data rejected
SSD	sub-slab depressurization
scfm	standard cubic feet per minute
SV	sub-slab vapor
Tetra Tech	Tetra Tech, Inc.
TCA	trichloroethane
TCE	trichloroethene
TMB	trimethylbenzene
U	not detected
UJ	not detected (quantitation limit estimated)
USEPA	United States Environmental Protection Agency
VC	vinyl chloride
VCP	Voluntary Cleanup Program
VLS	vertical launch system

VMP	vapor monitoring point
VOC	volatile organic compound

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Section 1
Introduction

Tetra Tech, Inc. (Tetra Tech) has prepared this report on behalf of Lockheed Martin Corporation (Lockheed Martin) to document the first round of calendar year 2012 indoor air quality (IAQ) and sub-slab vapor (SV) monitoring at Lockheed Martin's Middle River Complex (MRC) in Middle River, Maryland. It presents the results from Round 12 (February 2012) of indoor air quality and sub-slab vapor monitoring at Buildings A, B, and C, and at background locations. This report also includes an update on the operation of the two sub-slab depressurization (SSD) vapor intrusion mitigation systems installed in 2008 beneath the Building A Plating Shop and beneath the south end of the Building C Basement.

This ongoing investigation evaluates whether volatile organic compounds (VOCs) in sub-slab vapors associated with soil and groundwater chemicals of concern (COC) at the site might be migrating into indoor air at Middle River Complex facilities. The first 2012 monitoring round continues investigations previously described in the following reports:

- *Indoor Air Quality Investigation of Buildings A, B, C, and the (Vertical Launch System) VLS (Facility), Lockheed Martin Middle River Complex, 2323 Eastern Boulevard Middle River, Maryland* (Tetra Tech, 2007)
- *Indoor Air Quality Investigation Round 3, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard Middle River, Maryland* (Tetra Tech, 2008a)
- *Indoor Air Quality Investigation 2008 Summary Report, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard Middle River, Maryland* (Tetra Tech, 2008b)
- *Vapor Intrusion Investigation and Sub-Slab Depressurization System Operation 2009 Summary Report Lockheed Martin Middle River Complex, 2323 Eastern Boulevard Middle River, Maryland* (Tetra Tech, 2010a)
- *Indoor-Air-Quality Investigation August 2010 Summary Report, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard Middle River, Maryland* (Tetra Tech, 2010b)

- *Vapor Intrusion Investigation and Sub-Slab Depressurization System Operation August 2010 Monitoring Report, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard Middle River, Maryland* (Tetra Tech, 2011b)

- *Vapor Intrusion Investigation and Sub-Slab Depressurization System Operation February 2011 Monitoring Report, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard Middle River, Maryland* (Tetra Tech, 2011c)

- *Vapor Intrusion Investigation and Sub-Slab Depressurization System Operation August 2011 Monitoring Report, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard Middle River, Maryland* (Tetra Tech, 2012a)

This report is organized as follows:

Section 2—Site Background: Briefly describes the history and condition of the site and previous investigations.

Section 3—Indoor-Air Quality and Vapor-Intrusion Investigation Round 12: Presents the technical approach to the 2012 investigation, describes the sampling and analyses performed, and discusses the Round 12 results, as well as the data collected to evaluate sub-slab depressurization system operation.

Section 4—Sub-Slab Depressurization-System Data Analysis: Analyzes relevant data and evaluates sub-slab depressurization system performance.

Section 5—Conclusions and Recommendations: Presents conclusions based on the Round 12 sampling results and recommends future site vapor-intrusion-related work.

Section 6—References: Lists the references used in this report.

Section 2
Site Background

2.1 SITE HISTORY

The Middle River Complex (MRC) land parcels owned by LMC Properties, Inc. (LMCPI) are undergoing extensive site characterization studies to support remedial decisions under the Maryland Department of the Environment's (MDE) Voluntary Cleanup Program (VCP). Ongoing environmental characterization of the MRC has identified subsurface soil and groundwater contamination from volatile organic compounds (VOCs) under or near occupied workspaces (Tetra Tech, Inc. [Tetra Tech], 2006a). If a complete pathway exists from the subsurface into a building, these compounds could potentially volatilize and migrate into the workspace. Other, non-subsurface sources could also potentially affect indoor air contaminant concentrations, including indoor emissions from process chemicals, building materials, and other sources, as well as ambient (outdoor) air contributions (i.e., confounding sources).

In August 2006, Lockheed Martin Corporation (Lockheed Martin) sampled sub-slab vapor (SV) from beneath the Building A Basement and Plating Shop and beneath the southern section of the Building C Basement (Tetra Tech, 2006a). These locations were selected because VOC contamination had been observed in underlying groundwater. Analytical results from the SV sampling, as well as other site-specific information, were used as inputs for a human health risk assessment model (Johnson and Ettinger model). The model estimated that these risks are at or below MDE and U.S. Environmental Protection Agency (USEPA) threshold values (Tetra Tech, 2006a). However, because of uncertainties inherent in modeling, a supplemental indoor air quality (IAQ) investigation was proposed to observe whether VOC contaminants were in indoor air, and, if so, whether they could be associated with subsurface VOC contamination.

2.2 HISTORICAL INDOOR AIR QUALITY RESULTS

Eleven rounds of IAQ monitoring have been completed for MRC Buildings A, B, and C: in December 2006, April 2007, October 2007, March 2008, August 2008, July 2009, October 2009,

February 2010, August 2010, February 2011, and August 2011. The results of the first monitoring round (in December 2006) for the vertical launch system (VLS) facility indicated no need for additional sampling there, as no analyzed constituents were detected in the VLS above their applicable screening levels (Tetra Tech, 2007). Analytical results for Buildings A, B, and C (included in Appendix F) over the 11 rounds indicate that some (but not all) chemicals of concern (COC) identified in the subsurface have also been detected in background and IAQ samples. (Background samples, i.e., outdoor air samples collected at the four corners of the facility property, are used to measure on-site concentrations of chemicals that may be attributable to non-MRC sources, and are also used to identify possible chemical contributions from site operations.)

IAQ data for the chemicals of concern were compared to risk-based screening levels derived using conservative USEPA default exposure assumptions and toxicity values. Screening-level concentrations are based on the risk levels acceptable to and described in MDE's VCP guidance (i.e., 10^{-5}, or a one in 10,000 excess lifetime cancer risk). One COC, trichloroethene (TCE), was compared to a range of risk-based screening values due to uncertainty associated with its toxicity. These values were derived from the USEPA toxicity criteria currently used by MDE.

These analyses indicated that most VOCs detected in IAQ samples are probably *not* associated with SV intrusion. Migration of SV into indoor air may be occurring in limited locations. TCE in IAQ samples may be associated with SV migration at the Building A Plating Shop and in the Building C Basement, since it has co-occurred with a marker chemical (cis-1,2-dichloroethene) found only in SV samples.

The results of the first three rounds of monitoring led the project team to recommend mitigation for locations where chemicals in SV are known to be at concentrations above risk-based screening levels, indicating possible SV intrusion. The project team also recommended additional IAQ and SV sampling to address areas of uncertainty identified in subsequent rounds of monitoring. In response to these recommendations, from March 12–29, 2008, two SV mitigation systems were designed and installed: one beneath the Building A Plating Shop, and one beneath the south end of the Building C Basement, with full system startup on March 31, 2008. Periodic combined IAQ and SV monitoring rounds continue to investigate possible sources of SV, evaluate the performance of the sub-slab depressurization (SSD) systems, and provide ongoing protection of worker health and safety with respect to potential vapor intrusion.

Section 3
Indoor Air Quality and Vapor Intrusion Investigation Round 12

3.1 INVESTIGATION APPROACH AND GUIDANCE

The indoor-air quality (IAQ) sub-slab vapor (SV) investigation seeks to evaluate whether volatile organic compounds (VOCs) in SV associated with soil and groundwater contamination at the site might be migrating into indoor air at Middle River Complex (MRC) facilities. Key aspects of the investigative methodology include:

- site reconnaissance by Tetra Tech, Inc. (Tetra Tech) industrial hygienists to identify IAQ and SV sampling locations
- development of a site-specific and monitoring round-specific sampling plan based on information obtained during site reconnaissance and from reviews of historical information and reports
- inspection of sampling locations before fieldwork to assess the condition of proposed sampling points and to identify changes in operations or building conditions
- sampling and analysis using methods designed to measure low VOC concentrations in air
- interpretation of results

Relevant guidance used to develop and perform this investigation includes:

- "Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils" (U.S. Environmental Protection Agency [USEPA], 2002)
- *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition.* "Compendium Method TO-15: Determination of VOCs in Air Collected in Specially Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)" (USEPA, 1999)
- Maryland Department of the Environment (MDE) *Voluntary Cleanup Program (VCP) Guidance Document* (MDE, 2006)

3.2 IAQ AND SV SAMPLING AND ANALYSIS

3.2.1 IAQ and SV Sampling Events

MRC locations originally selected for IAQ sampling are presented in Table 3-1 of the *IAQ Assessment Work Plan* (Tetra Tech, 2006b). These locations have shifted over time, based on the results of each monitoring round and due to changes in the facility's layout and operations. Before Round 12 sampling, 20 new SV monitoring points (VMPs) had been proposed for installation beneath key areas of Buildings A and C to further delineate the extent of possible SV intrusion in areas where elevated levels of VOCs had been detected in previous monitoring rounds. Locations for these proposed VMPs are identified in the *Work Plan Addendum Indoor Air and Sub-Slab Sampling Round 12* (Tetra Tech, 20121b). The 20 new VMPs were installed in January 2012, as follows: five in Building A (one in the basement and four on the first floor), three in Building B (two on first floor and one in Fire Coat Building) and 12 in the basement of Building C. All VMPs are stainless-steel soil-vapor probes installed in soils beneath the concrete building slabs.

A bentonite seal was placed above the sampling zone. Quick setting, contaminant-free Portland cement sealed the VMPs at the surface. The sampling train was also sealed at the surface with VOC-free modeling clay. Sampling tubing was closed using Swagelok® fittings (to prevent atmospheric infiltration). Sampling locations were finished to grade with protective flush mounted vaults.

Leak testing (using helium as a tracer gas) was used to evaluate possible atmospheric infiltration at each newly installed VMP. Helium was introduced into a five-gallon bucket positioned over the sampling location and sealed to the floor with VOC-free modeling clay. The bucket was equipped with an outlet for the Teflon® sampling tubing. A direct-reading field instrument (Model MGD-2002 Multi-Gas Leak Locator) monitored the sampling tube for helium. All new VMP locations were found to be leak free, with no indication of any potential for atmospheric infiltration (i.e., helium detections in the tubing).

Not all of the monitoring points across Buildings A, B, and C used for previous investigations were sampled again; samples were collected selectively in or adjacent to areas where contaminants had been previously detected or were currently suspected, and/or to maintain a

systematic sampling grid across the building footprints. Figure 3-1 illustrates the background outdoor air locations sampled during Round 12. These are the same locations that have historically been used for background sampling. The locations of the VMPs sampled, as well as historical VMP locations, are shown in Figures 3-2, 3-3, and 3-4. VMPs sampled during this round are shown as a large blue dot. In all cases, each sampling location was situated in the lowest level of a given portion of the building in question.

VMPs were inspected on January 18, 2012, before fieldwork was scheduled to begin, to allow adequate time to repair any damaged locations. Upon inspection, 11 VMPs (SV074-A through SV077-A, SV057-B, SV044-C, SV055-C, SV060-C, SV088-C, SV091-C and SV104-C) were determined to have smaller-diameter flush-mounted protective casings. The small annuli in these 11 VMPs made the associated tubing increasingly prone to kinking and rupture. Larger diameter flush-mounted covers provide adequate space to coil the tubing within the casing for storage without damaging the tubing. Therefore, the casings on these 11 VMPs were over drilled with a concrete coring machine and a new, larger flush-mounted protective casing was installed at each location. Each casing was set, and concrete was installed down into the casing and around the edge to secure the cover to the floor and provide an airtight seal.

Two VMP locations (SV110-A and SV051-C) contained water within the casing that prevented the collection of an air sample. These VMPs may have to be abandoned and relocated because water has consistently been found within the casings. No other maintenance was conducted, as upon inspection all covers, fittings, and tubing in the other VMPs were in working order. IAQ samples were co-located with all monitored VMP locations to evaluate possible relationships between sub-slab and IAQ results. IAQ sampling locations were also selected to further evaluate areas where elevated results had been previously reported.

For data organization and interpretation, each building was divided into areas encompassing multiple sampling locations. A “Sampling Area Locations” table identifying which sampling locations are in each area is included with the historical data tables in Appendix F. These areas are:

BUILDING A	BUILDING B	BUILDING C
• Building A north (AN)	• Building B north (BN)	• Building C north (CN)
• Building A central (AC)	• Building B central (BC)	• Building C central (CC)
• Building A south (AS)	• Building B south (BS)	• Building C south (CS)
• Building A Plating Shop (APS)	• Building B Basement north (BBN)	• Building C Basement north (CBN)
• Building A Basement north (ABN)	• Building B Utility Tunnel north (BUN)	• Building C Basement center (CBC)
• Building A Basement center (ABC)	• Building B Utility Tunnel center (BUC)	• Building C Basement south (CBS)
• Building A Basement south (ABS)	• Building B Utility Tunnel south (BUS)	
	• Fire Coat Building (FC)	

Round 12 sampling was performed on February 21–22, 2012. It collected and analyzed 56 IAQ samples (plus four duplicates) and 54 SV samples (plus four duplicates) from interior locations at Buildings A, B, and C. Two fewer SV samples were collected because two sub-slab locations had water in their vaults and tubing (051-C and 110-A). Also collected were ambient air samples from four background locations, bringing the number of samples collected during this round to 120. As in Round 11, sampling focused on the IAQ sampling locations in Buildings A, B, and C that have historically had concentrations of trichloroethene (TCE) greater than 1 microgram per cubic meter ($\mu g/m^3$) (a concentration less than TCE's screening level [8.8 $\mu g/m^3$]), and SV concentrations greater than screening levels, while maintaining a sampling grid across the building footprints. TCE has been targeted as a primary COC due to its history of use at the site, its toxicity, and its mobility in the environment.

The following observations were recorded during the February 2012 sampling event:

- The sub-slab depressurization (SSD) systems were shut down 24 hours before sampling began as planned.

- Mean outdoor ambient temperature during the sampling period ranged from 37 degrees Fahrenheit (°F) on February 21 to 50°F on February 22. Barometric pressure dropped during the two-day sampling period from 30.19 inches of mercury (in. Hg) to 29.73 in. Hg. Winds were light at three miles per hour (mph) at the beginning of the day, increasing as the day passed, with intermittent gusts up to 26 mph from the south–southeast on February 21, shifting to the south at 3 mph on February 22. No precipitation fell during the sampling period.

- Building A is a one-story building except for a basement corridor under an open air loading dock on its western side. Roof vents approximately 50 feet above the work floor were closed throughout Building A during Round 12 sampling. The large doors at the loading docks on the west side of the building were opened only intermittently as needed. No personnel or other activities were observed in the Building A Basement.

- All of the bay doors across the southern end of Building B were closed during the sampling period.

- The highest number of personnel, and greatest amount of activity, were observed in Building B, from the thrust-reverser assembly area in the southern portion of the building (BS) to the machining area in the central portion (BC). Building A had the next highest level of activity, in the Plating Shop (APS), Bonding Lay-Up and autoclave areas (AC, AS), and parts and assembly areas (AN). A level of activity similar to that observed during Round 11 was observed in the Building C Basement machining and storage operations (CBS and CBC).

- An SV sample was not collected from location 110-A in the Building A Basement, west of the former Marform pit, due to water in the tubing and in the vapor-monitoring-point vault. The local water table is thought to have been elevated.

- An SV sample was not collected from location 051-C in the northern portion of the Building C Basement, at column T6, due to water in the tubing and in the vapor-monitoring-point vault. Maintenance personnel indicated that the water at this location might have been associated with elevated groundwater or with a possible leak in the stormwater drainage system.

- The pressure gauge on background sampling location BCK-1 started at zero and did not move. Normally, the gauge is at zero before the canister is opened, and the needle typically moves upward to negative 30 inches (the maximum reading) upon opening. The needle then falls back toward zero as the canister is filled. The regulator was removed and re-attached, but the gauge still read zero. These results suggest that a sample was collected. Although results are similar to other background locations, whether the faulty gauge affected the results is unknown. Similarly, the pressure gauge on the indoor air (IA) sampler at location 076-A (AN) started at zero, and did not move. These results suggest that some sample was collected; however, whether the faulty gauge affected the results is unknown.

- Sampling location 123-Z is in a temperature and humidity controlled room on the east side of the Fire Coat Building. The temperature was 74°F and the humidity near 100% during the whole sampling period.

- A worker was applying thermal coating material (Lockheed Martin MRA 192, MR item K975B100, MRAS-4035/4036) in the northern part of the Fire Coat Building, approximately 15 feet from sampling location 105-Z. The specific volatile content of that material could not be determined at the time of sampling. A paint solvent odor was noticed in this room at the beginning of and during the sampling period. No spray painting/coating was observed in the spray booth in the southern part of the Fire Coat Building during the sampling period.

- IA sampling location 122-B, in the southeastern part of Building B, originally had the sampler on a workbench approximately five feet from its corresponding SV point. This sampler was subsequently moved following information from a worker indicating that a chrome spray paint with high VOC content was being applied in this area. The sampler was moved approximately 25 feet south of its original location; however, one paint application had already been performed before the move.

- Sampling locations 125-C and 126-C are in the northern and southern portions of the Martin Museum, respectively. Air conditioning was running in the museum during the whole sampling period.

- Sampling locations 118-A, 119-A, and 120-A are in the Bond Lay-Up clean rooms, which are environmentally controlled. The heating, ventilation, and air conditioning (HVAC) system was running and providing positive pressure in these rooms (relative to outside locations) during the sampling period.

3.2.2 Sampling and Analysis

Sampling was performed in accordance with the methods described in the *IAQ Assessment Work Plan* (Tetra Tech, 2006b) and the *Work Plan Addendum, Indoor Air and Sub-Slab Sampling Round 11* (Tetra Tech, 2011d). IAQ and sub-slab sampling and analysis were performed in accordance with USEPA's "Method Toxic Organic 15" (TO-15) for collection and analysis of VOCs (USEPA, 1999). Sub-slab soil vapor samples were likewise collected in accordance with standard operating procedures developed by the USEPA Environmental Response Team for soil vapor sampling (USEPA, 1996), as well as by methodologies developed by the USEPA Office of Research and Development (USEPA, 2004). IAQ and background air samples were collected over a six- to eight-hour period, whereas SV samples were collected over a one-hour period.

The facility-wide characterization now underway as part of the VCP has identified a list of chemicals that may be potential concerns for vapor intrusion at MRC; all samples have historically been analyzed for these chemicals. Groundwater data collected at the site are reviewed annually to identify possible new chemicals to be included in the VI investigation. The analytical list is amended as needed based on identification of chemicals in site groundwater

samples that might represent a potential vapor intrusion concern. A multi-step evaluation of groundwater data at the Middle River Complex was performed February 12, 2012 to identify additional chemicals not already included in the IA and SV analytical suite that may represent either a vapor intrusion concern or an emerging contaminant concern. The following steps were taken to arrive at the recommended additional analyte list:

- identification of chemicals not currently part of the IA-SV program.
- reviewing the detection frequency of these chemicals in historical groundwater data at wells within or near Block I to determine which chemicals are more prevalent.
- screening for chemicals of sufficient toxicity and volatility to represent a potential vapor intrusion concern using Table 1 in USEPA's 2002 draft guidance.
- comparing the maximum detected concentrations of the chemicals to the "Target Groundwater Concentrations" in Table 2b in USEPA's 2002 draft guidance.
- reviewing USEPA industrial-air screening levels to evaluate whether a proposed chemical's screening value could possibly be exceeded under a vapor intrusion scenario.

This analysis identified three new chemicals to add to this round of sampling: 1,2,4-trimethylbenzene, 1,2,3-trimethylbenzene, and 1,3,5-trimethylbenzene. 1,2,4-Trimethylbenzene was selected due to its prevalence in groundwater results and its low industrial-air screening level (31 µg/m^3). The 1,2,3- isomer also has a high prevalence in groundwater and a low screening (22 µg/m^3). These isomers, and the 1,3,5- isomer, were included because they may also be indicators of diesel fuel contamination.

Here is the current list of chemicals of concern (COC) for vapor intrusion monitoring at the MRC:

- benzene
- carbon tetrachloride
- chlorodifluoromethane (Freon 22)
- chloroform
- dichlorodifluoromethane
- 1,1-dichloroethane (1,1-DCA)
- 1,2-dichloroethane (1,2-DCA)
- 1,1-dichloroethene (1,1-DCE)
- naphthalene
- tetrachloroethene (PCE)
- toluene
- 1,2,4-trichlorobenzene
- 1,1,1-trichloroethane (1,1,1-TCA)
- 1,2,3-trimethylbenzene (1,2,3-TMB)
- 1,2,4-trimethylbenzene (1,2,4-TMB)
- 1,3,5-trimethylbenzene (1,3,5-TMB)

- cis-1,2-dichloroethene (cis-1,2-DCE)
- trans-1,2-dichloroethene (trans-1,2-DCE)
- ethylbenzene
- methyl-tertiary-butyl ether (MTBE)
- methylene chloride
- trichloroethene (TCE)
- 1,1,2-trichloroethane (1,1,2-TCA)
- vinyl chloride (VC)
- xylenes (total)

All samples were submitted to TestAmerica laboratories in Knoxville, Tennessee for analysis by gas chromatography/mass spectroscopy with cryogenic concentration (as described in Sections 9 and 10 of USEPA Method TO-15 [USEPA, 1999]). TestAmerica is certified in USEPA "Method TO-15" analysis and meets all quality assurance/quality control requirements specified in the TO-15 methodology. All samples were stored at ambient temperatures and shipped via overnight carrier to the laboratory within 24 hours of collection. All samples were submitted and analyzed within the method's specified holding time of 30 days. All appropriate chain of custody documentation was completed for each sample (see Appendix A). A table of method detection limits is included in Appendix B. Appendix C contains the laboratory analytical reports.

Analytical data were qualified (i.e., *U, B, D, E,* and *J* qualifiers were applied) in accordance with USEPA's *Contract Laboratory Program National Functional Guidelines* (USEPA, 2008). Attaching data qualifiers to analytical results signifies a quality control non-compliance. After validation, the following qualifiers were assigned to non-conforming data (i.e., data affected by technical limitations during laboratory analysis):

- *B,* indicating laboratory blank contamination
- *D,* indicating dilution of the sample for analysis
- *E,* indicating an estimated result before dilution
- *J,* indicating an estimated result where the result was less than the reporting limit
- *U,* indicating the chemical was not detected at the numerical detection limit (sample-specific quantitation limit)

Data validation reports and supporting documentation are in Appendix D.

3.3 DATA ANALYSIS

IAQ-monitoring analytical results for all compounds except trichloroethene (TCE) were compared to screening levels for industrial air set forth in USEPA's *Regional Screening Levels for Chemical Contaminants at Superfund Sites* (USEPA, 2011a). The lowest of the carcinogenic (*ca*) or noncarcinogenic (*nc*) values for each COC were used for the screening. Carcinogenic risk was evaluated at the 1×10^{-5} (one in 100,000) risk level, in accordance with MDE requirements.

Screening levels for TCE have evolved over time during site investigations. In the first two rounds of monitoring (2006 and 2007), the absence of a finalized USEPA risk assessment for TCE (and in accordance with MDE guidance) led to the use of draft USEPA toxicity values to derive two TCE screening levels. The lower of the two values (0.9 µg/m^3) was used to evaluate potential risk to sensitive sub-populations (e.g., infants, children, and the infirm). The higher value (18 µg/m^3) was used to evaluate potential risk to the general population, including industrial workers.

USEPA regional screening levels were published in 2008. A value of 61 µg/m^3 (corresponding to the 1×10^{-5} risk level, or a one in 10,000 excess lifetime cancer-risk) was used to evaluate indoor air data. From 2009 to August 2011, TCE was evaluated against 25 µg/m^3, which was the MDE screening level for TCE in industrial air. Only TCE was evaluated in this manner, as requested by MDE (MDE, 2009). However, on September 28, 2011, USEPA updated its toxicological review for TCE and, as part of this document, new toxicity criteria were published on USEPA's *Integrated Risk Information System* (IRIS). The new USEPA toxicity criterion resulted in a new TCE screening value of 8.8 µg/m^3 for industrial air (USEPA, 2011b). This is the lowest of the carcinogenic/noncarcinogenic values for TCE, and is based on noncarcinogenic effects. This new value was used to screen IAQ results in anticipation of MDE adopting the updated USEPA guidance.

USEPA updated its toxicological review for methylene chloride in November 2011. As part of that document, new toxicity criteria were published on IRIS, resulting in a new methylene chloride screening-value of 2,600 µg/m^3 for industrial air (USEPA, 2011b) (previous screening value of 260 µg/m^3). This is the lowest of the carcinogenic/noncarcinogenic values for methylene chloride, and is based on noncarcinogenic effects. This new value was used to screen the IAQ results in anticipation of MDE adopting the updated USEPA guidance.

Similarly, in February 2012, USEPA updated its toxicological review for PCE. As part of this document, new toxicity criteria were published on USEPA's IRIS database, and a new PCE screening value (175 µg/m^3) for industrial air was developed (USEPA, 2012) (previous screening value of 21µg/m^3). This is the lowest of the carcinogenic/noncarcinogenic values for PCE, and is based on noncarcinogenic effects. The older screening values were based on toxicity values promulgated by the State of California and the new values are from updated EPA research of PCE toxicity. This new value was used to screen the IAQ results in anticipation of MDE adopting the updated USEPA guidance.

SV sampling results were compared to SV screening values derived in accordance with methods discussed in Appendix D of USEPA's guidance for evaluating vapor intrusion (USEPA, 2002). SV screening values were calculated by dividing the indoor air screening levels (USEPA, 2008) by a conservative attenuation factor of 0.1. The attenuation factor represents the factor by which subsurface-vapor concentrations migrating into indoor air spaces are assumed to be reduced due to diffusive, advective, and/or other attenuating mechanisms. Simply stated, the soil gas is expected to get diluted upon migration into indoor air. The attenuation factor is therefore the ratio of the indoor air concentration of a constituent to its subsurface vapor concentration under a conservative vapor intrusion scenario.

Figures illustrating the spatial distribution of TCE and cis-1,2-DCE concentrations in SV for Round 12 are in Appendix F (Figures F-7 and F-8, respectively). These figures provide a two-dimensional portrayal of sub-slab concentrations of 1,2-cis-DCE and TCE that are color-coded and contoured according to concentration trends. Three-dimensional figures illustrating the spatial distribution of Round 12 TCE concentrations, as well as historical TCE concentrations at Buildings A, B, and C, are also in Appendix F (Figures F-1 through F-6).

Two figures are presented for each building: one illustrates IAQ results, and the other depicts SV results. Each figure has a color-coded scale corresponding to the highest observed TCE concentrations at each location. Historical concentration versus time plots for TCE, PCE, cis-1,2-DCE, and ethylbenzene in SV and IAQ samples from known source locations (i.e., Building A Plating Shop and Building C Basement) are also in Appendix F (Plots F-1 through F-16).

3.3.1 Round 12 Data Analysis

In this section, because all data discussed are from Round 12, and because the sampling medium (i.e., IAQ or SV) is identified at the start of each subsection, the sampling medium and round designation (R12) are not included when identifying samples and sampling locations in the text and tables. For example, under the subheading "Building A IAQ Samples," the sampling medium (IAQ) is identified, so an IAQ sample collected from VMP number 076 (e.g., 076-A-IAQ-R12) is referred to as "076-A." If comparisons are made to specific samples from previous sampling rounds, the sample will be identified as such in the text or by using the round designation suffix (e.g., -R06 for Round 6).

3.3.1.1 Background Ambient-Air Samples

Analytical results for the Round 12 ambient air samples collected at MRC background locations are in Table 3-1. These samples were collected from the same four locations used in previous rounds, including the northeast, northwest, southeast, and southwest fence lines, and sufficiently far from MRC operations to avoid their possible influence (see Figure 3-1). Twelve compounds of concern were detected in the background samples, at concentrations far less than their corresponding screening guidelines:

- benzene (four of four samples—two with *J* flags)
- carbon tetrachloride (four of four samples—*J* flag)
- chlorodifluoromethane (four of four samples)
- chloroform (one of four samples—*J* flag)
- dichlorodifluoromethane (four of four samples)
- 1,2-dichloroethane (one of four samples—*J* flag)
- ethylbenzene (one of four samples—*J* flag)
- methylene chloride (four of four samples—one *B* flag)
- tetrachloroethene (two of four samples—*J* flag)
- toluene (four of four samples)
- 1,1,1-trichloroethane (one of four samples)
- xylenes [total] (three of four samples—*J* flag)

All background results for methylene chloride were initially *B*-qualified, indicating laboratory-blank contamination, but B flags were removed from three of four results after data validation. Analytes identified in background samples were detected at concentrations one to five orders of magnitude below their respective screening levels. None of the following remaining

chemicals of potential concern for vapor intrusion at the MRC was detected in background samples:

- 1,1-DCA
- 1,1-DCE
- cis-1,2-DCE
- trans-1,2-DCE
- MTBE
- naphthalene
- 1,2,4-trichlorobenzene
- 1,1,2-TCA
- TCE
- 1,2,3-trimethylbenzene
- 1,2,4-trimethylbenzene
- 1,3,5-trimethylbenzene
- vinyl chloride

A comparison of Round 12 maximum background concentrations to the Round 12 indoor air concentrations (from 38 samples, including duplicates) is in Appendix E. This comparison indicates that for the following compounds detected in both background and interior samples, indoor air concentrations were greater than or equal to background concentrations at several interior sampling locations:

Analyte	Maximum detected background concentration (in µg/m^3)	Number of IAQ samples/ dups with positive detects	Number of IAQ samples/ dups with concentrations > background	Number of IAQ samples/ dups with concentrations = background	Number of IAQ samples/ dups associated with blank contamination
Benzene	0.51	51	44	0	0
Carbon tetrachloride	*0.*44 *J*	46	31	5	0
Chlorodifluoromethane	3.9	57	48	0	0
Chloroform	0.12 *J*	39	33	1	0
Dichlorodifluoromethane	2.3	55	41	10	0
1,2-Dichloroethane	0.15 *J*	3	0	0	0
Ethylbenzene	0.15 *J*	53	51	0	0
Methylene chloride	8.8	60	7	0	34
Tetrachloroethene	0.37 *J*	22	9	0	0
Toluene	0.93	60	59	0	0
1,1,1-Trichloroethane	0.95	25	3	0	0
Xylenes (total)	0.53 *J*	55	50	1	0

As indicated above, one COC (methylene chloride) is associated with contamination in the laboratory blank in all indoor air samples; however, some of the *B* flags indicating laboratory blank contamination were removed following data validation. Typical laboratory reporting protocol for organic analyses generally requires that if an analyte is present in the method blank, that analyte is flagged with a *B* qualifier in all samples associated with the method blank. Methylene chloride is a common laboratory contaminant, so it is not uncommon that all method blanks would contain methylene chloride and all methylene-chloride sampling results would thus be flagged with a *B* qualifier by the lab.

During data validation, an action level of 10 times the chemical's concentration in the blank was used to evaluate the sampling data for blank contamination. The range of methylene chloride detected in the laboratory blanks is 0.11 µg/m^3 to 0.35 µg/m^3, so the corresponding action level range is 1.1 µg/m^3 to 3.5 µg/m^3. Positive methylene chloride results less than the action levels were qualified non-detected *B* due to blank contamination. Seven of these samples had methylene chloride concentrations greater than background levels, but none exceeded the industrial air screening level (2,600 µg/m^3).

These results indicate that during Round 12, interior and/or sub-slab sources appear to be contributing benzene, carbon tetrachloride, chlorodifluoromethane, chloroform, dichlorodifluoromethane, ethylbenzene, tetrachloroethene, toluene, xylenes, and 1,1,1-trichloroethane to indoor air, because at least some of their concentrations are greater than background. In contrast, methylene chloride and 1,1,1-TCA may have interior sources, but appear to be primarily associated with background, because their background concentrations are greater than most indoor air concentrations.

3.3.1.2 Building A IAQ Samples

The chemistry results from the Round 12 IAQ samples collected in Building A are included in Table 3-2. Twenty-three IAQ samples (including three duplicates) were collected from interior locations in Building A. Figure 3-2 illustrates Building A sampling locations. As shown in Figure 3-5, two of the IAQ samples had analytical results exceeding the screening level for at least one COC. IAQ data for Building A indicate the following:

- The IAQ sample collected at location 015-A exceeded the ethylbenzene screening level (49 µg/m^3), with a reported result of 120 µg/m^3. Additionally, this sample exceeded the total xylenes screening level (440 µg/m^3), with a reported result of 740 µg/m^3. This location is in the Building A Plating Shop (APS), an area of historically high SV levels of VOCs.

- The IAQ sample collected at location 108-A exceeded the ethylbenzene screening level (49 µg/m^3), with a reported result of 64 µg/m^3. This location is less than 50 feet east of location 015-A, in a room adjacent to the Building A Plating Shop (APS).

3.3.1.3 Building A SV Samples

The chemistry results from the Round 12 SV samples collected in Building A are in Table 3-3. Twenty-one SV samples were collected from beneath the Building A slab (including two duplicates). As stated earlier, one VMP location (110-A) contained water within the casing that prevented collection of an air sample. Figure 3-2 illustrates Building A SV sampling locations. Figure 3-5 shows where analytical results exceeded screening levels. Table 3-4 contains a parallel listing of the results from the SV and co-located IAQ samples collected in Building A. These data indicate the following:

- As shown in Table 3-3, TCE exceeds its screening level of 88 µg/m^3 in seven samples: 015-A (2,400 µg/m^3 *J*) and its duplicate, SV-DUP-4 (280 µg/m^3 *J*); 018-A (83,000 µg/m^3); 079-A (7,900 µg/m^3) and its duplicate, SV-DUP-5 (7,200 µg/m^3); 108-A (480 µg/m^3); and 118-A (2,600 µg/m^3). (Data validators reviewed the apparent imprecision with sample 015-A and its duplicate SV-DUP-4. Examination of all the data indicates that the sampling analysis data reported by the laboratory is correct, and the data are reliable. One possible explanation for the variance may be that an undetectable leak occurred in the sampling train of the duplicate sample, causing less sub-slab vapor uptake, and allowing ambient air to enter the sample.)

    - Sampling locations 015-A and 018-A have historically had high concentrations of VOCs. Location 015-A is on the floor of the Building A Plating Shop, and location 018-A is in the Building A Basement, northwest and adjacent to the Plating Shop. Ethylbenzene and xylenes were detected at concentrations exceeding their screening levels in the IAQ sample collected at location 015-A during this round of sampling; however, TCE was not detected in this location's IAQ sample. The duplicate of sample 015-A, SV-DUP-4, had a TCE concentration an order of magnitude lower than the result for sample 015-A.

    - Sampling location 108-A is less than 50 feet east of location 015-A in a room adjacent to the Building A Plating Shop (APS). TCE was not detected in this location's IAQ sample. Ethylbenzene was detected at a concentration in excess of its screening level in the IAQ sample collected at this location during this round of sampling; however, it

was not detected in the SV sample from this location. This area is within the inferred radius of influence of the Building A plating Shop SSD system.

- Sampling location 118-A is less than 50 feet southeast of location 108-A, in the Bond Lay-Up Room. The indoor air in this area is environmentally controlled and under positive pressure. This location is within the inferred radius of influence of the Building A plating Shop SSD system.

- Sampling location 079-A is east of the Bond Lay-Up Room on the east central side of Building A, north of the autoclaves, near column B-24 (AC). This location had a TCE concentration of 9,900 µg/m^3 during the previous sampling event (Round 11). The concentration of TCE in the duplicate of 079-A, SV-DUP-5 (7,200 µg/m^3), is similar to the concentration measured in the original sample from 079-A (7,900 µg/m^3).

- 1,1-Dichloroethene (1,1-DCE) was detected at sampling location 018-A at an SV concentration of 69,000 µg/m^3. This is the only location in Building A where 1,1-DCE exceeded its screening value of 8,800 µg/m^3 during Round 12.

- Vinyl chloride, a breakdown product of TCE and 1,1-DCE, was detected in the sample from location 018-A at a concentration of 300*J* µg/m^3. This is the only SV sample collected in Building A during Round 12 that exceeded the screening value for vinyl chloride (280 µg/m^3).

- Naphthalene was detected at concentrations greater than its screening level (36 µg/m^3) at six sampling locations: 075-A (390 µg/m^3), 077-A (520 µg/m^3), 116-A (420 µg/m^3 *J*), 117-A (220 µg/m^3), 118-A (440 µg/m^3 *B*), and 120-A (82 µg/m^3).

  - Location 075-A is on the northeast side of Building A near its junction with Building B, and 077-A is on the west–central side of the building south of the former location of the Marform Press.

  - Locations 117-A, 118-A, and 120-A are in the south–central section of Building A (AC). Location 118-A is in the Bond Lay-Up Room east of the Building A Plating Shop. Location 120-A is in the southern portion of the Bond Lay-Up Room southeast of the Building A Plating Shop. Location 117-A is outside and east of the Bond Lay-Up Room at the intersection of the main north–south and east–west corridors in the east–central portion of Building A.

  - Location 116-A is in the Building A Basement on the west–central side of Building A, southwest of the former Marform Pit. Note that location 116-A is adjacent to and below sampling location 077-A, on the first floor of Building A and discussed above.

  - None of the locations with naphthalene exceedances during Round 12 showed these exceedances in Round 11. In Round 11, naphthalene exceeded its screening level in six SV samples in Building A. Even though naphthalene exceeded its screening level at the four new VMPs installed before Round 12, none of the remaining locations that were also sampled in Round 11 had naphthalene in excess of its screening value.

- 1,1-Dichloroethane was detected at concentrations greater than its screening level of 36 µg/m^3 at two sampling locations: 018-A (1,300 µg/m^3) and 108-A (2,900 µg/m^3). Location 018-A has historically had high concentrations of VOCs. Sampling location 108-A is in a room adjacent to and due east of the Plating Shop. It was formerly used as a paint booth. This area is within the inferred radius of influence of the Building A Plating Shop SSD system.

- No other chemicals were found at concentrations in excess of their screening levels in Building A SV samples.

- Sampling location 018-A had the highest SV concentrations of TCE and vinyl chloride during Round 12. Sampling location 108-A had the highest concentration of 1,1-DCA.

- Sampling location 077-A had the highest SV concentration of naphthalene during in Round 12.

- As shown in Table 3-4, no contaminant exceeded screening levels in both SV and IAQ (co-located) samples.

- As shown in Table 3-4, 1,1-DCE (a degradation product of 1,1,1-TCA) was found in SV at eight sampling locations (015-A, 018-A, 093-A, 106-A, 108-A, 109-A, 116-A, and 118-A), but in only four co-located IAQ samples (018-A, 093-A, 109-A, and 116-A).

- A degradation product of chlorinated ethenes (cis-1,2-DCE) was found in eight of the 21 SV samples collected during Round 12. Its highest concentration (6,700 µg/m^3) was at sampling location 018-A (APS). cis-1,2-DCE was detected at one co-located SV-IAQ sampling location (018-A) at an SV concentration of 6,700 µg/m^3 and an indoor air (IA) concentration of 0.6*J* µg/m^3. As previously discussed, this location has historically had high concentrations of VOCs, associated with its close proximity to the Building A Plating Shop.

3.3.1.4 Building B IAQ Samples

Round 12 IAQ sampling results for Building B are in Table 3-5. Seven IAQ samples (including one duplicate of location 063-B [IA-DUP-2]) were collected from interior locations in Building B. Two additional samples (105-Z and 123-Z) were collected from the Fire Coat Building, approximately 55 feet south of Building B. Figure 3-3 illustrates the Building B sampling locations. As shown in Figure 3-6, no COC were detected in indoor air at concentrations exceeding their respective screening levels at any of the Building B or Fire Coat Building sampling locations. Building B IAQ data indicate the following:

- As shown in Table 3-5, TCE was detected in five of nine IA samples collected inside Building B and the Fire Coat Building, but at *J*-qualified (estimated) concentrations more than one order of magnitude below its screening level of 8.8 µg/m^3. The highest IA

concentration of TCE (0.48*J* µg/m^3) was detected at sampling location 064-B, in the northeastern part of the Building B Basement (BBN).

- Benzene, toluene, ethylbenzene, xylenes, (BTEX) and chlorodifluoromethane were found in most IA samples. The highest concentrations of BTEX were detected in the Fire Coat Building. Chlorodifluoromethane was not detected at the Fire Coat Building, but was found in Building B.

3.3.1.5 Building B SV Samples

Round 12 SV sampling results for Building B are in Table 3-6. Six SV samples (including one duplicate of location 063-B [SV-DUP-2]) were collected from beneath Building B, and two were collected from beneath the Fire Coat Building (105-Z and 123-Z). Figure 3-3 illustrates the Building B SV sampling locations. As seen in Table 3-6, six samples had analytical results exceeding screening levels. Table 3-7 contains a parallel listing of the SV and co-located IAQ sampling results for Building B. These data indicate the following:

- As shown in Table 3-6, TCE was detected in four of the six samples collected from beneath Building B.
    - One SV sample (121-B at 170 µg/m^3) had a TCE concentration above its screening level of 88 µg/m^3.
    - The highest Building B SV concentrations of TCE detected during the two previous sampling events (Rounds 10 and 11) were at location 101-B, with concentrations of 110 µg/m^3 and 120 µg/m^3, respectively. The TCE concentration measured in sample 101-B-SV during this round (Round 12) is comparatively low at 7.3 µg/m^3. Nearby new location 121-B, approximately 44 feet west of 101-B, yielded TCE at 170 µg/m^3.
    - As shown in Table 3-6, both samples collected from beneath the Fire Coat Building (105-Z and 123-Z) had TCE at concentrations less than its screening level of 88 µg/m^3. Before Round 12 sampling, the SV TCE concentration at location 105-Z had generally increased since it was first sampled, as follows: Round 9 (August 2009) 21 µg/m^3; Round 10 (February 2011) 71 µg/m^3; and Round 11 (August 2011) 300 µg/m^3. However, during Round 12, the TCE concentration at 105-Z was measured at 59 µg/m^3. The TCE concentration in the sample from location 123-Z was 21 µg/m^3 in Round 12.
- 1,1-DCE (a degradation product of 1,1,1-TCA) was not detected in any IA sample collected in Building B during Round 12, but was detected in one SV sample, SV-DUP-2 (the duplicate of 063-B), at a concentration of 12*J* µg/m^3. Round 11 sampling did not detect 1,1-DCE in any Building B or Fire Coat Building samples.
- cis-1,2-DCE (a chlorinated-ethene degradation-product) was not detected in any IA samples collected in Building B during Round 12, but was detected in one SV sample

from the Fire Coat Building (105-Z) at a concentration of 340 µg/m^3. Round 11 sampling did not detect cis-1,2-DCE in any Building B or Fire Coat Building IA samples, but it was detected in three SV samples (057-B, 64B, and 105-Z).

- Naphthalene was detected in all eight of the Building B and Fire Coat Building SV samples. It exceeded its SV screening level of 36 µg/m^3 in four samples from Building B (063-B, SV-DUP-2 (duplicate of 063-B), 121-B, and 122-B) and in both Fire Coat Building samples (105-Z and 123-Z).
    - Sampling location 063-B (99 µg/m^3 *J*) is in a north–south corridor at the north–central portion of the Building B basement (BBN), between columns GG-2/3 and GF-2/3. The duplicate of this sample (SV-DUP-2) had a naphthalene concentration of 200 µg/m^3 *J*.
    - Location 121-B is on the first floor of Building B on the western side (BC), between columns G-13/14 and GA-13/14, and had a naphthalene concentration of 400 µg/m^3.
    - Location 122-B is on the first floor of Building B on the eastern side (BS), between columns GL-20/21 and GM-20/21, and had a naphthalene concentration of 350 µg/m^3.
    - Sampling location 105-Z, in the Fire Coat Building, had an SV naphthalene concentration of 49 µg/m^3, which is a slight decrease from the Round 11 result of 69 µg/m^3. Naphthalene was reported as non-detected at this location during the previous Round 10 sampling event.
    - Sampling location 123-Z, in the eastern aspect of the Fire Coat Building, had an SV naphthalene concentration of 260 µg/m^3.
- Co-located sampling results for Building B are in Table 3 7:
    - Naphthalene was detected in the SV sample from 063-B at concentrations exceeding the screening level, and was also detected in the 063-B IA sample, but at a concentration one order of magnitude below its IA screening level.
    - TCE was detected in the SV samples from 121-B at concentrations exceeding the screening level, and was detected in the 121-B IA sample, but at a concentration more than one order of magnitude below the IA screening level.
    - No other COC that exceeded the SV screening levels were also detected in their corresponding co-located IA samples.

3.3.1.6 Building C IAQ Samples

Round 12 IAQ sampling results for Building C are in Table 3-8. All 28 IAQ samples, one of which is a duplicate (IA-DUP-1 [duplicate of 060-C]), were collected from interior locations in the Building C Basement. Figure 3-4 illustrates Building C sampling locations. Figure 3-7 shows where analytical results exceed screening levels. These data indicate the following:

- No COC were detected in the Building C IA samples that exceeded their screening levels during Round 12 sampling.

- As shown in Table 3-8, Round 12 sampling detected TCE in 17 of 28 IAQ samples in Building C, but at concentrations well below its 8.8 µg/m^3 screening level.

  - The highest concentration of TCE was detected at 128-C (0.68 µg/m^3), which was collected in the east–central portion of the Building C Basement (CBC) in an area where relatively high TCE concentrations have previously been detected in SV.

  - TCE was detected at lower concentrations in the other 16 Building C IAQ samples at the following concentrations:

    - 0.16*J* µg/m^3 (044-C)
    - 0.12*J* µg/m^3 (060-C)
    - 0.13*J* µg/m^3 (IA-DUP-1 [duplicate of 060C])
    - 0.13*J* µg/m^3 (088-C)
    - 0.2*J* µg/m^3 (102-C)
    - 0.18*J* µg/m^3 (103-C)
    - 1.4 µg/m^3 (111-C)
    - 0.17*J* µg/m^3 (112-C)
    - 0.23 µg/m^3 (114-C)
    - 0.26 µg/m^3 (127-C)
    - 0.31 µg/m^3 (129-C)
    - 0.13*J* µg/m^3 (130-C)
    - 0.19*J* µg/m^3 (131-C)
    - 0.082*J* µg/m^3 (132-C)
    - 0.27 µg/m^3 (134-C)
    - 0.1*J* µg/m^3 (135-C)

- 1,1-DCE, a degradation product of 1,1,1-TCA, was not detected in any Round 12 IA samples from Building C.

- cis-1,2-DCE, a TCE-degradation product, was detected in one IA sample (111-C) at a concentration of 0.88 µg/m^3). No screening levels have been established for cis-1,2-DCE.

- Vinyl chloride, a TCE- and DCE-degradation product, was detected in one IA sample (IA-DUP-1 [duplicate of 060-C] at 0.093*J* µg/m^3), but had been reported as not detected in the original sample 060-C.

3.3.1.7 Building C SV Samples

Round 12 SV sampling results for Building C are in Table 3-9. Thirty-four SV samples (including two duplicates, SV-DUP-1 [duplicate of 060-C] and SV-DUP-3 [duplicate of 001-C]) were collected from beneath the Building C slab and beneath the Building C Basement (where present); Figure 3-4 illustrates Building C SV sampling locations. Figure 3-7 shows where analytical results exceed screening levels. Table 3-10 contains a parallel listing of the results for the SV and co-located IAQ samples collected in Building C. These data indicate the following:

- As shown in Table 3-9, TCE was detected in 25 of 30 SV samples collected in Building C, and its concentrations exceeded its screening level of 88 µg/m^3 in 14 of these samples:
  - 001-C (160 µg/m^3)
  - SV-DUP-3 [duplicate of 001-C] (200 µg/m^3)
  - 060-C (3,000 µg/m^3)
  - SV-DUP-1 [duplicate of 060-C] (4,900 µg/m^3)
  - 088-C (3,800 µg/m^3)
  - 102-C (740 µg/m^3)
  - 111-C (370 µg/m^3)
  - 113-C (5,700µg/m^3)
  - 126-C (280 µg/m^3)
  - 127-C (240,000 µg/m^3)
  - 129-C (270 µg/m^3)
  - 130-C (520 µg/m^3)
  - 133-C (50,000 µg/m^3)
  - 135-C (11,000 µg/m^3)

  - The highest concentrations of TCE were found south of column 10 in the central and southern aspects of the Building C basement (see Figure 3-7). The highest TCE concentration (240,000 µg/m^3) was detected at 127-C on the eastern side of the Building C Basement (CBC), near the former location of the Patriot plating line. The former Patriot plating line was between columns T-13 and X-13 southward to T-28 and X-28.

- 1,1-DCE, a breakdown product of 1,1,1-TCA, was detected in 14 samples, but all reported concentrations were at least one order of magnitude lower than its screening level.

- cis-1,2-DCE, a breakdown product of TCE, was detected in 14 samples, but this COC does not have a screening level. It was detected at concentrations ranging from 2.1 µg/m^3 at location 111-C to 670 µg/m^3 at location 088-C.

- Vinyl chloride, a breakdown product of TCE and DCE, was detected in five samples and exceeded its screening level (280 µg/m^3) in one: 126-C (82,000 µg/m^3). Vinyl chloride was reported as not detected in the corresponding IA sample from this location. Sampling location 126-C is in the southern portion of the Martin Museum, on the eastern side of the Building C Basement and north of the former Patriot plating-line location.

- Naphthalene was detected in 26 of 30 SV samples and exceeded its screening level (36 µg/m^3) in 21 SV samples, of which two were *J*-qualified:
  - 044-C (240 µg/m^3)
  - 060-C (280*J* µg/m^3)
  - SV-DUP-1 (duplicate of 060-C) (770*J* µg/m^3)
  - 088-C (540 µg/m^3)
  - 091-C (65 µg/m^3)
  - 126-C (250 µg/m^3)
  - 127-C (4,300*J* µg/m^3)
  - 128-C (260 µg/m^3)
  - 129-C (86 µg/m^3)
  - 130-C (430 µg/m^3)

- 102-C (350 µg/m^3)
- 103-C (70 µg/m^3)
- 111-C (750 µg/m^3)
- 112-C (200 µg/m^3)
- 113-C (64*J* µg/m^3)
- 124-C (130 µg/m^3)
- 131-C (180 µg/m^3)
- 132-C (410 µg/m^3)
- 133-C (2,200 µg/m^3)
- 134-C (240 µg/m^3)
- 135-C (510 µg/m^3)

  - The sampling locations with naphthalene exceedances are primarily within a widely defined central portion of Building C, except for locations 103-C, 124-C, and 125-C, which are in the northeast corner of the building.

  - The highest naphthalene concentration was detected in the sample from 127-C (4,300*J* µg/m^3), which is also where the highest TCE concentrations were detected in this round of sampling. This location is within the understood former location of the Patriot plating-line.

- Concentrations of chloroform in excess of its screening level (53 µg/m^3) were found in samples collected from 060-C (56*J* µg/m^3), its duplicate SV-DUP-1 (94*J* µg/m^3), 130-C (110 µg/m^3), and 133-C (83*J* µg/m^3). Chloroform's concentration at 060-C is lower than the concentration detected in Round 11 (200 µg/m^3). All of these locations are in the central to southern aspect of the Building C basement (CBC, CBS).

- 1,1-Dichloroethane, a breakdown product of 1,1,1-TCA, was detected in one sample 102-C (1,800 µg/m^3) in excess of its screening level (770 µg/m^3). 1,1-DCA also exceeded its screening level at this sampling location in Round 11.

- 1,2,3-Trimethylbenzene was detected in 14 samples and exceeded its screening level (220 µg/m^3) in one sample: 127-C (2,200 µg/m^3).

- 1,2,4-Trimethylbenzene was detected in 22 samples and exceeded its screening level (310 µg/m^3) in one sample: 127-C (4,000 µg/m^3).

- Xylenes (total) were detected in 24 samples and did not exceed its screening level (4,400 µg/m^3) in any samples.

- No other COC were detected at concentrations exceeding their risk-based screening levels.

- TCE- and PCE-degradation products were found in only one SV/IAQ co-located sample pair: 111-C (cis-1,2-DCE at 2.1*J* µg/m^3 in the SV sample, and 0.88 µg/m^3 in the IA sample). This location is in the central portion of the basement (CBC), near the former Patriot plating line (see Figure 3-7). TCE-breakdown products were detected in four pairs of co-located samples during Round 11: 102-C, 113-C, 114-C, and 115-C.

- No COC exceed their screening levels in the IA samples collected from Building C during Round 12 sampling. Therefore, no locations where contaminant concentrations in

SV exceeded screening levels had concentrations of the same contaminants above screening levels in corresponding IAQ samples.

3.3.1.8 Comparison of TCE, PCE, cis-1,2-DCE, and Ethylbenzene Results to Historical Data Set

As mentioned above, historical concentration time-trend plots for TCE, PCE, cis-1,2-DCE, and ethylbenzene in SV and IAQ samples at known source locations (i.e., Building A Plating Shop and the southern portion of the Building C Basement) are in Appendix F. These chemicals were selected because they have been detected in both SV and IA, have been associated with SV intrusion, are toxic at sufficient doses, and are known to have been used historically at the site. Only data from VMPs in the Building A Plating Shop and the Building C basement were used for these plots. Plots F-1 through F-8 depict the Plating Shop's SV and IAQ results, and plots F-9 through F-16 show the CBS' SV and IAQ samples. Sampling results reported as not-detected are plotted at one-half the method detection limit.

Figures F-1 through F-3 (Appendix F) are two-dimensional (2-D) isocontour figures depicting February 2012 SV concentrations of TCE and cis-1,2-DCE in Buildings A, B, and C, respectively. SV concentration isocontours for the entire site (i.e., Buildings A, B, and C and associated outbuildings) for TCE (Figures F-4) and cis-1,2-DCE (Figures F-5) are also included in Appendix F. Historical maximum detection results for TCE in SV and IAQ samples in each building are shown in three-dimensional (3-D) building diagrams (Figures F-6 through F-11) in Appendix F.

In the following subsections, because the historical comparisons are both location- and VMP-specific, building and sampling round designations are not included in the sample identifier. For example, under the subheading "Building A Plating Shop," the sampling location for SV samples collected from VMP number 15 (e.g., 015-A-SV-R11) is simply referred to as "015-A-SV." When discussing a particular round-specific sample, it will be identified as such in the text or by its complete sample designation. A review of these plots and their associated data (see Appendix F) indicates the following:

Building A Plating Shop—

- Historical concentrations of TCE in SV at the Building A Plating Shop are shown in plot F-1. In Round 11, an anomalous result was initially found for SV-015-A (18 µg/m^3). This location was resampled approximately two months later in October 2011 to check these

initial results. The TCE concentration measured at this location in October 2011 had increased to 3,400 µg/m^3. The SV sample collected at SV-015-A in February 2012 was again relatively high, with a TCE concentration of 2,400 µg/m^3 *J*, exceeding TCE's screening level of 88 µg/m^3. Additionally, two other locations within 50 feet of 015-A, (108-A, and 118-A [new location]) had Round 12 TCE concentrations (480 and 2,600 µg/m^3, respectively) in excess of the screening level. If the anomalous R11 (September 2011) result of 18 µg/m^3 is disregarded, the TCE concentration at this location shows a slightly increasing trend from July 2009 to February 2012, but overall TCE concentrations have decreased from those initially measured in 2006.

- Location 018-A has had historically elevated soil vapor concentrations of TCE. The expansion of the Building A Plating Shop SSD system after Round 9 captured this sampling location. The TCE concentration (7.2 µg/m^3) detected in the initial Round 11 SV sample collected at this location in August 2011 was considered anomalous. Therefore, the location was resampled on October 20, 2011, and that SV sample had a TCE concentration of 800,000 µg/m^3, which is almost four orders of magnitude higher than its screening level of 88 µg/m^3. The Round 12 TCE result for SV-018-A was 83,000 µg/m^3, which is an order of magnitude lower than the Round 11 resampled results, but still in excess of TCE's screening level of 88 µg/m^3. If the anomalous R11 (September 2011) result of 7.2 µg/m^3 is disregarded, the TCE concentration at this location shows a slightly increasing trend from July 2009 to February 2012, but overall TCE concentrations have decreased from those initially measured in 2006.

- As shown in plot F-5, TCE concentrations in indoor air observed at sampling location 018-A increased between Rounds 8 (February 2010) and 9 (September 2010), decreased during Rounds 10 and 11, and increased to 5.1 µg/m^3 during Round 12. This IAQ sampling location is in the Building A Basement below the Plating Shop, co-located with SV sampling location 018-A. Changes in TCE concentrations in indoor air may be associated with changes in SV. That is, since the SV concentration of TCE at 018-A had increased, an increase in its associated IAQ sample might be expected. This parallel trend was observed during Rounds 9 and 10; however, between Round 11 (August 2010) and Round 12, the SV concentration of TCE decreased while the IA concentration increased. The expansion of the Building A Plating Shop SSD system to capture this location may contribute to lower indoor-air concentrations of TCE in spite of elevated SV concentrations. The absence of a (known) conduit from the sub-slab to indoor air may also affect indoor air concentrations.

- During Round 12, TCE was not detected at sampling location IA-015-A (12U µg/m^3). A very low concentration of TCE in indoor air was detected at this location during the two previous winter sampling events (0.23 µg/m^3 in Round 8, and 0.8 µg/m^3 in Round 10). TCE was not detected in indoor air at this location during the previous two summer sampling rounds (Rounds 9 and 11, in August 2010 and August 2011, respectively). The detected IAQ concentrations of TCE in Rounds 8 and 10 are the only time TCE has been detected at location 015-A since sampling began at this location in Round 6 (July 2009). The detection of very low concentrations of TCE at 015-A in R8 and R10 is possibly due to fluctuations from changes in ambient environmental conditions, or the winter "stack effect" discussed in previous reports. This effect occurs when warm air from forced heat inside a facility rises, causing a drop in pressure that allows SV to migrate more readily.

- As shown in Plot F-2, PCE was not detected in SV at sampling location 015-A during Rounds 8, 9, or 10; it was, however, detected during Round 11 at a very low concentration (1.4 µg/m^3). PCE was reported as not detected at this location during Round 12; previous PCE results at this location were low or not detected. During the 2006 *Site Characterization Report* (Tetra Tech, 2006a), PCE was detected at location 015-A at a concentration of 346*J* µg/m^3. This is the highest positively detected concentration at this location. Overall, PCE concentrations in SV at the Plating Shop have dropped over time. Likewise, PCE was detected in SV at sampling location 018-A during Round 11 at a concentration (120 µg/m^3), which is less than its SV screening level (880 µg/m^3). However, PCE was not detected at location 018-A during Round 12. Before Round 11, the last time PCE had been detected in SV at location 018-A was in December 2006 (91.2 µg/m^3). As previously noted, non-detected results are plotted at one-half the method detection limit, which affects the graph's appearance.

- Round 9 in August 2010 reported PCE at very low levels in all Building A indoor-air samples except for the IAQ sample from 094-A. PCE was detected in that sample at a higher concentration (25 µg/m^3) (Plot F-6). However, sample 094-A was collected in the northwestern corner of the Building A Basement, and its result is probably unrelated to the Plating Shop. Before Round 10, three new VMPs had been installed adjacent to the Plating Shop: 108-A on the western side of the shop, and 107-A and 106-A, both on the eastern side. The IAQ samples from these three locations are the only IAQ samples in Building A in which PCE was detected in Round 10 (see plot F-6). During Round 11, no PCE was detected in IAQ samples from 106-A, 107-A, and 108-A; however, it *was* detected in IAQ samples from locations 018-A (0.8 µg/m^3), 076-A (2 µg/m^3), 079-A (0.7 µg/m^3), and 081-A (2 µg/m^3); all concentrations are estimated, except for sample 076-A. During Round 12, PCE was detected in 12 IA samples at concentrations ranging from 0.24*J* µg/m^3 to 2.1 µg/m^3.

- During Round 12, PCE was detected in Building A SV samples at locations 075-A (8.1 µg/m^3), 077-A (8.5 µg/m^3), 079-A (22J µg/m^3), 096-A (1.3J µg/m^3), 106-A (1.5J µg/m^3), 107-A (2.4J µg/m^3), 116-A (2.9J µg/m^3), 117-A (9 µg/m^3), 119-A (1.6J µg/m^3), and 120-A (8 µg/m^3). Many of these locations are new and had not been previously sampled. Location 079-A, which is east of the Bond Lay-Up Rooms, did show an increase in PCE between Rounds 11 and 12 (55 µg/m^3 to 22*J* µg/m^3).

- As shown in plot F-3, results for cis-1,2-DCE in Round 12 Building A SV samples decreased as compared to Round 11 results for locations 015-A and 018-A. In Round 12, cis-1,2-DCE was detected at a concentration of 6,700 µg/m^3 in 018-A, which was the highest concentration of cis-1,2-DCE detected in SV at Building A in this round. Other locations where cis-1,2-DCE was detected in SV samples are: 015-A (1,100 µg/m^3), 079-A (3,000 µg/m^3), 107-A (1.1J µg/m^3), 108-A (240 µg/m^3), and 118-A (280 µg/m^3). Locations 018-A, 079-A, and 015-A were sampled during Round 11 and had cis-1,2-DCE concentrations of 23,000 µg/m^3, 3,400 µg/m^3 and 1,800 µg/m^3, respectively, which all decreased during Round 12 sampling. Concentrations measured during previous sampling rounds at 015-A show drops in concentrations between November 2008 (20,221 µg/m^3) and October 2009 (36 µg/m^3), but concentrations have shown a generally increasing trend since that time.

- At location 018-A, the SV concentration of cis-1,2-DCE initially increased by two orders of magnitude from March 2006 to October 2007, but appeared to be decreasing until Round 11, when the concentration increased to (23,000 µg/m^3). During Round 12, the cis-1,2-DCE concentration decreased (relative to Round 11) to 6,700 µg/m^3. The behavior of cis-1, 2-DCE at this location appears to follow that of TCE, with parallel increases and decreases over time.

- cis-1,2-DCE was not detected in any indoor-air sample collected at the Building A Plating Shop during Round 8 (February 2010). During Round 9 (August 2010), cis-1,2-DCE was detected at a very low concentration in the indoor-air sample from location 018-A (0.56 µg/m^3), but not in the sample collected from 015-A. It was not detected in either of the samples collected from these locations in Round 10 (February 2011) or Round 11 (August 2011). During Round 12, cis-1,2-DCE was detected at very low concentrations at two sampling locations, 018-A (0.6J µg/m^3) and 116-A (0.1J µg/m^3), which are both in the Building A Basement. Before Rounds 9 and 12, cis-1,2-DCE had been last detected at 018-A in July 2009. cis-1,2-DCE has never been detected at any location during two consecutive monitoring rounds since monitoring began in 2006. The highest concentration of cis-1,2-DCE in indoor air at the Plating Shop was reported in October 2007. This is also the round during which the highest concentrations of cis-1,2-DCE were reported in SV samples collected from 014-A, 015-A, and 018-A.

- As shown in Plot F-4, SV ethylbenzene at sampling location 018-A was reported at a high concentration in February 2010 (8,100 µg/m^3), but was reported as not detected during the following round (Round 9, in August 2010). It was detected at low concentrations (1 µg/m^3 and 2.6 µg/m^3) during both sampling events in 2011. During Round 12 (February 2012), ethylbenzene was not detected in SV at 018-A. Likewise during Round 12, ethylbenzene was detected at a concentration of 75 µg/m^3 at location 107-A, which is also the location that had the highest concentrations in both of the 2011 sampling events. Ethylbenzene was detected at lower concentrations (ranging from 1.2 to 60 µg/m^3) in all other SV samples collected during Round 12.

- High levels of ethylbenzene were detected in two indoor air samples (015-A (120 µg/m^3) and 108-A [64 µg/m^3]) collected in the Plating Shop during Round 12. At sampling location 018-A, in the Building A Basement below the Plating Shop, low concentrations were reported during Rounds 9, 10, and 11 (at 1.1, 1, and 2 µg/m^3, respectively), and the concentration was also low (1.4 µg/m^3) during Round 12. Ethylbenzene concentrations measured in the IAQ samples from 015-A and 108-A are an order of magnitude higher than any previous samples collected at these locations. Ethylbenzene was detected at a concentration of 0.15J µg/m^3 in background sample 4 during Round 12, so the detected concentrations above are most likely associated with site operations.

Building C Basement—

- As shown in Plot F-14, Round 12 SV concentrations of TCE at the southern part of the Building C Basement are lower than in previous rounds of monitoring. Plotted locations include 001-C, 044-C, 104-C, 112-C, and 114-C.

- Note that 12 new SV monitoring points (124-C through 135-C) were installed before, and sampled during, Round 12.

- The SV concentration of TCE at sampling location 001-C has fluctuated over the past seven sampling rounds. During this round, the TCE concentration (160 µg/m^3) detected at this location is above its screening level (88 µg/m^3), and is lower than the concentration detected during Round 11 (550 µg/m^3). Location 001-C has had some of the highest historical TCE concentrations since monitoring began in 2006, and is thought to be close to the source at the southern end of the Building C Basement. This VMP location is within the radius of influence of the Building C SSD system.

- Overall, SV TCE concentrations at 001-C have ranged between 190 and 620 µg/m^3 since July 2009. The relatively constant TCE concentrations may indicate that the SSD system is close to reaching its maximum removal efficiency for TCE at this location. In general, TCE SV concentrations have fluctuated in the southern portion of the Building C Basement (CBS) but have decreased from their highest levels over time. A rise in TCE concentrations in IA during the heating season might be expected, but this is not evident in the Building C Basement as at the Building A Plating Shop. The opposite is actually true: higher levels of TCE seem to occur in the hotter seasons. This difference may be due to differences in construction characteristics, heating, and/or ventilation.

- Round 12 SV concentrations of TCE are above its screening level (88 µg/m^3) at 12 locations beneath Building C:
  - 001-C (160 µg/m^3)
  - 060-C (3,000 µg/m^3)
  - 088-C (3,800 µg/m^3)
  - 102-C (740 µg/m^3)
  - 111-C (370 µg/m^3)
  - 113-C (5,700 µg/m^3)
  - 126-C (280µg/m^3)
  - 127-C (240,000 µg/m^3)
  - 129-C (270 µg/m^3),
  - 130-C (520 µg/m^3)
  - 133-C (50,000 µg/m^3)
  - 135-C (11,000 µg/m^3)

  However, only location 001-C is within the SSD system's radius of influence. The highest detected TCE concentration in Building C SV samples collected during this round occurred at 127-C, a location outside the SSD unit's radius of influence. Round 12 data continue to indicate TCE contamination along a northeast–southwest transect through the central part of the Building C Basement (CBC), north of the known source area at the southern end of the basement (CBS). IAQ results for TCE in Round 12 are lower than in Round 11. TCE was detected in 17 of 28 IAQ samples (including one duplicate) collected in the Building C Basement. The highest positive detect (1.4 µg/m^3) was reported at location 111-C (CBC), but this is below the screening level (8.8 µg/m^3). All other Round 12 positive detects are an order of magnitude below the screening level.

- PCE soil vapor concentrations in the southern part of the Building C Basement (CBS) were monitored at locations 001-C, 044-C, 104-C, 112-C, and 114-C (Plot F-10). The highest concentration of PCE reported for Round 12 is in the southern part of the Building C Basement at location 114-C (28 µg/m^3). This location has been monitored

three times (Rounds 10, 11, and 12) and its concentrations of PCE have increased since they were first monitored in February 2011. All other locations showed a decrease in PCE concentrations between Round 11 and Round 12.

PCE was detected in 17 of 28 Round 12 SV samples (including two duplicate samples) collected from Building C, ranging from an estimated 1.3J µg/m^3 (111-C) to a high of 2,200 µg/m^3 (133-C), which exceeds the target shallow soil gas screening level (1,750 µg/m^3). Location 133-C is a new location installed during Round 12. Only one of these locations (001-C) is within the Building C SSD system's radius of influence. In Round 12, PCE was detected in IA at low concentrations (0.31J µg/m^3 or less) at nine of 27 locations in Building C. Samples from five locations depicted in Plot F-14 were collected from CBS (001-C, 044-C, 104-C, 112-C, and 114-C). PCE was reported as not detected at location 001-C.

PCE was detected in eight IA samples collected from Building C during Round 11sampling at trace concentrations of 1 µg/m^3 or less, and was not detected in any Round 10 samples. IAQ concentrations of PCE in Building C samples collected during Round 9 were also low, ranging from 0.22–7.7 µg/m^3. The fluctuation of PCE concentrations in indoor air appears seasonally related, with higher levels detected in warmer weather (i.e., samples collected during summer). Overall, the PCE concentration in indoor air has decreased since monitoring began in 2006, and no concentrations have exceeded its applicable screening level.

- cis-1,2-DCE was detected in 14 of 26 SV samples collected from the Building C Basement. The concentration of cis-1,2-DCE at sampling location 001-C (100 µg/m^3) is lower than that reported in the six previous rounds. Relatively stable to slightly decreasing concentrations have been observed at 001-C, which may indicate that the SSD system is close to reaching its maximum removal efficiency for cis-1,2-DCE at this location. Concentrations of cis-1,2-DCE are much lower than the concentrations detected when monitoring began in 2006. cis-1,2-DCE was detected in only one IAQ sample from the Building C Basement (0.88 µg/m^3 at 111-C), which is in the east–central part of the Building C Basement just west of the former Patriot plating line. cis-1,2-DCE has rarely been detected in IAQ samples from this area since monitoring began in 2006.

- Ethylbenzene was detected in 23 of 26 Round 12 SV locations in the Building C Basement, but none was above its screening level (490 µg/m^3). The highest Round 12 SV concentrations of ethylbenzene were at 102-C (370 µg/m^3) and it duplicate (SV-DUP-1 at 460*J* µg/m^3). The highest concentration of ethylbenzene had also been found at this location (3,800 µg/m^3) in Round 11. This location is in the east–central portion of the Building C Basement (CBC), east of the former Patriot plating line and thus outside of the SSD system radius of influence. Ethylbenzene was detected in 22 of 26 locations during Round 12 IAQ sampling in Building C. Ethylbenzene concentrations range from 0.14*J* to 0.6 µg/m^3, much lower than its screening level of 49 µg/m^3. Overall, concentrations of ethylbenzene in Building C IAQ samples have been slightly lower than the concentrations measured in Round 6 (July 2009).

3.3.2 Round 12 Summary

In summary, analytical results for the Round 12 IAQ and SV samples collected in Buildings A, B, and C indicate the following:

- TCE was found in 28 of 60 IAQ samples in Buildings A, B, and C, but in every case at concentrations below its screening level (8.8 µg/m^3). During Round 12, the highest TCE IAQ concentration was found in Building A at sampling location 018-A (5.1 µg/m^3), which is co-located with an SV sampling location where TCE has been detected at 83,000 µg/m^3. This is the second highest SV TCE concentration detected in Round 12. The remaining IAQ samples in which TCE was detected had concentrations ranging from 0.12*J* to 1.4*J* µg/m^3. The mean concentration of the positively detected TCE results in Round 12 is 1.47 µg/m^3, which is slightly lower than the mean detected concentration of Round 11 (1.55 µg/m^3). The Round 12 and historical data appear in Appendix F.

- In Building A/Round 12, TCE in SV was detected at concentrations above its SV screening level (88 µg/m^3) in five of 21 locations (including duplicates): 015-A (2,400 µg/m^3), 018-A (83,000 µg/m^3), 079-A (7,900 µg/m^3), 108-A (480 µg/m^3), and 118-A (2,600 µg/m^3). In Round 11, TCE SV exceedances were found in three of these locations: 015-A (3,400 µg/m^3), 018-A (800,000 µg/m^3), and 079-A (9,900 µg/m^3), all of which exceed the subsequent Round 12 results. Location 118-A is a new location first sampled in Round 12. Sampling location 015-A is associated with the Plating Shop, and 079-A is approximately 194 feet east of the Plating Shop in the main north–south hallway across from the Bond Lay-Up Room. Location 018-A is in the Building A Basement below and adjacent to the Plating Shop. These locations have a history of TCE concentrations greater than its screening level in previous monitoring rounds. Location 108-A is in a room adjacent to and approximately 50 feet east of location 015-A in the Plating Shop. Location 118-A was installed during Round 12 and is approximately 50 feet southeast of location 015-A in the Bond Lay-Up area. The concentration of TCE at 118-A (2,600 µg/m^3) is very similar to the result at 015-A (2,400 µg/m^3).

- SV sample 018-A was collected in the Building A Basement, an area of known subsurface contamination. The basement is approximately 25 feet wide and is in a north/south-oriented region in the far west side of Building A. Sampling location 018-A has shown persistently elevated concentrations of TCE and other subsurface contaminants, including two chlorinated-solvent degradation-products (cis-1,2-DCE and 1,1-DCE) that have historically been detected at concentrations in excess of screening levels. The Round 12 SV sample from this location had detectable concentrations of both of these latter COC, and the 1,1-DCE concentration (69,000 µg/m^3) exceeds the screening level of 8,800 µg/m^3 by almost eight times (no screening level exists for cis-1,2-DCE). During Round 11, 1,1-DCE was detected at location 018-A (resampled data) at a concentration (130,000 µg/m^3) almost 15 times higher than its screening level. During Round 12, location 018-A also exhibited elevated concentrations of 1,1-DCA (1,300 µg/m^3) and vinyl chloride (300J µg/m^3), in excess of their screening levels (770 µg/m^3 and 280 µg/m^3, respectively).

- As illustrated in Appendix F, TCE and cis-1,2-DCE SV concentrations increased significantly at basement location 018-A in Rounds 11 and 12 as compared to all previous sampling rounds. Sampling locations at the southern and northern end of the Building A Basement (locations 093-A and 094-A, respectively) have shown low concentrations of TCE since their installation before Round 9 (August 2010). These locations continue to exhibit much lower concentrations of TCE and its degradation products than what is found closer to the Plating Shop. Sampling locations 109-A and 116-A are north of 018-A; both had low concentrations of TCE and 1,1-DCE during Round 12. (Location 110-A was not sampled due to water in the VMP, but TCE and cis-1,2-DCE were detected there when it was last sampled in February 2011 during Round 10.) These results indicate that elevated sub-slab contamination may not extend to the northernmost and southernmost aspects of the Building A Basement.

- SV location 015-A, in the Building A Plating Shop, has historically had TCE concentrations in excess of its screening level; however, concentrations in SV have decreased over time since it was first sampled in 2006 (154,000 µg/m^3). This decrease is most likely associated with operation of the Building A Plating Shop SSD system since its installation in March 2008. In October 2010, larger canisters of granular activated-carbon (GAC) were installed and the flow rate was increased from approximately 100 cubic feet per minute (cfm) to approximately 130 cfm but, even with the system's expanded treatment capacity, concentrations of VOCs have fluctuated between sampling rounds. The TCE concentration at this location in Round 12 (2,400 µg/m^3) is lower than the previous Round 11 result (3,400 µg/m^3), but the Round 11 concentration is nearly triple that detected in Round 9 (1,300 µg/m^3), and almost equal to that found in Round 8 (3,600 µg/m^3).

- Sampling location 079-A in Building A is east of the Plating Shop in the main north–south hallway, across from the Bond Lay-Up Room. Before Round 9 (August 2010), this sampling location was the farthest VMP east of the Plating Shop in Building A. However, several VMPs have since been installed in Building A: sampling location 097-A was installed before Round 9 (August 2010), and two newer VMPs (106-A and 107-A) were installed before Round 10 (February 2011). During Round 12, one additional VMP was installed north of 079-A and three VMPs were installed west of 079-A in the Bond Lay-Up Rooms. Concentrations of TCE in SV at 079-A have fluctuated since it was first installed in Round 9 (August 2010), ranging from 3,500 µg/m^3 to 9,900 µg/m^3. The Round 12 TCE concentration in SV at 079-A was 7,900 µg/m^3. TCE was not detected at sampling location 097-A-SV during Round 12 or Round 10 (February 2011) (both were winter sampling events). The Round 11 (August 2011) concentration (9.6 µg/m^3) and Round 9 (August 2010) concentration (7.9 µg/m^3) were still below the screening level of 88 µg/m^3. These results indicate that sub-slab TCE concentrations in excess of its screening level may not extend southeast of location 079-A.

- The two VMPs installed before Round 10 (February 2011) are to the east (107-A) and northeast (106-A) of 079-A. TCE was detected during Round 12 at low concentrations (11 µg/m^3 and 2.6 µg/m^3, respectively) in SV samples collected from these two locations, but these concentrations are lower than those detected during Round 11 (August 2011) (38 µg/m^3 and 56 µg/m^3, respectively). The high levels of sub-slab TCE at sampling

location 079-A appear to be bounded in all measured directions by areas of lower concentrations, and may therefore be due to a localized source; however, the extent of SV contamination in this area has not yet been fully delineated due to a data gap directly to the south. Additional samples between grid points may be necessary to further delineate sub-slab contamination at this location.

- TCE was detected in SV at five locations in Building B, ranging from 0.79*J* µg/m^3 to 170 µg/m^3. The highest concentration of TCE (170 µg/m^3) was reported in sample 121-B; this is the only sample to exceed the screening level of 88 µg/m^3. Location 121-B (170 µg/m^3 TCE) was installed before Round 12 and is on the west–central side of Building B (BC), just east of Building A. Location 101-B, 44 feet east of this location, has historically demonstrated TCE concentrations similar to those detected at 121-B; however, the Round 12 result for 101-B (7.3 µg/m^3) is much lower than the concentration detected at 121-B.

- TCE was also detected in Building C at 14 SV locations at concentrations above its screening level (88 µg/m^3), ranging from 160 µg/m^3 to 240,000 µg/m^3. All of these samples were collected in the central and southern portions of the Building C Basement. Twelve new VMPs were installed before Round 12 in the Building C basement. Nine of these were installed to further delineate sub-slab contamination in the central portion of the Building C basement. Of these nine, six had sub-slab vapor TCE concentrations greater than its screening level.

- Vinyl chloride was detected at an elevated concentration (82,000 µg/m^3) at location 126-C in the southern aspect of the Martin Museum in the eastern–central part of the Building C basement. As vinyl chloride may be found at the leading edge of a chlorinated solvent plume, this result may indicate a source outside and east of Building C, based on the local shallow-aquifer groundwater flow direction (south to southwest).

- TCE concentrations in Building A IAQ samples do not exceed screening levels. Only two COC in Building A IAQ samples (ethylbenzene and xylenes detected at location 015-A, and ethylbenzene detected at location at 108-A) were observed at concentrations above their screening levels.

- None of the Round 12 Building B IAQ samples had COC at concentrations above their respective screening levels.

- No Building C IAQ samples had COC concentrations exceeding screening levels.

- Six of 21 Building A SV samples (including duplicates) had naphthalene exceedances. Concentrations range from 82 µg/m^3 to 520 µg/m^3. Building B (including the Fire Coat Building) had SV naphthalene exceedances (including one duplicate) in six of nine total samples, with concentrations ranging from 49 µg/m^3 to 400 µg/m^3. Twenty-one of 28 Building C samples (including duplicates) had detected (SV) concentrations of naphthalene above its screening level. Concentrations range from 64*J* µg/m^3 to 4,300*J* µg/m^3. Chlorinated solvent degradation products were detected in four co-located samples (both IAQ and SV) in Building A. 1,1-DCE was found in the co-located pairs at 018-A, 093-A, 109-A, 116-A.

- No chlorinated solvent degradation products were found in co-located SV and IAQ samples collected in Buildings B or C.

- Degradation products are found in some SV samples from all buildings, but not always in the co-located IAQ samples. This may indicate that, at the concentrations detected, the slab provides adequate attenuation to prevent SV intrusion. In cases where these chemical markers are found in IAQ samples but not in the co-located SV sample, the source of these chemicals is uncertain, and whether they were transported to these locations via ventilation or other mechanism is also unknown, but possible.

- TCE and cis-1,2-DCE in SV at the southern portion of the Building C Basement have remained at relatively consistent (low) concentrations across the last five rounds of sampling. This may indicate that the Building C SSD system has reached or is close to reaching its maximum removal efficiency for these compounds.

TABLE 3-1

AMBIENT AIR (BACKGROUND) SAMPLE RESULTS, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	OSHA PEL (µg/m^3)	Industrial Air Screeing Level (µg/m^3)	Key	Sample Results (µg/m^3)			
				BCK-1	BCK-2	BCK-3	BCK-4
Benzene	3.19E+02	16	ca	**0.51 J**	**0.36 J**	**0.41**	**0.45**
Carbon Tetrachloride	6.29E+04	20	ca	**0.34 J**	**0.39 J**	**0.44 J**	**0.42 J**
Chlorodifluoromethane	3.59E+06	220,000	nc	**1.3**	**1.3**	**1.5**	**3.9**
Chloroform	2.40E+05	5	ca	**0.12 J**	0.073 U	0.073 U	0.073 U
Dichlorodifluoromethane	4.95E+06	440	nc	**2.3**	**2.2**	**2.3**	**2.3**
Dichloroethane 1,1-	4.00E+05	77	ca	0.04 U	0.04 U	0.04 U	0.04 U
Dichloroethane 1,2-	4.00E+05	5	ca	**0.15 J**	0.077 U	0.077 U	0.077 U
Dichloroethene 1,1-	----	880	nc	0.052 U	0.052 U	0.052 U	0.052 U
Dichloroethene cis-1,2-	7.90E+05	----	----	0.095 U	0.095 U	0.095 U	0.095 U
Dichloroethene trans-1,2-	7.90E+05	260	nc	0.079 U	0.079 U	0.079 U	0.079 U
Ethylbenzene	4.35E+05	49	ca	0.12 U	0.12 U	0.12 U	**0.15 J**
Methyl t-Butyl Ether	1.80E+05[A]	470	ca	0.25 U	0.25 U	0.25 U	0.25 U
Methylene Chloride	8.70E+04	2,600	ca	**2.9**	**8.8**	**0.94 B**	**3.2**
Naphthalene	5.00E+01	4	ca	0.19 U	0.19 U	0.19 U	0.19 U
Tetrachloroethene	6.78E+05	175	ca	**0.28 J**	0.11 U	**0.37 J**	0.11 U
Toluene	7.54E+05	22,000	nc	**0.58**	**0.93**	**0.45**	**0.44**
Trichlorobenzene 1,2,4-	4.00E+04[N]	9	nc	0.29 U	0.29 U	0.29 U	0.29 U
Trichloroethane 1,1,1-	4.50E+04	8	ca	**0.95**	0.065 U	0.065 U	0.065 U
Trichloroethane 1,1,2-	1.90E+06	22,000	nc	0.11 U	0.11 U	0.11 U	0.11 U
Trichloroethene	5.37E+05	8.8 [M]	ca	0.075 U	0.075 U	0.075 U	0.075 U
Trimethylbenzene 1,2,3-	1.23E+03	22	A	0.39 U	0.39 U	0.39 U	0.39 U
Trimethylbenzene 1,2,4-	1.23E+03	31	A	0.12 U	0.12 U	0.12 U	0.12 U
Trimethylbenzene 1,3,5-	1.23E+03	----	----	0.13 U	0.13 U	0.13 U	0.13 U
Vinyl Chloride	2.16E+04	28	ca	0.074 U	0.074 U	0.074 U	0.074 U
Xylenes, total	4.34E+05	440	nc	**0.23 J**	0.1 U	**0.23 J**	**0.53 J**

Notes: Shaded cells indicate a concentration greater than risk-based screening level µg/m^3 = micrograms per cubic meter

nc = screening value based on noncarcinogenic hazard index = 1 U = nondetect J = estimated value

ca = screening value based on 1x 10^{-5} carcinogenic risk B = present in laboratory blank

OSHA PEL = Occupational Safety and Health Administration Pemissible Exposure Limit

N = National Institute for Occupational Safety and Health Recommended Exposure Limit

A = American Council of Governmental Industrial Hygienists Theshold Limit Value

M = Maryland Department of the Environment's screening level for trichloroethene

Industrial Air Screening Levels from USEPA Regional Screening Levels for Chemical Contaminants at Superfund Sites Nov-2010

TABLE 3-2

IAQ SAMPLE RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	KEY	015-A-IA	018-A-IA	075-A-IA	076-A-IA	077-A-IA	079-A-IA
Benzene	319	16	ca	12 U	0.83	1.1	1.1	0.79 J	0.73 U
Carbon Tetrachloride	62,900	20	ca	15 U	0.64 J	0.62 J	0.48 J	0.94 U	0.94 U
Chlorodifluoromethane	3,590,000	220,000	nc	8.7 U	2.2	6.5	1.5	4.3	6.6
Chloroform	240,000	5	ca	12 U	0.26 J	0.24 J	0.13 J	0.73 U	0.73 U
Dichlorodifluoromethane	4,950,000	440	nc	22 U	3.4	3.2	2.3	2.7 J	3.2 J
1,1-Dichloroethane	400,000	77	ca	6.6 U	0.14 J	0.1 U	0.04 U	0.4 U	0.4 U
1,2-Dichloroethane	400,000	5	ca	13 U	0.15 U	0.19 U	0.077 U	0.77 U	0.77 U
1,1-Dichloroethene	NA	880	nc	8.4 U	2.1	0.13 U	0.052 U	0.52 U	0.52 U
cis-1,2-Dichloroethene	790,000	NA	----	16 U	0.6 J	0.24 U	0.095 U	0.95 U	0.95 U
trans-1,2-Dichloroethene	790,000	260	nc	13 U	0.16 U	0.2 `	0.079 U	0.79 U	0.79 U
Ethylbenzene	435,000	49	ca	**120**	1.4	3.5	0.79	7	4.7
Methyl t-Butyl Ether	180,000 [A]	470	ca	40 U	2.9 U	0.61 U	0.25 U	2.5 U	2.5 U
Methylene Chloride	87,000	2,600	ca	21 J B	0.85 J B	2.6 B	0.61 J B	2.8 J B	3.7 J B
Naphthalene	50	3.6	ca	31 U	0.38 U	0.55 J	0.19 U	1.9 U	1.9 U
Tetrachloroethene	678,000	175	nc	18 U	1 J	0.44 J	0.29 J	1.1 U	1.1 U
Toluene	754,000	22,000	nc	2400	35	82	9.4	160	110
1,2,4-Trichlorobenzene	40,000 [N]	9	nc	47 U	0.58 U	0.72 U	0.29 U	2.9 U	30 U
1,1,1-Trichloroethane	1,900,000	22,000	nc	11 U	0.15 J	0.16 U	1.6	0.65 U	4.4 U
1,1,2-Trichloroethane	45,000	8	ca	19 U	0.23 U	0.29 U	0.11 U	1.1 U	4.4 U
Trichloroethene	537,000	8.8 [M]	nc	12 U	5.1	1.2	0.12 J	0.75 U	2.1 U
1,2,3-Trimethylbenzene	1,230	22 [A]	nc	64 U	0.79 U	0.98 J	0.39 J	3.9 U	3.9 U
1,2,4-Trimethylbenzene	1,230	31 [A]	nc	20 U	0.25 U	0.31 U	0.39 U	1.2 U	2.1 J
1,3,5-Trimethylbenzene	1,230	NA	---	21 U	0.26 U	0.32 U	0.13 U	1.3 U	1.3 U
Vinyl Chloride	21,560	28	ca	12 U	0.15 U	0.19 U	0.074 U	0.74 U	0.74 U
Xylenes, total	434,000	440	nc	**740**	7.6	21	3.8	45	28

TABLE 3-2

IAQ SAMPLE RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	KEY	093-A-IA	IA-DUP-5 (093-A-IA)	094-A-IA	096-A-IA	097-A-IA	106-A-IA
Benzene	319	16	ca	0.74	0.64	1	1.5 U	0.84 J	1.2 J
Carbon Tetrachloride	62,900	20	ca	0.66	0.56	0.69 J	1.9 U	0.56 J	0.68 J
Chlorodifluoromethane	3,590,000	220,000	nc	6.6 J	3.5 J	3.2	2.2 J	11	13
Chloroform	240,000	5	ca	0.2 J	0.16 J	0.26 J	1.5 U	0.37 U	0.37 U
Dichlorodifluoromethane	4,950,000	440	nc	3.6	2.9	3.5	3.9 J	2.8	4
1,1-Dichloroethane	400,000	77	ca	0.04 U	0.04 U	0.081 U	0.81 U	0.2 U	0.2 U
1,2-Dichloroethane	400,000	5	ca	0.097 J	0.077 U	0.15 U	1.5 U	0.38 U	0.38 U
1,1-Dichloroethene	NA	880	nc	0.21 J	0.22 J	0.1 J	1 U	0.26 U	0.26 U
cis-1,2-Dichloroethene	790,000	NA	----	0.095 U	0.095 U	0.19 U	1.9 U	0.48 U	0.48 U
trans-1,2-Dichloroethene	790,000	260	nc	0.079 U	0.079 U	0.16 U	1.6 U	0.4 U	0.4 U
Ethylbenzene	435,000	49	ca	0.28 J	0.46	2.6	7.8	5.1	6.8
Methyl t-Butyl Ether	180,000 [A]	470	ca	0.25 U	0.25 U	0.49 U	4.9 U	1.2 U	1.2 U
Methylene Chloride	87,000	2,600	ca	2 B	1.5 B	2.1 B	3.2 J B	5 B	7.1 B
Naphthalene	50	3.6	ca	0.19 U	0.19 U	0.38 U	3.8 U	0.94 U	0.94 U
Tetrachloroethene	678,000	175	nc	2	2.1	0.49 J	2.2 U	0.54 U	0.54 U
Toluene	754,000	22,000	nc	7.3	8.9	71	280	140	170
1,2,4-Trichlorobenzene	40,000 [N]	9	nc	0.29 U	0.29 U	0.58 U	5.8 U	1.4 U	1.4 U
1,1,1-Trichloroethane	1,900,000	22,000	nc	0.18 J	0.16 J	0.13 U	1.3 U	0.33 U	0.33 U
1,1,2-Trichloroethane	45,000	8	ca	0.11 U	0.11 U	0.23 U	2.3 U	0.57 U	0.57 U
Trichloroethene	537,000	8.8 [M]	nc	2.2	2	0.56	1.5 U	0.38 U	0.38 U
1,2,3-Trimethylbenzene	1,230	22 [A]	nc	0.39 U	0.39 U	0.79 U	7.9 U	2 J	2
1,2,4-Trimethylbenzene	1,230	31 [A]	nc	0.12 U	0.12 U	38 J	2.5 U	2 U	0.61
1,3,5-Trimethylbenzene	1,230	NA	---	0.13 U	0.13 U	0.26 U	2.6 U	0.64 U	0.64 J
Vinyl Chloride	21,560	28	ca	0.074 U	0.074 U	0.15 U	1.5 U	0.37 U	0.37 U
Xylenes, total	434,000	440	nc	0.77 J	2.1 J	15	47	28	40

TABLE 3-2

IAQ SAMPLE RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	KEY	107-A-IA	108-A-IA	109-A-IA	IA-DUP-4 (109-A-IA)	110-A-IA	116-A-IA
Benzene	319	16	ca	0.77 J	3.3 U	0.66 J	1.2 J	0.6	0.58
Carbon Tetrachloride	62,900	20	ca	0.5 J	4.3 U	0.49 J	0.54	0.49 J	0.46 J
Chlorodifluoromethane	3,590,000	220,000	nc	7.1	7.9 J	1.9	2.3	2.3	3.5 J
Chloroform	240,000	5	ca	0.37 U	3.3 U	0.25 J	0.45	0.2 J	0.22 J
Dichlorodifluoromethane	4,950,000	440	nc	3	6.1 U	2.3	2.9	2.3	2.2 J
1,1-Dichloroethane	400,000	77	ca	1.6 U	1.8 U	0.081 U	0.04 U	0.081 U	0.04 U
1,2-Dichloroethane	400,000	5	ca	1.6 U	3.5 U	0.15 U	0.077 U	0.15 U	0.077 U
1,1-Dichloroethene	NA	880	nc	1.6 U	2.3 U	0.29 J	0.27 J	0.29 J	0.35
cis-1,2-Dichloroethene	790,000	NA	----	1.6 U	4.3 U	0.19 U	0.095 U	0.19 U	0.1 J
trans-1,2-Dichloroethene	790,000	260	nc	1.6 U	3.6 U	0.16 U	0.079 U	0.16 U	0.079 U
Ethylbenzene	435,000	49	ca	3.7	**64**	2.5 J	0.14 J	3.2	1.2
Methyl t-Butyl Ether	180,000 [A]	470	ca	1.2 U	11 U	0.49 U	0.25 U	0.49 U	0.25 U
Methylene Chloride	87,000	2,600	ca	2.7 J B	7.1 J B	0.86 J B	1.3 B	0.89 J B	2.8 B J
Naphthalene	50	3.6	ca	0.94 U	8.6 U	0.38 U	0.19 U	0.38 U	0.19 U
Tetrachloroethene	678,000	175	nc	0.54 U	4.9 U	0.63 J	3.3 J	0.61 J	0.65
Toluene	754,000	22,000	nc	98	1500	91 J	2.1 J	89	54 J
1,2,4-Trichlorobenzene	40,000 [N]	9	nc	1.4 U	13 U	0.58 U	0.29 U	0.58 U	0.29 U
1,1,1-Trichloroethane	1,900,000	22,000	nc	0.33 U	3 U	0.13 U	0.069 J	0.13 U	0.081 J
1,1,2-Trichloroethane	45,000	8	ca	0.57 U	5.2 U	0.23 U	0.11 U	0.23 U	0.11 U
Trichloroethene	537,000	8.8 [M]	nc	0.38 U	3.4 U	1.1	0.97	0.9	1.4 J
1,2,3-Trimethylbenzene	1,230	22 [A]	nc	2 U	18 U	0.79 U	0.39 U	0.79 J	0.39 U
1,2,4-Trimethylbenzene	1,230	31 [A]	nc	0.61 J	5.6 U	0.25 U	0.12 U	0.4 J	0.12 U
1,3,5-Trimethylbenzene	1,230	NA	---	0.64 U	5.8 U	0.26 U	0.13 U	0.26 U	0.13 U
Vinyl Chloride	21,560	28	ca	0.37 U	3.4 U	0.15 U	0.074 U	0.15 U	0.074 U
Xylenes, total	434,000	440	nc	20	410	9.7 J	0.44 J	18	3.6 J

TABLE 3-2

IAQ SAMPLE RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	KEY	IA-DUP-3 (116-A-IA)	117-A-IA	118-A-IA	119-A-IA	120-A-IA
Benzene	319	16	ca	0.58	1.4 U	0.89 J	0.67	0.78 J
Carbon Tetrachloride	62,900	20	ca	0.68 J	1.8 U	0.61 J	0.38 J	0.55 J
Chlorodifluoromethane	3,590,000	220,000	nc	28 J	9.1	37	33	41
Chloroform	240,000	5	ca	0.2 J	0.37 U	2 U	0.21 J	0.37 U
Dichlorodifluoromethane	4,950,000	440	nc	3.4 J	4 J	3	2.1	3
1,1-Dichloroethane	400,000	77	ca	0.081 U	0.2 U	1.6 U	0.2 U	1.6 U
1,2-Dichloroethane	400,000	5	ca	0.15 U	0.38 U	1.6 U	0.38 U	1.6 U
1,1-Dichloroethene	NA	880	nc	0.11 J	0.26 U	1.6 U	0.26 U	1.6 U
cis-1,2-Dichloroethene	790,000	NA	----	0.19 U	0.48 U	1.6 U	0.48 U	1.6 U
trans-1,2-Dichloroethene	790,000	260	nc	0.16 U	0.4 U	1.6 U	0.4 U	1.6 U
Ethylbenzene	435,000	49	ca	1.1	20	5	4.6	3.3
Methyl t-Butyl Ether	180,000 [A]	470	ca	0.49 U	4.7 U	1.2 U	0.49 U	1.2 U
Methylene Chloride	87,000	2,600	ca	16 B J	4.8 J B	1.5 J B	0.91 J B	2.2 J B
Naphthalene	50	3.6	ca	0.47 J	3.6 U	0.94 U	0.38 U	0.94 U
Tetrachloroethene	678,000	175	nc	0.26 J	2.1 U	0.54 U	0.24 J	0.54 U
Toluene	754,000	22,000	nc	21 J	580	130	100	86
1,2,4-Trichlorobenzene	40,000 [N]	9	nc	0.58 U	5.6 U	1.4 U	0.58 U	1.4 U
1,1,1-Trichloroethane	1,900,000	22,000	nc	0.13 U	1.3 U	0.33 U	0.13 U	0.33 U
1,1,2-Trichloroethane	45,000	8	ca	0.23 U	2.2 U	0.57 U	0.23 U	0.57 U
Trichloroethene	537,000	8.8 [M]	nc	0.65 J	1.4 U	0.38 U	0.15 U	0.38 U
1,2,3-Trimethylbenzene	1,230	22 [A]	nc	0.79 U	7.6 U	2 U	0.79	2 U
1,2,4-Trimethylbenzene	1,230	31 [A]	nc	0.26 J	3.9 J	0.61 U	0.84	0.61 U
1,3,5-Trimethylbenzene	1,230	NA	---	0.26 U	2.5 U	0.64 J	0.28 J	0.64 U
Vinyl Chloride	21,560	28	ca	0.15 U	1.4 U	0.37 U	0.15 U	0.37 U
Xylenes, total	434,000	440	nc	6 J	96	30	27	20

TABLE 3-2

IAQ SAMPLE RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Notes: All sample concentrations in micrograms per cubic meter ($\mu g/m^3$)

Shaded cells indicate a concentration greater than the risk -based screening level

U = not detected

J = estimated value

-- = not available

B = analyte detected in laboratory blank

nc = screening value based on noncarcinogenic hazard index = 1

ca = screening value based on $1x\ 10^{-5}$ carcinogenic risk

OSHA PEL = Occupational Safety and Health Administration Pemissible Exposure Limit

N = National Institute for Occupational Safety and Health Recommended Exposure Limit

A = American Council of Governmental Industrial Hygienists Theshold Limit Value

M = Maryland Department of the Environment's screening level for trichloroethene

Industrial Air Screening Levels from USEPA Regional Screening Levels for Chemical Contaminants at Superfund Sites Nov-2011

TABLE 3-3

SUB-SLAB VAPOR SAMPLE RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Target Shallow Soil Gas Concentration [1] ($\mu g/m^3$)	KEY	015-A-SV	SV-DUP-4 (015-A-SV)	018-A-SV	075-A-SV	076-A-SV	077-A-SV
Benzene	160	ca	5.7 U	1.1 J	250 U	2.4 J	1.1 J	0.9 J
Carbon Tetrachloride	200	ca	7.4 U	0.94 U	330 U	0.94 U	0.94 U	0.94 U
Chlorodifluoromethane	2,200,000	nc	47 B	4	180 U	12	3.4	26
Chloroform	53	ca	5.7 U	1.4 J	250 U	18	0.73 U	1.1 J
Dichlorodifluoromethane	4,400	nc	10 U	2.3 J	460 U	2.7 J	2.6 J	3 J
1,1-Dichloroethane	770	ca	65 J	10 J	**1300**	0.4 U	0.4 U	0.4 U
1,2-Dichloroethane	47	ca	6 U	0.77 U	270 U	0.77 U	0.77 U	0.77 U
1,1-Dichloroethene	8,800	nc	780 J	99 J	**69000**	0.52 U	0.52 U	0.52 U
cis-1,2-Dichloroethene	----	----	1100 J	160 J	6700	0.95 U	0.95 U	0.95 U
trans-1,2-Dichloroethene	2,600	nc	46 J	5.3 J	270 U	0.79 U	0.79 U	0.79 U
Ethylbenzene	490	ca	9.2 U	19 J	400 U	25	8.1	21
Methyl t-Butyl Ether	4,700	ca	19 U	2.5 U	850 U	2.5 U	2.5 U	2.5 U
Methylene Chloride	26,000	ca	18 B	3.6 B	420 B	2.6 B	2.3 B	6.6 B
Naphthalene	36	ca	15 UJ	1.9 U	650 UJ	**390**	28	**520**
Tetrachloroethene	1,750	nc	8.5 U	1.1 U	370 U	8.1	1.1 U	8.5
Toluene	220,000	nc	47 J	440 J	270 U	49	110	48
1,2,4-Trichlorobenzene	88	nc	23 UJ	2.9 U	1000 UJ	2.9 U	2.9 U	2.9 U
1,1,1-Trichloroethane	220,000	nc	840 J	100 J	300 J	0.65 U	0.65 U	0.65 U
1,1,2-Trichloroethane	77	ca	9 U	1.1 U	400 U	1.1 U	1.1 U	1.1 U
Trichloroethene	88 [M]	nc	**2400** J	**280** J	**83000**	4.2	1.1 J	3.7
1,2,3-Trimethylbenzene	220[A]	nc	31 U	3.9 U	1400 U	48	3.9 U	52
1,2,4-Trimethylbenzene	310[A]	nc	9.6 U	1.2 U	420 U	88	4.6	87
1,3,5-Trimethylbenzene	---	---	10 U	1.3 U	440 U	29	1.3 J	26
Vinyl Chloride	280	ca	5.8 U	0.74 U	**300** J	0.74 U	0.74 U	0.74 U
Xylenes, total	4,400	nc	8.2 UJ	120 J	360 U	120	51	110

TABLE 3-3

SUB-SLAB VAPOR SAMPLE RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Target Shallow Soil Gas Concentration [(1)] ($\mu g/m^3$)	KEY	079-A-SV	SV-DUP-5 (079-A-SV)	093-A-SV	094-A-SV	096-A-SV	097-A-SV
Benzene	160	ca	12 U	15 U	1.1 J	1.2 J	1 J	0.85 J
Carbon Tetrachloride	200	ca	16 U	19 U	0.94 U	0.94 U	0.94 U	0.94 U
Chlorodifluoromethane	2,200,000	nc	26 J B	11 U	4	2.9	40 B	28 B
Chloroform	53	ca	17 J	17 J	0.73 U	0.73 U	0.77 J	0.73 U
Dichlorodifluoromethane	4,400	nc	22 U	27 U	3 J	2.4 J	4 J	3.6 J
1,1-Dichloroethane	770	ca	6.7 U	8.1 U	1.1 J	0.4 U	0.4 U	0.4 U
1,2-Dichloroethane	47	ca	13 U	15 U	0.77 U	0.77 U	0.77 U	0.77 U
1,1-Dichloroethene	8,800	nc	8.5 U	10 U	0.89 J	0.52 U	0.52 U	0.52 U
cis-1,2-Dichloroethene	----	----	3000	2400	0.95 U	0.95 U	0.95 U	0.95 U
trans-1,2-Dichloroethene	2,600	nc	600	500	0.79 U	0.79 U	0.79 U	0.79 U
Ethylbenzene	490	ca	19 U	23 U	1.2 U	1.2 U	8.6	2 J
Methyl t-Butyl Ether	4,700	ca	40 U	49 U	2.5 U	2.5 U	2.5 U	2.5 U
Methylene Chloride	26,000	ca	19 B	22 B	2.3 B	7.5 B	8.3 B	4.9 B
Naphthalene	36	ca	31 UJ	38 UJ	1.9 UJ	1.9 U	1.9 UJ	1.9 UJ
Tetrachloroethene	1,750	nc	22 J	22 J	1.1 U	1.1 U	1.3 J	1.1 U
Toluene	220,000	nc	13 U	16 U	2 J	2.1 J	230	40
1,2,4-Trichlorobenzene	88	nc	48 U	58 U	2.9 UJ	2.9 U	2.9 U	2.9 U
1,1,1-Trichloroethane	220,000	nc	11 U	13 U	0.65 U	0.65 U	3.8 J	0.65 U
1,1,2-Trichloroethane	77	ca	19 U	23 U	1.1 U	1.1 U	1.1 U	1.1 U
Trichloroethene	88 [M]	nc	**7900**	**7200**	1.9 J	0.75 U	1.1 J	2 J
1,2,3-Trimethylbenzene	220[A]	nc	65 U	78 U	3.9 U	3.9 U	3.9 U	3.9 U
1,2,4-Trimethylbenzene	310[A]	nc	20 U	25 U	1.2 U	1.2 U	1.8 J	1.4 J
1,3,5-Trimethylbenzene	---	---	21 U	25 U	1.3 U	1.3 U	1.3 U	1.8 J
Vinyl Chloride	280	ca	12 U	15 U	0.74 U	0.74 U	0.74 U	0.74 U
Xylenes, total	4,400	nc	17 U	21 U	1 U	1 U	45	12

TABLE 3-3

SUB-SLAB VAPOR SAMPLE RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Target Shallow Soil Gas Concentration [(1)] ($\mu g/m^3$)	KEY	106-A-SV	107-A-SV	108-A-SV	109-A-SV	116-A-SV	117-A-SV
Benzene	160	ca	0.73 U	1.9 J	13 U	1.8 J	2 J	4
Carbon Tetrachloride	200	ca	0.94 U	0.94 U	17 U	0.94 U	0.94 U	0.94 U
Chlorodifluoromethane	2,200,000	nc	8.3	64	9.7 U	2.9	3	3
Chloroform	53	ca	4.3	1.7 J	13 U	1 J	2.2 J	4.1
Dichlorodifluoromethane	4,400	nc	2.8 J	3.8 J	25 U	2.9 J	3.1 J	2.3 J
1,1-Dichloroethane	770	ca	9	0.4 U	**2900**	0.4 U	0.59 J	0.4 U
1,2-Dichloroethane	47	ca	0.77 U	0.77 U	14 U	0.77 U	0.89 J	0.77 U
1,1-Dichloroethene	8,800	nc	1.7 J	0.52 U	3900	0.54 J	0.88 J	0.52 U
cis-1,2-Dichloroethene	----	----	0.95 U	1.1 J	240	0.95 U	0.95 U	0.95 U
trans-1,2-Dichloroethene	2,600	nc	0.79 U	0.79 U	15 U	0.85 J	0.8 J	0.79 U
Ethylbenzene	490	ca	2.8 J	75	22 U	1.2 U	17	24
Methyl t-Butyl Ether	4,700	ca	2.5 U	2.5 U	45 U	2.5 U	2.5 U	2.5 U
Methylene Chloride	26,000	ca	3.8 B	16 B	20 B	3.7 B	3.4 B	1.9 B
Naphthalene	36	ca	25	11	35 UJ	6.5 J	**420** J	**220**
Tetrachloroethene	1,750	nc	1.5 J	2.4 J	20 U	1.1 U	2.9 J	9
Toluene	220,000	nc	44	110	40 J	5.5	23	46
1,2,4-Trichlorobenzene	88	nc	2.9 U	2.9 U	53 U	2.9 UJ	2.9 UJ	2.9 U
1,1,1-Trichloroethane	220,000	nc	7.1	0.65 U	200	0.65 U	0.65 U	5.4
1,1,2-Trichloroethane	77	ca	1.1 U	1.1 U	21 U	1.1 U	1.1 U	1.1 U
Trichloroethene	88 [M]	nc	11	2.6	**480**	6.6	18	76
1,2,3-Trimethylbenzene	220[A]	nc	12	6.9	72 U	3.9 U	31	26
1,2,4-Trimethylbenzene	310[A]	nc	19	7.4	23 U	3 J	55	49
1,3,5-Trimethylbenzene	---	---	6	4.8	23 U	3.6 J	15	15
Vinyl Chloride	280	ca	0.74 U	0.74 U	19 J	0.74 U	0.74 U	0.74 U
Xylenes, total	4,400	nc	19	300	19 U	1 U	86	120

TABLE 3-3

SUB-SLAB VAPOR SAMPLE RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Target Shallow Soil Gas Concentration [(1)] ($\mu g/m^3$)	KEY	118-A-SV	119-A-SV	120-A-SV
Benzene	160	ca	5.6 U	1.1 J	1.1 J
Carbon Tetrachloride	200	ca	7.1 U	0.94 U	0.94 U
Chlorodifluoromethane	2,200,000	nc	13 J	38	33
Chloroform	53	ca	15 J	2.7 J	2.3 J
Dichlorodifluoromethane	4,400	nc	10 U	3.5 J	2.5 J
1,1-Dichloroethane	770	ca	84	0.4 U	0.4 U
1,2-Dichloroethane	47	ca	5.8 U	0.77 U	0.77 U
1,1-Dichloroethene	8,800	nc	800	0.52 U	0.52 U
cis-1,2-Dichloroethene	----	----	280	0.95 U	0.95 U
trans-1,2-Dichloroethene	2,600	nc	14 J	0.79 U	0.79 U
Ethylbenzene	490	ca	68	15	66
Methyl t-Butyl Ether	4,700	ca	19 U	2.5 U	2.5 U
Methylene Chloride	26,000	ca	25 B	7 B	7.9 B
Naphthalene	36	ca	**440** B	24	**82**
Tetrachloroethene	1,750	nc	8.2 U	1.6 J	8
Toluene	220,000	nc	22 J	62	53
1,2,4-Trichlorobenzene	88	nc	22 U	2.9 U	2.9 U
1,1,1-Trichloroethane	220,000	nc	20 J	1.1 J	5.1
1,1,2-Trichloroethane	77	ca	8.7 U	1.1 U	1.1 U
Trichloroethene	88 [M]	nc	**2600**	2 J	4.6
1,2,3-Trimethylbenzene	220[A]	nc	30 U	5.8	13
1,2,4-Trimethylbenzene	310[A]	nc	56	10	23
1,3,5-Trimethylbenzene	---	---	21 J	3.5 J	7.6
Vinyl Chloride	280	ca	5.6 U	0.74 U	0.74 U
Xylenes, total	4,400	nc	490	95	340

TABLE 3-3

SUB-SLAB VAPOR SAMPLE RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Notes: All sample concentrations are in micrograms per cubic meter ($\mu g/m^3$)

Shaded cells indicate a concentration greater than risk-based screening level

$\mu g/m^3$ = micrograms per cubic meter

J = estimated value

U = nondetect

A = American Council of Governmental Industrial Hygienists Theshold Limit Value

-- = not available

SV = Sub-slab vapor

R = data rejected

K = result biased high

L = result biased low

B = analyte detected in laboratory blank

M = screening value based on Maryland Department of the Environment (MDE) IAQ target concentration of 8.8 $\mu g/m^3$ divided by an attenuation factor of 0.1

UJ = not detected; quantitation limit estimated

(1) Screening values derived in accordance with Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (November 2002). Screening values are equal to United States Environmental Protection Agency (USEPA) Industrial Air Screening Values divided by an attenuation factor of 0.1, and correspond to a target cancer risk level of $1.0E^{-05}$.

TABLE 3-4

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	015-A-SV	5.7	U	015-A-IA	12	U
Carbon Tetrachloride		7.4	U		15	U
Chlorodifluoromethane		47	B		8.7	U
Chloroform		5.7	U		12	U
Dichlorodifluoromethane		10	U		22	U
1,1-Dichloroethane		65	J		6.6	U
1,2-Dichloroethane		6	U		13	U
1,1-Dichloroethene		780	J		8.4	U
cis-1,2-Dichloroethene		1100	J		16	U
trans-1,2-Dichloroethene		46	J		13	U
Ethylbenzene		9.2	U		**120**	
Methyl t-Butyl Ether	has duplicate	19	U		40	U
Methylene Chloride	SV-DUP-4	18	B		21	J B
Naphthalene		15	UJ		31	U
Tetrachloroethene		8.5	U		18	U
Toluene		47	J		2400	
1,2,4-Trichlorobenzene		23	UJ		47	U
1,1,1-Trichloroethane		840	J		11	U
1,1,2-Trichloroethane		9	U		19	U
Trichloroethene		**2400**	J		12	U
1,2,3-Trimethylbenzene		31	U		64	U
1,2,4-Trimethylbenzene		9.6	U		20	U
1,3,5-Trimethylbenzene		10	U		21	U
Vinyl Chloride		5.8	U		12	U
Xylenes, total		8.2	UJ		**740**	
Benzene	018-A-SV	250	U	018-A-IA	0.83	
Carbon Tetrachloride		330	U		0.64	J
Chlorodifluoromethane		180	U		2.2	
Chloroform		250	U		0.26	J
Dichlorodifluoromethane		460	U		3.4	
1,1-Dichloroethane		**1300**			0.14	J
1,2-Dichloroethane		270	U		0.15	U
1,1-Dichloroethene		**69000**			2.1	
cis-1,2-Dichloroethene		6700			0.6	J
trans-1,2-Dichloroethene		270	U		0.16	U
Ethylbenzene		400	U		1.4	
Methyl t-Butyl Ether		850	U		2.9	U
Methylene Chloride		420	B		0.85	J B
Naphthalene		650	UJ		0.38	U
Tetrachloroethene		370	U		1	J
Toluene		270	U		35	
1,2,4-Trichlorobenzene		1000	UJ		0.58	U
1,1,1-Trichloroethane		300	J		0.15	J
1,1,2-Trichloroethane		400	U		0.23	U
Trichloroethene		**83000**			5.1	
1,2,3-Trimethylbenzene		1400	U		0.79	U
1,2,4-Trimethylbenzene		420	U		0.25	U
1,3,5-Trimethylbenzene		440	U		0.26	U
Vinyl Chloride		**300**	J		0.15	U
Xylenes, total		360	U		7.6	

TABLE 3-4

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	075-A-SV	2.4	J	075-A-IA	1.1	
Carbon Tetrachloride		0.94	U		0.62	J
Chlorodifluoromethane		12			6.5	
Chloroform		18			0.24	J
Dichlorodifluoromethane		2.7	J		3.2	
1,1-Dichloroethane		0.4	U		0.1	U
1,2-Dichloroethane		0.77	U		0.19	U
1,1-Dichloroethene		0.52	U		0.13	U
cis-1,2-Dichloroethene		0.95	U		0.24	U
trans-1,2-Dichloroethene		0.79	U		0.2	`
Ethylbenzene		25			3.5	
Methyl t-Butyl Ether		2.5	U		0.61	U
Methylene Chloride		2.6	B		2.6	B
Naphthalene		**390**			0.55	J
Tetrachloroethene		8.1			0.44	J
Toluene		49			82	
1,2,4-Trichlorobenzene		2.9	U		0.72	U
1,1,1-Trichloroethane		0.65	U		0.16	U
1,1,2-Trichloroethane		1.1	U		0.29	U
Trichloroethene		4.2			1.2	
1,2,3-Trimethylbenzene		48			0.98	J
1,2,4-Trimethylbenzene		88			0.31	U
1,3,5-Trimethylbenzene		29			0.32	U
Vinyl Chloride		0.74	U		0.19	U
Xylenes, total		120			21	
Benzene	076-A-SV	1.1	J	076-A-IA	1.1	
Carbon Tetrachloride		0.94	U		0.48	J
Chlorodifluoromethane		3.4			1.5	
Chloroform		0.73	U		0.13	J
Dichlorodifluoromethane		2.6	J		2.3	
1,1-Dichloroethane		0.4	U		0.04	U
1,2-Dichloroethane		0.77	U		0.077	U
1,1-Dichloroethene		0.52	U		0.052	U
cis-1,2-Dichloroethene		0.95	U		0.095	U
trans-1,2-Dichloroethene		0.79	U		0.079	U
Ethylbenzene		8.1			0.79	
Methyl t-Butyl Ether		2.5	U		0.25	U
Methylene Chloride		2.3	B		0.61	J B
Naphthalene		28			0.19	U
Tetrachloroethene		1.1	U		0.29	J
Toluene		110			9.4	
1,2,4-Trichlorobenzene		2.9	U		0.29	U
1,1,1-Trichloroethane		0.65	U		1.6	
1,1,2-Trichloroethane		1.1	U		0.11	U
Trichloroethene		1.1	J		0.12	J
1,2,3-Trimethylbenzene		3.9	U		0.39	J
1,2,4-Trimethylbenzene		4.6			0.39	U
1,3,5-Trimethylbenzene		1.3	J		0.13	U
Vinyl Chloride		0.74	U		0.074	U
Xylenes, total		51			3.8	

TABLE 3-4

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	077-A-SV	0.9	J	077-A-IA	0.79	J
Carbon Tetrachloride		0.94	U		0.94	U
Chlorodifluoromethane		26			4.3	
Chloroform		1.1	J		0.73	U
Dichlorodifluoromethane		3	J		2.7	J
1,1-Dichloroethane		0.4	U		0.4	U
1,2-Dichloroethane		0.77	U		0.77	U
1,1-Dichloroethene		0.52	U		0.52	U
cis-1,2-Dichloroethene		0.95	U		0.95	U
trans-1,2-Dichloroethene		0.79	U		0.79	U
Ethylbenzene		21			7	
Methyl t-Butyl Ether		2.5	U		2.5	U
Methylene Chloride		6.6	B		2.8	J B
Naphthalene		**520**			1.9	U
Tetrachloroethene		8.5			1.1	U
Toluene		48			160	
1,2,4-Trichlorobenzene		2.9	U		2.9	U
1,1,1-Trichloroethane		0.65	U		0.65	U
1,1,2-Trichloroethane		1.1	U		1.1	U
Trichloroethene		3.7			0.75	U
1,2,3-Trimethylbenzene		52			3.9	U
1,2,4-Trimethylbenzene		87			1.2	U
1,3,5-Trimethylbenzene		26			1.3	U
Vinyl Chloride		0.74	U		0.74	U
Xylenes, total		110			45	
Benzene	079-A-SV	12	U	079-A-IA	0.73	U
Carbon Tetrachloride		16	U		0.94	U
Chlorodifluoromethane		26	J B		6.6	
Chloroform		17	J		0.73	U
Dichlorodifluoromethane		22	U		3.2	J
1,1-Dichloroethane		6.7	U		0.4	U
1,2-Dichloroethane		13	U		0.77	U
1,1-Dichloroethene		8.5	U		0.52	U
cis-1,2-Dichloroethene		3000			0.95	U
trans-1,2-Dichloroethene		600			0.79	U
Ethylbenzene		19	U		4.7	
Methyl t-Butyl Ether	has duplicate	40	U		2.5	U
Methylene Chloride	SV-DUP-5	19	B		3.7	J B
Naphthalene		31	UJ		1.9	U
Tetrachloroethene		22	J		1.1	U
Toluene		13	U		110	
1,2,4-Trichlorobenzene		48	U		30	U
1,1,1-Trichloroethane		11	U		4.4	U
1,1,2-Trichloroethane		19	U		4.4	U
Trichloroethene		**7900**			2.1	U
1,2,3-Trimethylbenzene		65	U		3.9	U
1,2,4-Trimethylbenzene		20	U		2.1	J
1,3,5-Trimethylbenzene		21	U		1.3	U
Vinyl Chloride		12	U		0.74	U
Xylenes, total		17	U		28	

TABLE 3-4

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	093-A-SV	1.1	J	093-A-IA	0.74	
Carbon Tetrachloride		0.94	U		0.66	
Chlorodifluoromethane		4			6.6	J
Chloroform		0.73	U		0.2	J
Dichlorodifluoromethane		3	J		3.6	
1,1-Dichloroethane		1.1	J		0.04	U
1,2-Dichloroethane		0.77	U		0.097	J
1,1-Dichloroethene		0.89	J		0.21	J
cis-1,2-Dichloroethene		0.95	U		0.095	U
trans-1,2-Dichloroethene		0.79	U		0.079	U
Ethylbenzene		1.2	U		0.28	J
Methyl t-Butyl Ether		2.5	U	has duplicate	0.25	U
Methylene Chloride		2.3	B	IA-DUP-5	2	B
Naphthalene		1.9	UJ		0.19	U
Tetrachloroethene		1.1	U		2	
Toluene		2	J		7.3	
1,2,4-Trichlorobenzene		2.9	UJ		0.29	U
1,1,1-Trichloroethane		0.65	U		0.18	J
1,1,2-Trichloroethane		1.1	U		0.11	U
Trichloroethene		1.9	J		2.2	
1,2,3-Trimethylbenzene		3.9	U		0.39	U
1,2,4-Trimethylbenzene		1.2	U		0.12	U
1,3,5-Trimethylbenzene		1.3	U		0.13	U
Vinyl Chloride		0.74	U		0.074	U
Xylenes, total		1	U		0.8	J
Benzene	094-A-SV	1.2	J	094-A-IA	1	
Carbon Tetrachloride		0.94	U		0.69	J
Chlorodifluoromethane		2.9			3.2	
Chloroform		0.73	U		0.26	J
Dichlorodifluoromethane		2.4	J		3.5	
1,1-Dichloroethane		0.4	U		0.081	U
1,2-Dichloroethane		0.77	U		0.15	U
1,1-Dichloroethene		0.52	U		0.1	J
cis-1,2-Dichloroethene		0.95	U		0.19	U
trans-1,2-Dichloroethene		0.79	U		0.16	U
Ethylbenzene		1.2	U		2.6	
Methyl t-Butyl Ether		2.5	U		0.49	U
Methylene Chloride		7.5	B		2.1	B
Naphthalene		1.9	U		0.38	U
Tetrachloroethene		1.1	U		0.49	J
Toluene		2.1	J		71	
1,2,4-Trichlorobenzene		2.9	U		0.58	U
1,1,1-Trichloroethane		0.65	U		0.13	U
1,1,2-Trichloroethane		1.1	U		0.23	U
Trichloroethene		0.75	U		0.56	
1,2,3-Trimethylbenzene		3.9	U		0.79	U
1,2,4-Trimethylbenzene		1.2	U		38	J
1,3,5-Trimethylbenzene		1.3	U		0.26	U
Vinyl Chloride		0.74	U		0.15	U
Xylenes, total		1	U		15.0	

TABLE 3-4

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	096-A-SV	1	J	096-A-IA	1.5	U
Carbon Tetrachloride		0.94	U		1.9	U
Chlorodifluoromethane		40	B		2.2	J
Chloroform		0.77	J		1.5	U
Dichlorodifluoromethane		4	J		3.9	J
1,1-Dichloroethane		0.4	U		0.81	U
1,2-Dichloroethane		0.77	U		1.5	U
1,1-Dichloroethene		0.52	U		1	U
cis-1,2-Dichloroethene		0.95	U		1.9	U
trans-1,2-Dichloroethene		0.79	U		1.6	U
Ethylbenzene		8.6			7.8	
Methyl t-Butyl Ether		2.5	U		4.9	U
Methylene Chloride		8.3	B		3.2	J B
Naphthalene		1.9	UJ		3.8	U
Tetrachloroethene		1.3	J		2.2	U
Toluene		230			280	
1,2,4-Trichlorobenzene		2.9	U		5.8	U
1,1,1-Trichloroethane		3.8	J		1.3	U
1,1,2-Trichloroethane		1.1	U		2.3	U
Trichloroethene		1.1	J		1.5	U
1,2,3-Trimethylbenzene		3.9	U		7.9	U
1,2,4-Trimethylbenzene		1.8	J		2.5	U
1,3,5-Trimethylbenzene		1.3	U		2.6	U
Vinyl Chloride		0.74	U		1.5	U
Xylenes, total		45			47.0	
Benzene	097-A-SV	0.85	J	097-A-IA	0.84	J
Carbon Tetrachloride		0.94	U		0.56	J
Chlorodifluoromethane		28	B		11	
Chloroform		0.73	U		0.37	U
Dichlorodifluoromethane		3.6	J		2.8	
1,1-Dichloroethane		0.4	U		0.2	U
1,2-Dichloroethane		0.77	U		0.38	U
1,1-Dichloroethene		0.52	U		0.26	U
cis-1,2-Dichloroethene		0.95	U		0.48	U
trans-1,2-Dichloroethene		0.79	U		0.4	U
Ethylbenzene		2	J		5.1	
Methyl t-Butyl Ether		2.5	U		1.2	U
Methylene Chloride		4.9	B		5	B
Naphthalene		1.9	UJ		0.94	U
Tetrachloroethene		1.1	U		0.54	U
Toluene		40			140	
1,2,4-Trichlorobenzene		2.9	U		1.4	U
1,1,1-Trichloroethane		0.65	U		0.33	U
1,1,2-Trichloroethane		1.1	U		0.57	U
Trichloroethene		2	J		0.38	U
1,2,3-Trimethylbenzene		3.9	U		2	J
1,2,4-Trimethylbenzene		1.4	J		2	U
1,3,5-Trimethylbenzene		1.8	J		0.64	U
Vinyl Chloride		0.74	U		0.37	U
Xylenes, total		12			28.0	

TABLE 3-4

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	106-A-SV	0.73	U	106-A-IA	1.2	J
Carbon Tetrachloride		0.94	U		0.68	J
Chlorodifluoromethane		8.3			13	
Chloroform		4.3			0.37	U
Dichlorodifluoromethane		2.8	J		4	
1,1-Dichloroethane		9			0.2	U
1,2-Dichloroethane		0.77	U		0.38	U
1,1-Dichloroethene		1.7	J		0.26	U
cis-1,2-Dichloroethene		0.95	U		0.48	U
trans-1,2-Dichloroethene		0.79	U		0.4	U
Ethylbenzene		2.8	J		6.8	
Methyl t-Butyl Ether		2.5	U		1.2	U
Methylene Chloride		3.8	B		7.1	B
Naphthalene		25			0.94	U
Tetrachloroethene		1.5	J		0.54	U
Toluene		44			170	
1,2,4-Trichlorobenzene		2.9	U		1.4	U
1,1,1-Trichloroethane		7.1			0.33	U
1,1,2-Trichloroethane		1.1	U		0.57	U
Trichloroethene		11			0.38	U
1,2,3-Trimethylbenzene		12			2	
1,2,4-Trimethylbenzene		19			0.61	
1,3,5-Trimethylbenzene		6			0.64	J
Vinyl Chloride		0.74	U		0.37	U
Xylenes, total		19			40	
Benzene	107-A-SV	1.9	J	107-A-IA	0.77	J
Carbon Tetrachloride		0.94	U		0.5	J
Chlorodifluoromethane		64			7.1	
Chloroform		1.7	J		0.37	U
Dichlorodifluoromethane		3.8	J		3	
1,1-Dichloroethane		0.4	U		1.6	U
1,2-Dichloroethane		0.77	U		1.6	U
1,1-Dichloroethene		0.52	U		1.6	U
cis-1,2-Dichloroethene		1.1	J		1.6	U
trans-1,2-Dichloroethene		0.79	U		1.6	U
Ethylbenzene		75			3.7	
Methyl t-Butyl Ether		2.5	U		1.2	U
Methylene Chloride		16	B		2.7	J B
Naphthalene		11			0.94	U
Tetrachloroethene		2.4	J		0.54	U
Toluene		110			98	
1,2,4-Trichlorobenzene		2.9	U		1.4	U
1,1,1-Trichloroethane		0.65	U		0.33	U
1,1,2-Trichloroethane		1.1	U		0.57	U
Trichloroethene		2.6			0.38	U
1,2,3-Trimethylbenzene		6.9			2	U
1,2,4-Trimethylbenzene		7.4			0.61	J
1,3,5-Trimethylbenzene		4.8			0.64	U
Vinyl Chloride		0.74	U		0.37	U
Total Xylenes, total		300			20	

TABLE 3-4

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	**108-A-SV**	13	U	**108-A-IA**	3.3	U
Carbon Tetrachloride		17	U		4.3	U
Chlorodifluoromethane		9.7	U		7.9	J
Chloroform		13	U		3.3	U
Dichlorodifluoromethane		25	U		6.1	U
1,1-Dichloroethane		**2900**			1.8	U
1,2-Dichloroethane		14	U		3.5	U
1,1-Dichloroethene		3900			2.3	U
cis-1,2-Dichloroethene		240			4.3	U
trans-1,2-Dichloroethene		15	U		3.6	U
Ethylbenzene		22	U		**64**	
Methyl t-Butyl Ether		45	U		11	U
Methylene Chloride		20	B		7.1	J B
Naphthalene		35	UJ		8.6	U
Tetrachloroethene		20	U		4.9	U
Toluene		40	J		1500	
1,2,4-Trichlorobenzene		53	U		13	U
1,1,1-Trichloroethane		200			3	U
1,1,2-Trichloroethane		21	U		5.2	U
Trichloroethene		**480**			3.4	U
1,2,3-Trimethylbenzene		72	U		18	U
1,2,4-Trimethylbenzene		23	U		5.6	U
1,3,5-Trimethylbenzene		23	U		5.8	U
Vinyl Chloride		19	J		3.4	U
Xylenes, total		19	U		410	
Benzene	**109-A-SV**	1.8	J	**109-A-IA**	0.66	J
Carbon Tetrachloride		0.94	U		0.49	J
Chlorodifluoromethane		2.9			1.9	
Chloroform		1	J		0.25	J
Dichlorodifluoromethane		2.9	J		2.3	
1,1-Dichloroethane		0.4	U		0.081	U
1,2-Dichloroethane		0.77	U		0.15	U
1,1-Dichloroethene		0.54	J		0.29	J
cis-1,2-Dichloroethene		0.95	U		0.19	U
trans-1,2-Dichloroethene		0.85	J		0.16	U
Ethylbenzene		1.2	U		2.5	J
Methyl t-Butyl Ether		2.5	U	has duplicate	0.49	U
Methylene Chloride		3.7	B	IA-DUP-4	0.86	J B
Naphthalene		6.5	J		0.38	U
Tetrachloroethene		1.1	U		0.63	J
Toluene		5.5			91	J
1,2,4-Trichlorobenzene		2.9	UJ		0.58	U
1,1,1-Trichloroethane		0.65	U		0.13	U
1,1,2-Trichloroethane		1.1	U		0.23	U
Trichloroethene		6.6			1.1	
1,2,3-Trimethylbenzene		3.9	U		0.79	U
1,2,4-Trimethylbenzene		3	J		0.25	U
1,3,5-Trimethylbenzene		3.6	J		0.26	U
Vinyl Chloride		0.74	U		0.15	U
Xylenes, total		1	U		9.7	J

TABLE 3-4

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	**116-A-SV**	2	J	**116-A-IA**	0.58	
Carbon Tetrachloride		0.94	U		0.46	J
Chlorodifluoromethane		3			3.5	J
Chloroform		2.2	J		0.22	J
Dichlorodifluoromethane		3.1	J		2.2	J
1,1-Dichloroethane		0.59	J		0.04	U
1,2-Dichloroethane		0.89	J		0.077	U
1,1-Dichloroethene		0.88	J		0.35	
cis-1,2-Dichloroethene		0.95	U		0.1	J
trans-1,2-Dichloroethene		0.8	J		0.079	U
Ethylbenzene		17			1.2	
Methyl t-Butyl Ether		2.5	U	has duplicate	0.25	U
Methylene Chloride		3.4	B	IA-DUP-3	2.8	B J
Naphthalene		**420**	J		0.19	U
Tetrachloroethene		2.9	J		0.65	
Toluene		23			54	J
1,2,4-Trichlorobenzene		2.9	UJ		0.29	U
1,1,1-Trichloroethane		0.65	U		0.081	J
1,1,2-Trichloroethane		1.1	U		0.11	U
Trichloroethene		18			1.4	J
1,2,3-Trimethylbenzene		31			0.39	U
1,2,4-Trimethylbenzene		55			0.12	U
1,3,5-Trimethylbenzene		15			0.13	U
Vinyl Chloride		0.74	U		0.074	U
Xylenes, total		86			3.6	J
Benzene	**117-A-SV**	4		**117-A-IA**	1.4	U
Carbon Tetrachloride		0.94	U		1.8	U
Chlorodifluoromethane		3			9.1	
Chloroform		4.1			0.37	U
Dichlorodifluoromethane		2.3	J		4	J
1,1-Dichloroethane		0.4	U		0.2	U
1,2-Dichloroethane		0.77	U		0.38	U
1,1-Dichloroethene		0.52	U		0.26	U
cis-1,2-Dichloroethene		0.95	U		0.48	U
trans-1,2-Dichloroethene		0.79	U		0.4	U
Ethylbenzene		24			20	
Methyl t-Butyl Ether		2.5	U		4.7	U
Methylene Chloride		1.9	B		4.8	J B
Naphthalene		**220**			3.6	U
Tetrachloroethene		9			2.1	U
Toluene		46			580	
1,2,4-Trichlorobenzene		2.9	U		5.6	U
1,1,1-Trichloroethane		5.4			1.3	U
1,1,2-Trichloroethane		1.1	U		2.2	U
Trichloroethene		76			1.4	U
1,2,3-Trimethylbenzene		26			7.6	U
1,2,4-Trimethylbenzene		49			3.9	J
1,3,5-Trimethylbenzene		15			2.5	U
Vinyl Chloride		0.74	U		1.4	U
Xylenes, total		120			96	

TABLE 3-4

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	**118-A-SV**	5.6	U	**118-A-IA**	0.89	J
Carbon Tetrachloride		7.1	U		0.61	J
Chlorodifluoromethane		13	J		37	
Chloroform		15	J		2	U
Dichlorodifluoromethane		10	U		3	
1,1-Dichloroethane		84			1.6	U
1,2-Dichloroethane		5.8	U		1.6	U
1,1-Dichloroethene		800			1.6	U
cis-1,2-Dichloroethene		280			1.6	U
trans-1,2-Dichloroethene		14	J		1.6	U
Ethylbenzene		68			5	
Methyl t-Butyl Ether		19	U		1.2	U
Methylene Chloride		25	B		1.5	J B
Naphthalene		**440**	B		0.94	U
Tetrachloroethene		8.2	U		0.54	U
Toluene		22	J		130	
1,2,4-Trichlorobenzene		22	U		1.4	U
1,1,1-Trichloroethane		20	J		0.33	U
1,1,2-Trichloroethane		8.7	U		0.57	U
Trichloroethene		**2600**			0.38	U
1,2,3-Trimethylbenzene		30	U		2	U
1,2,4-Trimethylbenzene		56			0.61	U
1,3,5-Trimethylbenzene		21	J		0.64	J
Vinyl Chloride		5.6	U		0.37	U
Xylenes, total		490			30	
Benzene	**119-A-SV**	1.1	J	**119-A-IA**	0.67	
Carbon Tetrachloride		0.94	U		0.38	J
Chlorodifluoromethane		38			33	
Chloroform		2.7	J		0.21	J
Dichlorodifluoromethane		3.5	J		2.1	
1,1-Dichloroethane		0.4	U		0.2	U
1,2-Dichloroethane		0.77	U		0.38	U
1,1-Dichloroethene		0.52	U		0.26	U
cis-1,2-Dichloroethene		0.95	U		0.48	U
trans-1,2-Dichloroethene		0.79	U		0.4	U
Ethylbenzene		15			4.6	
Methyl t-Butyl Ether		2.5	U		0.49	U
Methylene Chloride		7	B		0.91	J B
Naphthalene		24			0.38	U
Tetrachloroethene		1.6	J		0.24	J
Toluene		62			100	
1,2,4-Trichlorobenzene		2.9	U		0.58	U
1,1,1-Trichloroethane		1.1	J		0.13	U
1,1,2-Trichloroethane		1.1	U		0.23	U
Trichloroethene		2	J		0.15	U
1,2,3-Trimethylbenzene		5.8			0.79	
1,2,4-Trimethylbenzene		10			0.84	
1,3,5-Trimethylbenzene		3.5	J		0.28	J
Vinyl Chloride		0.74	U		0.15	U
Xylenes, total		95			27	

TABLE 3-4

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING A, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	**120-A-SV**	1.1	J	**120-A-IA**	0.78	J
Carbon Tetrachloride		0.94	U		0.55	J
Chlorodifluoromethane		33			41	
Chloroform		2.3	J		0.37	U
Dichlorodifluoromethane		2.5	J		3	
1,1-Dichloroethane		0.4	U		1.6	U
1,2-Dichloroethane		0.77	U		1.6	U
1,1-Dichloroethene		0.52	U		1.6	U
cis-1,2-Dichloroethene		0.95	U		1.6	U
trans-1,2-Dichloroethene		0.79	U		1.6	U
Ethylbenzene		66			3.3	
Methyl t-Butyl Ether		2.5	U		1.2	U
Methylene Chloride		7.9	B		2.2	J B
Naphthalene		**82**			0.94	U
Tetrachloroethene		8			0.54	U
Toluene		53			86	
1,2,4-Trichlorobenzene		2.9	U		1.4	U
1,1,1-Trichloroethane		5.1			0.33	U
1,1,2-Trichloroethane		1.1	U		0.57	U
Trichloroethene		4.6			0.38	U
1,2,3-Trimethylbenzene		13			2	U
1,2,4-Trimethylbenzene		23			0.61	U
1,3,5-Trimethylbenzene		7.6			0.64	U
Vinyl Chloride		0.74	U		0.37	U
Xylenes, total		340			20	

Notes: All concentrations are in micrograms per cubic meter air [$\mu g/m^3$] -- = not available

Grey-shaded cells indicate a concentration greater than the risk-based screening level.

[1] The IAQ sample has a duplicate [as indicated]; the concentration shown for this analyte is the higher of the two values (i.e. the duplicate sample's concentration > sample concentration)

SV = Sub-slab vapor J = estimated value B = analyte detected in laboratory blank

IAQ = Indoor air quality U = not detected R = data rejected

UJ = not detected; quantitation limit estimated

ND = not detected during spectral library search (used for TICs) ND = not detected

TABLE 3-5

IAQ SAMPLE RESULTS, BUILDING B, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	KEY	057-B-IA	063-B-IA	IA-DUP-2 (063-B-IA)	100-B-IA	101-B-IA	121-B-IA
Benzene	319	16	ca	0.62	0.63 J	0.71	0.81 J	0.85 J	0.28 J
Carbon Tetrachloride	62,900	20	ca	0.55	0.47 J	0.29 J	0.47 U	0.47 U	0.19 U
Chlorodifluoromethane	3,590,000	220,000	nc	51	30	31	45	37	24
Chloroform	240,000	5	ca	0.26 J	0.34 J	0.22 J	0.37 U	0.37 U	0.36 J
Dichlorodifluoromethane	4,950,000	440	nc	2.4	2.4	2.8	2.6	2.7	2.3
1,1-Dichloroethane	400,000	77	ca	0.04 U	0.081 U	0.081 U	0.2 U	0.2 U	0.081 U
1,2-Dichloroethane	400,000	5	ca	0.077 U	0.15 U	0.15 U	0.38 U	0.38 U	0.15 U
1,1-Dichloroethene	NA	880	nc	0.052 U	0.1 U	0.1 U	0.26 U	0.26 U	0.1 U
cis-1,2-Dichloroethene	790,000	NA	----	0.095 U	0.19 U	0.19 U	0.48 U	0.48 U	0.19 U
trans-1,2-Dichloroethene	790,000	260	nc	0.079 U	0.16 U	0.16 U	0.4 U	0.4 U	0.16 U
Ethylbenzene	435,000	49	ca	0.63	2.7	2.4	5.5	4.4	0.23 U
Methyl t-Butyl Ether	180,000 [A]	470	ca	0.25 U	0.49 U	0.49 U	1.2 U	1.2 U	0.49 U
Methylene Chloride	87,000	2,600	ca	2.6	21	24 B	5.6 B	5.7 B	4.7
Naphthalene	50	3.6	ca	0.23 J	0.43 B	0.38 U	0.94 U	0.94 U	0.38 U
Tetrachloroethene	678,000	175	nc	0.11 J	0.22 U	0.22 U	0.54 U	0.54 U	0.22 U
Toluene	754,000	22,000	nc	12	120	120	290	170	8.7
1,2,4-Trichlorobenzene	40,000 [N]	9	nc	0.29 U	0.58 U	0.58 U	1.4 U	1.4 U	0.58 U
1,1,1-Trichloroethane	1,900,000	22,000	nc	0.26 J	0.13 U	0.13 U	0.33 U	0.33 U	0.13 U
1,1,2-Trichloroethane	45,000	8	ca	0.11 U	0.23 U	0.23 U	0.57 U	0.57 U	0.23 U
Trichloroethene	537,000	8.8 [M]	nc	0.15 J	0.24 J	0.24 J	0.38 U	0.48 J	0.28 J
1,2,3-Trimethylbenzene	1,230	22 [A]	nc	0.39 U	0.79 U	0.79 U	2 U	2 U	0.79 U
1,2,4-Trimethylbenzene	1,230	31 [A]	nc	0.28 J	0.4 J	0.25 U	0.69 J	0.61 U	0.25 U
1,3,5-Trimethylbenzene	1,230	NA	---	0.13 U	0.26 U	0.26 U	0.64 U	0.64 U	0.26 U
Vinyl Chloride	21,560	28	ca	0.074 U	0.15 U	0.15 U	0.37 U	0.37 U	0.15 U
Xylenes, total	434,000	440	nc	3.1	13	10	25	24	0.21 U

TABLE 3-5

IAQ SAMPLE RESULTS, BUILDING B, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	KEY	122-B-IA	105-Z-IA	123-Z-IA
Benzene	319	16	ca	0.72 J	9.1 U	9.3 U
Carbon Tetrachloride	62,900	20	ca	0.94 U	12 U	12 U
Chlorodifluoromethane	3,590,000	220,000	nc	54	6.6 U	6.7 U
Chloroform	240,000	5	ca	0.73 U	9.1 U	9.3 U
Dichlorodifluoromethane	4,950,000	440	nc	2.5 J	17 U	17 U
1,1-Dichloroethane	400,000	77	ca	0.4 U	5 U	5.1 U
1,2-Dichloroethane	400,000	5	ca	0.77 U	9.6 U	9.7 U
1,1-Dichloroethene	NA	880	nc	0.52 U	6.4 U	6.5 U
cis-1,2-Dichloroethene	790,000	NA	----	0.95 U	12 U	12 U
trans-1,2-Dichloroethene	790,000	260	nc	0.79 U	9.9 U	10 U
Ethylbenzene	435,000	49	ca	2.8 J	32 J	37 J
Methyl t-Butyl Ether	180,000 [A]	470	ca	2.5 U	31 U	31 U
Methylene Chloride	87,000	2,600	ca	5.3 B	16 B	16 B
Naphthalene	50	3.6	ca	1.9 U	23 U	24 U
Tetrachloroethene	678,000	175	nc	1.1 U	14 U	14 U
Toluene	754,000	22,000	nc	200	2200	2600
1,2,4-Trichlorobenzene	40,000 [N]	9	nc	2.9 U	36 U	37 U
1,1,1-Trichloroethane	1,900,000	22,000	nc	0.65 U	8.2 U	8.3 U
1,1,2-Trichloroethane	45,000	8	ca	1.1 U	14 U	14 U
Trichloroethene	537,000	8.8 [M]	nc	0.75 U	9.4 U	9.5 U
1,2,3-Trimethylbenzene	1,230	22 [A]	nc	3.9 U	49 U	50 U
1,2,4-Trimethylbenzene	1,230	31 [A]	nc	1.2 U	15 U	16 U
1,3,5-Trimethylbenzene	1,230	NA	---	1.3 U	16 U	16 U
Vinyl Chloride	21,560	28	ca	0.74 U	9.2 U	9.4 U
Xylenes, total	434,000	440	nc	13	180	200

TABLE 3-5

IAQ SAMPLE RESULTS, BUILDING B, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Notes: All sample concentrations in micrograms per cubic meter ($\mu g/m^3$)

Shaded cells indicate a concentration greater than the risk -based screening level

U = not detected

J = estimated value

-- = not available

B = analyte detected in laboratory blank

nc = screening value based on noncarcinogenic hazard index = 1

ca = screening value based on $1x\ 10^{-5}$ carcinogenic risk

OSHA PEL = Occupational Safety and Health Administration Pemissible Exposure Limit

N = National Institute for Occupational Safety and Health Recommended Exposure Limit

A = American Council of Governmental Industrial Hygienists Theshold Limit Value

M = Maryland Department of the Environment's screening level for trichloroethene

Industrial Air Screening Levels from USEPA Regional Screening Levels for Chemical Contaminants at Superfund Sites Nov-2011

TABLE 3-6

SUB-SLAB VAPOR SAMPLE RESULTS, BUILDING B, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Target Shallow Soil Gas Concentration [(1)] ($\mu g/m^3$)	KEY	057-B-SV	063-B-SV	SV-DUP-2 (063-B-SV)	101-B-SV	121-B-SV	122-B-SV	105-Z-SV	123-Z-SV
Benzene	160	ca	2.6 U	1.1 J	26 U	4.9 U	2.6 U	1.1 J	12 U	12 U
Carbon Tetrachloride	200	ca	5 U	1.2 J	52 U	9.7 U	5.7	5 U	23 U	23 U
Chlorodifluoromethane	2,200,000	nc	51 B	21	15 J B	39	2.6 J	19	4.3 J	4.9 J
Chloroform	53	ca	3.9 U	2.4 J	**94**	7.5 U	42	1.3 J	18 U	18 U
Dichlorodifluoromethane	4,400	nc	2.2 J	2.5 J	41 U	3.8 J	2.3 J	2.5 J	18 U	18 U
1,1-Dichloroethane	770	ca	3.2 U	3.2 U	120	6.2 U	0.58 J	3.2 U	15 U	15 U
1,2-Dichloroethane	47	ca	3.2 U	3.2 U	33 U	6.2 U	3.2 U	3.2 U	15 U	15 U
1,1-Dichloroethene	8,800	nc	3.2 U	3.2 U	12 J	6.1 U	3.2 U	3.2 U	14 U	14 U
cis-1,2-Dichloroethene	----	----	3.2 U	3.2 U	340	6.1 U	3.2 U	3.2 U	21	14 U
trans-1,2-Dichloroethene	2,600	nc	3.2 U	3.2 U	38	6.1 U	3.2 U	3.2 U	14 U	14 U
Ethylbenzene	490	ca	3.5 U	6.4	460	2.4 J	16	47	17	30
Methyl t-Butyl Ether	4,700	ca	14 U	14 U	150 U	28 U	14 U	14 U	66 U	66 U
Methylene Chloride	26,000	ca	2.7 J B	3.7 J B	20 J B	5.8 J B	2.5 J B	5.6 J B	9.6 J B	7 J B
Naphthalene	36	ca	9.2 J	**99**	**770**	19 J	**400**	**350**	**49**	**260**
Tetrachloroethene	1,750	nc	5.4 U	5.4 U	40 J	3.7 J	2.4 J	7.2	25 U	25 U
Toluene	220,000	nc	5.1	17	29 J	120	21	45	810	1000
1,2,4-Trichlorobenzene	88	nc	30 U	30 U	310 U	57 U	30 U	30 U	130 U	130 U
1,1,1-Trichloroethane	220,000	nc	4.4 U	4.4 U	17 J	21	1.8 J	4.4 U	20 U	20 U
1,1,2-Trichloroethane	77	ca	4.4 U	4.4 U	45 U	8.4 U	4.4 U	4.4 U	20 U	20 U
Trichloroethene	88 [M]	nc	2.1 U	2.1 U	**4900**	7.3	**170**	5.8	59	21
1,2,3-Trimethylbenzene	220[A]	nc	3.9 U	5.8	41 U	7.6 U	34	29	18 U	18 U
1,2,4-Trimethylbenzene	310[A]	nc	3.9 U	14	64	7.6 U	55	59	18 U	33
1,3,5-Trimethylbenzene	---	---	3.9 U	3.2 J	19 J	7.6 U	17	18	18 U	9.4 J
Vinyl Chloride	280	ca	2 U	2 U	21 U	3.9 U	2 U	2 U	9.3 U	9.3 U
Xylenes, total	4,400	nc	4.1 J	31	3100	11 J	83	250	100	170

TABLE 3-6

SUB-SLAB VAPOR SAMPLE RESULTS, BUILDING B, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Notes: All sample concentrations are in micrograms per cubic meter ($\mu g/m^3$)

Shaded cells indicate a concentration greater than risk-based screening level

$\mu g/m^3$ = micrograms per cubic meter

J = estimated value

U = nondetect

A = American Council of Governmental Industrial Hygienists Theshold Limit Value

-- = not available

SV = Sub-slab vapor

B = analyte detected in laboratory blank

M = screening value based on Maryland Department of the Environment (MDE) IAQ target concentration of 8.8 $\mu g/m^3$ divided by an attenuation factor of 0.1

(1) Screening values derived in accordance with Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (November 2002). Screening values are equal to United States Environmental Protection Agency (USEPA) Industrial Air Screening Values divided by an attenuation factor of 0.1, and correspond to a target cancer risk level of $1.0E^{-05}$.

TABLE 3-7

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING B, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	057-B-SV	2.6	U	057-B-IA	0.62	
Carbon Tetrachloride		5	U		0.55	
Chlorodifluoromethane		51	B		51	
Chloroform		3.9	U		0.26	J
Dichlorodifluoromethane		2.2	J		2.4	
1,1-Dichloroethane		3.2	U		0.32	U
1,2-Dichloroethane		3.2	U		0.32	U
1,1-Dichloroethene		3.2	U		0.32	U
cis-1,2-Dichloroethene		3.2	U		0.32	U
trans-1,2-Dichloroethene		3.2	U		0.32	U
Ethylbenzene		3.5	U		0.63	
Methyl t-Butyl Ether		14	U		1.4	U
Methylene Chloride		2.7	J B		2.6	B
Naphthalene		9.2	J		0.23	J
Tetrachloroethene		5.4	U		0.11	J
Toluene		5.1			12	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		4.4	U		0.26	J
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		2.1	U		0.15	J
1,2,3-Trimethylbenzene		3.9	U		0.39	U
1,2,4-Trimethylbenzene		3.9	U		0.28	J
1,3,5-Trimethylbenzene		3.9	U		0.39	U
Vinyl Chloride		2	U		0.2	U
Xylenes, total		4.1	J		3.1	
Benzene	063-B-SV	1.1	J	063-B-IA	0.63	
Carbon Tetrachloride		1.2	J		0.47	J
Chlorodifluoromethane		21			30	
Chloroform		2.4	J		0.34	J
Dichlorodifluoromethane		2.5	J		2.4	
1,1-Dichloroethane		3.2	U		0.65	U
1,2-Dichloroethane		3.2	U		0.65	U
1,1-Dichloroethene		3.2	U		0.63	U
cis-1,2-Dichloroethene		3.2	U		0.63	U
trans-1,2-Dichloroethene		3.2	U		0.63	U
Ethylbenzene		6.4			2.7	
Methyl t-Butyl Ether	has duplicate	14	U	has duplicate	2.9	U
Methylene Chloride	SV-DUP-2	3.7	J B	IA-DUP-2	21	B
Naphthalene		**99**			0.43	J B
Tetrachloroethene		5.4	U		1.1	U
Toluene		17			120	
1,2,4-Trichlorobenzene		30	U		5.9	U
1,1,1-Trichloroethane		4.4	U		0.87	U
1,1,2-Trichloroethane		4.4	U		0.87	U
Trichloroethene		2.1	U		0.24	J
1,2,3-Trimethylbenzene		5.8			0.79	U
1,2,4-Trimethylbenzene		14			0.4	J
1,3,5-Trimethylbenzene		3.2	J		0.79	U
Vinyl Chloride		2	U		0.41	U
Xylenes, total		31			13	

TABLE 3-7

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING B, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	101-B-SV	4.9	U	101-B-IA	0.81	J
Carbon Tetrachloride		9.7	U		2.5	U
Chlorodifluoromethane		39			45	
Chloroform		7.5	U		2	U
Dichlorodifluoromethane		3.8	J		2.6	
1,1-Dichloroethane		6.2	U		1.6	U
1,2-Dichloroethane		6.2	U		1.6	U
1,1-Dichloroethene		6.1	U		1.6	U
cis-1,2-Dichloroethene		6.1	U		1.6	U
trans-1,2-Dichloroethene		6.1	U		1.6	U
Ethylbenzene		2.4	J		5.5	
Methyl t-Butyl Ether		28	U		7.2	U
Methylene Chloride		5.8	J B		5.6	B
Naphthalene		**19**	**J**		5.2	U
Tetrachloroethene		3.7	J		2.7	U
Toluene		120			290	
1,2,4-Trichlorobenzene		57	U		15	U
1,1,1-Trichloroethane		21			2.2	U
1,1,2-Trichloroethane		8.4	U		2.2	U
Trichloroethene		**7.3**			1.1	U
1,2,3-Trimethylbenzene		7.6	U		2	U
1,2,4-Trimethylbenzene		7.6	U		0.69	J
1,3,5-Trimethylbenzene		7.6	U		2	U
Vinyl Chloride		3.9	U		1	U
Xylenes, total		11	J		25	
Benzene	121-B-SV	2.6	U	121-B-IA	0.28	J
Carbon Tetrachloride		5.7			1	U
Chlorodifluoromethane		2.6	J		24	
Chloroform		42			0.36	J
Dichlorodifluoromethane		2.3	J		2.3	
1,1-Dichloroethane		0.58	J		0.65	U
1,2-Dichloroethane		3.2	U		0.65	U
1,1-Dichloroethene		3.2	U		0.63	U
cis-1,2-Dichloroethene		3.2	U		0.63	U
trans-1,2-Dichloroethene		3.2	U		0.63	U
Ethylbenzene		16			0.69	U
Methyl t-Butyl Ether		14	U		2.9	U
Methylene Chloride		2.5	J B		4.7	B
Naphthalene		**400**			2.1	U
Tetrachloroethene		2.4	J		1.1	U
Toluene		21			8.7	
1,2,4-Trichlorobenzene		30	U		5.9	U
1,1,1-Trichloroethane		1.8	J		0.87	U
1,1,2-Trichloroethane		4.4	U		0.87	U
Trichloroethene		**170**			0.28	J
1,2,3-Trimethylbenzene		34			0.79	U
1,2,4-Trimethylbenzene		55			0.79	U
1,3,5-Trimethylbenzene		17			0.79	U
Vinyl Chloride		2	U		0.41	U
Xylenes, total		83			1.4	U

TABLE 3-7

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING B, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	122-B-SV	1.1	J	122-B-IA	0.72	J
Carbon Tetrachloride		5	U		5	U
Chlorodifluoromethane		19			54	
Chloroform		1.3	J		3.9	U
Dichlorodifluoromethane		2.5	J		2.5	J
1,1-Dichloroethane		3.2	U		3.2	U
1,2-Dichloroethane		3.2	U		3.2	U
1,1-Dichloroethene		3.2	U		3.2	U
cis-1,2-Dichloroethene		3.2	U		3.2	U
trans-1,2-Dichloroethene		3.2	U		3.2	U
Ethylbenzene		47			2.8	J
Methyl t-Butyl Ether		14	U		14	U
Methylene Chloride		5.6	J B		5.3	J B
Naphthalene		**350**			10	U
Tetrachloroethene		7.2			5.4	U
Toluene		45			200	
1,2,4-Trichlorobenzene		30	U		30	U
1,1,1-Trichloroethane		4.4	U		4.4	U
1,1,2-Trichloroethane		4.4	U		4.4	U
Trichloroethene		5.8			2.1	U
1,2,3-Trimethylbenzene		29			3.9	U
1,2,4-Trimethylbenzene		59			3.9	U
1,3,5-Trimethylbenzene		18			3.9	U
Vinyl Chloride		2	U		2	U
Xylenes, total		250			13	
Benzene	105-Z-SV	12	U	105-Z-IA	32	U
Carbon Tetrachloride		23	U		63	U
Chlorodifluoromethane		4.3	J		35	U
Chloroform		18	U		49	U
Dichlorodifluoromethane		18	U		49	U
1,1-Dichloroethane		15	U		40	U
1,2-Dichloroethane		15	U		40	U
1,1-Dichloroethene		14	U		39	U
cis-1,2-Dichloroethene		21			39	U
trans-1,2-Dichloroethene		14	U		39	U
Ethylbenzene		17			32	J
Methyl t-Butyl Ether		66	U		180	U
Methylene Chloride		9.6	J B		16	J B
Naphthalene		**49**			130	U
Tetrachloroethene		25	U		68	U
Toluene		810			2200	
1,2,4-Trichlorobenzene		130	U		370	U
1,1,1-Trichloroethane		20	U		54	U
1,1,2-Trichloroethane		20	U		54	U
Trichloroethene		59			27	U
1,2,3-Trimethylbenzene		18	U		49	U
1,2,4-Trimethylbenzene		18	U		49	U
1,3,5-Trimethylbenzene		18	U		49	U
Vinyl Chloride		9.3	U		25	U
Xylenes, total		100			180	

TABLE 3-7

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING B, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	123-Z-SV	12	U	123-Z-IA	32	U
Carbon Tetrachloride		23	U		64	U
Chlorodifluoromethane		4.9	J		36	U
Chloroform		18	U		49	U
Dichlorodifluoromethane		18	U		50	U
1,1-Dichloroethane		15	U		41	U
1,2-Dichloroethane		15	U		41	U
1,1-Dichloroethene		14	U		40	U
cis-1,2-Dichloroethene		14	U		40	U
trans-1,2-Dichloroethene		14	U		40	U
Ethylbenzene		30			37	J
Methyl t-Butyl Ether		66	U		180	U
Methylene Chloride		7	J B		16	J B
Naphthalene		**260**			130	U
Tetrachloroethene		25	U		69	U
Toluene		1000			2600	
1,2,4-Trichlorobenzene		130	U		380	U
1,1,1-Trichloroethane		20	U		55	U
1,1,2-Trichloroethane		20	U		55	U
Trichloroethene		21			27	U
1,2,3-Trimethylbenzene		18	U		50	U
1,2,4-Trimethylbenzene		33			50	U
1,3,5-Trimethylbenzene		9.4	J		50	U
Vinyl Chloride		9.3	U		26	U
Xylenes, total		170			200	

Notes: All concentrations are in micrograms per cubic meter air [$\mu g/m^3$] -- = not available

Grey-shaded cells indicate a concentration greater than the risk-based screening level.

[1] The IAQ sample has a duplicate [as indicated]; the concentration shown for this analyte is the higher of the two values (i.e. the duplicate sample's concentration > sample concentration)

SV = Sub-slab vapor J = estimated value B = analyte detected in laboratory blank

IAQ = Indoor air quality

TABLE 3-8

IAQ SAMPLE RESULTS, BUILDING C, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	KEY	001-C-IA	044-C-IA	050-C-IA	051-C-IA	060-C-IA	IA-DUP-1 (060-C-IA)	088-C-IA
Benzene	319	16	ca	12 U	1.7	0.69	0.58	0.56	0.63	0.6
Carbon Tetrachloride	62,900	20	ca	23 U	0.57	0.58	0.44 J	0.47 J	0.54	0.43 J
Chlorodifluoromethane	3,590,000	220,000	nc	1700	45	17	27	12	15	39
Chloroform	240,000	5	ca	18 U	0.18 J	0.17 J	0.18 J	0.12 J	0.14 J	0.14 J
Dichlorodifluoromethane	4,950,000	440	nc	18 U	3	2.7	2.4	2.3	2.5	2.3
1,1-Dichloroethane	400,000	77	ca	15 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,2-Dichloroethane	400,000	5	ca	15 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	NA	880	nc	14 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
cis-1,2-Dichloroethene	790,000	NA	----	14 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
trans-1,2-Dichloroethene	790,000	260	nc	14 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Ethylbenzene	435,000	49	ca	16 U	0.6	0.19 J	0.25 J	0.4	0.47	0.48
Methyl t-Butyl Ether	180,000 [A]	470	ca	66 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Methylene Chloride	87,000	2,600	ca	7.5 J B	3.3 B	1.5 B	0.98 B	1.7 B	2.4 B	2.9 B
Naphthalene	50	3.6	ca	48 U	0.49 J	1 U	0.2 J	0.23 J	3.3	0.38 J
Tetrachloroethene	678,000	175	nc	25 U	0.14 J	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U
Toluene	754,000	22,000	nc	7.6 J	11	3.5	4.5	3	3.3	9.2
1,2,4-Trichlorobenzene	40,000 [N]	9	nc	130 U	3 U	3 U	3 U	3 U	3 U	3 U
1,1,1-Trichloroethane	1,900,000	22,000	nc	20 U	0.27 J	0.44 U	0.44 U	0.13 J	0.17 J	0.27 J
1,1,2-Trichloroethane	45,000	8	ca	20 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Trichloroethene	537,000	8.8 [M]	nc	9.8 U	0.16 J	0.21 U	0.21 U	0.12 J	0.13 J	0.13 J
1,2,3-Trimethylbenzene	1,230	22 [A]	nc	18 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,2,4-Trimethylbenzene	1,230	31 [A]	nc	18 U	0.3 J	0.39 U	0.16 J	0.14 J	0.27 J	0.24 J
1,3,5-Trimethylbenzene	1,230	NA	---	18 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
Vinyl Chloride	21,560	28	ca	9.3 U	0.2 U	0.2 U	0.2 U	0.2 U	0.093 J	0.2 U
Xylenes, total	434,000	440	nc	32 U	2.9	0.53 J	1.1	2.2	2.6	2.3

TABLE 3-8

IAQ SAMPLE RESULTS, BUILDING C, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	KEY	091-C-IA	102-C-IA	103-C-IA	104-C-IA	111-C-IA	112-C-IA	113-C-IA
Benzene	319	16	ca	0.38	0.83	0.67	0.42	0.52 J	0.49 J	0.61
Carbon Tetrachloride	62,900	20	ca	0.45 J	0.43 J	0.54	0.43 J	0.36 J	0.25 J	0.46 J
Chlorodifluoromethane	3,590,000	220,000	nc	7.2	11	27	11	91	72	29
Chloroform	240,000	5	ca	0.087 J	0.18 J	0.25 J	0.39 U	0.98 U	0.78 U	0.14 J
Dichlorodifluoromethane	4,950,000	440	nc	2.4	2.2	2.5	2.3	2.4	2.5	2.2
1,1-Dichloroethane	400,000	77	ca	0.32 U	0.32 U	0.32 U	0.32 U	0.81 U	0.65 U	0.32 U
1,2-Dichloroethane	400,000	5	ca	0.32 U	0.32 U	0.32 U	0.32 U	0.81 U	0.65 U	0.32 U
1,1-Dichloroethene	NA	880	nc	0.32 U	0.32 U	0.32 U	0.32 U	0.79 U	0.63 U	0.32 U
cis-1,2-Dichloroethene	790,000	NA	----	0.32 U	0.32 U	0.32 U	0.32 U	0.88	0.63 U	0.32 U
trans-1,2-Dichloroethene	790,000	260	nc	0.32 U	0.32 U	0.32 U	0.32 U	0.79 U	0.63 U	0.32 U
Ethylbenzene	435,000	49	ca	0.35 U	1.3	0.21 J	0.35 U	0.56 J	0.69 U	0.47
Methyl t-Butyl Ether	180,000 [A]	470	ca	1.4 U	1.4 U	1.4 U	1.4 U	3.6 U	2.9 U	1.4 U
Methylene Chloride	87,000	2,600	ca	3.3 B	1.2 B	2.1 B	0.53 J B	3.9 B	3.6 B	2.3 B
Naphthalene	50	3.6	ca	1 U	1 U	1 U	1 U	2.6 U	2.1 U	0.22 J
Tetrachloroethene	678,000	175	nc	0.54 U	0.25 J	0.54 U	0.54 U	1.4 U	1.1 U	0.11 J
Toluene	754,000	22,000	nc	1.3	23	2.4	0.53	8.4	2.9	12
1,2,4-Trichlorobenzene	40,000 [N]	9	nc	3 U	3 U	3 U	3 U	7.4 U	5.9 U	3 U
1,1,1-Trichloroethane	1,900,000	22,000	nc	0.44 U	0.32 J	0.44 U	0.44 U	0.19 J	0.39 J	0.44 U
1,1,2-Trichloroethane	45,000	8	ca	0.44 U	0.44 U	0.44 U	0.44 U	1.1 U	0.87 U	0.44 U
Trichloroethene	537,000	8.8 [M]	nc	0.21 U	0.2 J	0.18 J	0.21 U	1.4	0.17 J	0.21 U
1,2,3-Trimethylbenzene	1,230	22 [A]	nc	0.39 U	0.31 J	0.39 U	0.39 U	0.98 U	0.79 U	0.39 U
1,2,4-Trimethylbenzene	1,230	31 [A]	nc	0.39 U	0.39 U	0.16 J	0.39 U	0.98 U	0.79 U	0.23 J
1,3,5-Trimethylbenzene	1,230	NA	---	0.39 U	0.91 J	0.39 U	0.39 U	0.98 U	0.79 U	0.39 U
Vinyl Chloride	21,560	28	ca	0.2 U	0.2 U	0.2 U	0.2 U	0.51 U	0.41 U	0.2 U
Xylenes, total	434,000	440	nc	0.25 J	6.1	0.84	0.44 J	2.7	1.4 U	2.3

TABLE 3-8

IAQ SAMPLE RESULTS, BUILDING C, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	KEY	114-C-IA	115-C-IA	124-C-IA	125-C-IA	126-C-IA	127-C-IA	128-C-IA
Benzene	319	16	ca	0.59	0.59	0.4	0.66	0.66	0.45	0.68
Carbon Tetrachloride	62,900	20	ca	0.48 J	0.44 J	0.39 J	0.52	0.54	0.43 J	0.49 J
Chlorodifluoromethane	3,590,000	220,000	nc	54	28	14	20	4.3	15	26
Chloroform	240,000	5	ca	0.13 J	0.15 J	0.11 J	0.13 J	0.11 J	0.11 J	0.2 J
Dichlorodifluoromethane	4,950,000	440	nc	2.4	2.3	2.4	2.6	2.6	2.4	3.3
1,1-Dichloroethane	400,000	77	ca	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.051 J
1,2-Dichloroethane	400,000	5	ca	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.1 J
1,1-Dichloroethene	NA	880	nc	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
cis-1,2-Dichloroethene	790,000	NA	----	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
trans-1,2-Dichloroethene	790,000	260	nc	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Ethylbenzene	435,000	49	ca	0.59	0.42	0.35 U	0.14 J	0.17 J	0.24 J	0.55
Methyl t-Butyl Ether	180,000 [A]	470	ca	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Methylene Chloride	87,000	2,600	ca	4.2 B	2.2 B	1.6 B	2.3 B	0.87 B	1.9 B	31 B
Naphthalene	50	3.6	ca	0.2 J	0.29 J	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	678,000	175	nc	0.11 J	0.54 U	0.54 U	0.31 J	0.54 U	0.54 U	0.15 J
Toluene	754,000	22,000	nc	6.8	11	1.1	2	2.3	2.4	2.5
1,2,4-Trichlorobenzene	40,000 [N]	9	nc	3 U	3 U	3 U	3 U	3 U	3 U	3 U
1,1,1-Trichloroethane	1,900,000	22,000	nc	0.57	0.44 U	0.44 U	0.088 J	0.32 J	0.069 J	12
1,1,2-Trichloroethane	45,000	8	ca	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Trichloroethene	537,000	8.8 [M]	nc	0.23	0.21 U	0.21 U	0.21 U	0.21 U	0.26	0.68
1,2,3-Trimethylbenzene	1,230	22 [A]	nc	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,2,4-Trimethylbenzene	1,230	31 [A]	nc	0.22 J	0.21 J	0.39 U	0.39 U	0.14 J	0.39 U	0.36 J
1,3,5-Trimethylbenzene	1,230	NA	---	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.13 J
Vinyl Chloride	21,560	28	ca	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Xylenes, total	434,000	440	nc	3	2	0.69 U	0.45 J	0.61 J	1.1	3

TABLE 3-8

IAQ SAMPLE RESULTS, BUILDING C, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	OSHA PEL (µg/m^3)	Industrial Air Screening Level (µg/m^3)	KEY	129-C-IA	130-C-IA	131-C-IA	132-C-IA	133-C-IA	134-C-IA	135-C-IA
Benzene	319	16	ca	0.64	0.47	0.64	0.77	2.6 U	0.64	0.68
Carbon Tetrachloride	62,900	20	ca	0.44 J	0.44 J	0.44 J	0.54	5 U	0.46 J	0.43 J
Chlorodifluoromethane	3,590,000	220,000	nc	48	5.8	52	20	120	52	35
Chloroform	240,000	5	ca	0.16 J	0.084 J	0.14 J	0.14 J	3.9 U	0.14 J	0.15 J
Dichlorodifluoromethane	4,950,000	440	nc	2.3	2.3	2.4	2.6	2.8 J	2.5	2.4
1,1-Dichloroethane	400,000	77	ca	0.32 U	0.32 U	0.32 U	0.32 U	3.2 U	0.07 J	0.32 U
1,2-Dichloroethane	400,000	5	ca	0.32 U	0.32 U	0.32 U	0.32 U	3.2 U	0.32 U	0.14 J
1,1-Dichloroethene	NA	880	nc	0.32 U	0.32 U	0.32 U	0.32 U	3.2 U	0.32 U	0.32 U
cis-1,2-Dichloroethene	790,000	NA	----	0.32 U	0.32 U	0.32 U	0.32 U	3.2 U	0.32 U	0.32 U
trans-1,2-Dichloroethene	790,000	260	nc	0.32 U	0.32 U	0.32 U	0.32 U	3.2 U	0.32 U	0.32 U
Ethylbenzene	435,000	49	ca	0.6	0.3 J	0.88	0.42	3.5 U	0.6	0.49
Methyl t-Butyl Ether	180,000 [A]	470	ca	1.4 U	1.4 U	1.4 U	1.4 U	14 U	1.4 U	1.4 U
Methylene Chloride	87,000	2,600	ca	8.2 B	5.5 B	4.8 B	1.9 B	5.1 J B	4.5 B	2.8 B
Naphthalene	50	3.6	ca	0.36 J	1 U	0.29 J	0.27 J	10 U	0.47 J	1 U
Tetrachloroethene	678,000	175	nc	0.54 U	0.54 U	0.13 J	0.16 J	5.4 U	0.54 U	0.12 J
Toluene	754,000	22,000	nc	6.8	2.8	6.4	6.8	6.8	7.4	11
1,2,4-Trichlorobenzene	40,000 [N]	9	nc	3 U	3 U	3 U	3 U	30 U	3 U	3 U
1,1,1-Trichloroethane	1,900,000	22,000	nc	0.98	0.41 J	0.45	0.091 J	4.4 U	0.59	0.19 J
1,1,2-Trichloroethane	45,000	8	ca	0.44 U	0.44 U	0.44 U	0.44 U	4.4 U	0.44 U	0.44 U
Trichloroethene	537,000	8.8 [M]	nc	0.31	0.13 J	0.19 J	0.082 J	2.1 U	0.27	0.1 J
1,2,3-Trimethylbenzene	1,230	22 [A]	nc	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	0.39 U	0.39 U
1,2,4-Trimethylbenzene	1,230	31 [A]	nc	0.28 J	0.39 U	0.28 J	0.36 J	3.9 U	0.21 J	0.22 J
1,3,5-Trimethylbenzene	1,230	NA	---	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	0.39 U	0.39 U
Vinyl Chloride	21,560	28	ca	0.2 U	0.2 U	0.2 U	0.2 U	2 U	0.2 U	0.2 U
Xylenes, total	434,000	440	nc	3	1.5	4.3	2	6.9 U	3.1	2.3

TABLE 3-8

IAQ SAMPLE RESULTS, BUILDING C, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Notes: All sample concentrations in micrograms per cubic meter ($\mu g/m^3$)

Shaded cells indicate a concentration greater than the risk -based screening level

U = not detected

J = estimated value

B = analyte detected in laboratory blank

nc = screening value based on noncarcinogenic hazard index = 1

ca = screening value based on $1x\ 10^{-5}$ carcinogenic risk

OSHA PEL = Occupational Safety and Health Administration Pemissible Exposure Limit

N = National Institute for Occupational Safety and Health Recommended Exposure Limit

A = American Council of Governmental Industrial Hygienists Theshold Limit Value

M = Maryland Department of the Environment's screening level for trichloroethene

Industrial Air Screening Levels from USEPA Regional Screening Levels for Chemical Contaminants at Superfund Sites Nov-2011

TABLE 3-9

SUB-SLAB VAPOR SAMPLE RESULTS, BUILDING C, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Target Shallow Soil Gas Concentration [1] ($\mu g/m^3$)	KEY	001-C-SV	SV-DUP-3 (001-C-SV)	044-C-SV	050-C-SV	057-C-SV	060-C-SV	SV-DUP-1 (060-C-SV)	088-C-SV
Benzene	160	ca	2.6 U	2.6 U	0.82 J	1.6 J	2.6 U	37 U	26 U	14 U
Carbon Tetrachloride	200	ca	5 U	5 U	5 U	5 U	5 U	73 U	52 U	28 U
Chlorodifluoromethane	2,200,000	nc	5.2	11 B	14 B	9.5	51 B	18 J B	15 J B	34 B
Chloroform	53	ca	5	5.2	3.2 J	8	3.9 U	**56**	**94**	9.7 J
Dichlorodifluoromethane	4,400	nc	2.4 J	3 J	2.1 J	2.3 J	2.2 J	58 U	41 U	22 U
1,1-Dichloroethane	770	ca	3.2 U	3.2 U	3.2 U	0.9 J	3.2 U	71	120	18 U
1,2-Dichloroethane	47	ca	3.2 U	3.2 U	3.2 U	0.84 J	3.2 U	47 U	33 U	18 U
1,1-Dichloroethene	8,800	nc	3.2 U	0.59 J	3.2 U	1 J	3.2 U	11 J	12 J	3.3 J
cis-1,2-Dichloroethene	----	----	100	100	3.2 U	3.2 U	3.2 U	200	340	670
trans-1,2-Dichloroethene	2,600	nc	18	19	3.2 U	1.4 J	3.2 U	26 J	38	14 J
Ethylbenzene	490	ca	3.5 U	3.5 U	6.4	15	3.5 U	190	460	15 J
Methyl t-Butyl Ether	4,700	ca	14 U	14 U	14 U	14 U	14 U	210 U	150 U	81 U
Methylene Chloride	26,000	ca	2.6 J B	2.7 J B	3.2 J B	4.8 J B	2.7 J B	25 J B	20 J B	9.4 J B
Naphthalene	36	ca	10 U	10 U	**240**	17	9.2 J	**280**	**770**	**540**
Tetrachloroethene	1,750	nc	1.8 J	1.6 J	1.5 J	5.4 U	5.4 U	23 J	40 J	30 U
Toluene	220,000	nc	1.2 J	1.1 J	7.8	39	5.1	14 J	29 J	12 J
1,2,4-Trichlorobenzene	88	nc	30 U	30 U	30 U	30 U	30 U	430 U	310 U	170 U
1,1,1-Trichloroethane	220,000	nc	4.4 U	4.4 U	4.4 U	9.1	4.4 U	11 J	17 J	24 U
1,1,2-Trichloroethane	77	ca	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	63 U	45 U	24 U
Trichloroethene	88 [M]	nc	**160**	**200**	44	12	2.1 U	**3000**	**4900**	**3800**
1,2,3-Trimethylbenzene	220[A]	nc	3.9 U	3.9 U	22	12	3.9 U	57 U	41 U	30
1,2,4-Trimethylbenzene	310[A]	nc	3.9 U	3.9 U	34	24	3.9 U	20 J	64	39
1,3,5-Trimethylbenzene	---	---	3.9 U	3.9 U	10	9.2	3.9 U	57 U	19 J	11 J
Vinyl Chloride	280	ca	2 U	2 U	2 U	2 U	2 U	30 U	21 U	11 U
Xylenes, total	4,400	nc	6.9 U	3.5 J	43	69	4.1 J	1200	3100	150

TABLE 3-9

SUB-SLAB VAPOR SAMPLE RESULTS, BUILDING C, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Target Shallow Soil Gas Concentration [1] ($\mu g/m^3$)	KEY	091-C-SV	100-C-SV	102-C-SV	103-C-SV	104-C-SV	111-C-SV	112-C-SV	113-C-SV
Benzene	160	ca	2.8	2.6 U	20 U	0.89 J	1.2 J	1.7 J	2.6 U	21 U
Carbon Tetrachloride	200	ca	1.4 J	2 J	39 U	5 U	5 U	5 U	5 U	41 U
Chlorodifluoromethane	2,200,000	nc	5.2	3.1	18 J	18	3.2 B	30 B	37 B	13 J B
Chloroform	53	ca	37	6.3	32	3.9 U	1.7 J	39	0.79 J	38
Dichlorodifluoromethane	4,400	nc	2.5 J	2.4 J	30 U	2.3 J	2 J	2.5 J	6.8	32 U
1,1-Dichloroethane	770	ca	3.2 U	3.2 U	**1800**	3.2 U	3.2 U	4.8	3.2 U	26 U
1,2-Dichloroethane	47	ca	3.2 U	3.2 U	25 U	3.2 U	3.2 U	3.2 U	3.2 U	26 U
1,1-Dichloroethene	8,800	nc	3.2 U	3.2 U	890	3.2 U	3.2 U	3.3	3.2 U	26 U
cis-1,2-Dichloroethene	----	----	3.2 U	3.2 U	31	3.2 U	3.2 U	2.1 J	3.2 U	500
trans-1,2-Dichloroethene	2,600	nc	3.2 U	3.2 U	24 U	3.2 U	3.2 U	3.2 U	3.2 U	26 U
Ethylbenzene	490	ca	9.1	3.5 U	370	20	8.1	16	5	28 U
Methyl t-Butyl Ether	4,700	ca	14 U	14 U	110 U	14 U	14 U	14 U	14 U	120 U
Methylene Chloride	26,000	ca	8 B	2.5 J B	12 J B	5.6 J B	2.3 J B	3 J B	2.9 J B	12 J B
Naphthalene	36	ca	**65**	2.7 J	**350**	**70**	15	**750**	**200**	**64** J
Tetrachloroethene	1,750	nc	9.1	1.1 J	42 U	5.4 U	5.4 U	1.3 J	5.4 U	14 J
Toluene	220,000	nc	19	1.7 J	46	2.4 J	21	5	3.7	15 J
1,2,4-Trichlorobenzene	88	nc	30 U	30 U	230 U	30 U	30 U	30 U	30 U	240 U
1,1,1-Trichloroethane	220,000	nc	4.4 U	4.4 U	520	4.4 U	4.4 U	1.5 J	0.71 J	35 U
1,1,2-Trichloroethane	77	ca	4.4 U	4.4 U	34 U	4.4 U	4.4 U	4.4 U	4.4 U	35 U
Trichloroethene	88 [M]	nc	15	10	**740**	2.1 U	1.1 J	**370**	2.1 U	**5700**
1,2,3-Trimethylbenzene	220[A]	nc	4.9	3.9 U	100	3.9 U	3.9 U	3.9 U	3.9 U	32 U
1,2,4-Trimethylbenzene	310[A]	nc	13	3.9 U	64	2 J	5.9	3.7 J	1.6 J	32 U
1,3,5-Trimethylbenzene	---	---	3.6 J	3.9 U	26 J	3.9 U	1.4 J	2.3 J	3.9 U	32 U
Vinyl Chloride	280	ca	5.3	2 U	16 U	2 U	2 U	2 U	2 U	17 U
Xylenes, total	4,400	nc	42	6.9 U	2800	210	36	180	43	56 U

TABLE 3-9

SUB-SLAB VAPOR SAMPLE RESULTS, BUILDING C, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Target Shallow Soil Gas Concentration [1] (µg/m^3)	KEY	114-C-SV	115-C-SV	124-C-SV	125-C-SV	126-C-SV	127-C-SV	128-C-SV
Benzene	160	ca	0.83 J	2.6 U	6.4	1.8 J	86	1400 U	20
Carbon Tetrachloride	200	ca	5 U	5 U	1 J	5 U	87 U	2700 U	23 U
Chlorodifluoromethane	2,200,000	nc	16 B	4.8 B	7.4	8.2	20 J	1100 J B	10 J
Chloroform	53	ca	21	0.76 J	38	29	67 U	2100 U	5.9 J
Dichlorodifluoromethane	4,400	nc	6	2.6 J	2.6 J	2.5 J	68 U	2200 U	18 U
1,1-Dichloroethane	770	ca	1.5 J	3.2 U	3.2 U	3.2 U	56 U	1800 U	2.6 J
1,2-Dichloroethane	47	ca	3.2 U	3.2 U	3.2 U	3.2 U	56 U	1800 U	15 U
1,1-Dichloroethene	8,800	nc	1.7 J	3.2 U	0.54 J	3.2 U	360	1700 U	14 U
cis-1,2-Dichloroethene	----	----	3.2 U	3.2 U	3.3	3.2 U	350	1700 U	46
trans-1,2-Dichloroethene	2,600	nc	3.2 U	3.2 U	3.2 U	3.2 U	41 J	1700 U	9.8 J
Ethylbenzene	490	ca	11	1.3 J	13	1.2 J	72	1900 U	240
Methyl t-Butyl Ether	4,700	ca	14 U	14 U	14 U	14 U	250 U	7800 U	66 U
Methylene Chloride	26,000	ca	6.4 J B	3.4 J B	2.9 J B	8.5 B	36 J B	1800 J B	25 J B
Naphthalene	36	ca	16	3.7 J	**130**	3.3 J	**250**	**4300** J	**260**
Tetrachloroethene	1,750	nc	28	5.4 U	9	5.4 U	93 U	3000 U	130
Toluene	220,000	nc	4	2.4 J	33	9.2	54	1600 U	120
1,2,4-Trichlorobenzene	88	nc	30 U	30 U	30 U	30 U	510 U	16000 U	130 U
1,1,1-Trichloroethane	220,000	nc	260	1.8 J	4.4 U	4.4 U	75 U	2400 U	20 U
1,1,2-Trichloroethane	77	ca	4.4 U	4.4 U	4.4 U	4.4 U	75 U	2400 U	20 U
Trichloroethene	88 [M]	nc	72	5.2	12	2.8	**280**	**240000**	19
1,2,3-Trimethylbenzene	220[A]	nc	4.1	3.9 U	9.4	3.9 U	68 U	**2200**	26
1,2,4-Trimethylbenzene	310[A]	nc	14	3.9 U	21	3.9 U	29 J	**4000**	67
1,3,5-Trimethylbenzene	---	---	3.5 J	3.9 U	6.4	3.9 U	68 U	1000 J	24
Vinyl Chloride	280	ca	2 U	2 U	41	2 U	**68000** E	1100 U	4.5 J
Xylenes, total	4,400	nc	84	13	62	2.6 J	**82000** D	2900 J	1500

TABLE 3-9

SUB-SLAB VAPOR SAMPLE RESULTS, BUILDING C, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Target Shallow Soil Gas Concentration [1] ($\mu g/m^3$)	KEY	129-C-SV	130-C-SV	131-C-SV	132-C-SV	133-C-SV	134-C-SV	135-C-SV
Benzene	160	ca	1.8 J	23	6.3	3.6	210 U	1.6 J	42 U
Carbon Tetrachloride	200	ca	5 U	5 U	5 U	5 U	410 U	5 U	84 U
Chlorodifluoromethane	2,200,000	nc	2.9 B	2.3 J B	6.8 B	19	1500 B	4.6 B	47 U
Chloroform	53	ca	7.1	**110**	2.1 J	2.9 J	**83** J	16	14 J
Dichlorodifluoromethane	4,400	nc	2 J	4	2.6 J	3.2 J	130 J	2.4 J	66 U
1,1-Dichloroethane	770	ca	42	31	4.5	0.73 J	260 U	2.9 J	54 U
1,2-Dichloroethane	47	ca	3.2 U	3.2 U	1.7 J	0.94 J	260 U	3.2 U	54 U
1,1-Dichloroethene	8,800	nc	130	97	5.8	1.8 J	260 U	3.2 U	53 U
cis-1,2-Dichloroethene	----	----	8.5	1.3 J	3.2 U	3.2 U	260 U	3.2 U	220
trans-1,2-Dichloroethene	2,600	nc	3.2 U	1.2 J	3.5	2 J	260 U	3.2 U	15 J
Ethylbenzene	490	ca	8.9	16	140	24	280 U	18	40 J
Methyl t-Butyl Ether	4,700	ca	14 U	14 U	14 U	14 U	1200 U	14 U	240 U
Methylene Chloride	26,000	ca	2.2 J B	17 B	19 B	4.2 J B	2700 B	3.2 J B	23 J B
Naphthalene	36	ca	**86**	**430**	**180**	**410**	**2200**	**240**	**510**
Tetrachloroethene	1,750	nc	5.4 U	5.6	1.8 J	1.9 J	**2200**	5.2 J	22 J
Toluene	220,000	nc	12	47	220	30	180 J	18	49
1,2,4-Trichlorobenzene	88	nc	30 U	30 U	30 U	30 U	2400 U	30 U	490 U
1,1,1-Trichloroethane	220,000	nc	1.4 J	790	12	1.8 J	350 U	2.1 J	72 U
1,1,2-Trichloroethane	77	ca	4.4 U	4.4 U	4.4 U	4.4 U	350 U	4.4 U	72 U
Trichloroethene	88 [M]	nc	**270**	**520**	0.92 J	3.5	**99000** E	2.1 U	**11000**
1,2,3-Trimethylbenzene	220[A]	nc	14	38	31	40	320 U	34	65 U
1,2,4-Trimethylbenzene	310[A]	nc	25	94	99	68	320 U	57	81
1,3,5-Trimethylbenzene	---	---	7.2	26	34	20	320 U	19	27 J
Vinyl Chloride	280	ca	2 U	2 U	1.1 J	2 U	160 U	2 U	34 U
Xylenes, total	4,400	nc	45	91	750	130	170 J	92	210

TABLE 3-9

SUB-SLAB VAPOR SAMPLE RESULTS, BUILDING C, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Notes: All sample concentrations are in micrograms per cubic meter ($\mu g/m^3$)

Shaded cells indicate a concentration greater than risk-based screening level

$\mu g/m^3$ = micrograms per cubic meter

J = estimated value

U = nondetect

A = American Council of Governmental Industrial Hygienists Theshold Limit Value

-- = not available

SV = Sub-slab vapor

E = estimated

B = analyte detected in laboratory blank

M = screening value based on Maryland Department of the Environment (MDE) IAQ target concentration of 8.8 $\mu g/m^3$ divided by an attenuation factor of 0.1

(1) Screening values derived in accordance with Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (November 2002). Screening values are equal to United States Environmental Protection Agency (USEPA) Industrial Air Screening Values divided by an attenuation factor of 0.1, and correspond to a target cancer risk level of $1.0E^{-05}$.

TABLE 3-10

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING C, FEBRUARY 2011
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	**001-C-SV**	2.6	U	**001-C-IA**	12	U
Carbon Tetrachloride		5	U		23	U
Chlorodifluoromethane		5.2			1700	
Chloroform		5			18	U
Dichlorodifluoromethane		2.4	J		18	U
1,1-Dichloroethane		3.2	U		15	U
1,2-Dichloroethane		3.2	U		15	U
1,1-Dichloroethene		3.2	U		14	U
cis-1,2-Dichloroethene		100			14	U
trans-1,2-Dichloroethene		18			14	U
Ethylbenzene		3.5	U		16	U
Methyl t-Butyl Ether	has duplicate	14	U		66	U
Methylene Chloride	SV-DUP-3	2.6	J B		7.5	J B
Naphthalene		10	U		48	U
Tetrachloroethene		1.8	J		25	U
Toluene		1.2	J		7.6	J
1,2,4-Trichlorobenzene		30	U		130	U
1,1,1-Trichloroethane		4.4	U		20	U
1,1,2-Trichloroethane		4.4	U		20	U
Trichloroethene		**160**			9.8	U
1,2,3-Trimethylbenzene		3.9	U		18	U
1,2,4-Trimethylbenzene		3.9	U		18	U
1,3,5-Trimethylbenzene		3.9	U		18	U
Vinyl Chloride		2	U		9.3	U
Xylenes, total		6.9	U		32	U
Benzene	**044-C-SV**	0.82	J	**044-C-IA**	1.7	
Carbon Tetrachloride		5	U		0.57	
Chlorodifluoromethane		14	B		45	
Chloroform		3.2	J		0.18	J
Dichlorodifluoromethane		2.1	J		3	
1,1-Dichloroethane		3.2	U		0.32	U
1,2-Dichloroethane		3.2	U		0.32	U
1,1-Dichloroethene		3.2	U		0.32	U
cis-1,2-Dichloroethene		3.2	U		0.32	U
trans-1,2-Dichloroethene		3.2	U		0.32	U
Ethylbenzene		6.4			0.6	
Methyl t-Butyl Ether		14	U		1.4	U
Methylene Chloride		3.2	J B		3.3	B
Naphthalene		**240**			0.49	J
Tetrachloroethene		1.5	J		0.14	J
Toluene		7.8			11	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		4.4	U		0.27	J
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		44			0.16	J
1,2,3-Trimethylbenzene		22			0.39	U
1,2,4-Trimethylbenzene		34			0.3	J
1,3,5-Trimethylbenzene		10			0.39	U
Vinyl Chloride		2	U		0.2	U
Xylenes, total		43			2.9	

TABLE 3-10

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING C, FEBRUARY 2011
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	**050-C-SV**	1.6	J	**050-C-IA**	0.69	
Carbon Tetrachloride		5	U		0.58	
Chlorodifluoromethane		9.5			17	
Chloroform		8			0.17	J
Dichlorodifluoromethane		2.3	J		2.7	
1,1-Dichloroethane		0.9	J		0.32	U
1,2-Dichloroethane		0.84	J		0.32	U
1,1-Dichloroethene		1	J		0.32	U
cis-1,2-Dichloroethene		3.2	U		0.32	U
trans-1,2-Dichloroethene		1.4	J		0.32	U
Ethylbenzene		15			0.19	J
Methyl t-Butyl Ether		14	U		1.4	U
Methylene Chloride		4.8	J B		1.5	B
Naphthalene		17			1	U
Tetrachloroethene		5.4	U		0.54	U
Toluene		39			3.5	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		9.1			0.44	U
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		12			0.21	U
1,2,3-Trimethylbenzene		12			0.39	U
1,2,4-Trimethylbenzene		24			0.39	U
1,3,5-Trimethylbenzene		9.2			0.39	U
Vinyl Chloride		2	U		0.2	U
Xylenes, total		69			0.53	J
Benzene	**060-C-SV**	37	U	**060-C-IA**	0.56	
Carbon Tetrachloride		73	U		0.47	J
Chlorodifluoromethane		18	J B		12	
Chloroform		**56**			0.12	J
Dichlorodifluoromethane		58	U		2.3	
1,1-Dichloroethane		71			0.32	U
1,2-Dichloroethane		47	U		0.32	U
1,1-Dichloroethene		11	J		0.32	U
cis-1,2-Dichloroethene		200			0.32	U
trans-1,2-Dichloroethene		26	J		0.32	U
Ethylbenzene		190			0.4	
Methyl t-Butyl Ether	has duplicate	210	U	has duplicate	1.4	U
Methylene Chloride	SV-DUP-1	25	J B	IA-DUP-1	1.7	B
Naphthalene		**280**			0.23	J
Tetrachloroethene		23	J		0.54	U
Toluene		14	J		3	
1,2,4-Trichlorobenzene		430	U		3	U
1,1,1-Trichloroethane		11	J		0.13	J
1,1,2-Trichloroethane		63	U		0.44	U
Trichloroethene		**3000**			0.12	J
1,2,3-Trimethylbenzene		57	U		0.39	U
1,2,4-Trimethylbenzene		20	J		0.14	J
1,3,5-Trimethylbenzene		57	U		0.39	U
Vinyl Chloride		30	U		0.2	U
Xylenes, total		1200			2.2	

TABLE 3-10

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING C, FEBRUARY 2011
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	088-C-SV	14	U	088-C-IA	0.6	
Carbon Tetrachloride		28	U		0.43	J
Chlorodifluoromethane		34	B		39	
Chloroform		9.7	J		0.14	J
Dichlorodifluoromethane		22	U		2.3	
1,1-Dichloroethane		18	U		0.32	U
1,2-Dichloroethane		18	U		0.32	U
1,1-Dichloroethene		3.3	J		0.32	U
cis-1,2-Dichloroethene		670			0.32	U
trans-1,2-Dichloroethene		14	J		0.32	U
Ethylbenzene		15	J		0.48	
Methyl t-Butyl Ether		81	U		1.4	U
Methylene Chloride		9.4	J B		2.9	B
Naphthalene		**540**			0.38	J
Tetrachloroethene		30	U		0.54	U
Toluene		12	J		9.2	
1,2,4-Trichlorobenzene		170	U		3	U
1,1,1-Trichloroethane		24	U		0.27	J
1,1,2-Trichloroethane		24	U		0.44	U
Trichloroethene		**3800**			0.13	J
1,2,3-Trimethylbenzene		30			0.39	U
1,2,4-Trimethylbenzene		39			0.24	J
1,3,5-Trimethylbenzene		11	J		0.39	U
Vinyl Chloride		11	U		0.2	U
Xylenes, total		150			2.3	
Benzene	091-C-SV	2.8		091-C-IA	0.38	
Carbon Tetrachloride		1.4	J		0.45	J
Chlorodifluoromethane		5.2			7.2	
Chloroform		37			0.087	J
Dichlorodifluoromethane		2.5	J		2.4	
1,1-Dichloroethane		3.2	U		0.32	U
1,2-Dichloroethane		3.2	U		0.32	U
1,1-Dichloroethene		3.2	U		0.32	U
cis-1,2-Dichloroethene		3.2	U		0.32	U
trans-1,2-Dichloroethene		3.2	U		0.32	U
Ethylbenzene		9.1			0.35	U
Methyl t-Butyl Ether		14	U		1.4	U
Methylene Chloride		8	B		3.3	B
Naphthalene		**65**			1	U
Tetrachloroethene		9.1			0.54	U
Toluene		19			1.3	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		4.4	U		0.44	U
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		15			0.21	U
1,2,3-Trimethylbenzene		4.9			0.39	U
1,2,4-Trimethylbenzene		13			0.39	U
1,3,5-Trimethylbenzene		3.6	J		0.39	U
Vinyl Chloride		5.3			0.2	U
Xylenes, total		42			0.25	J

TABLE 3-10

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING C, FEBRUARY 2011
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	103-C-SV	0.89	J	103-C-IA	0.67	
Carbon Tetrachloride		5	U		0.54	
Chlorodifluoromethane		18			27	
Chloroform		3.9	U		0.25	J
Dichlorodifluoromethane		2.3	J		2.5	
1,1-Dichloroethane		3.2	U		0.32	U
1,2-Dichloroethane		3.2	U		0.32	U
1,1-Dichloroethene		3.2	U		0.32	U
cis-1,2-Dichloroethene		3.2	U		0.32	U
trans-1,2-Dichloroethene		3.2	U		0.32	U
Ethylbenzene		20			0.21	J
Methyl t-Butyl Ether		14	U	has duplicate	1.4	U
Methylene Chloride		5.6	J B	IA-DUP-5	2.1	B
Naphthalene		**70**			1	U
Tetrachloroethene		5.4	U		0.54	U
Toluene		2.4	J		2.4	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		4.4	U		0.44	U
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		2.1	U		0.18	J
1,2,3-Trimethylbenzene		3.9	U		0.39	U
1,2,4-Trimethylbenzene		2	J		0.16	J
1,3,5-Trimethylbenzene		3.9	U		0.39	U
Vinyl Chloride		2	U		0.2	U
Xylenes, total		210			0.84	
Benzene	104-C-SV	1.2	J	104-C-IA	0.42	
Carbon Tetrachloride		5	U		0.43	J
Chlorodifluoromethane		3.2	B		11	
Chloroform		1.7	J		0.39	U
Dichlorodifluoromethane		2	J		2.3	
1,1-Dichloroethane		3.2	U		0.32	U
1,2-Dichloroethane		3.2	U		0.32	U
1,1-Dichloroethene		3.2	U		0.32	U
cis-1,2-Dichloroethene		3.2	U		0.32	U
trans-1,2-Dichloroethene		3.2	U		0.32	U
Ethylbenzene		8.1			0.35	U
Methyl t-Butyl Ether		14	U		1.4	U
Methylene Chloride		2.3	J B		0.53	J B
Naphthalene		15			1	U
Tetrachloroethene		5.4	U		0.54	U
Toluene		21			0.53	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		4.4	U		0.44	U
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		1.1	J		0.21	U
1,2,3-Trimethylbenzene		3.9	U		0.39	U
1,2,4-Trimethylbenzene		5.9			0.39	U
1,3,5-Trimethylbenzene		1.4	J		0.39	U
Vinyl Chloride		2	U		0.2	U
Xylenes, total		36			0.44	J

TABLE 3-10

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING C, FEBRUARY 2011
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	111-C-SV	1.7	J	111-C-IA	0.52	J
Carbon Tetrachloride		5	U		0.36	J
Chlorodifluoromethane		30	B		91	
Chloroform		39			0.98	U
Dichlorodifluoromethane		2.5	J		2.4	
1,1-Dichloroethane		4.8			0.81	U
1,2-Dichloroethane		3.2	U		0.81	U
1,1-Dichloroethene		3.3			0.79	U
cis-1,2-Dichloroethene		2.1	J		0.88	
trans-1,2-Dichloroethene		3.2	U		0.79	U
Ethylbenzene		16			0.56	J
Methyl t-Butyl Ether		14	U		3.6	U
Methylene Chloride		3	J B		3.9	B
Naphthalene		**750**			2.6	U
Tetrachloroethene		1.3	J		1.4	U
Toluene		5			8.4	
1,2,4-Trichlorobenzene		30	U		7.4	U
1,1,1-Trichloroethane		1.5	J		0.19	J
1,1,2-Trichloroethane		4.4	U		1.1	U
Trichloroethene		**370**			1.4	
1,2,3-Trimethylbenzene		3.9	U		0.98	U
1,2,4-Trimethylbenzene		3.7	J		0.98	U
1,3,5-Trimethylbenzene		2.3	J		0.98	U
Vinyl Chloride		2	U		0.51	U
Xylenes, total		180			2.7	
Benzene	112-C-SV	2.6	U	112-C-IA	0.49	J
Carbon Tetrachloride		5	U		0.25	J
Chlorodifluoromethane		37	B		72	
Chloroform		0.79	J		0.78	U
Dichlorodifluoromethane		6.8			2.5	
1,1-Dichloroethane		3.2	U		0.65	U
1,2-Dichloroethane		3.2	U		0.65	U
1,1-Dichloroethene		3.2	U		0.63	U
cis-1,2-Dichloroethene		3.2	U		0.63	U
trans-1,2-Dichloroethene		3.2	U		0.63	U
Ethylbenzene		5			0.69	U
Methyl t-Butyl Ether		14	U		2.9	U
Methylene Chloride		2.9	J B		3.6	B
Naphthalene		**200**			2.1	U
Tetrachloroethene		5.4	U		1.1	U
Toluene		3.7			2.9	
1,2,4-Trichlorobenzene		30	U		5.9	U
1,1,1-Trichloroethane		0.71	J		0.39	J
1,1,2-Trichloroethane		4.4	U		0.87	U
Trichloroethene		2.1	U		0.17	J
1,2,3-Trimethylbenzene		3.9	U		0.79	U
1,2,4-Trimethylbenzene		1.6	J		0.79	U
1,3,5-Trimethylbenzene		3.9	U		0.79	U
Vinyl Chloride		2	U		0.41	U
Xylenes, total		43			1.4	U

TABLE 3-10

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING C, FEBRUARY 2011
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	113-C-SV	21	U	113-C-IA	0.61	
Carbon Tetrachloride		41	U		0.46	J
Chlorodifluoromethane		13	J B		29	
Chloroform		38			0.14	J
Dichlorodifluoromethane		32	U		2.2	
1,1-Dichloroethane		26	U		0.32	U
1,2-Dichloroethane		26	U		0.32	U
1,1-Dichloroethene		26	U		0.32	U
cis-1,2-Dichloroethene		500			0.32	U
trans-1,2-Dichloroethene		26	U		0.32	U
Ethylbenzene		28	U		0.47	
Methyl t-Butyl Ether		120	U		1.4	U
Methylene Chloride		12	J B		2.3	B
Naphthalene		**64**	J		0.22	J
Tetrachloroethene		14	J		0.11	J
Toluene		15	J		12	
1,2,4-Trichlorobenzene		240	U		3	U
1,1,1-Trichloroethane		35	U		0.44	U
1,1,2-Trichloroethane		35	U		0.44	U
Trichloroethene		**5700**			0.21	U
1,2,3-Trimethylbenzene		32	U		0.39	U
1,2,4-Trimethylbenzene		32	U		0.23	J
1,3,5-Trimethylbenzene		32	U		0.39	U
Vinyl Chloride		17	U		0.2	U
Xylenes, total		56	U		2.3	
Benzene	114-C-SV	0.83	J	114-C-IA	0.59	
Carbon Tetrachloride		5	U		0.48	J
Chlorodifluoromethane		16	B		54	
Chloroform		21			0.13	J
Dichlorodifluoromethane		6			2.4	
1,1-Dichloroethane		1.5	J		0.32	U
1,2-Dichloroethane		3.2	U		0.32	U
1,1-Dichloroethene		1.7	J		0.32	U
cis-1,2-Dichloroethene		3.2	U		0.32	U
trans-1,2-Dichloroethene		3.2	U		0.32	U
Ethylbenzene		11			0.59	
Methyl t-Butyl Ether		14	U		1.4	U
Methylene Chloride		6.4	J B		4.2	B
Naphthalene		16			0.2	J
Tetrachloroethene		28			0.11	J
Toluene		4			6.8	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		260			0.57	
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		72			0.23	
1,2,3-Trimethylbenzene		4.1			0.39	U
1,2,4-Trimethylbenzene		14			0.22	J
1,3,5-Trimethylbenzene		3.5	J		0.39	U
Vinyl Chloride		2	U		0.2	U
Total Xylenes, total		84			3	

TABLE 3-10

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING C, FEBRUARY 2011
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	**115-C-SV**	2.6	U	**115-C-IA**	0.59	
Carbon Tetrachloride		5	U		0.44	J
Chlorodifluoromethane		4.8	B		28	
Chloroform		0.76	J		0.15	J
Dichlorodifluoromethane		2.6	J		2.3	
1,1-Dichloroethane		3.2	U		0.32	U
1,2-Dichloroethane		3.2	U		0.32	U
1,1-Dichloroethene		3.2	U		0.32	U
cis-1,2-Dichloroethene		3.2	U		0.32	U
trans-1,2-Dichloroethene		3.2	U		0.32	U
Ethylbenzene		1.3	J		0.42	
Methyl t-Butyl Ether		14	U		1.4	U
Methylene Chloride		3.4	J B		2.2	B
Naphthalene		3.7	J		0.29	J
Tetrachloroethene		5.4	U		0.54	U
Toluene		2.4	J		11	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		1.8	J		0.44	U
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		5.2			0.21	U
1,2,3-Trimethylbenzene		3.9	U		0.39	U
1,2,4-Trimethylbenzene		3.9	U		0.21	J
1,3,5-Trimethylbenzene		3.9	U		0.39	U
Vinyl Chloride		2	U		0.2	U
Xylenes, total		13			2	
Benzene	**124-C-SV**	6.4		**124-C-IA**	0.4	
Carbon Tetrachloride		1	J		0.39	J
Chlorodifluoromethane		7.4			14	
Chloroform		38			0.11	J
Dichlorodifluoromethane		2.6	J		2.4	
1,1-Dichloroethane		3.2	U		0.32	U
1,2-Dichloroethane		3.2	U		0.32	U
1,1-Dichloroethene		0.54	J		0.32	U
cis-1,2-Dichloroethene		3.3			0.32	U
trans-1,2-Dichloroethene		3.2	U		0.32	U
Ethylbenzene		13			0.35	U
Methyl t-Butyl Ether		14	U	has duplicate	1.4	U
Methylene Chloride		2.9	J B	IA-DUP-4	1.6	B
Naphthalene		**130**			1	U
Tetrachloroethene		9			0.54	U
Toluene		33			1.1	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		4.4	U		0.44	U
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		12			0.21	U
1,2,3-Trimethylbenzene		9.4			0.39	U
1,2,4-Trimethylbenzene		21			0.39	U
1,3,5-Trimethylbenzene		6.4			0.39	U
Vinyl Chloride		41			0.2	U
Xylenes, total		62			0.69	U

TABLE 3-10

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING C, FEBRUARY 2011
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	125-C-SV	1.8	J	125-C-IA	0.66	
Carbon Tetrachloride		5	U		0.52	
Chlorodifluoromethane		8.2			20	
Chloroform		29			0.13	J
Dichlorodifluoromethane		2.5	J		2.6	
1,1-Dichloroethane		3.2	U		0.32	U
1,2-Dichloroethane		3.2	U		0.32	U
1,1-Dichloroethene		3.2	U		0.32	U
cis-1,2-Dichloroethene		3.2	U		0.32	U
trans-1,2-Dichloroethene		3.2	U		0.32	U
Ethylbenzene		1.2	J		0.14	J
Methyl t-Butyl Ether		14	U		1.4	U
Methylene Chloride		8.5	B		2.3	B
Naphthalene		3.3	J		1	U
Tetrachloroethene		5.4	U		0.31	J
Toluene		9.2			2	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		4.4	U		0.088	J
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		2.8			0.21	U
1,2,3-Trimethylbenzene		3.9	U		0.39	U
1,2,4-Trimethylbenzene		3.9	U		0.39	U
1,3,5-Trimethylbenzene		3.9	U		0.39	U
Vinyl Chloride		2	U		0.2	U
Xylenes, total		2.6	J		0.45	J
Benzene	126-C-SV	86		126-C-IA	0.66	
Carbon Tetrachloride		87	U		0.54	
Chlorodifluoromethane		20	J		4.3	
Chloroform		67	U		0.11	J
Dichlorodifluoromethane		68	U		2.6	
1,1-Dichloroethane		56	U		0.32	U
1,2-Dichloroethane		56	U		0.32	U
1,1-Dichloroethene		360			0.32	U
cis-1,2-Dichloroethene		350			0.32	U
trans-1,2-Dichloroethene		41	J		0.32	U
Ethylbenzene		72			0.17	J
Methyl t-Butyl Ether		250	U		1.4	U
Methylene Chloride		36	J B		0.87	B
Naphthalene		**250**			1	U
Tetrachloroethene		93	U		0.54	U
Toluene		54			2.3	
1,2,4-Trichlorobenzene		510	U		3	U
1,1,1-Trichloroethane		75	U		0.32	J
1,1,2-Trichloroethane		75	U		0.44	U
Trichloroethene		**280**			0.21	U
1,2,3-Trimethylbenzene		68	U		0.39	U
1,2,4-Trimethylbenzene		29	J		0.14	J
1,3,5-Trimethylbenzene		68	U		0.39	U
Vinyl Chloride		**68000**	E		0.2	U
Xylenes, total		**82000**	D		0.61	J

TABLE 3-10

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING C, FEBRUARY 2011
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	127-C-SV	1400	U	127-C-IA	0.45	
Carbon Tetrachloride		2700	U		0.43	J
Chlorodifluoromethane		1100	J B		15	
Chloroform		2100	U		0.11	J
Dichlorodifluoromethane		2200	U		2.4	
1,1-Dichloroethane		1800	U		0.32	U
1,2-Dichloroethane		1800	U		0.32	U
1,1-Dichloroethene		1700	U		0.32	U
cis-1,2-Dichloroethene		1700	U		0.32	U
trans-1,2-Dichloroethene		1700	U		0.32	U
Ethylbenzene		1900	U		0.24	J
Methyl t-Butyl Ether		7800	U		1.4	U
Methylene Chloride		1800	J B		1.9	B
Naphthalene		**4300**	J		1	U
Tetrachloroethene		3000	U		0.54	U
Toluene		1600	U		2.4	
1,2,4-Trichlorobenzene		16000	U		3	U
1,1,1-Trichloroethane		2400	U		0.069	J
1,1,2-Trichloroethane		2400	U		0.44	U
Trichloroethene		**240000**			0.26	
1,2,3-Trimethylbenzene		**2200**			0.39	U
1,2,4-Trimethylbenzene		**4000**			0.39	U
1,3,5-Trimethylbenzene		1000	J		0.39	U
Vinyl Chloride		1100	U		0.2	U
Xylenes, total		2900	J		1.1	
Benzene	128-C-SV	20		128-C-IA	0.68	
Carbon Tetrachloride		23	U		0.49	J
Chlorodifluoromethane		10	J		26	
Chloroform		5.9	J		0.2	J
Dichlorodifluoromethane		18	U		3.3	
1,1-Dichloroethane		2.6	J		0.051	J
1,2-Dichloroethane		15	U		0.1	J
1,1-Dichloroethene		14	U		0.32	U
cis-1,2-Dichloroethene		46			0.32	U
trans-1,2-Dichloroethene		9.8	J		0.32	U
Ethylbenzene		240			0.55	
Methyl t-Butyl Ether		66	U		1.4	U
Methylene Chloride		25	J B		31	B
Naphthalene		**260**			1	U
Tetrachloroethene		130			0.15	J
Toluene		120			2.5	
1,2,4-Trichlorobenzene		130	U		3	U
1,1,1-Trichloroethane		20	U		12	
1,1,2-Trichloroethane		20	U		0.44	U
Trichloroethene		19			0.68	
1,2,3-Trimethylbenzene		26			0.39	U
1,2,4-Trimethylbenzene		67			0.36	J
1,3,5-Trimethylbenzene		24			0.13	J
Vinyl Chloride		4.5	J		0.2	U
Xylenes, total		1500			3	

TABLE 3-10

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING C, FEBRUARY 2011
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	129-C-SV	1.8	J	129-C-IA	0.64	
Carbon Tetrachloride		5	U		0.44	J
Chlorodifluoromethane		2.9	B		48	
Chloroform		7.1			0.16	J
Dichlorodifluoromethane		2	J		2.3	
1,1-Dichloroethane		42			0.32	U
1,2-Dichloroethane		3.2	U		0.32	U
1,1-Dichloroethene		130			0.32	U
cis-1,2-Dichloroethene		8.5			0.32	U
trans-1,2-Dichloroethene		3.2	U		0.32	U
Ethylbenzene		8.9			0.6	
Methyl t-Butyl Ether		14	U		1.4	U
Methylene Chloride		2.2	J B		8.2	B
Naphthalene		**86**			0.36	J
Tetrachloroethene		5.4	U		0.54	U
Toluene		12			6.8	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		1.4	J		0.98	
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		**270**			0.31	
1,2,3-Trimethylbenzene		14			0.39	U
1,2,4-Trimethylbenzene		25			0.28	J
1,3,5-Trimethylbenzene		7.2			0.39	U
Vinyl Chloride		2	U		0.2	U
Xylenes, total		45			3	
Benzene	130-C-SV	23		130-C-IA	0.47	
Carbon Tetrachloride		5	U		0.44	J
Chlorodifluoromethane		2.3	J B		5.8	
Chloroform		**110**			0.084	J
Dichlorodifluoromethane		4			2.3	
1,1-Dichloroethane		31			0.32	U
1,2-Dichloroethane		3.2	U		0.32	U
1,1-Dichloroethene		97			0.32	U
cis-1,2-Dichloroethene		1.3	J		0.32	U
trans-1,2-Dichloroethene		1.2	J		0.32	U
Ethylbenzene		16			0.3	J
Methyl t-Butyl Ether		14	U		1.4	U
Methylene Chloride		17	B		5.5	B
Naphthalene		**430**			1	U
Tetrachloroethene		5.6			0.54	U
Toluene		47			2.8	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		790			0.41	J
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		**520**			0.13	J
1,2,3-Trimethylbenzene		38			0.39	U
1,2,4-Trimethylbenzene		94			0.39	U
1,3,5-Trimethylbenzene		26			0.39	U
Vinyl Chloride		2	U		0.2	U
Xylenes, total		91			1.5	

TABLE 3-10

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING C, FEBRUARY 2011
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	131-C-SV	6.3		131-C-IA	0.64	
Carbon Tetrachloride		5	U		0.44	J
Chlorodifluoromethane		6.8	B		52	
Chloroform		2.1	J		0.14	J
Dichlorodifluoromethane		2.6	J		2.4	
1,1-Dichloroethane		4.5			0.32	U
1,2-Dichloroethane		1.7	J		0.32	U
1,1-Dichloroethene		5.8			0.32	U
cis-1,2-Dichloroethene		3.2	U		0.32	U
trans-1,2-Dichloroethene		3.5			0.32	U
Ethylbenzene		140			0.88	
Methyl t-Butyl Ether		14	U		1.4	U
Methylene Chloride		19	B		4.8	B
Naphthalene		**180**			0.29	J
Tetrachloroethene		1.8	J		0.13	J
Toluene		220			6.4	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		12			0.45	
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		0.92	J		0.19	J
1,2,3-Trimethylbenzene		31			0.39	U
1,2,4-Trimethylbenzene		99			0.28	J
1,3,5-Trimethylbenzene		34			0.39	U
Vinyl Chloride		1.1	J		0.2	U
Xylenes, total		750			4.3	
Benzene	132-C-SV	3.6		132-C-IA	0.77	
Carbon Tetrachloride		5	U		0.54	
Chlorodifluoromethane		19			20	
Chloroform		2.9	J		0.14	J
Dichlorodifluoromethane		3.2	J		2.6	
1,1-Dichloroethane		0.73	J		0.32	U
1,2-Dichloroethane		0.94	J		0.32	U
1,1-Dichloroethene		1.8	J		0.32	U
cis-1,2-Dichloroethene		3.2	U		0.32	U
trans-1,2-Dichloroethene		2	J		0.32	U
Ethylbenzene		24			0.42	
Methyl t-Butyl Ether		14	U		1.4	U
Methylene Chloride		4.2	J B		1.9	B
Naphthalene		**410**			0.27	J
Tetrachloroethene		1.9	J		0.16	J
Toluene		30			6.8	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		1.8	J		0.091	J
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		3.5			0.082	J
1,2,3-Trimethylbenzene		40			0.39	U
1,2,4-Trimethylbenzene		68			0.36	J
1,3,5-Trimethylbenzene		20			0.39	U
Vinyl Chloride		2	U		0.2	U
Xylenes, total		130			2	

TABLE 3-10

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING C, FEBRUARY 2011
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	133-C-SV	210	U	133-C-IA	2.6	U
Carbon Tetrachloride		410	U		5	U
Chlorodifluoromethane		1500	B		120	
Chloroform		**83**	J		3.9	U
Dichlorodifluoromethane		130	J		2.8	J
1,1-Dichloroethane		260	U		3.2	U
1,2-Dichloroethane		260	U		3.2	U
1,1-Dichloroethene		260	U		3.2	U
cis-1,2-Dichloroethene		260	U		3.2	U
trans-1,2-Dichloroethene		260	U		3.2	U
Ethylbenzene		280	U		3.5	U
Methyl t-Butyl Ether		1200	U		14	U
Methylene Chloride		2700	B		5.1	J B
Naphthalene		**2200**			10	U
Tetrachloroethene		**2200**			5.4	U
Toluene		180	J		6.8	
1,2,4-Trichlorobenzene		**2400**	U		30	U
1,1,1-Trichloroethane		350	U		4.4	U
1,1,2-Trichloroethane		350	U		4.4	U
Trichloroethene		**99000**	E		2.1	U
1,2,3-Trimethylbenzene		320	U		3.9	U
1,2,4-Trimethylbenzene		320	U		3.9	U
1,3,5-Trimethylbenzene		320	U		3.9	U
Vinyl Chloride		160	U		2	U
Xylenes, total		170	J		6.9	U
Benzene	134-C-SV	1.6	J	134-C-IA	0.64	
Carbon Tetrachloride		5	U		0.46	J
Chlorodifluoromethane		4.6	B		52	
Chloroform		16			0.14	J
Dichlorodifluoromethane		2.4	J		2.5	
1,1-Dichloroethane		2.9	J		0.07	J
1,2-Dichloroethane		3.2	U		0.32	U
1,1-Dichloroethene		3.2	U		0.32	U
cis-1,2-Dichloroethene		3.2	U		0.32	U
trans-1,2-Dichloroethene		3.2	U		0.32	U
Ethylbenzene		18			0.6	
Methyl t-Butyl Ether		14	U		1.4	U
Methylene Chloride		3.2	J B		4.5	B
Naphthalene		**240**			0.47	J
Tetrachloroethene		5.2	J		0.54	U
Toluene		18			7.4	
1,2,4-Trichlorobenzene		30	U		3	U
1,1,1-Trichloroethane		2.1	J		0.59	
1,1,2-Trichloroethane		4.4	U		0.44	U
Trichloroethene		2.1	U		0.27	
1,2,3-Trimethylbenzene		34			0.39	U
1,2,4-Trimethylbenzene		57			0.21	J
1,3,5-Trimethylbenzene		19			0.39	U
Vinyl Chloride		2	U		0.2	U
Xylenes, total		92			3.1	

TABLE 3-10

CO-LOCATED SUB-SLAB VAPOR AND IAQ SAMPLING RESULTS, BUILDING C, FEBRUARY 2011
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	Sub-Slab Vapor Sample ID	Result ($\mu g/m^3$)	Qualifier	Co-Located IAQ Sample ID	Result ($\mu g/m^3$)	Qualifier
Benzene	135-C-SV	42	U	135-C-IA	0.68	
Carbon Tetrachloride		84	U		0.43	J
Chlorodifluoromethane		47	U		35	
Chloroform		14	J		0.15	J
Dichlorodifluoromethane		66	U		2.4	
1,1-Dichloroethane		54	U		0.32	U
1,2-Dichloroethane		54	U		0.14	J
1,1-Dichloroethene		53	U		0.32	U
cis-1,2-Dichloroethene		220			0.32	U
trans-1,2-Dichloroethene		15	J		0.32	U
Ethylbenzene		40	J		0.49	
Methyl t-Butyl Ether		240	U		1.4	U
Methylene Chloride		23	J B		2.8	B
Naphthalene		**510**			1	U
Tetrachloroethene		22	J		0.12	J
Toluene		49			11	
1,2,4-Trichlorobenzene		490	U		3	U
1,1,1-Trichloroethane		72	U		0.19	J
1,1,2-Trichloroethane		72	U		0.44	U
Trichloroethene		**11000**			0.1	J
1,2,3-Trimethylbenzene		65	U		0.39	U
1,2,4-Trimethylbenzene		81			0.22	J
1,3,5-Trimethylbenzene		27	J		0.39	U
Vinyl Chloride		34	U		0.2	U
Xylenes, total		210			2.3	

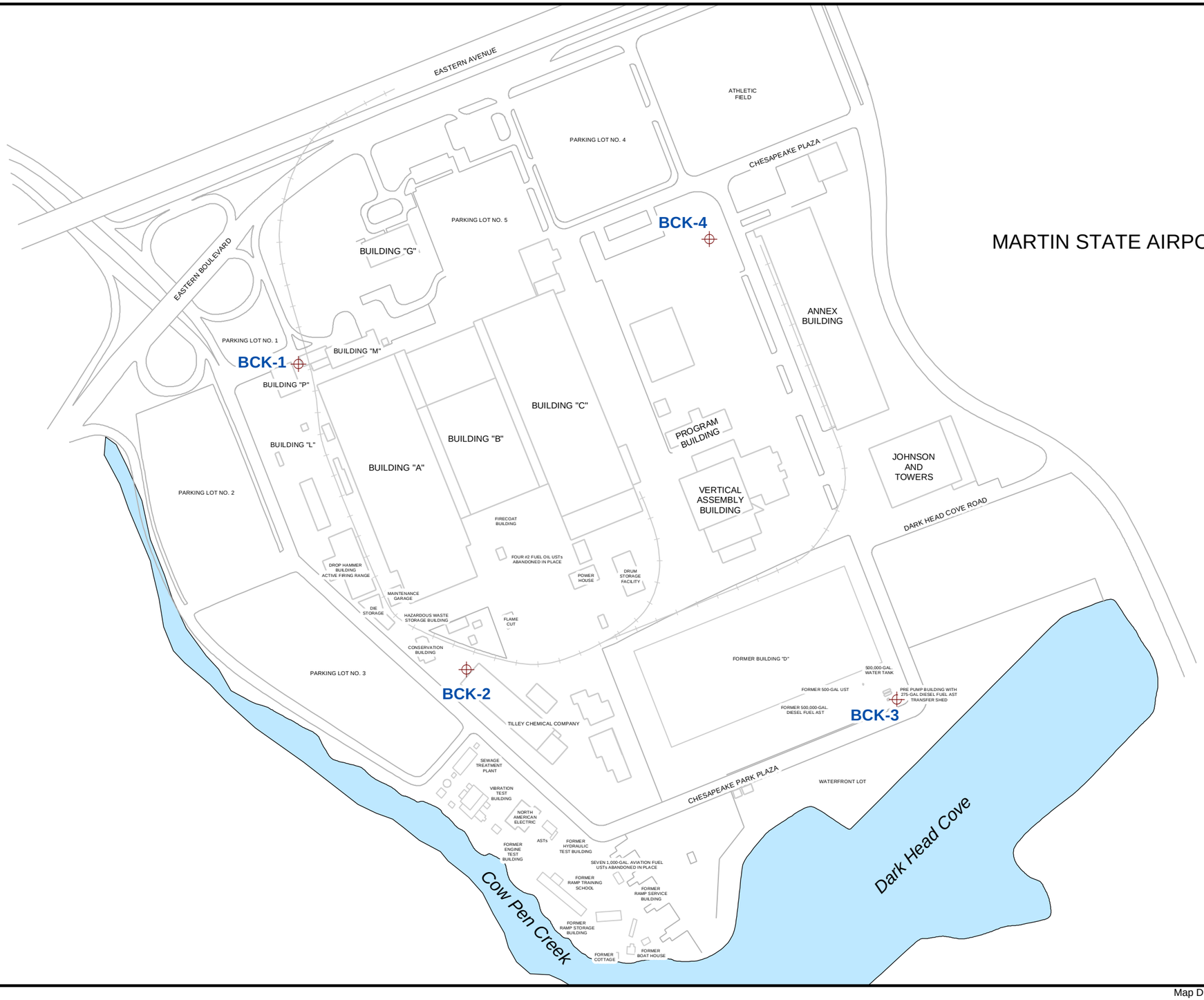
Notes: All concentrations are in micrograms per cubic meter air [$\mu g/m^3$] -- = not available

Grey-shaded cells indicate a concentration greater than the risk-based screening level.

[1] The IAQ sample has a duplicate [as indicated]; the concentration shown for this analyte is the higher of the two values (i.e. the duplicate sample's concentration > sample concentration)

SV = Sub-slab vapor J = estimated value B = analyte detected in laboratory blank

IAQ = Indoor air quality U = not detected



MARTIN STATE AIRPORT

FIGURE 3-1

IAQ BACKGROUND SAMPLING LOCATIONS
ROUND 12 FEBRUARY 2012

LEGEND

- BACKGROUND SAMPLING LOCATION
- WATER

Lockheed Martin Middle River Complex
Middle River, Maryland

0 100 200 300 400 Feet

N

DATE MODIFIED: 1/11/12

CREATED BY: MP

Tetra Tech, Inc.

Map Document: (K:\GProject\middle_river\Maps\Middle River BCK_Locs_20June11.mxd)
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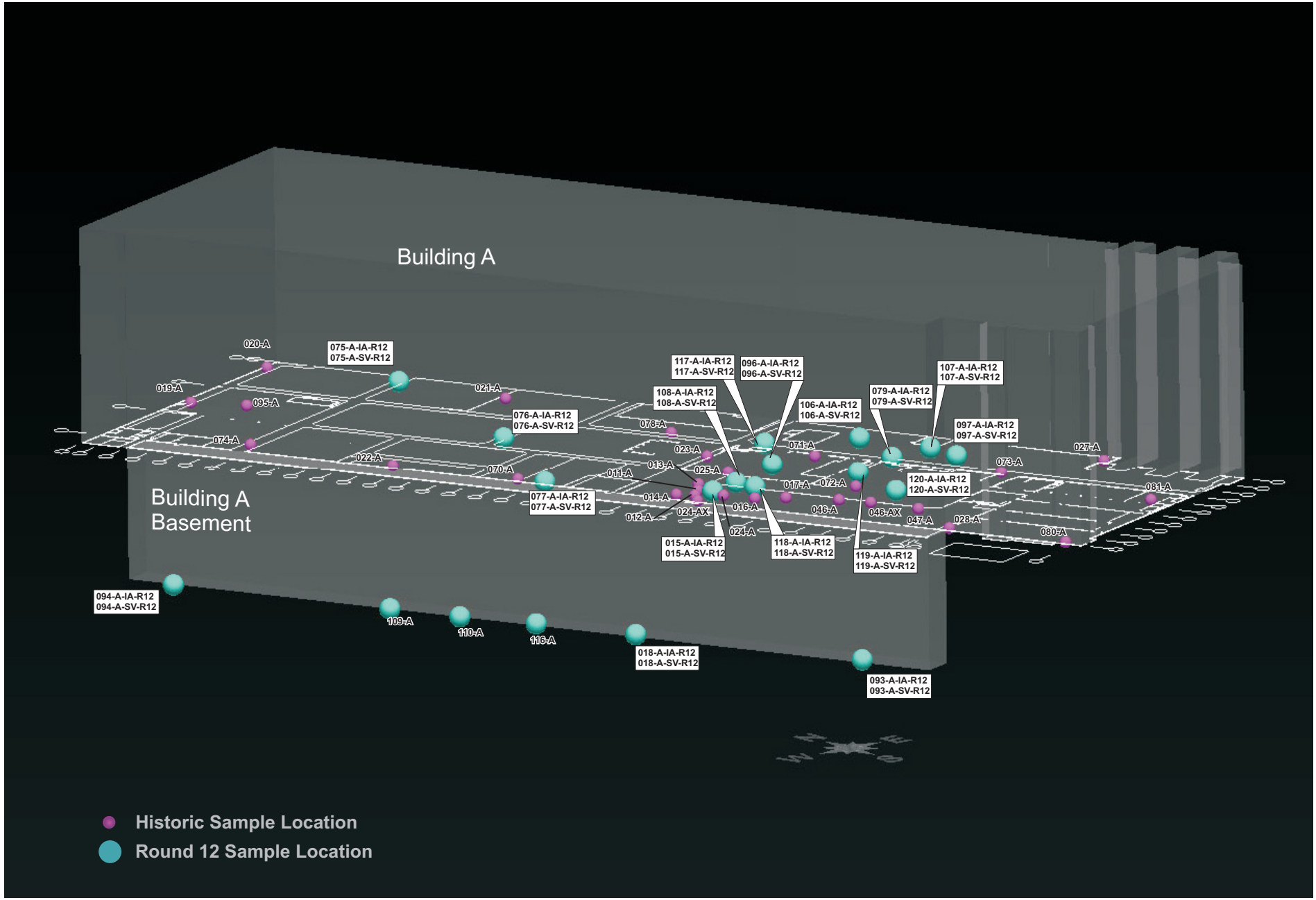
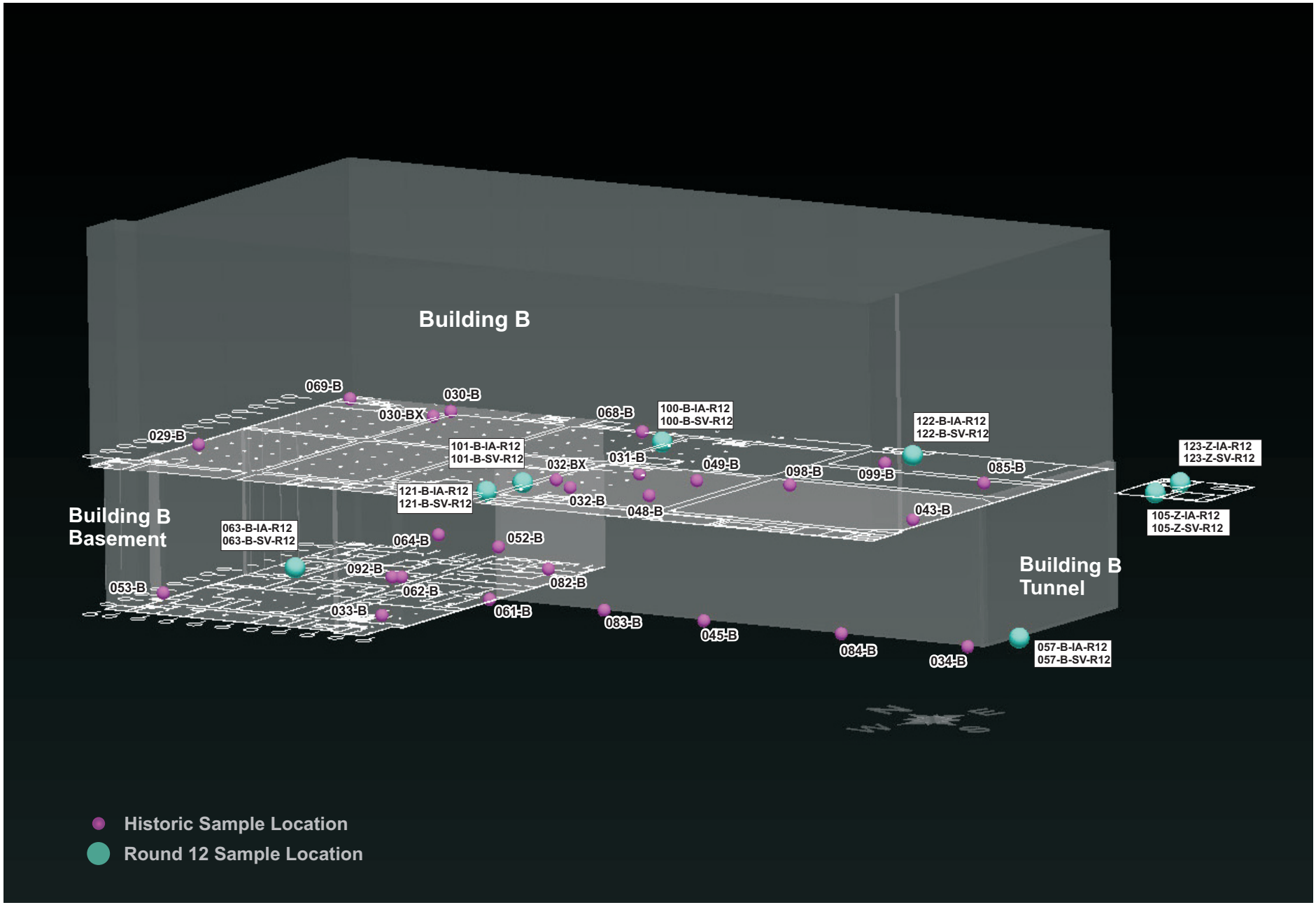
Figure 3-2
Indoor Air and Sub-Slab Vapor Monitoring Locations for Building A, Round 12, February 2012



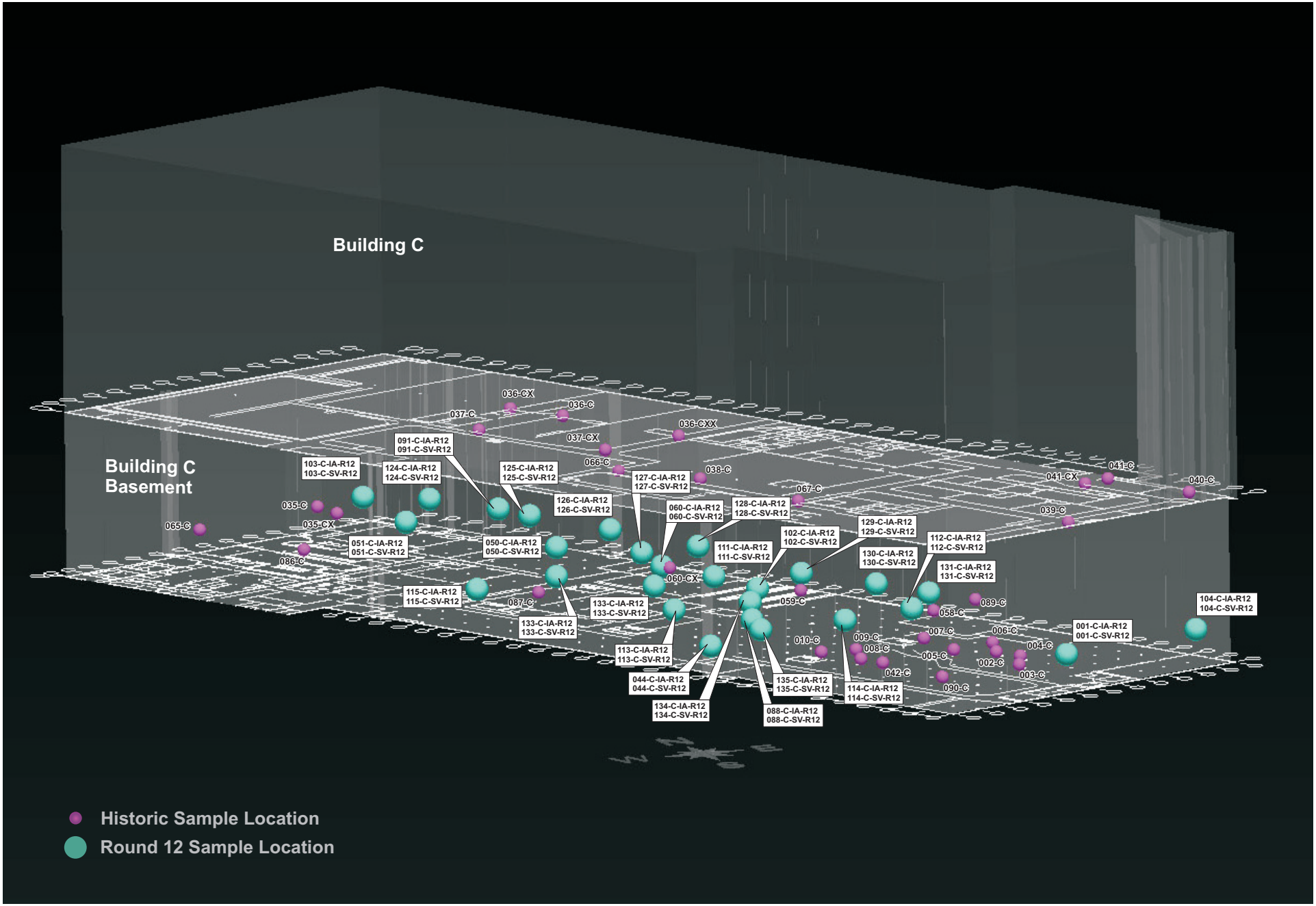
K:\GProject\Middle River\MVS\Building A Sample Locations Round 12.cdr

Figure 3-3
Indoor Air and Sub-Slab Vapor Monitoring Locations for Building B, Round 12, February 2012



K:\GProject\middle river\MVS\Building B Sample Locations Round 12.cdr

Figure 3-4
Indoor Air and Sub-Slab Vapor Monitoring Locations for Building C, Round 12, February 2012



K:\GProject\Middle River\MVS\Building C Sample Locations Round 12.cdr

Figure 3-5

Indoor Air and Sub-Slab Vapor Results Greater Than Screening Levels Building A Round 12 February 2012

019-A
020-A
095-A
094-A
074-A
075-A
075-A-SV
Naphthalene 390
021-A
109-A
022-A
076-A
110-A
077-A-SV
Naphthalene 520
070-A
018-A-SV
1,1-Dichloroethane 1300
1,1-Dichloroethene 69000
Trichloroethene 83000
Vinyl Chloride 300 J
116-A
077-A
078-A
015-A-IA
Ethylbenzene 120
Total Xylenes 740
015-A-SV
Trichloroethene 2400 J
108-A-IA
Ethylbenzene 64
108-A-SV
1,1-Dichloroethane 2900
Trichloroethene 480
116-A-SV
Naphthalene 420 J
117-A
117-A-SV
Naphthalene 220
018-A
023-A
013-A
014-A
011-A
025-A
096-A
012-A
108-A
106-A
024-AX
015-A
071-A
024-A
118-A
079-A-SV
Trichloroethene 7900
016-A
119-A
017-A
079-A
107-A
118-A-SV
Naphthalene 440 B
Trichloroethene 2600
072-A
046-A
120-A
097-A
046-AX
120-A-SV
Naphthalene 82
093-A
073-A
047-A
027-A
028-A
BND6
BND6
BND6
MAINTGAR
081-A
080-A

Legend

- New Round 12 Sample Location First Floor
- New Round 12 Sample Location Basement
- IAQ, Basement
- IAQ, 1st Floor
- SV
- SSD Vapor Extraction Trench
- SSD Radius of Influence
- Buildings A, B, and C
- Building B and C Basement
- SSD Treatment Unit
- IAQ/SV Sample Location

N

0 20 40 60 80 Feet

Lockheed Martin Middle River Complex
Middle River, Maryland

DATE MODIFIED: 3/30/12
CREATED BY: MP

Tetra Tech, Inc.

Map Document: (K:\GProject\middle_river\Maps\Block I bldg A_Round 12 exceedances.mxd)
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Figure 3-6

Indoor Air and Sub-Slab Vapor Results Greater Than Screening Levels Building B Round 12 February 2012

053-B
029-B
063-B
069-B
064-B
030-BX
030-B
092-B
062-B
052-B
033-B
061-B
082-B
121-B
101-B
083-B
068-B
100-B
032-BX
032-B
031-B
045-B
048-B
049-B
098-B
099-B
084-B
122-B
085-B
034-B
043-B
057-B
123-Z
105-Z
008-C
042-C
BND6
BND6
BND6

063-B-SV

Chloroform	94
Naphthalene	770
Trichloroethene	4900

121-B-SV

Naphthalene	400
Trichloroethene	170

122-B-SV

Naphthalene	350

123-B-SV

Naphthalene	260

105-Z-SV

Naphthalene	49

Legend

- New Round 12 Sample Location First Floor
- New Round 12 Sample Location Basement
- IAQ, Basement
- IAQ, 1st Floor
- SV
- Tunnel
- Buildings A, B, and C
- Building B and C Basement
- IAQ/SV Sample Location

N

0 20 40 60 80 Feet

Lockheed Martin Middle River Complex
Middle River, Maryland

DATE MODIFIED: 4/6/12 CREATED BY: MP

Tetra Tech, Inc.

Map Document: (K:\GProject\middle_river\Maps\Block I bldg B_Round 12_exceedances.mxd)
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Figure 3-7

Indoor Air and Sub-Slab Vapor Results Greater Than Screening Levels Building C Round 12 February 2012

103-C-SV
Naphthalene 70

124-C-SV
Naphthalene 130

091-C-SV
Naphthalene 65

126-C-SV
Naphthalene 250
Trichloroethene 280
Vinyl Chloride 68000 E
Total Xylenes 82000 D

127-C-SV
Naphthalene 4300 J
Trichloroethene 240000
1,2,3 Trimethylbenzene 2200
1,2,4 Trimethylbenzene 4000

131-C-SV
Naphthalene 410

128-C-SV
Naphthalene 260

133-C-SV
Chloroform 83 J
Naphthalene 2200
Tetrachloroethene 2200
Trichloroethene 99000 E

060-C-SV
Chloroform 94
Naphthalene 770
Trichloroethene 4900

111-C-SV
Naphthalene 750
Trichloroethene 370

113-C-SV
Naphthalene 64 J
Trichloroethene 5700

129-C-SV
Naphthalene 86
Trichloroethene 270

088-C-SV
Naphthalene 540
Trichloroethene 3800

102-C-SV
1,1 Dichloroethane 1800
Naphthalene 350
Trichloroethene 740

135-C-SV
Naphthalene 510
Trichloroethene 11000

134-C-SV
Naphthalene 240

130-C-SV
Chloroform 110
Naphthalene 430
Trichloroethene 520

044-C-SV
Naphthalene 240

131-C-SV
Naphthalene 180

112-C-SV
Naphthalene 200

001-C-SV
Trichloroethene 200

065-C
035-C
103-C
124-C
035-CX
051-C
091-C
086-C
125-C
036-CX
126-C
050-C
037-C
036-C
127-C
115-C
132-C
128-C
060-C
060-CX
087-C
037-CX
036-CXX
133-C
111-C
066-C
129-C
102-C
113-C
134-C
059-C
038-C
130-C
088-C
131-C
135-C
044-C
114-C
112-C
089-C
067-C
058-C
010-C
009-C
007-C
008-C
041-CX
041-C
042-C
006-C
005-C
002-C
004-C
040-C
090-C
003-C
001-C
039-C
104-C

Legend

- New Round 12 Sample Location First Floor
- New Round 12 Sample Location Basement
- IAQ, Basement
- IAQ, 1st Floor
- SV
- SSD Radius of Influence
- Building B and C Basement
- Tunnel
- SSD Treatment Unit
- IAQ/SV Sample Location

N

0 25 50 75 100 Feet

Lockheed Martin Middle River Complex
Middle River, Maryland

DATE MODIFIED: 4/10/12
CREATED BY: MP

Tetra Tech, Inc.

Map Document: (K:\GProject\middle_river\Maps\Block I bldg C_Round 12_exceedances.mxd)
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Section 4
Sub-Slab Depressurization-System Data Analysis

4.1 SUB-SLAB VAPOR MONITORING POINTS

No individual sub-slab vapor (SV) extraction points were sampled in association with Building A Plating Shop and Building C Basement sub-slab depressurization (SSD) systems operation in 2011 or early 2012. However, SV samples collected during the February 2012 vapor intrusion investigation include two SV vapor monitoring points (VMP) within 100 feet of the Building A SSD-system extraction trenches (015-A and 018-A) and one VMP within 100 feet of the Building C SSD-system extraction points (001-C) (see Appendix G, Figures 8 and 9). Sampling locations 015-A, 018-A, and 001-C had some of the highest concentrations of TCE detected in the site characterization study (Tetra Tech, Inc. [Tetra Tech], 2006) and are considered to be in the core of the affected areas beneath Building A (015-A), Building A Basement (018-A), and Building C (001-C).

Tables 4-1 and 4-2 summarize the concentrations of target volatile organic compounds (VOCs) detected in SV samples collected over time at the Building A Plating Shop and Building C Basement, respectively. SV samples were previously collected in March 2006 (as part of the site characterization study [Tetra Tech, 2006a]), in December 2006, April 2007, October 2007 (as part of the IAQ investigation [Tetra Tech 2007, 2008a, and 2008b]), in July and November 2008 (as part of the operation of the SSD systems [Tetra Tech, 2008c]), and in October 2009, August 2010, October 2010, February 2011 and August 2011 (as part of the vapor intrusion investigations). These tables also report the percent change in contaminant concentrations between the March 2006 sampling and the most recent sampling event at each location. As illustrated in Tables 4-1 and 4-2, the February 2012 SV concentrations of trichloroethene (TCE) and other VOCs at 015-A and 018-A in Building A, and 001-C in Building C are considerably lower than the concentrations measured before startup of the SSD systems on March 31, 2008,

and are lower than those measured before the SSD system-expansion startup in October 2010. (Location 018-A was not influenced by the Building A SSD system until the system expansion, because it is in the basement and more than 10 feet deeper than the Building A SSD system's original trenches.)

Four additional SV monitoring points were added to the Building A SSD system in October 2010. These new locations (SV-19-A, SV-20-A, SV-21-A, and SV-22-A) and previously installed SV points are shown in Figure 8 of Appendix G. Building C SSD-system SV monitoring points are shown in Figure 9 in the same appendix. These points are checked biweekly for vacuum influence from the SSD system. Three selected points at each system—different points for each round—were monitored monthly (reduced to quarterly as of December 2011) for continuous 24-hour vacuum influence readings. The 24-hour monitoring results confirm the findings of the multiple biweekly checks, showing that vacuum influence is widespread and consistent. Vacuum levels typically stay within a 0.08-inch water column (inch WC) range during the 24-hour period, as discussed in Section 2.3 of Appendix G (vacuum data are in Appendix C of the Appendix G progress report).

The Building A SSD system was expanded in October 2010. Two new extraction trenches were constructed in the Building A Basement near 018-A and connected to the existing Building A SSD system. Extraction began in late October 2010. The Building A SSD system was also upsized from two 200-pound (lb) granular activated carbon (GAC) units to two 400-lb GAC units, and the flow rate increased from approximately 100 cubic feet per minute (cfm) to 160 cfm, with the larger GAC units contributing less head-loss. Four of the VMPs mentioned above were added in the Building A Basement to monitor the new area induced vacuum.

4.2 SSD SYSTEM INFLUENT VAPOR SAMPLES

SSD-system vapor samples were collected monthly in 2011 and 2012 as part of the Building A Plating Shop and Building C Basement systems operation. VOC concentrations in the GAC influent, midpoint (after the lead unit), and effluent (after the second unit) are monitored to determine when the midpoint concentration reaches 50% of the influent, so change-out of the lead GAC unit can be scheduled. These samples also allow monitoring of trends in system influent concentrations over time. Samples were collected directly from the sampling ports at the influent, midpoint, and effluent of the carbon units for both SSD systems by connecting a clean

one-liter Summa® canister to the Teflon® tubing of each sampling port, and opening the valve for approximately one minute. Samples were submitted to TestAmerica Laboratories, Inc. in Knoxville, Tennessee for VOC analysis by United States Environmental Protection Agency (USEPA) Method TO-15.

Table 4-3 summarizes the detected concentrations of target VOCs in the influent-vapor samples collected from system startup in March 2008 through March 2012 for both SSD systems. This table also reports the percent change in contaminant concentrations from the initial March 2008 to the most recent March 2012 sampling events. (For non-detect results, a value of 1 microgram per cubic meter [µg/m^3] was used in the percent change calculation.) Figures 10 and 11 in Appendix G illustrate these results.

As shown in Table 4-3, the Mach 2012 influent concentrations of TCE and other VOCs for both systems are considerably lower than the concentrations measured in March 2008, at startup of the SSD systems. Extraction from the Building A Basement trenches was added in October 2010; about 60 standard cubic feet per minute (scfm) is drawn from those trenches. Higher vapor concentrations were expected from the basement trenches than from the Building A plating shop, because the SSD system had been operating for more than two years; however, the influent data show similar concentrations before and after system expansion. Since system startup on March 31, 2008, total VOCs have decreased from 94,310 to 2,320 µg/m^3 in Building A system influent (the current influent concentration includes the basement of Building A, whereas the March 2008 concentration does not), and from 31,170 to 167 µg/m^3 in the Building C system influent.

The reported concentrations were also used to calculate mass-removal rates. Over the past 12 months, VOC removal rates have ranged from 0.025–0.073 pounds per day (lbs/day) in Building A. The Building A system has removed 74.5 lbs of VOCs since system startup in March 2008. In Building C, VOC-mass removal rates range from 0.0002–0.0031 lbs/day over the past 12 months. The Building C system has removed 5.21 lbs of VOCs since system startup in March 2008.

The SSD systems are performing as designed. The Building A system has induced vacuum influence above 0.05 inches WC over an approximately 70-foot by 80-foot area encompassing the

plating shop. The Building A system has induced vacuum influence over an approximately 80-foot by 25-foot area in the basement below the plating shop since the system was extended in October 2010. The Building C Basement system has induced vacuum influence over an approximately 50-foot by 80-foot area. These systems have removed VOC mass and treated emissions with GAC.

During the lifespan of system operation, 23 200-lb GAC units and one 400-lb GAC unit have been used for the Building A system. Twelve 200-lb GAC units have been used for the Building C system. The Building A system has used approximately 67 lbs of GAC per pound of VOCs removed, and the Building C system has used 460 pounds of GAC per pound of VOCs removed. The lower efficiency of the Building C system is expected, due to the lower influent VOC concentrations; VOC removal by GAC is typically greater for higher vapor concentrations. Further information regarding system performance can be found in the *Remedial Action Progress Report* (Tetra Tech, 2011d)). The twelfth progress report, for the period from October 1, 2011 to March 31, 2012, is included here as Appendix G.

Table 4-1

Summary of Positive Detects for Vapor Samples
Building A Plating Shop
Lockheed Martin Corporation, Middle River Complex
Middle River, Maryland

Volatiles (ug/m3)	**SV-11**							**SV-12**						
Sample ID:	SV-11	SV-11	SV-11	SV-11	SV-11	Δ	%Δ	SV-12	SV-12	SV-12	SV-12	SV-11	Δ	%Δ
Sample Date:	Mar-06	Jul-08	Nov-08	Oct-09	Feb-12	(Mar-06 to	(Mar-06 to	Mar-06	Jul-08	Nov-08	Oct-09	Feb-12	(Mar-06 to	(Mar-06 to
Location:	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	Nov-08)	Nov-08)	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	Nov-08)	Nov-08)
1,1-Dichloroethane	8070	12000	4600	NS	NS	**-3470.0**	**-43.0**	26900	2400	11000	NS	NS	**-15900.0**	**-59.1**
1,1-Dichloroethene	--	3900	1900	NS	NS	NA	NA	--	1800	9900	NS	NS	NA	NA
1,1,1-Trichloroethane	--	--	--	NS	NS	NA	NA	--	780	3700	NS	NS	NA	NA
1,2,4-Trichlorobenzene	--	--	--	NS	NS	NA	NA	--	--	--	NS	NS	NA	NA
Chloroethane	--	460	--	NS	NS	NA	NA	--	--	--	NS	NS	NA	NA
Methylene chloride	--	--	4800	NS	NS	NA	NA	--		--	NS	NS	NA	NA
Benzene	257 J	--	--	NS	NS	NA	NA	60.6 J	--	--	NS	NS	NA	NA
Carbon tetrachloride	--	--	--	NS	NS	NA	NA	7.9 J	--	--	NS	NS	NA	NA
Chloroform	10.7 J	--	--	NS	NS	NA	NA	54.5 J	--	--	NS	NS	NA	NA
cis-1,2-Dichloroethene	163000 J	79000	31000	NS	NS	**-132000.0**	**-81.0**	18800	1200	2900	NS	NS	**-15900.0**	**-84.6**
Dichlorodifluoromethane	--	--	--	NS	NS	NA	NA	--	--	--	NS	NS	NA	NA
Ethylbenzene	75.9	--	--	NS	NS	NA	NA	44 J	--	--	NS	NS	NA	NA
Methyl tert-butyl ether	425 J	--	NA	NS	NS	NA	NA	206 J	--	NA	NS	NS	NA	NA
Tetrachloroethene	387	--	--	NS	NS	NA	NA	181 J	--	--	NS	NS	NA	NA
Toluene	309	500	--	NS	NS	NA	NA	119 J	--	--	NS	NS	NA	NA
Total Xylenes	227	--	--	NS	NS	NA	NA	340 J	--	--	NS	NS	NA	NA
trans-1,2-Dichloroethene	1980 J	--	--	NS	NS	NA	NA	240 J	--	--	NS	NS	NA	NA
Trichloroethene	2150 J	2800	850	NS	NS	**-1300.0**	**-60.5**	81400	3500	6800	NS	NS	**-74600.0**	**-91.6**
Vinyl chloride	727 J	--	--	NS	NS	NA	NA	42 J	--	--	NS	NS	NA	NA

SV - soil vapor
J - estimated
-- - not detected

NA - not applicable
%Δ - Percentage increase or decrease pre- versus post-remediation

Table 4-1

Summary of Positive Detects for Vapor Samples
Building A Plating Shop
Lockheed Martin Corporation, Middle River Complex
Middle River, Maryland

Volatiles (ug/m3)	**SV-13**										
Sample ID:	SV-13	SV-13	SV-13D	SV-13	SV-13	SV-13	SV-13	SV-13	SV-13	Δ	%Δ
Sample Date:	Mar-06	Dec-06	Dec-06	Apr-07	Oct-07	Jul-08	Nov-08	Oct-09	Feb-12	(Apr-07 to Nov-08)	(Apr-07 to Nov-08)
Location:	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A		
1,1-Dichloroethane	17900	9080	9360	11000	3400	200	--	NS	NS	NA	NA
1,1-Dichloroethene	--	--	--	--	--	520	16	NS	NS	NA	NA
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	NS	NS	NA	NA
1,1,1-Trichloroethane	--	--	--	--	--	550	--	NS	NS	NA	NA
Methylene chloride	--	--	--	--	--	--	20	NS	NS	NA	NA
Benzene	61.2 J	81.6	88.3	--	--	--	--	NS	NS	NA	NA
Carbon tetrachloride	--	--	--	--	--	--	--	NS	NS	NA	NA
Chloroform	59.1	84.7 J	95.6 J	64.5 J	--	--	--	NS	NS	NA	NA
cis-1,2-Dichloroethene	230000 J	242000	234000	292000	15000	3800	47	NS	NS	**-291953.0**	**-99.98**
Dichlorodifluoromethane	--	--	--	--	--	--	--	NS	NS	NA	NA
Ethylbenzene	26.8 B	--	--	--	--	--	--	NS	NS	NA	NA
Methyl tert-butyl ether	155 J	--	--	--	--	NA	NA	NS	NS	NA	NA
Tetrachloroethene	215	178	195	166 J	--	--	--	NS	NS	NA	NA
Toluene	69.5	--	--	--	1100	--	170	NS	NS	***+ 101.0***	**144.60**
Total Xylenes	82.9 J	--	--	--	--	--	15	NS	NS	***- 67.9***	**-81.91**
trans-1,2-Dichloroethene	1190 J	3160	3470	4650	--	--	--	NS	NS	NA	NA
Trichloroethene	270000 J	369000	352000	326000	820	4700	46	NS	NS	**- 325954.0**	**-99.99**
Vinyl chloride	182 J	618	701	549	--	--	--	NS	NS	NA	NA

SV - soil vapor
D - duplicate
J - estimated
-- - not detected (below detection limit)

NA - not applicable
Δ - increase or decrease pre- versis post-remediation

italisized - April 2007 data not available. Calculation uses next available data prior to system chart

Table 4-1

Summary of Positive Detects for Vapor Samples
Building A Plating Shop
Lockheed Martin Corporation, Middle River Complex
Middle River, Maryland
Page 3 of 5

Volatiles (ug/m3)	**SV-15**											
Sample ID:	SV-15	SV-15	SV-15	SV-15	SV-15D	SV-15	SV-15	SV-15	SV-15	SV-15	Δ (Apr-07 to Feb-12)	%Δ (Apr-07 to Feb-12)
Sample Date:	Mar-06	Dec-06	Apr-07	Oct-07	Oct-07	Jul-08	Nov-08	Oct-09	Aug-10	Feb-12		
Location:	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A		
1,1-Dichloroethane	27700 J	2160	6010	5700	7600	320	480	0.43 J	58	65	**-5945**	**-98.9**
1,1-Dichloroethene	--	--	--	--	--	3400	6400	3.4	1200	780	NA	NA
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	NA	NA
1,1,1-Trichloroethane	--	--	--	--	--	9800	2500	--	--	840	NA	NA
Benzene	50.6 J	21.7 J	--	--	--	--	--	--	--	--	NA	NA
Carbon tetrachloride	6.3 J	--	--	--	--	--	--	--	--	--	NA	NA
Chloroform	63.4 J	67.7	109	--	--	--	--	--	-- J	--	NA	NA
cis-1,2-Dichloroethene	118000 J	83800	167000	140000	190000	7800	20000	36	1800	1100	**-165900**	**-99.3**
Dichlorodifluoromethane	--	--	--	--	--	--	--	3.2 J	--	--	NA	NA
Ethylbenzene	794 J	43.4 J	--	--	--	--	--	4.6	--	--	NA	NA
Methyl tert-butyl ether	1050 J	18.8 J	--	--	--	NA	NA	--	--	--	NA	NA
Tetrachloroethene	346 J	54.9 J	98.5	--	--	--	--	--	--	--	NA	NA
Toluene	431 J	16 J	14.8 J	--	--	--	480	210	14	47	**32.2**	**217.6**
Total Xylenes	5150 J	--	--	--	--	--	310	13.9	0.7	--	NA	NA
trans-1,2-Dichloroethene	1370 J	1430	4660	2100	3200	--	--	--	99	46	**-4614**	**-99.0**
Trichloroethene	154000 J	161000	326000	150000	220000	17000	12000	8.1	1300	2400	**-323600**	**-99.3**
Vinyl chloride	100 J	210	491	--	--	--	--	--	9.8	--	NA	NA

SV - soil vapor
D - duplicate
J - estimated
-- - not detected (below detection limit)

NA - not applicable
Δ - increase or decrease pre- versis post-remediation
U - nondetect

Table 4-1

Summary of Positive Detects for Vapor Samples
Building A Plating Shop
Lockheed Martin Corporation, Middle River Complex
Middle River, Maryland

Volatiles (ug/m3)	**SV-16**									**SV-17**					
Sample ID:	SV-16		SV-16	SV-16	SV-16		SV-16	Δ	%Δ	SV-17	SV-17	SV-17	SV-17	Δ	%Δ
Sample Date:	Mar-06		Jul-08	Nov-08	Oct-10		Feb-12	(Apr-07 to Oct -10)	(Apr-07 to Oct-10)	Mar-06	Nov-08	Oct-09	Feb-12	(Apr-07 to Oct-09)	(Apr-07 to Oct-09)
Location:	BLDG A		BLDG A	BLDG A	BLDG A		BLDG A			BLDG A	BLDG A	BLDG A	BLDG A		
1,1-Dichloroethane	42700	J	180	1400	40		NS	**-42660**	**99.9**	5.6	47	6.7	NS	**+ 1.1**	**19.6**
1,1-Dichloroethene	--		2100	18000	770		NS	**-1330**	**63.3**	--	38	6	NS	NA	NA
1,2,4-Trichlorobenzene	--		--	--	--		NS	NA	NA	--	--	--	NS	NA	NA
Chloroethane	--		--	53			NS	NA	NA	--	--	--	NS	NA	NA
1,1,1-Trichloroethane	--		67	420	5.7	J	NS	**-61.3**	**91.5**	--	21	--	NS	NA	NA
Benzene	46.1	J	--	--	--		NS	NA	NA	0.9 J	--	0.41	NS	**+ 0.5**	**-54.4**
Carbon tetrachloride	10.7	J	--	--	--		NS	NA	NA	0.8 J	--	0.53	NS	**- 0.3**	**-33.8**
Chloroform	47.4	J	--	--	--		NS	NA	NA	1.1 J	78	27	NS	**+ 25.9**	**2354.5**
cis-1,2-Dichloroethene	5820		710	3000	88		NS	**-5732**	**98.5**	43.8	8	2.4	NS	**- 41.4**	**-94.5**
Dichlorodifluoromethane	--		--	--			NS	NA	NA	2.8	--	2.8	NS	0	**0.0**
Ethylbenzene	19.2	B	--	--	--		NS	NA	NA	0.5 B	--	3.3	NS	**+ 2.8**	**560.0**
Methyl tert-butyl ether	1490	J	--	--	--		NS	NA	NA	0.7 J	NA	0.51 J	NS	**- 0.2**	**-27.1**
Tetrachloroethene	514	J	--	--	--		NS	NA	NA	0.7 J	--	0.81	NS	**+ 0.1**	**15.7**
Toluene	30.8	B	--	--	7.9	J	NS	**-22.9**	**74.4**	2.3	--	58	NS	**+ 55.7**	**2421.7**
Total Xylenes	68.1	J	--	--	--		NS	NA	NA	1.7 J	--	11.3	NS	**+ 9.6**	**564.7**
trans-1,2-Dichloroethene	297	J	--	--	9.7		NS	**-287.3**	**96.7**	0.7 J	--	0.2 J	NS	**- 0.5**	**-71.4**
Trichloroethene	6870		1300	3700	130		NS	**-6740**	**98.1**	60.4	310	67	NS	**+ 6.6**	**10.9**
Vinyl chloride	124	J	--	63	6.4		NS	**-117.6**	**94.8**	--	--	0.1 J	NS	NA	NA
	58037.3				1057.7										

SV - soil vapor
J - estimated
B - blank contamination
-- - not detected
NA - not applicable
NS - not sampled
Δ - increase or decrease pre- versis post-remediation
0.9817755

Table 4-1

Summary of Positive Detects for Vapor Samples
Building A Plating Shop
Lockheed Martin Corporation, Middle River Complex
Middle River, Maryland

Volatiles (ug/m3)	**SV-18**											
Sample ID:	SV-18	SV-18	SV-18	SV-18	SV-18D	SV-18	SV-18	SV-18	SV-18		Δ (Apr-07 to Feb-12)	%Δ (Apr-07 to Feb-12)
Sample Date:	Mar-06	Dec-06	Apr-07	Oct-07	Oct-07	Nov-08	Oct-09	Aug-10	Feb-12			
Location:	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A			
1,1-Dichloroethane	9550 J	1750	78600	10	76000	44000	1100	750	1300		**-77300**	**-98.3**
1,1-Dichloroethene	--	--	--	--	--	1500000	43000	32000	69000		**-1431000**	**-95.4**
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--		NA	NA
Benzene	1.5 J	--	--	--	--	--	--	--	--		NA	NA
Carbon tetrachloride	1.8 J	17.3	337	--	--	--	--	--	--		NA	NA
Chloroform	5.7	8.8 J	316	--	--	--	--	--	--		NA	NA
cis-1,2-Dichloroethene	2040 J	6270	232000	30	250000	170000	4400	3200	6700		**-225300**	**-97.1**
Dichlorodifluoromethane	--	--	--	--	--	--	--	--	--		NA	NA
Ethylbenzene	0.8 J	--	--	--	--	--	--	--	--		NA	NA
Methyl tert-butyl ether	14.4	5.3 J	--	--	--	--	--	--	--		NA	NA
Tetrachloroethene	9.9	91.2	4470	--	--	--	--	--	--		NA	NA
Toluene	1.6 B	2.1 J	29.6 J	--	--	--	--	--	--		NA	NA
Total Xylenes	2.5 J	--	--	--	--	--	500	--	--		NA	NA
trans-1,2-Dichloroethene	15.4	113	4160	--	--	--	--	--	--		NA	NA
Trichloroethene	20900 J	162000	6200000	330	3900000	2700000	63000	64000	83000		**-6117000**	**-98.7**
Vinyl chloride	7	91.2	1850	--	--	--	--	--	300 J		**-1550**	**-83.8**

SV - soil vapor
D - duplicate
J - estimated
-- not detected, below detection limit

NS - not sampled
NA - not applicable
Δ - increase or decrease pre- versis post-remediation
italisized - April 2007 data not available. Calculation uses next available data prior to system chart

Table 4-2

Summary of Positive Detects for Vapor Samples
Building C Basement Area
Lockheed Martin Corporation, Middle River Complex
Middle River, Maryland

Volatiles (ug/m3)	**SV-1**											
Sample ID:	SV-1	SV-1D	SV-1	SV-1	SV-1	SV-1	SV-1	SV-1	SV-1	SV-1	Δ (Apr-07 to Feb-12)	%Δ (Apr-07 to Feb-12)
Sample Date:	Mar-06	Mar-06	Dec-06	Apr-07	Oct-07	Jul-08	Nov-08	Oct-09	Aug-10	Feb-12		
Location:	BLDG C	BLDG C	BLDG C	BLDG C	BLDG C	BLDG C	BLDG C	BLDG C	BLDG C	BLDG C		
1,1-Dichloroethane	5410	2960	--	--	--	--	--		--	--	NA	NA
1,1-Dichloroethene	--	--	--	--	--	24	39	1 J	--	--	NA	NA
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--		--	--	NA	NA
Benzene	--	33.4 J	--	--	--	--	--		--	--	NA	NA
Carbon tetrachloride	--	--	--	--	--	--	--		--	--	NA	NA
Chloroform	86.8 J	56.8 J	--	--	--	--	--	7.4	18	5	**-51.8**	**-91.2**
cis-1,2-Dichloroethene	792000 J	840000 J	481000	1550000	260000	1100	3300	230	360	100	**-1549900.0**	**-100.0**
Dichlorodifluoromethane	--	--	--	--	--	--	--	2.2 J	--	2.4 J	NA	NA
Ethylbenzene	39.3 B	34.8 B	--	--	--	--	--		--	--	NA	NA
Methyl tert-butyl ether	332	238	--	--	--	NA	NA		--	--	NA	NA
Styrene	--	--	--	--	--	13	--		--	--	NA	NA
Tetrachloroethene	107 J	100 J	158 J	136 J	--	--	--	3 J	6.2 J	1.8 J	**-134.2**	**-98.7**
Toluene	103 B	86.8	--	--	--	--	--		--	1.2 J	NA	NA
Total Xylenes	68.7 J	81.5 J	--	--	--	--	--	3.2	18.6	--	NA	NA
trans-1,2-Dichloroethene	5180	2580	5200	5930	3500	--	--	49	88	18	**-5912.0**	**-99.7**
Trichloroethene	19200	16400 J	19600	21100	8500	450	850	330	620	160	**-20940.0**	**-99.2**
Vinyl chloride	1320	542	761	578	--	58	40	--	--	--	NA	NA

SV - soil vapor
D - duplicate
J - estimated
B - blank contamination
-- not detected

NA - not applicable
Δ - increase or decrease pre- versis post-remediation
italisized - April 2007 data not available. Calculation uses next available data prior to system chart

Table 4-2

Summary of Positive Detects for Vapor Samples
Building C Basement Area
Lockheed Martin Corporation, Middle River Complex
Middle River, Maryland

Volatiles (ug/m3)	**SV-2**					**SV-3**				
Sample ID:	SV-2	SV-2	SV-2	Δ	%Δ	SV-3	SV-3	SV-3	Δ	%Δ
Sample Date:	Mar-06	Jul-08	Nov-08	(Mar-06 to Nov-08)	(Mar-06 to Nov-08)	Mar-06	Jul-08	Nov-08	(Mar-06 to Nov-08)	(Mar-06 to Nov-08)
Location:	BLDG C	BLDG C	BLDG C			BLDG C	BLDG C	BLDG C		
1,1-Dichloroethane	10.6 B	--	--	NA	NA	3.4 B	--	--	NA	NA
1,2,4-Trichlorobenzene	--	--	--	NA	NA	--	--	--	NA	NA
Methylene chloride	--	44	--	NA	NA	--	--	--	NA	NA
Benzene	18.3 J	--	8.4	**- 9.9**	**-54.1**	6.7 J	64	--	NA	NA
Carbon tetrachloride	--	--	--	NA	NA	1.8 J	--	--	NA	NA
Chloroform	552 J	--	18	**- 534**	**-96.7**	66	--	--	NA	NA
cis-1,2-Dichloroethene	320 J	22	350	**+ 30**	**9.4**	93	--	8.5	**- 84.5**	**-90.9**
Dichlorodifluoromethane	4.5 J	--	--	NA	NA	--	--	--	NA	NA
Ethylbenzene	38.2 J	--	--	NA	NA	19	--	--	NA	NA
Methyl tert-butyl ether	1000	NA	NA	NA	NA	469	--	--	NA	NA
Tetrachloroethene	174 J	--	--	NA	NA	388	--	14	**- 374**	**-96.4**
Toluene	65.9 J	14	--	NA	NA	18.8	--	NA	NA	NA
Total Xylenes	95.5 J	--	--	NA	NA	70.9	--	--	NA	NA
trans-1,2-Dichloroethene	20.9 J	--	--	NA	NA	24.4	--	--	NA	NA
Trichloroethene	408 J	55	770	**+ 362**	**88.7**	2130	49	60	**- 2070**	**-97.2**
Vinyl chloride	15.9 J	--	--	NA	NA	--	--	--	NA	NA

SV - soil vapor
B - blank contamination
J - estimated
-- not detected (below detection limit)

NA - not applicable
Δ - increase or decrease pre- versis post-remediation

Table 4-2

Summary of Positive Detects for Vapor Samples
Building C Basement Area
Lockheed Martin Corporation, Middle River Complex
Middle River, Maryland

Volatiles (ug/m3)	**SV-4**							
Sample ID:	SV-4	SV-4	SV-4	SV-4	SV-4	SV-4	Δ (Apr-07 to Nov-08)	%Δ (Apr-07 to Nov-08)
Sample Date:	Mar-06	Dec-06	Apr-07	Oct-07	Jul-08	Nov-08		
Location:	BLDG C	BLDG C	BLDG C	BLDG C	BLDG C	BLDG C		
1,1-Dichloroethane	1010	--	--	--	--	--	NA	NA
1,1-Dichloroethene	--	--	--	--	9.7	9.9	NA	NA
1,2,4-Trichlorobenzene	--	--	--	--	--	--	NA	NA
Methylene chloride	--	--	--	--	--	36	NA	NA
Benzene	51.2	50	71.2	--	--	--	NA	NA
Carbon tetrachloride	--	--	--	--	--	--	NA	NA
Chloroform	131	7 J	--	--	270	240	***+ 233***	***3328.6***
cis-1,2-Dichloroethene	65800	79300	58100	11000	650	520	**- 57580**	**-99.1**
Dichlorodifluoromethane	--	--	--	--	--	--	NA	NA
Ethylbenzene	58.9	4.3 J	4 J	--	--	--	NA	NA
Methyl tert-butyl ether	420	--	--	--	--	NA	NA	NA
Tetrachloroethene	72.1	33.9	33.8 J	--	--	--	NA	NA
Toluene	211	51.2	72.1	210	--	--	NA	NA
Total Xylenes	264	--	--	--	--	--	NA	NA
trans-1,2-Dichloroethene	1020	661	759	140	--	--	NA	NA
Trichloroethene	14400	28300	16500	2700	430	300	**- 16200**	**-98.2**
Vinyl chloride	663	381	609	--	16	13	**- 596**	**-97.9**

SV - soil vapor
D - duplicate
J - estimated
-- - not detected

NA - not applicable
Δ - increase or decrease pre- versis post-remediation
italicized - April 2007 data not available. Calculation uses next available data prior to

Table 4-2

Summary of Positive Detects for Vapor Samples
Building C Basement Area
Lockheed Martin Corporation, Middle River Complex
Middle River, Maryland

Volatiles (ug/m3)	**SV-5**								**SV-6**			
Sample ID:	SV-5	SV-5	SV-5		SV-5		Δ (Mar-06 to Aug-10)	%Δ (Mar-06 to Aug-10)	SV-6	SV-6	Δ (Mar-06 to Nov-08)	%Δ (Mar-06 to Nov-08)
Sample Date:	Mar-06	Nov-08	Oct-09		Aug-10				Mar-06	Nov-08		
Location:	BLDG C	BLDG C	BLDG C		BLDG C				BLDG C	BLDG C		
1,1-Dichloroethane	--	--	--		0.12	J	NA	NA	0.5 B	--	NA	NA
1,2,4-Trichlorobenzene	--	--	--		--		NA	NA	--	--	NA	NA
1,2,4-Trimethylbenzene	--	--	--		--		NA	NA	--	12	NA	NA
Benzene	9 J	--	0.36		0.39		**-8.61**	**-95.7**	23.5 J	--	NA	NA
Trichlorofluormethane	--	19	--		--		NA	NA	--	--	NA	NA
Methylene chloride	--	--	--		0.58	J	NA	NA	--	52	NA	NA
Carbon tetrachloride	0.9 J	--	0.44	J	0.61		**-0.29**	**-32.2**	1.4 J	--	NA	NA
Chloroform	286	15	8.5		13		**-273**	**-95.5**	390	--	NA	NA
cis-1,2-Dichloroethene	0.8 B	--	--		--		NA	NA	2.7 B	--	NA	NA
Dichlorodifluoromethane	3.1 J	--	3.7		0.73		**-2.37**	**-76.5**	2.6 J	--	NA	NA
Ethylbenzene	93.6 J	--	0.24	J	0.41		**-93.19**	**-99.6**	164 J	--	NA	NA
Methyl tert-butyl ether	572	NA	--		--		NA	NA	416	NA	NA	NA
Tetrachloroethene	82.9 J	64	66		110		**27.1**	**32.7**	76.3 J	42	**- 34.3**	**-45.0**
Toluene	157 J	--	0.53		0.56		**-156.44**	**-99.6**	249	--	NA	NA
Total Xylenes	407 J	--	1.08		1.64	J	**-405.36**	**-99.6**	935	--	NA	NA
trans-1,2-Dichloroethene	--	--	--		--		NA	NA	--	--	NA	NA
Trichloroethene	2 B	--	0.94		2.6		**0.6**	**30.0**	5.1 B	--	NA	NA
Vinyl chloride	--	--	--		--		NA	NA	--	--	NA	NA

SV - soil vapor
D - duplicate
J - estimated
-- - not detected

Table 4-3

Building A and C SSD Extraction Points
Lockheed Martin Middle River Complex
Middle River, Maryland
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Volatiles (ug/m3)	**Building A**										
Sample ID:	Influent	Influent	Influent	Influent	Influent	Influent	Influent	Influent	Influent	Influent	%Δ (Mar-08 to Mar-12)
Sample Date:	Mar-08	Jul-08	Nov-08	Oct-09	Dec-09	Apr-10	Sep-10	Mar-11	Sep-11	Mar-12	
Location:	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	BLDG A	
1,1-Dichloroethane	2,100	110	300	64	48	41	35	98	29	36	**-98.3**
1,1-Dichloroethene	7,900	430	1100	210	180	160	150	350	130	130	**-98.4**
1,1,1-Trichloroethane	30000	3200	6500	1500	1100	1100	860	2800	750	880	**-97.1**
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	NA
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	NA
Benzene	--	--	--	--	--	--	--	--	12	--	NA
cis-1,2-Dichloroethene	8300	350	1300	230	190	160	140	390	130	160	**-98.1**
Ethylbenzene	300	--	--	--	--	--	--	19	--	--	NA
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	NA
m-Xylene & p-Xylene	1100	--	--	9.7	--	--	--	61	--	--	NA
o-Xylene	280	--	--	--	--	--	--	--	--	--	NA
Tetrachloroethene	--	--	--	--	--	--	--	--	--	--	NA
Toluene	330	--	72	20	39	--	29	23	11	14	**-95.8**
Trichloroethene	44000	3700	7200	1400	1300	1000	1100	2500	990	1100	**-97.5**
Trichlorofluoromethane	--	--	--	--	--	--	20	20	12	--	NA
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--	NA

Table 4-3

Building A and C SSD Extraction Points
Lockheed Martin Middle River Complex
Middle River, Maryland

Volatiles (ug/m3)	**Building C**										
Sample ID:	Influent	Influent	Influent	Influent	Influent	Influent	Influent	Influent	Influent	Influent	%Δ (Mar-08 to Mar-12)
Sample Date:	Mar-08	Jul-08	Nov-08	Oct-09	Dec-09	Apr-10	Sep-10	Mar-11	Sep-11	Mar-12	
Location:	BLDG C	BLDG C	BLDG C	BLDG C	BLDG C	BLDG C	BLDG C	BLDG C	BLDG C	BLDG C	
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	NA
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	NA
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	NA
1,2,4-Trimethylbenzene	990	45	--	--	--	--	--	--	--	--	**-99.9**
1,3,5-Trimethylbenzene	740	36	--	--	--	--	--	--	--	--	**-99.9**
Benzene	--	--	--	--	--	--	--	--	10	--	**NA**
cis-1,2-Dichloroethene	25000	1300	390	200	96	110	70	170	22	93	**-99.6**
Ethylbenzene	320	--	--	--	--	--	--	--	--	--	**-99.7**
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	NA
m-Xylene & p-Xylene	1100	--	--	--	8.7	--	--	--	--	--	**-99.9**
o-Xylene	370	--	--	--	--	--	--	--	--	--	**-98.8**
Tetrachloroethene	--	14	--	--	--	--	--	110	--	16	NA
Toluene	--	--	--	--	26	--	--	34	--	--	NA
Trichloroethene	550	440	110	64	45	39	33	180	--	58	**-89.5**
Trichlorofluoromethane	--	--	--	--	--	--	--	--	--	--	NA
Vinyl Chloride	2100	35	17	--	--	--	--	--	--	--	**-100.0**

SV - soil vapor
D - duplicate
J - estimated
-- - not detected
NA - not applicable
%Δ - Percentage increase or decrease pre- versus post-remediation

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Section 5
Summary, Conclusions, and Recommendations

5.1 SUMMARY AND CONCLUSIONS

Tetra Tech, Inc. (Tetra Tech) has completed the first of two rounds of vapor intrusion monitoring (Round 12) scheduled for 2012 in Buildings A, B, and C at LMC Properties, Inc.'s (Lockheed Martin) Middle River Complex (MRC) in Middle River, Maryland. This ongoing investigation seeks to evaluate whether volatile organic compounds (VOCs) in sub-slab vapors associated with soil and groundwater contaminants of concern (COC) at the site might be migrating into indoor air at Middle River Complex facilities. The data set is comprised of indoor air (IA) and sub-slab vapor (SV) samples collected in February 2012 from interior locations in Buildings A, B, and C. Ambient air samples were collected at four background locations around the perimeter of the Middle River Complex. All data were validated to assure compliance with analytical method requirements.

The indoor air quality (IAQ) data (except trichloroethene [TCE] results) were compared to risk-based screening levels at the 10^{-5} (one in 100,000) risk level for industrial air, as set forth in the United States Environmental Protection Agency's (USEPA's) *Regional Screening Levels for Chemical Contaminants at Superfund Sites* (USEPA, 2008). Trichloroethene results were compared to a trichloroethene screening value for industrial air based on the new (September 28, 2011) USEPA toxicity values for trichloroethene (USEPA, 2011b). This value was used in anticipation of MDE adopting the updated USEPA guidance. SV data were compared to screening values derived using USEPA methods described in *Draft Guidance for Evaluating the Vapor-Intrusion to Indoor Air Pathway from Groundwater and Soils* (USEPA, 2002), by application of a 0.1 attenuation factor to the indoor air quality screening-values.

Results of the Round 12 indoor air quality/sub-slab vapor monitoring program led to the following conclusions:

Indoor-air quality—

1. As of February 2012, trichloroethene continues to be detected in indoor air; however, it was not found in any indoor-air quality sample at concentrations exceeding its indoor-air quality screening value of 8.8 µg/m^3. The maximum indoor-air concentrations of trichloroethene collected from consecutively sampled locations are higher in Round 12 than those observed in Round 11 (see Recommendation #1 below).

2. The sampling locations exhibiting the maximum indoor-air trichloroethene concentrations (although below the indoor air quality screening-level) in Buildings A, B, and C are at different locations than during the previous sampling round (Round 11). In Building A, the highest indoor-air trichloroethene concentration was collected from location 018-A, on the west side of the building near the plating shop, while in Round 11 the highest TCE concentration was measured at 093-A in the southern part of the Building A Basement and south of the sub-slab depressurization (SSD) unit. The highest indoor air concentration of trichloroethene in Building B was reported for location 101-B, in the west–central part of the building. In the previous round, the maximum indoor air concentration of trichloroethene in Building B was found at location 064-B, in the northeastern aspect of the Building B Basement. The highest indoor air concentration of trichloroethene in Building C was reported in 111-C, in the east–central area of the Building C Basement (CBC), whereas the last round's maximum was at location 113-C, which is in the west–central area of the Building C Basement (CBS) (see Recommendation #1).

Sub-slab vapor—

1. Trichloroethene was detected at concentrations above its sub-slab-vapor screening level of 88 µg/m^3 in five sub-slab vapor samples collected in Building A: 015-A, 018-A, 079-A, 108-A, and 118-A. Sampling location 079-A is approximately 175 feet south–southeast of the Building A Plating Shop and sub-slab depressurization unit; 015-A and 018-A are within the Building A sub-slab depressurization unit's area of influence; and 108-A and 118-A are approximately 50 feet east and southeast of 015-A. In Round 11, trichloroethene exceeded its screening level only at locations 015-A, 018-A, and 079-A, and was highest at 018-A. During Round 12, trichloroethene was again highest at location 018-A. Recurring high concentrations at location 018-A may indicate that the SSD system is mobilizing and subsequently treating elevated concentrations of trichloroethene. Trichloroethene found at 079-A may be associated with an isolated source; however, installation of an additional vapor monitoring point and sampling (to the south) may be required to further clarify this uncertainty. The historical data plots in Appendix F show increases in trichloroethene sub-slab vapor concentrations versus time at locations 015-A and 018-A, both associated with the Building A Plating Shop (See Recommendation #1).

2. Trichloroethene was detected above its SV screening level in only one sub-slab vapor sample collected in Building B, 121-B, collected in the west–central part of the building. Round 12 is the first time this location was sampled to characterize TCE concentrations

east of 101-B. Since these locations have only been sampled together once, conclusions about common sources cannot be made. To examine trends, these locations may need to be sampled together again. New VMPs to the north and south of 121-B are also recommended (see Recommendation #3).

Trichloroethene was detected in sub-slab vapor above its screening level at 12 locations of known sub-slab contamination in the Building C Basement. The highest result was detected in a sample from location 127-C, in the center portion of the Building C Basement (CBC) in the main north–south corridor on the eastern side of the building near 060-C. This sample had the highest SV TCE concentration in Round 11. Location 127-C is a new location not previously sampled. The sub-slab vapor results from Building C appear to indicate that trichloroethene contamination is distributed along an approximate northeast to southwest transect, from locations 126-C to 044-C. In Round 12, these locations appeared to be on the outer edges of this plume, to the northwest and southeast, respectively, because trichloroethene was not detected at location 125-C north of 126-C, and has been detected only at low concentrations at locations 010-C and 009-C south of 044-C. These data indicate that trichloroethene contamination in this area may be associated with a localized source separate from the known source at the southern end of the basement. This contamination may be moving toward sewer lift station L-27 at the southwestern side of the Building C Basement. Continued monitoring will be required to better delineate this contamination (see Recommendation #1).

3. Two locations (015-A and 018-A) that have been historically sampled in the Building A Plating Shop appeared to show reductions in SV trichloroethene concentrations following the 2010 sampling events; however, the Round 11 and 12 results show an increase in TCE concentrations in this area.

4. In the Building C Basement during Round 11, a trichloroethene concentration of 12,000 µg/m^3 (136 times its screening level of 88 µg/m^3) was found at 060-C, in the east–central part of the Building C Basement. Though not the highest concentration of trichloroethene historically detected in the Building C Basement, it was the highest concentration of trichloroethene detected in SV outside of the known source area in the southern part of the Building C Basement. In Round 12, trichloroethene was detected at all 12 new sampling locations and exceeded its screening level at six of them: 126-C, 127-C, 129-C, 130-C, 133-C, and 135-C. Concentrations measured at 127-C and 133-C are the highest concentrations recorded in this area to date (see Recommendation #1).

5. Vinyl chloride was detected at an elevated concentration at location 126-C in the southern aspect of the Martin Museum in the eastern part of the Building C basement. Vinyl chloride was not detected in indoor air in any sample collected in the museum. The high concentration of vinyl chloride at this location may indicate an upgradient source of chlorinated solvent contamination, possibly outside the building. TCE was found in groundwater from MW-88 at a concentration of 1,200 micrograms per liter (µg/L) during the March–May 2011 sampling. This well is northeast of sampling location 126-C, outside the building. Additionally, in the 2009 Block I Phase II site investigation, TCE was reported in soil-gas sample SG-2, collected north of MW-88 (also outside the building), at a concentration of 20,000 µg/m^3 (see Recommendation #2).

6. Naphthalene exceeded its sub-slab vapor screening level at six locations (including four new locations) in Building A during Round 12, at concentrations ranging from 82 µg/m^3 to 520 µg/m^3. In Building B, naphthalene exceedances were detected at five sub-slab vapor locations (including three new locations), ranging from 99*J* µg/m^3 to 400 µg/m^3. In Building C, naphthalene exceedances were detected at 20 sub-slab vapor locations (including 11 new locations), ranging from 64*J* µg/m^3 to 4,300*J* µg/m^3. In the absence of a United States Environmental Protection Agency (USEPA) promulgated risk-based concentration for naphthalene, the USEPA "Regional Screening Levels" (used to interpret indoor air quality and sub-slab vapor results) default to a very low value (3.6 µg/m^3) developed by the California Environmental Protection Agency, the only state that has developed an inhalation-unit risk value for naphthalene. Thus, observations of naphthalene above its SV screening level may be more a function of the very low screening level rather than a contamination issue. Naphthalene concentrations will continue to be evaluated in future monitoring rounds (see Recommendation #1, below).

7. Chemical markers of possible sub-slab vapor intrusion (i.e., chlorinated-solvent degradation products) were found at low concentrations in four co-located indoor air quality and sub-slab vapor samples from Building A (018-A, 093-A, 109-A, and 116-A), but no such co-located pairs of chemical marker detections were observed in Buildings B and C. In Building A, the sampling locations are in the eastern edge of the central and southern portions of the building and are all outside that building's sub-slab depressurization unit's radius of influence, except for location 018-A. Chlorinated degradation-products were also found at low concentrations in several samples collected from Buildings A, B, and C, but were not detected in their co-located samples. That is, if the chemical markers were detected in indoor air quality samples, they were not detected in co-located sub-slab vapor samples, and vice versa. Pathways via which these chemical markers could migrate into indoor air are unknown, but this question will continue to be explored in future monitoring rounds (see Recommendation #1).

8. The sub-slab-depressurization mitigation systems appear to be operating as designed and appear effective in removing sub-slab VOCs and in mitigating sub-slab vapor intrusion from the two known source areas of sub-slab-vapor contamination.

9. Concentrations of trichloroethene and cis-1,2-DCE in sub-slab vapor at the southern portion of the Building C Basement have remained relatively consistent across the last three rounds of sampling. This may indicate that the Building C sub-slab depressurization system has reached or is close to reaching its maximum removal efficiency for these compounds (see Recommendation #6).

5.2 RECOMMENDATIONS

Results of the February 2012 Round 12 indoor air quality/sub-slab-vapor monitoring at Buildings A, B, and C lead us to make the following recommendations:

1. Continue semi-annual indoor air quality/sub-slab-vapor monitoring to evaluate the potential for vapor intrusion, the performance of the existing mitigation systems, and the potential need for expanded and/or additional sub-slab depressurization systems.

Subsequent monitoring rounds will continue to evaluate the effectiveness of the sub-slab depressurization systems and these results will be used to evaluate control and reduction (if occurring) of known sources, to identify new sources (if present), and to recommend additional mitigation, as necessary.

2. Further evaluate possible contaminant sources associated with potential vapor intrusion at locations both within and outside of the Block I buildings. Historical research underway to identify possible sources and conduits may assist in tying together findings from the vapor intrusion investigation and the groundwater investigation; however, further sampling may be indicated on the exterior east of Building C, and possibly in other areas as well.

3. Additional vapor monitoring points (VMPs) north and south of 121-B to better delineate sub-slab contamination in this area.

4. Additional vapor monitoring points may be necessary south of location 079-A to delineate the southern extent of sub-slab contamination at this point.

5. Review the site's facility-chemical inventory before the next round of sampling in August 2012 to evaluate any changes or additions of VOC-containing chemicals to site processes since 2011.

6. The most recent sub-slab data collected as part of this investigation and the sub-slab-depressurization system operations and maintenance results indicate that contaminant concentrations in the southern portion of the Building C basement are below specified action levels that would trigger shutdown testing (Tetra Tech, 2010d). We recommend a rebound test be started for the Building C SSD system.

7. Sub-slab VOC concentrations in the central portion of the Building C Basement argue for expansion of the existing Building C Basement SSD system to capture sub-slab vapors in this area to mitigate potential SV intrusion.

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Section 6
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APPENDIX A—CHAIN OF CUSTODY

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID:	IAQ Sample ID: Bck-1-12
SV Canister #:	IAQ Canister #: 8815 B
SV Regulator #:	IAQ Regulator #: K279
SV Start Time:	IAQ Start Time: 0815
SV Start Pressure:	IAQ Start Pressure: 0
SV Stop Time:	IAQ Stop Time: 1630
SV Stop Pressure:	IAQ Stop Pressure: 0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Regulator did not respond when valve opened. Removed & re-attached but guage still read zero

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID:	IAQ Sample ID: BCK-2-12
SV Canister #:	IAQ Canister #: 93297
SV Regulator #:	IAQ Regulator #: K345
SV Start Time:	IAQ Start Time: 0825
SV Start Pressure:	IAQ Start Pressure: -30
SV Stop Time:	IAQ Stop Time: 1628
SV Stop Pressure:	IAQ Stop Pressure: -3

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID:	IAQ Sample ID: BCK-3-12
SV Canister #:	IAQ Canister #: 93009
SV Regulator #:	IAQ Regulator #: K243
SV Start Time:	IAQ Start Time: 755
SV Start Pressure:	IAQ Start Pressure: -30
SV Stop Time:	IAQ Stop Time: ~~1640~~ 1620
SV Stop Pressure:	IAQ Stop Pressure: -3

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID:	IAQ Sample ID: BCK-4-12
SV Canister #:	IAQ Canister #: C104
SV Regulator #:	IAQ Regulator #: K474
SV Start Time:	IAQ Start Time: 0800
SV Start Pressure:	IAQ Start Pressure: -30
SV Stop Time:	IAQ Stop Time: 1624
SV Stop Pressure:	IAQ Stop Pressure: -5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-015-A / Dup 4-12	IAQ Sample ID: IA-015-A-12
SV Canister #: L8183 / L-5190	IAQ Canister #: 4497W
SV Regulator #: K223 / K137	IAQ Regulator #: K361
SV Start Time: 0935 / 0935	IAQ Start Time: 0838
SV Start Pressure: -30 / -28	IAQ Start Pressure: -30
SV Stop Time: 1051 / 1051	IAQ Stop Time: 1635 1637
SV Stop Pressure: 0 / 0	IAQ Stop Pressure: -4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: MRC
Date: 2/22/12
Project Number - Task: 112IC03953
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-018-A-12	IAQ Sample ID:	IA-018-A-12
SV Canister #:	L-A2062	IAQ Canister #:	2955
SV Regulator #:	K276	IAQ Regulator #:	K273
SV Start Time:	0930	IAQ Start Time:	0844
SV Start Pressure:	-28.9	IAQ Start Pressure:	-30
SV Stop Time:	1100	IAQ Stop Time:	1644
SV Stop Pressure:	0	IAQ Stop Pressure:	-4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: MBC

Date: 2/21/12

Project Number - Task:

Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: ~~SV-051-C-12~~	IAQ Sample ID: IA-051-C-12
SV Canister #: ~~L-5195~~ NA	IAQ Canister #: 93244
SV Regulator #: ~~K-382~~ NA	IAQ Regulator #: K094
SV Start Time:	IAQ Start Time: 0954
SV Start Pressure:	IAQ Start Pressure: -28.9
SV Stop Time:	IAQ Stop Time: 1722
SV Stop Pressure:	IAQ Stop Pressure: -5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

North past building C east corridor @ column T6

OBSERVATIONS / NOTES:

Water in VMP when opened. Water came up tubing during purging. Maintenance ascribed to GW or possible leak

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: 2012MRC FA-SV

Date: 2/22/12

Project Number - Task: _____

Sampled By: RS

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-075-A-12	IAQ Sample ID: IA-075A-12
SV Canister #: L-5122	IAQ Canister #: 0179
SV Regulator #: K358	IAQ Regulator #: K337
SV Start Time: 1005	IAQ Start Time: 745
SV Start Pressure: -30	IAQ Start Pressure: -30
SV Stop Time: 1104	IAQ Stop Time: 1549
SV Stop Pressure: -10	IAQ Stop Pressure: -2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Placed on ~~go~~ recycling container above floor

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-076-A-12	IAQ Sample ID: IA-076-A-12
SV Canister #: L-5164	IAQ Canister #: 0001
SV Regulator #: K150	IAQ Regulator #: K190
SV Start Time: @ 1000	IAQ Start Time: 750
SV Start Pressure: -28	IAQ Start Pressure: 0
SV Stop Time: 1101	IAQ Stop Time: @ 1552
SV Stop Pressure: 0	IAQ Stop Pressure: ~~1552~~ 0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Regulator guage did not move. Started @ zero
placed on equip ~ 4½ ft off floor 15 ft west of vmp

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-077-A12	IAQ Sample ID: IA-077-A-12
SV Canister #: 8182	IAQ Canister #: 7492
SV Regulator #: K171	IAQ Regulator #: K185
SV Start Time: 1012	IAQ Start Time: 0802
SV Start Pressure: -30	IAQ Start Pressure: -30
SV Stop Time: 1110	IAQ Stop Time: 1559
SV Stop Pressure: -2	IAQ Stop Pressure: -2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/22/12
Project Number - Task: 112TC05953
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-079-A-12 / SV-DUP-5-12	IAQ Sample ID:	HZ IA-079-A
SV Canister #:	L-5189 / L-A6910	IAQ Canister #:	6669
SV Regulator #:	K347 / K515	IAQ Regulator #:	K427
SV Start Time:	1010 / 1010	IAQ Start Time:	826
SV Start Pressure:	-29.2 / -29.2	IAQ Start Pressure:	-30
SV Stop Time:	1129 / 1129	IAQ Stop Time:	1620
SV Stop Pressure:	0 / 0	IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/22/12
Project Number - Task: 112IL03455
Sampled By: SRC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-093-A-12	IAQ Sample ID:	IA-093-A12 / DUP5
SV Canister #:	L-5150	IAQ Canister #:	12875 / 03775
SV Regulator #:	K463	IAQ Regulator #:	K093 / K348
SV Start Time:	0926	IAQ Start Time:	0936
SV Start Pressure:	-29.2	IAQ Start Pressure:	-28.9 / -28.8
SV Stop Time:	1058	IAQ Stop Time:	1654
SV Stop Pressure:	0	IAQ Stop Pressure:	-8

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: 2/22/12

Project Number - Task: _____ Sampled By: RS

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-094-A-12	IAQ Sample ID:	IA-094-A-12
SV Canister #:	L-A7060	IAQ Canister #:	12460
SV Regulator #:	K360	IAQ Regulator #:	K456
SV Start Time:	0949	IAQ Start Time:	0756
SV Start Pressure:	-29.2	IAQ Start Pressure:	-30
SV Stop Time:	1105	IAQ Stop Time:	1556
SV Stop Pressure:	-1	IAQ Stop Pressure:	-4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-096A-12	IAQ Sample ID: IA-096A-12
SV Canister #: 9712	IAQ Canister #: 1335N
SV Regulator #: K339	IAQ Regulator #: K111
SV Start Time: ~~843~~ 943	IAQ Start Time: 809
SV Start Pressure: -30	IAQ Start Pressure: -30
SV Stop Time: 1057	IAQ Stop Time: 1603
SV Stop Pressure: 0	IAQ Stop Pressure: -5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Placed ~ 4ft off ground on assembly jig

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/22/12
Project Number - Task: 112IC03953
Sampled By: SAC/RS

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-097-A-12	IAQ Sample ID:	IA-097-A-12
SV Canister #:	L3840	IAQ Canister #:	6366
SV Regulator #:	K178	IAQ Regulator #:	K434
SV Start Time:	1020	IAQ Start Time:	825
SV Start Pressure:	-29.2	IAQ Start Pressure:	-30
SV Stop Time:	1121	IAQ Stop Time:	1617
SV Stop Pressure:	0	IAQ Stop Pressure:	-4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/22/12
Project Number - Task: 112IC03953
Sampled By: SRC/RS

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-106-A-12	IAQ Sample ID:	IA-106-A-12
SV Canister #:	L-5107	IAQ Canister #:	12162
SV Regulator #:	K156	IAQ Regulator #:	K510
SV Start Time:	1152	IAQ Start Time:	0831
SV Start Pressure:	-29.2	IAQ Start Pressure:	-30
SV Stop Time:	1117	IAQ Stop Time:	1632
SV Stop Pressure:	-2	IAQ Stop Pressure:	-5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/22/12
Project Number - Task: 112IC03953
Sampled By: SBC/RS

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-107-A-12	IAQ Sample ID:	IA-107-A-12
SV Canister #:	L-A7072	IAQ Canister #:	04306
SV Regulator #:	K0986	IAQ Regulator #:	K275
SV Start Time:	1005	IAQ Start Time:	829
SV Start Pressure:	-29.2	IAQ Start Pressure:	-30
SV Stop Time:	1119	IAQ Stop Time:	1621
SV Stop Pressure:	-4	IAQ Stop Pressure:	-5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-108-A-12	IAQ Sample ID: IA-108-A-12
SV Canister #: L-4157	IAQ Canister #: 1520
SV Regulator #: K509	IAQ Regulator #: K119
SV Start Time: 938	IAQ Start Time: 0840
SV Start Pressure: -30	IAQ Start Pressure: -30
SV Stop Time: 1053	IAQ Stop Time: 1640
SV Stop Pressure: 0	IAQ Stop Pressure: -3

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-109-A-12	IAQ Sample ID:	IA-109-A12/Dup4
SV Canister #:	SL-1227	IAQ Canister #:	6581 / 1519
SV Regulator #:	K454	IAQ Regulator #:	K280 / K283
SV Start Time:	0945	IAQ Start Time:	920 / 920
SV Start Pressure:	-28.9	IAQ Start Pressure:	-30 / -30
SV Stop Time:	1104	IAQ Stop Time:	1657
SV Stop Pressure:	0	IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-110-A-12	IAQ Sample ID:	IA-110-A-12
SV Canister #:	L-5164	IAQ Canister #:	12455
SV Regulator #:		IAQ Regulator #:	K138
SV Start Time:		IAQ Start Time:	928
SV Start Pressure:	-2.2	IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1655
SV Stop Pressure:		IAQ Stop Pressure:	-8

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Significant Water in Casing of SV point.

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/22/12
Project Number - Task: 112ICO853
Sampled By: SBC/RS

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-116-A-12	IAQ Sample ID:	IA-116A / IA-DUP3
SV Canister #:	L-5126	IAQ Canister #:	7484 / 7500
SV Regulator #:	K102	IAQ Regulator #:	K365 / K328
SV Start Time:	0954	IAQ Start Time:	0929 / 0929
SV Start Pressure:	-28.7	IAQ Start Pressure:	-30 / -30
SV Stop Time:	1102	IAQ Stop Time:	1658
SV Stop Pressure:	0	IAQ Stop Pressure:	-5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/22/12
Project Number - Task: 112IC03953
Sampled By: SBC/RS

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-117-A-12	IAQ Sample ID:	IA-117-A-12
SV Canister #:	L-5128	IAQ Canister #:	9713
SV Regulator #:	K216	IAQ Regulator #:	K281
SV Start Time:	1000	IAQ Start Time:	833
SV Start Pressure:	-29.2	IAQ Start Pressure:	-30
SV Stop Time:	1115	IAQ Stop Time:	1634
SV Stop Pressure:	-2	IAQ Stop Pressure:	-5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-118-A-12	IAQ Sample ID: IA-118-A-12
SV Canister #: L-5183	IAQ Canister #: 12587
SV Regulator #: K312	IAQ Regulator #: K240
SV Start Time: 1032	IAQ Start Time: 819
SV Start Pressure: -30	IAQ Start Pressure: -30
SV Stop Time: 1132	IAQ Stop Time: 1611
SV Stop Pressure: 0	IAQ Stop Pressure: -8

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-119-A-12	IAQ Sample ID:	IA-119-A-12
SV Canister #:	L-5178	IAQ Canister #:	1517
SV Regulator #:	K-133	IAQ Regulator #:	K333
SV Start Time:	1028	IAQ Start Time:	820
SV Start Pressure:	-29	IAQ Start Pressure:	-30
SV Stop Time:	1630	IAQ Stop Time:	1615
SV Stop Pressure:	0	IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-120-A-12	IAQ Sample ID: IA-120A-12
SV Canister #: L-A7168	IAQ Canister #: 93046
SV Regulator #: K131	IAQ Regulator #: K235
SV Start Time: -30 1030	IAQ Start Time: 816
SV Start Pressure: -30	IAQ Start Pressure: -30
SV Stop Time: 1131	IAQ Stop Time: 1610
SV Stop Pressure: 0	IAQ Stop Pressure: -4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/13
Project Number - Task: 112IC03593
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-057-B	IAQ Sample ID:	IA-057-B
SV Canister #:	L-A7117	IAQ Canister #:	04748
SV Regulator #:	K325	IAQ Regulator #:	K213
SV Start Time:	1107	IAQ Start Time:	0836
SV Start Pressure:	-28.9	IAQ Start Pressure:	-28.9
SV Stop Time:	1249	IAQ Stop Time:	1716
SV Stop Pressure:	0	IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: MRC IA-SV
Date: 2/21/13
Project Number - Task: 112ICO 3953
Sampled By: RS

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-121-B-12	IAQ Sample ID: IA-121-B-12
SV Canister #: ~~L3841~~ K321, VOID	IAQ Canister #: 0174
SV Regulator #: ~~K321~~	IAQ Regulator #: K331
SV Start Time: 1031 ~~1240~~	IAQ Start Time: 0910
SV Start Pressure: ~~-28~~	IAQ Start Pressure: -30
SV Stop Time: 0	IAQ Stop Time:
SV Stop Pressure: 1220	IAQ Stop Pressure:

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

SV can quickly went to -28 then started towards zero. Possible leak or incorrect flow? - Plan to re-sample

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/2/12
Project Number - Task: 112IC03953
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-063-B / Dup-2-12	IAQ Sample ID: IA-063-B / DUP-2-12
SV Canister #: L8196 / L-8181	IAQ Canister #: 1367 / 93245
SV Regulator #: K338 / K187	IAQ Regulator #: K494 / K319
SV Start Time: 1150 / "	IAQ Start Time: 1009 / 1009
SV Start Pressure: -30 / -30	IAQ Start Pressure: -30 / -28.8
SV Stop Time: 1500 / 1500	IAQ Stop Time: 1733 / 1733
SV Stop Pressure: 0 / 0	IAQ Stop Pressure: -6 / -5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC IA-SV Date: 2/21/12

Project Number - Task: _____ Sampled By: RS

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-100-B-12	IAQ Sample ID: IA-100-B-12
SV Canister #: L5132	IAQ Canister #: 6623
SV Regulator #: K495	IAQ Regulator #: K324
SV Start Time: 1045	IAQ Start Time: 0918
SV Start Pressure: -30	IAQ Start Pressure: -30
SV Stop Time: 1230	IAQ Stop Time: 1700
SV Stop Pressure: 0	IAQ Stop Pressure: -6

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Placed on desk ~ 3ft from SG point (IA-100-B)

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC IA - SV Date: 2/21/12

Project Number - Task: _____ Sampled By: RS

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-101-B-12	IAQ Sample ID:	IA-101-B-12
SV Canister #:	SL-1232	IAQ Canister #:	6360
SV Regulator #:	~~K46~~ K403	IAQ Regulator #:	K366
SV Start Time:	1040	IAQ Start Time:	0912
SV Start Pressure:	-30	IAQ Start Pressure:	-30
SV Stop Time:	1223	IAQ Stop Time:	~~1057~~ 9 mins 1655
SV Stop Pressure:	0	IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: 2012 MRC IA-SV

Date: 2/21/12

Project Number - Task: _____

Sampled By: BS

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-121-B12	IAQ Sample ID: IA-121-B-12
SV Canister #: L-5195	IAQ Canister #: 0174
SV Regulator #: K382	IAQ Regulator #: K331
SV Start Time: 1445	IAQ Start Time: 0910
SV Start Pressure: -30	IAQ Start Pressure: -30
SV Stop Time: 1600	IAQ Stop Time: ~~1656~~ EMS 1654
SV Stop Pressure: 0	IAQ Stop Pressure: -9

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MBC IA-SV
Date: 2/21/12
Project Number - Task:
Sampled By: BS

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-122-B-12	IAQ Sample ID: IA-122-B-12
SV Canister #: L-5142	IAQ Canister #: 34001267
SV Regulator #: K-477	IAQ Regulator #: K103
SV Start Time: 1050	IAQ Start Time: 0931
SV Start Pressure: -30	IAQ Start Pressure: -30
SV Stop Time: 1234	IAQ Stop Time: 1702
SV Stop Pressure: 0	IAQ Stop Pressure: -6

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

Building B outside Assembly Paint Shop roll up door

OBSERVATIONS / NOTES:

Placed on workbench ~ 5 ft from SV point due to foot traffic. Found out @ 1050 that chrome paint spray is applied at location of initial IA location. Moved 25 feet south to desk top. One treatment has been performed

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC IA-SV
Date: 2/21/12
Project Number - Task:
Sampled By: BS

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-105-Z-12	IAQ Sample ID: IA-105-Z-12
SV Canister #: L-5112	IAQ Canister #: 34000825
SV Regulator #: K469	IAQ Regulator #: K320
SV Start Time: 1100	IAQ Start Time: 944
SV Start Pressure: -30	IAQ Start Pressure: -30
SV Stop Time: 1238	IAQ Stop Time: 1705
SV Stop Pressure: 0	IAQ Stop Pressure: -8

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

Fire Coat Bldg west room - Paint odor e start & during sampling

OBSERVATIONS / NOTES:

Placed on desk SW corner of room.
Worker applying thermal coat material east side of room on small parts: Lockheed Martin MRA 102
MR item K975B100 MRAS-4035/4036

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: _____ Date: _____

Project Number - Task: _____ Sampled By: _____

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-123-Z-12	IAQ Sample ID: IA-123-Z-12
SV Canister #: L-5184	IAQ Canister #: 34001263
SV Regulator #: K479	IAQ Regulator #: K261
SV Start Time: 1101	IAQ Start Time: 0945
SV Start Pressure: -30	IAQ Start Pressure: -30
SV Stop Time: 1240	IAQ Stop Time: 1706
SV Stop Pressure: 0	IAQ Stop Pressure: -5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

Fire Court Bldg NE corner room

OBSERVATIONS / NOTES:

IA placed on bench west side of room. Room warm & humid floor fan on blowing towards east side ~10 feet away - Temp 74° Humidity ~80%

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03593
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-001-C-12 / SV-DUP-3-12	IAQ Sample ID:	IA-001-C-12
SV Canister #:	L-5152 / L-A7116	IAQ Canister #:	34001261
SV Regulator #:	K306 / K127	IAQ Regulator #:	K503
SV Start Time:	0828 / 0828	IAQ Start Time:	0830
SV Start Pressure:	-28.9 / -29.2	IAQ Start Pressure:	-28.8
SV Stop Time:	1049	IAQ Stop Time:	1714
SV Stop Pressure:	0	IAQ Stop Pressure:	-3

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112ICO3595
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-044-C	IAQ Sample ID:	IA-044-C
SV Canister #:	L-5108	IAQ Canister #:	34001268
SV Regulator #:	K505	IAQ Regulator #:	K164
SV Start Time:	1104	IAQ Start Time:	0834
SV Start Pressure:	-28.8	IAQ Start Pressure:	-28.7
SV Stop Time:	1248	IAQ Stop Time:	1715
SV Stop Pressure:	0	IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/2/12
Project Number - Task: 112IC03593
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-050-C-12	IAQ Sample ID:	IA-050-C-12
SV Canister #:	SL-1233	IAQ Canister #:	93239
SV Regulator #:	K296	IAQ Regulator #:	K166
SV Start Time:	1107	IAQ Start Time:	0948
SV Start Pressure:	-30	IAQ Start Pressure:	-28.9
SV Stop Time:	1525	IAQ Stop Time:	1718
SV Stop Pressure:	0	IAQ Stop Pressure:	-4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112COB953
Sampled By: SRC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV060-C / SV-DUP	IAQ Sample ID:	IA-060-C / DUP
SV Canister #:	L-5175 / L-5165	IAQ Canister #:	04307 / 1316N
SV Regulator #:	K498 / K452	IAQ Regulator #:	K485 / K112
SV Start Time:	1205 / 1205	IAQ Start Time:	0920 / 0920
SV Start Pressure:	-28.9 / -28.9	IAQ Start Pressure:	-29 / -29.1
SV Stop Time:	1503 / 1503	IAQ Stop Time:	1730
SV Stop Pressure:	0 / 0	IAQ Stop Pressure:	-5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03593
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-088-C	IAQ Sample ID:	IA-088-C
SV Canister #:	L-5179	IAQ Canister #:	62359N
SV Regulator #:	K147	IAQ Regulator #:	K327
SV Start Time:	1113	IAQ Start Time:	0853
SV Start Pressure:	-28.9	IAQ Start Pressure:	-28.9
SV Stop Time:	1251	IAQ Stop Time:	1718
SV Stop Pressure:	0	IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112ICO393
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-091C-12	IAQ Sample ID:	IA-091-C-12
SV Canister #:	L-8177	IAQ Canister #:	0106
SV Regulator #:	K418	IAQ Regulator #:	K396
SV Start Time:	1140	IAQ Start Time:	0957
SV Start Pressure:	-30	IAQ Start Pressure:	-28.6
SV Stop Time:	1513	IAQ Stop Time:	1730
SV Stop Pressure:	0	IAQ Stop Pressure:	-5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/22/12
Project Number - Task: 112IC03593
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-102-C-12	IAQ Sample ID:	IA-102-C-12
SV Canister #:	L-5104	IAQ Canister #:	34001264
SV Regulator #:	K313	IAQ Regulator #:	K250
SV Start Time:	0756	IAQ Start Time:	0755
SV Start Pressure:	-28.9	IAQ Start Pressure:	-28.7
SV Stop Time:	1045	IAQ Stop Time:	1615
SV Stop Pressure:	0	IAQ Stop Pressure:	-5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03593
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-103-C-12	IAQ Sample ID:	IA-103-C-12
SV Canister #:	L-5120	IAQ Canister #:	S1489
SV Regulator #:	K432	IAQ Regulator #:	K246
SV Start Time:	1125	IAQ Start Time:	1001
SV Start Pressure:	-30	IAQ Start Pressure:	-28.8
SV Stop Time:	1508	IAQ Stop Time:	1725
SV Stop Pressure:	0	IAQ Stop Pressure:	-4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03593
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-104-C	IAQ Sample ID:	IA-104-C
SV Canister #:	L-A7166	IAQ Canister #:	04413
SV Regulator #:	K346	IAQ Regulator #:	K300
SV Start Time:	1054	IAQ Start Time:	0828
SV Start Pressure:	-28.9	IAQ Start Pressure:	-28.9
SV Stop Time:	1246	IAQ Stop Time:	1713
SV Stop Pressure:	0	IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112I03593
Sampled By: SBL

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-111-C	IAQ Sample ID:	IA-111-C
SV Canister #:	L-3831	IAQ Canister #:	12298
SV Regulator #:	K507	IAQ Regulator #:	K343B
SV Start Time:	1153	IAQ Start Time:	0913
SV Start Pressure:	-28.9	IAQ Start Pressure:	-28.9
SV Stop Time:	1500	IAQ Stop Time:	1730
SV Stop Pressure:	0	IAQ Stop Pressure:	-4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: NRC
Date: 2/21/12
Project Number - Task: 112I(0359)
Sampled By: SRC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-112-C	IAQ Sample ID:	IA-112-C
SV Canister #:	L-5159	IAQ Canister #:	11407
SV Regulator #:	K262	IAQ Regulator #:	K512
SV Start Time:	1137	IAQ Start Time:	0905
SV Start Pressure:	-28.9	IAQ Start Pressure:	-28.9
SV Stop Time:	1520	IAQ Stop Time:	1712
SV Stop Pressure:	0	IAQ Stop Pressure:	-4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC01593
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-113-C	IAQ Sample ID:	IA-113-C
SV Canister #:	L-A7115	IAQ Canister #:	1377
SV Regulator #:	K226	IAQ Regulator #:	K448
SV Start Time:	1118	IAQ Start Time:	0858
SV Start Pressure:	-28.9	IAQ Start Pressure:	-28.8
SV Stop Time:	1252	IAQ Stop Time:	1719
SV Stop Pressure:	0	IAQ Stop Pressure:	-3

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03983
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-114-C	IAQ Sample ID:	IA-114-C
SV Canister #:	8195	IAQ Canister #:	93038
SV Regulator #:	K511	IAQ Regulator #:	K309
SV Start Time:	1229	IAQ Start Time:	0901
SV Start Pressure:	-28.7	IAQ Start Pressure:	-28.9
SV Stop Time:	1454	IAQ Stop Time:	1724
SV Stop Pressure:	0	IAQ Stop Pressure:	-4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03593
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-115-C	IAQ Sample ID:	IA-115-C
SV Canister #:	~~1-A7115~~ L-8176	IAQ Canister #:	1133
SV Regulator #:	~~K226~~ K376	IAQ Regulator #:	K1138
SV Start Time:	1130	IAQ Start Time:	0855
SV Start Pressure:	-28.9	IAQ Start Pressure:	-29
SV Stop Time:	1253	IAQ Stop Time:	1720
SV Stop Pressure:	1	IAQ Stop Pressure:	-4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03597
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE	INDOOR AIR QUALITY SAMPLE
SV Sample ID: SV-124-C-12	IAQ Sample ID: IA124-C-12
SV Canister #: L-5156	IAQ Canister #: 12426
SV Regulator #: K183	IAQ Regulator #: K383
SV Start Time: 1135	IAQ Start Time: 0958
SV Start Pressure: -30	IAQ Start Pressure: -29
SV Stop Time: 1511	IAQ Stop Time: ~~1600~~ 1731
SV Stop Pressure: 0	IAQ Stop Pressure: -6

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

30 kw unit heater running on wall SE of sample location
approx 6 ft from eastern wall

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03593
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-125-C-12	IAQ Sample ID:	IA125-C-12
SV Canister #:	L-8189	IAQ Canister #:	03841
SV Regulator #:	K379	IAQ Regulator #:	K291
SV Start Time:	1200	IAQ Start Time:	0951
SV Start Pressure:	-30	IAQ Start Pressure:	-28.9
SV Stop Time:	1519	IAQ Stop Time:	1720
SV Stop Pressure:	0	IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

Northend Martin museum

OBSERVATIONS / NOTES:

AC running

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03593
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-126-C-12	IAQ Sample ID:	IA-126-C-12
SV Canister #:	L-5163	IAQ Canister #:	1287N
SV Regulator #:	K-181	IAQ Regulator #:	K408
SV Start Time:	1201	IAQ Start Time:	0950
SV Start Pressure:	-30	IAQ Start Pressure:	-28.9
SV Stop Time:	1520	IAQ Stop Time:	1719
SV Stop Pressure:	0	IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

South end Martin Museum

OBSERVATIONS / NOTES:

AC running

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03595
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-127-C	IAQ Sample ID:	IA-127-C
SV Canister #:	L-5140	IAQ Canister #:	1405
SV Regulator #:	K271	IAQ Regulator #:	K285
SV Start Time:	1218	IAQ Start Time:	0941
SV Start Pressure:	-28.8	IAQ Start Pressure:	-29
SV Stop Time:	1511	IAQ Stop Time:	1732
SV Stop Pressure:	6	IAQ Stop Pressure:	-4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03593
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-128-C	IAQ Sample ID:	IA-128-C
SV Canister #:	L-5129	IAQ Canister #:	A281
SV Regulator #:	K263	IAQ Regulator #:	K316
SV Start Time:	1214	IAQ Start Time:	0935
SV Start Pressure:	-28.8	IAQ Start Pressure:	-30
SV Stop Time:	1512	IAQ Stop Time:	1733
SV Stop Pressure:	0	IAQ Stop Pressure:	-5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC05593
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-132-C	IAQ Sample ID:	IA-132C
SV Canister #:	SL-129	IAQ Canister #:	02306
SV Regulator #:	K341	IAQ Regulator #:	K218
SV Start Time:	1209	IAQ Start Time:	0933
SV Start Pressure:	-30	IAQ Start Pressure:	-28.7
SV Stop Time:	1507	IAQ Stop Time:	1731
SV Stop Pressure:	0	IAQ Stop Pressure:	-5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03953
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-129-C	IAQ Sample ID:	IA-129-C
SV Canister #:	L-5170	IAQ Canister #:	1137
SV Regulator #:	8964	IAQ Regulator #:	K282
SV Start Time:	1041	IAQ Start Time:	0825
SV Start Pressure:	-28.9	IAQ Start Pressure:	-29
SV Stop Time:	1238	IAQ Stop Time:	1706
SV Stop Pressure:	1	IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03953
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-130-C	IAQ Sample ID:	IA-130-C
SV Canister #:	LA7118	IAQ Canister #:	12626
SV Regulator #:	K508	IAQ Regulator #:	K445
SV Start Time:	1031	IAQ Start Time:	0821
SV Start Pressure:	-28.9	IAQ Start Pressure:	-29.1
SV Stop Time:	1236	IAQ Stop Time:	1704
SV Stop Pressure:	0	IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03953
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-131-C	IAQ Sample ID:	IA-131-C
SV Canister #:	L-5161	IAQ Canister #:	1366
SV Regulator #:	K441	IAQ Regulator #:	K368
SV Start Time:	1055	IAQ Start Time:	0822
SV Start Pressure:	-28,9	IAQ Start Pressure:	~~-29.5~~ -29
SV Stop Time:	1257	IAQ Stop Time:	1705
SV Stop Pressure:	1	IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC0959
Sampled By: SBL

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-133-C	IAQ Sample ID:	IA-133-C
SV Canister #:	L-A7113	IAQ Canister #:	11370
SV Regulator #:	K479	IAQ Regulator #:	K399
SV Start Time:	1151	IAQ Start Time:	0908
SV Start Pressure:	-28.7	IAQ Start Pressure:	-28.7
SV Stop Time:	1459	IAQ Stop Time:	1729
SV Stop Pressure:	0	IAQ Stop Pressure:	-1

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03593
Sampled By: SB'C

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-134-C	IAQ Sample ID:	IA-134-C
SV Canister #:	L-5187	IAQ Canister #:	1362N
SV Regulator #:	K258	IAQ Regulator #:	K095
SV Start Time:	1158	IAQ Start Time:	0907
SV Start Pressure:	-28.9	IAQ Start Pressure:	-28.9
SV Stop Time:	1458	IAQ Stop Time:	1725
SV Stop Pressure:	0	IAQ Stop Pressure:	-3

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC
Date: 2/21/12
Project Number - Task: 112IC03595
Sampled By: SBC

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-135-C	IAQ Sample ID:	IA-135-C
SV Canister #:	L-A7119	IAQ Canister #:	12168
SV Regulator #:	K384	IAQ Regulator #:	K307
SV Start Time:	1111	IAQ Start Time:	0841
SV Start Pressure:	-28.4	IAQ Start Pressure:	-28.6
SV Stop Time:	1250	IAQ Stop Time:	1717
SV Stop Pressure:	0	IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

1743230467

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information
Company: Tetra Tech
Address: 2171 W Park Ct. Ste E
City/State/Zip Stone Mountain, GA 30087
Phone: (770) 413-0965 ext. 232
FAX:
Project Name: 2012 MRC IA-SV
Site/location: Middle River MD, MRC
PO # 112IC03953

Project Manager: Rick Samuels
Phone: (770) 413-0965
Site Contact: (770) 596-0959
TAL Contact:

Analysis Turnaround Time
Standard (Specify) ✓
Rush (Specify)

Sampled By: RS

___ of ___ COCs

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-091-C-12	2/21/12	0957	1730	-28.6	-5	K396	0106	X											
IA-124-C-12		0958	1731	-29	-6	K383	12426	X											
IA-063-B-12		1009	1733	-30	-6	K494	1367	X											
BCK-1-12*		0815	1630	0*	0*	K279	88453*	X											
BCK-2-12		0825	1628	-30	-3	K345	93297	X											
BCK-3-12		0755	1620	-30	-3	K243	93009	X											

315B

Sampled by: RS

Temperature (Fahrenheit)

	Interior	Ambient
Start		
Stop		

* BCK-1-12 regulator never responded

Pressure (inches of Hg)

	Interior	Ambient
Start		
Stop		

10 Boxes Rec'd @ Ambient Temp 21°C without custody seals
[signature] 2/23/12
10 Boxes Fed x #
7932 5888 2503M

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

40 CANS / 40 Flows

Canisters Shipped by: [signature]	Date/Time: 2/22/12 1400	Canisters Received by: [signature]
Samples Relinquished by: [signature]	Date/Time: 2/22/12 1620	Received by: [signature] 2-23-12 09:40
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

4

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B230467

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Rick Samuels	Sampled By: RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	Analysis Turnaround Time		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-130-C-12	2/21/12	0821	1704	-29.1	0	K445	12626	X											
IA-131-C-12		0822	1705	-29	0	K368	1866	X											
IA-129-C-12		0825	1706	-29	-2	K282	1137	X											
IA-112-C-12		0905	1712	-28.9	-4	K512	11407	X											
IA-104-C-12		0828	1713	-28.9	0	K300	04413	X											
IA-001-C-12	V	0830	1714	-28.8	-3	K503	3400261	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (Inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2-23-12 0941
Relinquished by:	Date/Time:	Received by:

Lab Use Only — Shipper Name: — Opened by: — Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B230467

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-044-C-12 ✓	2/21/12	0834	1715	-28.7	0	K164	34001268	X											
IA-057-B-12 ✓		0836	1716	-28.9	-2	K213	04748	X											
IA-135-C-12 ✓		0841	1717	-28.6	0	K307	12168	X											
IA-088-C-12 ✓		0853	1718	-28.9	-2	K327	6235W	X											
IA-113-C-12 ✓		0858	1719	-28.8	-3	K448	1377	X											
IA-115-C-12 ✓		0855	1720	-29	-4	K1138	1133	X											

10 01266

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by:	2-23-12 09:40
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Rick Samuels	Sampled By: RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	Analysis Turnaround Time		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
7786 7786 RH IA-117-A-12	2/22/12	0833	1634	-30	-5	9713	K281	X											
IA-106-A-12	↓	0831	1632	-30	-5	12162	K510	X											
IA-107-A-12		0829	1621	-30	-5	04306	K275	X											
IA-079-A-12		0826	1620	-30	-2	6669	K427	X											
IA-097-A-12		0825	1617	-30	-4	6366	K434	X											
197N IA-015-A-12	↓	0838	1637	-30	-4	4497W	K361	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

5 Boxes NO Custody Seals
Received @ Ambient Temp (19°C)
R.H. 2/24/12
5 Boxes Fed Ex MSTR# 793264102215
24 Cans, 24 Flows, 9T Bars

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by: Eric M Samuels	Date/Time: 2-23-2012 / 1515	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2-23-2012 / 1615	Received by: Rita Hancock 2/24/12 10:15	
Relinquished by:	Date/Time:	Received by:	

Lab Use Only — Shipper Name: — Opened by: — Condition:

H2B240431

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-108-A-12	2/22/12	0840	1640	-30	-3	K119	1520	X								X			
IA-075A-12	↓	0745	1549	-30	-2	K237	0179	X								X			
IA-076-A-12		0750	1552	0*	0	K190	0001	X								X			
IA-077-A-12		0802	1559	-30	-2	K185	7492	X								X			
IA-096-A-12		0809	1603	-30	-5	K111	1335N	X								X			
IA-120-A-12	↓	0818	1610	-30	-4	K235	93046	X								X			

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:
Contracted Analyte List. *- Regulator guage showing zero as initial vacuum in canister from IA-076-A-12.

Canisters Shipped by: Gina M Summa	Date/Time: 2-23-2012 / 1515	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2-23-2012 / 1615	Received by: Rita Hancock 2/24/12 10:15	
Relinquished by:	Date/Time:	Received by:	

Lab Use Only: Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B240437

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact:		
City/State/Zip: Stone Mountain, GA 30087	TAL Contact: (770) 596-0959		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-DUP-3	2/22/12	—	—	-30	-5	K328	7500	X						■					
IA-DUP-4		—	—	-30	0	K283	1519	X						■					
IA-DUP-5		—	—	-28.8	-8	K348	03775	X						■					
IA-018-A-12		0844	1644	-30	-4	K273	2955	X						■					
IA-094-A-12		0756	1556	~~-28.8~~ -30	-4	K456	12460	X						■					
IA-102-C-12	↓	0755	1615	-28.7	-5	K250	3400164	X						■					

Sampled by :

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:

Canisters Shipped by: Erin M Samuels	Date/Time: 2-23-2012 / 1515	Canisters Received by:
Samples Relinquished by:	Date/Time: 2-23-2012 / 1615	Received by: Rita Hancock 2/24/12 10:15
Relinquished by:	Date/Time:	Received by:

Lab Use Only **Shipper Name:** **Opened by:** **Condition:**

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B240437

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Rick Samuels	Sampled By: RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	Analysis Turnaround Time		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-118-A-12	2/22/12	0819	1611	-30	-8	K240	12587	X											
IA-119-A-12		0820	1615	-30	0	K333	1517	X											
IA-116-A-12		~~7484~~ 0829	1658	-30	-5	K365	7484	X											
IA-110-A-12		0928	1655	-30	-8	K138	12455	X											
IA-109-A-12		0920	1657	-30	0	K280	6581	X											
IA-093-A-12		0936	1654	-28.9	-8	K093	12875	X											

14 •

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2-23-2012/1515	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2-23-2012/1615	Received by: Rita Hancock 2/24/12 10:15	
Relinquished by:	Date/Time:	Received by:	

Lab Use Only: Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

1-72B230464

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste. E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-114-C-12 ✓	2/21/12	0901	1724	-28.9	-4	K309	98038	X											
IA-134-C-12 ✓		0907	1725	-28.9	-3	K095	1362N	X											
IA-133-C-12 ✓		0908	1729	-28.7	-1	K399	11370	X											
IA-111-C-12		0913	1730	-28.9	-4	K343B	12298	X											
IA-060-C-12		0920	1730	-29.	-5	K485	04507	X											
IA-132-C-12		0933	1731	-28.7	-5	K218	02306	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

10 Boxes Rec'd @ Ambient Temp 21°C
with out custody Seals
BMH 2/23/12

10 Boxes Fedex #
7932 5988 2503 m

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by:	2/23/12 940
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

1-12B230469

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-DUP2-12	2/21/12			-28.8	-5	K319	93245	X											
IA-050-C-12		0948	1718	-28.9	-4	K166	93239	X											
IA-126-C-12		0950	1719	-28.9	0	K408	1287N	X											
IA-125-C-12		0951	1720	-28.9	0	K291	03841	X											
IA-051-C-12		0954	1722	-28.9	-5	K094	93414	X											
IA-103-C-12		1000	1725	-28.8	-4	K246	S1489	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:	2/23/12 940
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by:	
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B230469

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-DUP-2-12	2/2/12	—	—	-29.1	-5	K112	1316V	X											
IA-128-C-12	↓	0935	1733	-30	-5	K316	A281	X											
IA-127-C-12		0941	1732	-29	-4	K285	1405	X											
IA-100-B-12		0918	1700	-30	-6	K324	6623	X											
IA-103-B-12		0931	1702	-30	-6	K103	3400267	X											
IA-105-7-12		0944	1705	-30	-8	K320	3406082S	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by:	
Relinquished by:	Date/Time:	Received by:	2/23/12 940

Lab Use Only — Shipper Name: — Opened by: — Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

1-12B230467

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
BCK-4-12	2/21/12	0800	1624	-30	-5	K474	0104	X											
IA-121-B-12		0910	1654	-30	-9	K331	0174	X											
IA-10L-B-12		0912	1655	-30	-2	K366	6360	X											
								X											
								X											
								X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2:23-12 09:40
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H26230469

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	**Phone:** (770) 413-0965		
Address: 2171 W Park Ct. Ste E	**Site Contact:** (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	**TAL Contact:**		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-123-Z-12	2/21/12	0945	1706	-30	-5	K261	3400263	X											
								X											
								X											
								X											
								X											
								X											

Sampled by : RS

	Temperature (Fahrenheit)		
	Interior	Ambient	
Start			
Stop			

	Pressure (inches of Hg)		
	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by:	Date/Time: 2/23/12 940
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H28230466

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770-413-0965		
Address: 2171 W Park Ct Ste E	Site Contact:		
City/State/Zip Stone MTN, GA 30087	TAL Contact: 770 596-0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name:	**Analysis Turnaround Time**		
Site/location: MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-130-C-12	2/21/12	1031	1236	-28.9	0	K508	LA7118	X											
SV-131-C-12		1035	1237	-28.9	1	K441	L-5161	X											
SV-129-C-12		1041	1238	-28.9	1	8964	L-5170	X											
SV-112-C-12		1137	1520	-28.9	0	K262	L-5159	X											
SV-104-C-12		1054	1246	-28.9	0	K346	L-A7166	X											
SV-044-C-12	✓	1104	1248	-28.8	0	K505	L-5108	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

NO CUSTODY SEALS
RECEIVED AT AMBIENT TEMP 21°C
DKD 2-23-12
10 COOLERS FED-X # 7932-5868-2503

36 CANS / 30 FLOWS

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2-23-12 09:40
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2623046H

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770-413-0965		
Address: 2171 W Park Ct Ste E	Site Contact:		
City/State/Zip Stone MTN, GA 30087	TAL Contact: 770 596 0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name:	**Analysis Turnaround Time**		
Site/location:	Standard (Specify)_____		
PO #	Rush (Specify)_____		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-057-B-12	2/2/12	1107	1249	-28.9	0	K325	L-A7117	X											
SV-R5-C-12		1111	1250	-28.9	0	K384	L-A7119	X											
SV-088-C-12		1113	1251	-28.9	0	K147	L-5179	X											
SV-113-C-12		1118	1252	-28.9	0	K226	L-A7115	X											
SV-115-C-12		1130	1253	-28.9	1	K376	L-8176	X											
SV-114-C-12		1229	1454	-28.7	0	K511	B195	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:

Contracted Analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2-23-12 09:40
Relinquished by:	Date/Time:	Received by:

Lab Use Only **Shipper Name:** **Opened by:** **Condition:**

TAL Knoxville H26230466
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Rick Samuels	Sampled By: RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770-413 0965		
Address: 2171 W Park Ct Ste E	Site Contact:		
City/State/Zip Stone Mtn, GA 30087	TAL Contact: 770 596 0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name: MBC IA-SV 2012	Analysis Turnaround Time		
Site/location: Middle River, MD	Standard (Specify)_____		
PO #	Rush (Specify)_____		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-134-C-12	2/2/12	1158	1458	-28.9	0	K58	L-5187	X						■					
SV-133-C-12		1151	1459	-28.7	0	K479	L-A7113	X						■					
SV-111-C-12		1153	1500	-28.9	0	K507	L-3831	X						■					
SV-060-C-12		1205	1503	-28.9	0	K498	L-5175	X						■					
SV-132-C-12		1209	1507	-30	0	K341	SL-1289	X						■					
SV-127-C-12		1218	1511	-28.8	0	K271	L-5140	X						■					

Sampled by : RS

Temperature (Fahrenheit)			
	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)			
	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by:	2-23-12 09:40
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B230466

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Seands	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770 413 0965		
Address: 2171 W Park Ct Ste E	Site Contact:		
City/State/Zip: Stone Mountain GA 30087	TAL Contact: 770 596-0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River, MD	Standard (Specify)_____		
PO #	Rush (Specify)_____		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-DUP-1-12	2/22/12	—	—	-28.9	0	L-5165	K452	X											
SV-128-C-12		1214	1512	-28.8	0	K263	L-5129												
SV-DUP-2-12		—	—	-30	0	K187	L-8181												
SV-063-B-12		1150	1500	-30	0	K338	L-8196												
SV-126-C-12		1201	1520	-30	0	K181	L-5163												
SV-121-B-12		1445	1600	-30	0	K382	L-5195												

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (Inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:
Contracted analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by:	3-23-12 09:40
Relinquished by:	Date/Time:	Received by:	

Lab Use Only **Shipper Name:** **Opened by:** **Condition:**

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

~~H2B230465~~ H2B230465

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum In Field, "Hg (Start)	Canister Vacuum In Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type: Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-116-A-12	2/22/12	0954	1102	-28.7	0	K102	L-5126	X										
SV-109-A-12		0945	1104	-28.9	0	K454	SL-1227	X										
SV-093-A-12		0926	1058	-29.2	0	K463	L-5150	X										
SV-018-A-12		0930	1100	-28.9	0	K276	L-A7062	X										
SV-094-A-12		0944	1105	-29.2	-1	K360	L-A7060	X										
SV-001-G-12	✓	[illegible]	1049	-28.4	0	K306	L-5152	X										

Sampled by: RS

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

6 Boxes Rec'd @ Ambient Temp 21°C with out custody seal
2/23/12
6 Boxes Fed x #
7980 & 980 3655 M
24 cans / 30 Flows

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by: Rick Samuels	Date/Time: 2/22/12 1500	Canisters Received by: Paul Shepherd
Samples Relinquished by: Paul Shepherd	Date/Time: 2/22/12 1620	Received by: [signature] 2/23/12 940
Relinquished by:	Date/Time:	Received by:

Lab Use Only: Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B230465

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Rick Samuels	Sampled By: RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	Analysis Turnaround Time		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type: Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-120-A-12	2/23/12	1030	1131	-30	0	K131	L-A1168	X										
SV-118-A-12		1032	1132	-30	0	K312	L-5183	X										
SV-119-A-12		1028	1130	-29	0	K-133	L-5178	X										
SV-DUP 4-12				-28	0	K-137	L-5190	X										
SV-117-A-12		1000	1115	-29	-2	K-216	L-5128	X										
SV-106-A-12		1002	1117	-29	-2	K-156	L-5107	X										

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by: Rick Samuels	Date/Time: 2/22/12 1500	Canisters Received by: Paul Boyland
Samples Relinquished by: Paul Boyland	Date/Time: 2/22/12 1620	Received by:
Relinquished by:	Date/Time:	Received by: 2/23/12 940

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B230465

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Rick Samuels	Sampled By: RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	Analysis Turnaround Time		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type: Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-015-A-12	2/22/12	935	1051	-30	0	K223	L8183	X										
SV-008-A-12		938	1053	-30	0	K509	L-4151	X										
SV-075-A-12		1005	1104	-30	-10	K358	L-5122	X										
SV-076-A-12		1000	1101	-28	0	K150	L-5164	X										
SV-077-A12		1012	1110	-30	-2	K171	L-8182	X										
SV-096-A-12		943	1057	-30	0	K339	9712	X										

IL 6/14

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by:	
Relinquished by:	Date/Time:	Received by:	2/23/12 940

Lab Use Only — Shipper Name: — Opened by: — Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B230465

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS
Company: Tetra Tech	**Phone:** (770) 413-0965	
Address: 2171 W Park Ct. Ste E	**Site Contact:**	
City/State/Zip Stone Mountain, GA 30087	**TAL Contact:** (770) 596-0959	
Phone: (770) 413-0965 ext. 232		
FAX:		
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**	
Site/location: Middle River MD, MRC	Standard (Specify) ✓	
PO # 112IC03953	Rush (Specify)	

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type:	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-107-A-12	2/22/12	1005	1119	-29	-4	K0986	L-A7072	X											
SV-079-A-12		1010	1129	-29	0	K347	L-5189	X											
SV-097-A-12		1020	1121	-29	0	K178	L-3840	X											
SV-DUP-5-12				-29	0	K515	6669	X											
								X											
								X											

A6910 1 Liter

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by: Rick Samuels	Date/Time: 2/22/12 1500	Canisters Received by: Paul Hayford
Samples Relinquished by: Paul Hayford	Date/Time: 2/22/12 1620	Received by: [signature] 2/23/12 940
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

1-12B2304b5

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact:		
City/State/Zip Stone Mountain, GA 30087	TAL Contact: (770) 596-0959		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-DUP-3-12	2/22/12	—	—	-29.2	0	K127	L-A7116	X											
SV-102-C-12	2/22/12	0756	1045	-28.9	0	K313	L-5604	X											
								X											
								X											
								X											
								X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by: Rick Samuels	Date/Time: 2/22/12 / 1500	Canisters Received by: Paul Gayheard	
Samples Relinquished by: Paul Gayheard	Date/Time: 2/22/12 / 1620	Received by:	
Relinquished by:	Date/Time:	Received by: 2/23/12 940	

Lab Use Only: Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

1-72823466

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Rick Sowards	Sampled By: RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770 413 0965		
Address: 2171 W Park Ct Ste E	Site Contact: 770 596 0959		
City/State/Zip: Stone Mtn, GA 30087	TAL Contact:		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name: 2012 MRC IA-SV	Analysis Turnaround Time		
Site/location: Middle River, MD	Standard (Specify) ✓		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-050-C-12	2/21/12	1107	1525	-30	0	K296	SL-1233	X											
SV-103-C-12		1125	1508	-30	0	K432	L-5120												
SV-124-C-12		1135	1511	-30	0	K183	L-5156												
SV-091C-12		1140	1513	-30	0	K418	L-8177												
SV-125-C-12		1200	1519	-30	0	K379	L-8189												
~~SV-063-B-12~~																			

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1680	Received by: 2-23-12 09:40
Relinquished by:	Date/Time:	Received by:

Lab Use Only **Shipper Name:** **Opened by:** **Condition:**

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H26230466

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770 413 0965		
Address: 2171 W Park Ct Ste E	Site Contact:		
City/State/Zip Stone Mountain GA 30087	TAL Contact: 770 596 0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River, MD	Standard (Specify) ✓		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-101-B-12	2/21/12	1040	1223	-30	0	K403	SL-1232	X						■					
SV-100-B-12		1045	1230	-30	0	K495	L-5132							■					
SV-122-B-12		1050	1234	-30	0	K477	L-5142							■					
~~SV-105-Z-12~~		~~1100~~	~~1238~~	~~-30~~	~~0~~	~~L-5112~~	-Dup							■					
SV-105-Z-12		1100	1238	-30	0	K469	L-5112							■					
SV-123-Z-12		1101	1240	-30	0	K479	L-5184							■					

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by: Paul Shepherd
Samples Relinquished by: Paul Shepherd	Date/Time: 2/22/12 1620	Received by: Bryan Cannon 2-23-12 09:41
Relinquished by:	Date/Time:	Received by:

Lab Use Only **Shipper Name:** **Opened by:** **Condition:**

APPENDIX B—METHOD DETECTION LIMITS

ATTACHMENT A

LAB PLEASE FILL QLs and MDLs.

Analyte	Industrial Air Screening Level (ug/m^3)	QL (ug/m^3)	MDL (ug/m^3)
1,1,1-Trichloroethane	22000	1.1	0.16
1,1,2-Trichloroethane	7.7	1.1	0.29
1,1-Dichloroethane	77	0.81	0.11
1,1-Dichloroethene	880	0.79	0.13
1,2,4-Trichlorobenzene	18	7.4	0.73
1,2-Dichloroethane	4.7	0.81	0.19
Benzene	16	0.64	0.18
Carbon Tetrachloride	20	1.3	0.24
Chlorodifluoromethane	220000	0.71	0.13
Chloroform	5.3	0.98	0.19
Cis-1,2-Dichloroethene	----	0.79	0.24
Dichlorodifluoromethane	440	0.99	0.34
Ethylbenzene	49	0.87	0.30
Methyl Tert-Butyl Ether	470	3.6	0.61
Methylene Chloride	260	1.7	0.16
Naphthalene	3.6	2.6	0.47
Tetrachloroethene	21	1.4	0.27
Toluene	22000	0.75	0.20
Total Xylenes	440	1.7	0.26
Trans-1,2-Dichloroethene	260	0.79	0.20
Trichloroethene	8.8^{M}	1.1	0.19
Vinyl Chloride	28	0.51	0.18

M = Maryland Department of the Environment's screening level for trichloroethene
Industrial Air Screening Levels from USEPA Regional Screening Levels for Chemical Contaminants at Superfund Sites Nov-10

APPENDIX C—LABORATORY ANALYTICAL REPORTS

Tetra Tech, Inc

Client Sample ID: SV116-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 001	**Work Order #**	MQ20D1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	02/28/2012	**Analysis Time....:**	02/29/2012
Prep Batch #.....:	2060022	**Analysis Time....:**	05:14
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.63 J**	**0.80**	**0.23**	**2.0 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**0.85**	**0.80**	**0.15**	**3.0**	**2.8**	**0.53**
Chloroform	**0.45 J**	**0.80**	**0.15**	**2.2 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.62 J**	**0.80**	**0.27**	**3.1 J**	**4.0**	**1.3**
1,1-Dichloroethane	**0.15 J**	**0.80**	**0.10**	**0.59 J**	**3.2**	**0.40**
1,2-Dichloroethane	**0.22 J**	**0.80**	**0.19**	**0.89 J**	**3.2**	**0.77**
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	**0.20 J**	**0.80**	**0.20**	**0.80 J**	**3.2**	**0.79**
1,1-Dichloroethene	**0.22 J**	**0.80**	**0.13**	**0.88 J**	**3.2**	**0.52**
Ethylbenzene	**4.0**	**0.80**	**0.27**	**17**	**3.5**	**1.2**
Methylene chloride	**0.99 J B**	**2.0**	**0.18**	**3.4 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**80**	**2.0**	**0.36**	**420**	**10**	**1.9**
Tetrachloroethene	**0.43 J**	**0.80**	**0.16**	**2.9 J**	**5.4**	**1.1**
Toluene	**6.1**	**0.80**	**0.21**	**23**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**3.3**	**0.40**	**0.14**	**18**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**6.4**	**0.80**	**0.80**	**31**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**11**	**0.80**	**0.25**	**55**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**3.1**	**0.80**	**0.26**	**15**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**20**	**1.6**	**0.24**	**86**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	115	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV109-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 002	**Work Order #**	MQ20F1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	02/28/2012	**Analysis Time....:**	02/29/2012
Prep Batch #.....:	2060022	**Analysis Time....:**	06:08
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.58 J**	**0.80**	**0.23**	**1.8 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**0.83**	**0.80**	**0.15**	**2.9**	**2.8**	**0.53**
Chloroform	**0.21 J**	**0.80**	**0.15**	**1.0 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.59 J**	**0.80**	**0.27**	**2.9 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	**0.21 J**	**0.80**	**0.20**	**0.85 J**	**3.2**	**0.79**
1,1-Dichloroethene	**0.14 J**	**0.80**	**0.13**	**0.54 J**	**3.2**	**0.52**
Ethylbenzene	ND	0.80	0.27	ND	3.5	1.2
Methylene chloride	**1.1 J B**	**2.0**	**0.18**	**3.7 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**1.2 J**	**2.0**	**0.36**	**6.5 J**	**10**	**1.9**
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**1.5**	**0.80**	**0.21**	**5.5**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**1.2**	**0.40**	**0.14**	**6.6**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	**0.61 J**	**0.80**	**0.25**	**3.0 J**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**0.73 J**	**0.80**	**0.26**	**3.6 J**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	ND	1.6	0.24	ND	6.9	1.0

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	110	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV093-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 003	**Work Order #**	MQ20G1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	02/28/2012	**Analysis Time....:**	02/29/2012
Prep Batch #.....:	2060022	**Analysis Time....:**	07:05
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.36 J**	**0.80**	**0.23**	**1.1 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**1.1**	**0.80**	**0.15**	**4.0**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.60 J**	**0.80**	**0.27**	**3.0 J**	**4.0**	**1.3**
1,1-Dichloroethane	**0.28 J**	**0.80**	**0.10**	**1.1 J**	**3.2**	**0.40**
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	**0.22 J**	**0.80**	**0.13**	**0.89 J**	**3.2**	**0.52**
Ethylbenzene	ND	0.80	0.27	ND	3.5	1.2
Methylene chloride	**0.65 J B**	**2.0**	**0.18**	**2.3 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**0.52 J**	**0.80**	**0.21**	**2.0 J**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.35 J**	**0.40**	**0.14**	**1.9 J**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	ND	1.6	0.24	ND	6.9	1.0

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	111	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV018-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 004 **Work Order #** MQ20H1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 02/28/2012 **Analysis Time....:** 02/29/2012
Prep Batch #.....: 2060022 **Analysis Time....:** 08:00
Dilution Factor.: 3448.35 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	280	79	ND	880	250
Carbon tetrachloride	ND	280	52	ND	1700	330
Chlorodifluoromethane	ND	280	52	ND	980	180
Chloroform	ND	280	52	ND	1300	250
Dichlorodifluoromethane	ND	280	93	ND	1400	460
1,1-Dichloroethane	**320**	**280**	**34**	**1300**	**1100**	**140**
1,2-Dichloroethane	ND	280	66	ND	1100	270
cis-1,2-Dichloroethene	**1700**	**280**	**83**	**6700**	**1100**	**330**
trans-1,2-Dichloroethene	ND	280	69	ND	1100	270
1,1-Dichloroethene	**18000**	**280**	**45**	**69000**	**1100**	**180**
Ethylbenzene	ND	280	93	ND	1200	400
Methylene chloride	**120 J B**	**690**	**62**	**420 J B**	**2400**	**220**
Methyl tert-butyl ether	ND	1400	230	ND	5000	850
Naphthalene	ND	690	120	ND	3600	650
Tetrachloroethene	ND	280	55	ND	1900	370
Toluene	ND	280	72	ND	1000	270
1,2,4-Trichlorobenzene	ND	1400	130	ND	10000	1000
1,1,1-Trichloroethane	**55 J**	**280**	**41**	**300 J**	**1500**	**230**
1,1,2-Trichloroethane	ND	280	72	ND	1500	400
Trichloroethene	**16000**	**140**	**48**	**83000**	**740**	**260**
1,2,3-Trimethylbenzene	ND	280	280	ND	1400	1400
1,2,4-Trimethylbenzene	ND	280	86	ND	1400	420
1,3,5-Trimethylbenzene	ND	280	90	ND	1400	440
Vinyl chloride	**120 J**	**280**	**100**	**300 J**	**710**	**260**
Xylenes (total)	ND	550	83	ND	2400	360

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	115	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV094-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 005	**Work Order #**	MQ20J1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	02/28/2012	**Analysis Time....:**	02/29/2012
Prep Batch #.....:	2060038	**Analysis Time....:**	03:23
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.36 J**	**0.80**	**0.23**	**1.2 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**0.81**	**0.80**	**0.15**	**2.9**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.49 J**	**0.80**	**0.27**	**2.4 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	ND	0.80	0.27	ND	3.5	1.2
Methylene chloride	**2.1 B**	**2.0**	**0.18**	**7.5 B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**0.55 J**	**0.80**	**0.21**	**2.1 J**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	ND	0.40	0.14	ND	2.1	0.75
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	ND	1.6	0.24	ND	6.9	1.0

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV001-C-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 006 **Work Order #** MQ20K1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 02/28/2012 **Analysis Time....:** 02/29/2012
Prep Batch #.....: 2060038 **Analysis Time....:** 04:19
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.80	0.23	ND	2.6	0.73
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**1.5**	**0.80**	**0.15**	**5.2**	**2.8**	**0.53**
Chloroform	**1.0**	**0.80**	**0.15**	**5.0**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.48 J**	**0.80**	**0.27**	**2.4 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	**25**	**0.80**	**0.24**	**100**	**3.2**	**0.95**
trans-1,2-Dichloroethene	**4.6**	**0.80**	**0.20**	**18**	**3.2**	**0.79**
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	ND	0.80	0.27	ND	3.5	1.2
Methylene chloride	**0.76 J B**	**2.0**	**0.18**	**2.6 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	**0.26 J**	**0.80**	**0.16**	**1.8 J**	**5.4**	**1.1**
Toluene	**0.33 J**	**0.80**	**0.21**	**1.2 J**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**29**	**0.40**	**0.14**	**160**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	ND	1.6	0.24	ND	6.9	1.0

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV120-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 007	**Work Order #**	MQ20L1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2065117	**Analysis Time....:**	04:30
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.36 J**	**0.80**	**0.23**	**1.1 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**9.5**	**0.80**	**0.15**	**33**	**2.8**	**0.53**
Chloroform	**0.46 J**	**0.80**	**0.15**	**2.3 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.50 J**	**0.80**	**0.27**	**2.5 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**15**	**0.80**	**0.27**	**66**	**3.5**	**1.2**
Methylene chloride	**2.3 B**	**2.0**	**0.18**	**7.9 B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**16**	**2.0**	**0.36**	**82**	**10**	**1.9**
Tetrachloroethene	**1.2**	**0.80**	**0.16**	**8.0**	**5.4**	**1.1**
Toluene	**14**	**0.80**	**0.21**	**53**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	**0.93**	**0.80**	**0.12**	**5.1**	**4.4**	**0.65**
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.86**	**0.40**	**0.14**	**4.6**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**2.6**	**0.80**	**0.80**	**13**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**4.6**	**0.80**	**0.25**	**23**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**1.5**	**0.80**	**0.26**	**7.6**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**78**	**1.6**	**0.24**	**340**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV118-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 008	**Work Order #**	MQ20M1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	02/28/2012	**Analysis Time....:**	02/29/2012
Prep Batch #.....:	2060038	**Analysis Time....:**	06:07
Dilution Factor.:	75.75	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	6.1	1.7	ND	19	5.6
Carbon tetrachloride	ND	6.1	1.1	ND	38	7.1
Chlorodifluoromethane	**3.7 J**	**6.1**	**1.1**	**13 J**	**21**	**4.0**
Chloroform	**3.0 J**	**6.1**	**1.1**	**15 J**	**30**	**5.5**
Dichlorodifluoromethane	ND	6.1	2.0	ND	30	10
1,1-Dichloroethane	**21**	**6.1**	**0.76**	**84**	**25**	**3.1**
1,2-Dichloroethane	ND	6.1	1.4	ND	25	5.8
cis-1,2-Dichloroethene	**71**	**6.1**	**1.8**	**280**	**24**	**7.2**
trans-1,2-Dichloroethene	**3.5 J**	**6.1**	**1.5**	**14 J**	**24**	**6.0**
1,1-Dichloroethene	**200**	**6.1**	**0.98**	**800**	**24**	**3.9**
Ethylbenzene	**16**	**6.1**	**2.0**	**68**	**26**	**8.9**
Methylene chloride	**7.2 J B**	**15**	**1.4**	**25 J B**	**53**	**4.7**
Methyl tert-butyl ether	ND	30	5.2	ND	110	19
Naphthalene	**85 B**	**15**	**2.7**	**440 B**	**79**	**14**
Tetrachloroethene	ND	6.1	1.2	ND	41	8.2
Toluene	**5.9 J**	**6.1**	**1.6**	**22 J**	**23**	**6.0**
1,2,4-Trichlorobenzene	ND	30	3.0	ND	220	22
1,1,1-Trichloroethane	**3.7 J**	**6.1**	**0.91**	**20 J**	**33**	**5.0**
1,1,2-Trichloroethane	ND	6.1	1.6	ND	33	8.7
Trichloroethene	**480**	**3.0**	**1.1**	**2600**	**16**	**5.7**
1,2,3-Trimethylbenzene	ND	6.1	6.1	ND	30	30
1,2,4-Trimethylbenzene	**11**	**6.1**	**1.9**	**56**	**30**	**9.3**
1,3,5-Trimethylbenzene	**4.3 J**	**6.1**	**2.0**	**21 J**	**30**	**9.7**
Vinyl chloride	ND	6.1	2.2	ND	15	5.6
Xylenes (total)	**110**	**12**	**1.8**	**490**	**53**	**7.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV119-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 009	**Work Order #**	MQ20N1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	14:25
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.36 J**	**0.80**	**0.23**	**1.1 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**11**	**0.80**	**0.15**	**38**	**2.8**	**0.53**
Chloroform	**0.55 J**	**0.80**	**0.15**	**2.7 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.72 J**	**0.80**	**0.27**	**3.5 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**3.5**	**0.80**	**0.27**	**15**	**3.5**	**1.2**
Methylene chloride	**2.0 B**	**2.0**	**0.18**	**7.0 B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**4.5**	**2.0**	**0.36**	**24**	**10**	**1.9**
Tetrachloroethene	**0.24 J**	**0.80**	**0.16**	**1.6 J**	**5.4**	**1.1**
Toluene	**16**	**0.80**	**0.21**	**62**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	**0.20 J**	**0.80**	**0.12**	**1.1 J**	**4.4**	**0.65**
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.37 J**	**0.40**	**0.14**	**2.0 J**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**1.2**	**0.80**	**0.80**	**5.8**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**2.1**	**0.80**	**0.25**	**10**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**0.70 J**	**0.80**	**0.26**	**3.5 J**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**22**	**1.6**	**0.24**	**95**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SVDUP4-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 010	**Work Order #**	MQ20P1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	02/28/2012	**Analysis Time....:**	02/29/2012
Prep Batch #.....:	2060038	**Analysis Time....:**	07:59
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.33 J**	**0.80**	**0.23**	**1.1 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**1.1**	**0.80**	**0.15**	**4.0**	**2.8**	**0.53**
Chloroform	**0.30 J**	**0.80**	**0.15**	**1.4 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.46 J**	**0.80**	**0.27**	**2.3 J**	**4.0**	**1.3**
1,1-Dichloroethane	**2.6**	**0.80**	**0.10**	**10**	**3.2**	**0.40**
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	**40**	**0.80**	**0.24**	**160**	**3.2**	**0.95**
trans-1,2-Dichloroethene	**1.3**	**0.80**	**0.20**	**5.3**	**3.2**	**0.79**
1,1-Dichloroethene	**25**	**0.80**	**0.13**	**99**	**3.2**	**0.52**
Ethylbenzene	**4.4**	**0.80**	**0.27**	**19**	**3.5**	**1.2**
Methylene chloride	**1.0 J B**	**2.0**	**0.18**	**3.6 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**120**	**0.80**	**0.21**	**440**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	**19**	**0.80**	**0.12**	**100**	**4.4**	**0.65**
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**52**	**0.40**	**0.14**	**280**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**27**	**1.6**	**0.24**	**120**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV117-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 011	**Work Order #**	MQ20Q1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2065117	**Analysis Time....:**	05:18
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**1.2**	**0.80**	**0.23**	**4.0**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**0.86**	**0.80**	**0.15**	**3.0**	**2.8**	**0.53**
Chloroform	**0.85**	**0.80**	**0.15**	**4.1**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.47 J**	**0.80**	**0.27**	**2.3 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**5.5**	**0.80**	**0.27**	**24**	**3.5**	**1.2**
Methylene chloride	**0.56 J B**	**2.0**	**0.18**	**1.9 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**42**	**2.0**	**0.36**	**220**	**10**	**1.9**
Tetrachloroethene	**1.3**	**0.80**	**0.16**	**9.0**	**5.4**	**1.1**
Toluene	**12**	**0.80**	**0.21**	**46**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	**0.99**	**0.80**	**0.12**	**5.4**	**4.4**	**0.65**
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**14**	**0.40**	**0.14**	**76**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**5.3**	**0.80**	**0.80**	**26**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**10**	**0.80**	**0.25**	**49**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**3.0**	**0.80**	**0.26**	**15**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**28**	**1.6**	**0.24**	**120**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV106-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 012	**Work Order #**	MQ20R1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2065117	**Analysis Time....:**	07:00
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.80	0.23	ND	2.6	0.73
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**2.3**	**0.80**	**0.15**	**8.3**	**2.8**	**0.53**
Chloroform	**0.88**	**0.80**	**0.15**	**4.3**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.56 J**	**0.80**	**0.27**	**2.8 J**	**4.0**	**1.3**
1,1-Dichloroethane	**2.2**	**0.80**	**0.10**	**9.0**	**3.2**	**0.40**
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	**0.43 J**	**0.80**	**0.13**	**1.7 J**	**3.2**	**0.52**
Ethylbenzene	**0.64 J**	**0.80**	**0.27**	**2.8 J**	**3.5**	**1.2**
Methylene chloride	**1.1 J B**	**2.0**	**0.18**	**3.8 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**4.8**	**2.0**	**0.36**	**25**	**10**	**1.9**
Tetrachloroethene	**0.22 J**	**0.80**	**0.16**	**1.5 J**	**5.4**	**1.1**
Toluene	**12**	**0.80**	**0.21**	**44**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	**1.3**	**0.80**	**0.12**	**7.1**	**4.4**	**0.65**
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**2.0**	**0.40**	**0.14**	**11**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**2.5**	**0.80**	**0.80**	**12**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**3.9**	**0.80**	**0.25**	**19**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**1.2**	**0.80**	**0.26**	**6.0**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**4.4**	**1.6**	**0.24**	**19**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV015-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 013	**Work Order #**	MQ20T1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/05/2012
Prep Batch #.....:	2062175	**Analysis Time....:**	19:00
Dilution Factor.:	78.25	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	6.3	1.8	ND	20	5.7
Carbon tetrachloride	ND	6.3	1.2	ND	39	7.4
Chlorodifluoromethane	**13 B**	**6.3**	**1.2**	**47 B**	**22**	**4.2**
Chloroform	ND	6.3	1.2	ND	31	5.7
Dichlorodifluoromethane	ND	6.3	2.1	ND	31	10
1,1-Dichloroethane	**16**	**6.3**	**0.78**	**65**	**25**	**3.2**
1,2-Dichloroethane	ND	6.3	1.5	ND	25	6.0
cis-1,2-Dichloroethene	**270**	**6.3**	**1.9**	**1100**	**25**	**7.4**
trans-1,2-Dichloroethene	**12**	**6.3**	**1.6**	**46**	**25**	**6.2**
1,1-Dichloroethene	**200**	**6.3**	**1.0**	**780**	**25**	**4.0**
Ethylbenzene	ND	6.3	2.1	ND	27	9.2
Methylene chloride	**5.3 J B**	**16**	**1.4**	**18 J B**	**54**	**4.9**
Methyl tert-butyl ether	ND	31	5.3	ND	110	19
Naphthalene	ND	16	2.8	ND	82	15
Tetrachloroethene	ND	6.3	1.3	ND	42	8.5
Toluene	**12**	**6.3**	**1.6**	**47**	**24**	**6.2**
1,2,4-Trichlorobenzene	ND	31	3.1	ND	230	23
1,1,1-Trichloroethane	**150**	**6.3**	**0.94**	**840**	**34**	**5.1**
1,1,2-Trichloroethane	ND	6.3	1.6	ND	34	9.0
Trichloroethene	**440**	**3.1**	**1.1**	**2400**	**17**	**5.9**
1,2,3-Trimethylbenzene	ND	6.3	6.3	ND	31	31
1,2,4-Trimethylbenzene	ND	6.3	2.0	ND	31	9.6
1,3,5-Trimethylbenzene	ND	6.3	2.0	ND	31	10
Vinyl chloride	ND	6.3	2.3	ND	16	5.8
Xylenes (total)	ND	13	1.9	ND	54	8.2

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	110	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV108-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 014 **Work Order #** MQ20W1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012
Prep Date.....: 03/05/2012
Prep Batch #.....: 2062175
Dilution Factor.: 183.5

Date Received..: 02/23/2012
Analysis Time....: 03/05/2012
Analysis Time....: 19:57
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	15	4.2	ND	47	13
Carbon tetrachloride	ND	15	2.8	ND	92	17
Chlorodifluoromethane	ND	15	2.8	ND	52	9.7
Chloroform	ND	15	2.8	ND	72	13
Dichlorodifluoromethane	ND	15	5.0	ND	73	25
1,1-Dichloroethane	**710**	**15**	**1.8**	**2900**	**59**	**7.4**
1,2-Dichloroethane	ND	15	3.5	ND	59	14
cis-1,2-Dichloroethene	**61**	**15**	**4.4**	**240**	**58**	**17**
trans-1,2-Dichloroethene	ND	15	3.7	ND	58	15
1,1-Dichloroethene	**990**	**15**	**2.4**	**3900**	**58**	**9.5**
Ethylbenzene	ND	15	5.0	ND	64	22
Methylene chloride	**5.8 J B**	**37**	**3.3**	**20 J B**	**130**	**11**
Methyl tert-butyl ether	ND	73	12	ND	260	45
Naphthalene	ND	37	6.6	ND	190	35
Tetrachloroethene	ND	15	2.9	ND	100	20
Toluene	**11 J**	**15**	**3.9**	**40 J**	**55**	**15**
1,2,4-Trichlorobenzene	ND	73	7.2	ND	540	53
1,1,1-Trichloroethane	**38**	**15**	**2.2**	**200**	**80**	**12**
1,1,2-Trichloroethane	ND	15	3.9	ND	80	21
Trichloroethene	**90**	**7.3**	**2.6**	**480**	**39**	**14**
1,2,3-Trimethylbenzene	ND	15	15	ND	72	72
1,2,4-Trimethylbenzene	ND	15	4.6	ND	72	23
1,3,5-Trimethylbenzene	ND	15	4.8	ND	72	23
Vinyl chloride	**7.4 J**	**15**	**5.3**	**19 J**	**38**	**14**
Xylenes (total)	ND	29	4.4	ND	130	19

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV075-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 015	**Work Order #**	MQ20X1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	15:17
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.74 J**	**0.80**	**0.23**	**2.4 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**3.3**	**0.80**	**0.15**	**12**	**2.8**	**0.53**
Chloroform	**3.8**	**0.80**	**0.15**	**18**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.54 J**	**0.80**	**0.27**	**2.7 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**5.7**	**0.80**	**0.27**	**25**	**3.5**	**1.2**
Methylene chloride	**0.74 J B**	**2.0**	**0.18**	**2.6 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**74**	**2.0**	**0.36**	**390**	**10**	**1.9**
Tetrachloroethene	**1.2**	**0.80**	**0.16**	**8.1**	**5.4**	**1.1**
Toluene	**13**	**0.80**	**0.21**	**49**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.79**	**0.40**	**0.14**	**4.2**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**9.8**	**0.80**	**0.80**	**48**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**18**	**0.80**	**0.25**	**88**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**5.9**	**0.80**	**0.26**	**29**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**29**	**1.6**	**0.24**	**120**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV076-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 016	**Work Order #**	MQ2001AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	16:09
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.33 J**	**0.80**	**0.23**	**1.1 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**0.96**	**0.80**	**0.15**	**3.4**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.53 J**	**0.80**	**0.27**	**2.6 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**1.9**	**0.80**	**0.27**	**8.1**	**3.5**	**1.2**
Methylene chloride	**0.66 J B**	**2.0**	**0.18**	**2.3 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**5.4**	**2.0**	**0.36**	**28**	**10**	**1.9**
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**28**	**0.80**	**0.21**	**110**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.20 J**	**0.40**	**0.14**	**1.1 J**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	**0.94**	**0.80**	**0.25**	**4.6**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**0.27 J**	**0.80**	**0.26**	**1.3 J**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**12**	**1.6**	**0.24**	**51**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV077-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 017	**Work Order #**	MQ2011AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	16:59
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.28 J**	**0.80**	**0.23**	**0.90 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**7.4**	**0.80**	**0.15**	**26**	**2.8**	**0.53**
Chloroform	**0.23 J**	**0.80**	**0.15**	**1.1 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.60 J**	**0.80**	**0.27**	**3.0 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**4.9**	**0.80**	**0.27**	**21**	**3.5**	**1.2**
Methylene chloride	**1.9 J B**	**2.0**	**0.18**	**6.6 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**99**	**2.0**	**0.36**	**520**	**10**	**1.9**
Tetrachloroethene	**1.3**	**0.80**	**0.16**	**8.5**	**5.4**	**1.1**
Toluene	**13**	**0.80**	**0.21**	**48**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.68**	**0.40**	**0.14**	**3.7**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**11**	**0.80**	**0.80**	**52**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**18**	**0.80**	**0.25**	**87**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**5.3**	**0.80**	**0.26**	**26**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**26**	**1.6**	**0.24**	**110**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV096-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 018	**Work Order #**	MQ2021AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/05/2012
Prep Batch #.....:	2062175	**Analysis Time....:**	20:53
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.32 J**	**0.80**	**0.23**	**1.0 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**11 B**	**0.80**	**0.15**	**40 B**	**2.8**	**0.53**
Chloroform	**0.16 J**	**0.80**	**0.15**	**0.77 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.81**	**0.80**	**0.27**	**4.0**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**2.0**	**0.80**	**0.27**	**8.6**	**3.5**	**1.2**
Methylene chloride	**2.4 B**	**2.0**	**0.18**	**8.3 B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	**0.19 J**	**0.80**	**0.16**	**1.3 J**	**5.4**	**1.1**
Toluene	**61**	**0.80**	**0.21**	**230**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	**0.70 J**	**0.80**	**0.12**	**3.8 J**	**4.4**	**0.65**
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.20 J**	**0.40**	**0.14**	**1.1 J**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	**0.36 J**	**0.80**	**0.25**	**1.8 J**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**10**	**1.6**	**0.24**	**45**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	111	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV107-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 019	**Work Order #**	MQ2031AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	04:23
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.58 J**	**0.80**	**0.23**	**1.9 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**18**	**0.80**	**0.15**	**64**	**2.8**	**0.53**
Chloroform	**0.36 J**	**0.80**	**0.15**	**1.7 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.78 J**	**0.80**	**0.27**	**3.8 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	**0.28 J**	**0.80**	**0.24**	**1.1 J**	**3.2**	**0.95**
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**17**	**0.80**	**0.27**	**75**	**3.5**	**1.2**
Methylene chloride	**4.6 B**	**2.0**	**0.18**	**16 B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**2.0**	**2.0**	**0.36**	**11**	**10**	**1.9**
Tetrachloroethene	**0.36 J**	**0.80**	**0.16**	**2.4 J**	**5.4**	**1.1**
Toluene	**29**	**0.80**	**0.21**	**110**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.48**	**0.40**	**0.14**	**2.6**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**1.4**	**0.80**	**0.80**	**6.9**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**1.5**	**0.80**	**0.25**	**7.4**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**0.97**	**0.80**	**0.26**	**4.8**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**70**	**1.6**	**0.24**	**300**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV079-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 020	**Work Order #**	MQ2041AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/05/2012
Prep Batch #.....:	2062175	**Analysis Time....:**	22:39
Dilution Factor.:	164.5	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	13	3.8	ND	42	12
Carbon tetrachloride	ND	13	2.5	ND	83	16
Chlorodifluoromethane	**7.3 J B**	**13**	**2.5**	**26 J B**	**47**	**8.7**
Chloroform	**3.5 J**	**13**	**2.5**	**17 J**	**64**	**12**
Dichlorodifluoromethane	ND	13	4.4	ND	65	22
1,1-Dichloroethane	ND	13	1.6	ND	53	6.7
1,2-Dichloroethane	ND	13	3.1	ND	53	13
cis-1,2-Dichloroethene	**750**	**13**	**3.9**	**3000**	**52**	**16**
trans-1,2-Dichloroethene	**150**	**13**	**3.3**	**600**	**52**	**13**
1,1-Dichloroethene	ND	13	2.1	ND	52	8.5
Ethylbenzene	ND	13	4.4	ND	57	19
Methylene chloride	**5.6 J B**	**33**	**3.0**	**19 J B**	**110**	**10**
Methyl tert-butyl ether	ND	66	11	ND	240	40
Naphthalene	ND	33	5.9	ND	170	31
Tetrachloroethene	**3.3 J**	**13**	**2.6**	**22 J**	**89**	**18**
Toluene	ND	13	3.5	ND	50	13
1,2,4-Trichlorobenzene	ND	66	6.4	ND	490	48
1,1,1-Trichloroethane	ND	13	2.0	ND	72	11
1,1,2-Trichloroethane	ND	13	3.5	ND	72	19
Trichloroethene	**1500**	**6.6**	**2.3**	**7900**	**35**	**12**
1,2,3-Trimethylbenzene	ND	13	13	ND	65	65
1,2,4-Trimethylbenzene	ND	13	4.1	ND	65	20
1,3,5-Trimethylbenzene	ND	13	4.3	ND	65	21
Vinyl chloride	ND	13	4.8	ND	34	12
Xylenes (total)	ND	26	3.9	ND	110	17

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV097-A-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 021	**Work Order #**	MQ2051AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/05/2012
Prep Batch #.....:	2062175	**Analysis Time....:**	23:30
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.27 J**	**0.80**	**0.23**	**0.85 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**7.9 B**	**0.80**	**0.15**	**28 B**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.72 J**	**0.80**	**0.27**	**3.6 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**0.46 J**	**0.80**	**0.27**	**2.0 J**	**3.5**	**1.2**
Methylene chloride	**1.4 J B**	**2.0**	**0.18**	**4.9 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**11**	**0.80**	**0.21**	**40**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.38 J**	**0.40**	**0.14**	**2.0 J**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	**0.28 J**	**0.80**	**0.25**	**1.4 J**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**0.36 J**	**0.80**	**0.26**	**1.8 J**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**2.9**	**1.6**	**0.24**	**12**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SVDUP-5-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 022	**Work Order #**	MQ2061AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2062175	**Analysis Time....:**	00:21
Dilution Factor.:	199.4	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	16	4.6	ND	51	15
Carbon tetrachloride	ND	16	3.0	ND	100	19
Chlorodifluoromethane	ND	16	3.0	ND	56	11
Chloroform	**3.4 J**	**16**	**3.0**	**17 J**	**78**	**15**
Dichlorodifluoromethane	ND	16	5.4	ND	79	27
1,1-Dichloroethane	ND	16	2.0	ND	65	8.1
1,2-Dichloroethane	ND	16	3.8	ND	65	15
cis-1,2-Dichloroethene	**610**	**16**	**4.8**	**2400**	**63**	**19**
trans-1,2-Dichloroethene	**130**	**16**	**4.0**	**500**	**63**	**16**
1,1-Dichloroethene	ND	16	2.6	ND	63	10
Ethylbenzene	ND	16	5.4	ND	69	23
Methylene chloride	**6.4 J B**	**40**	**3.6**	**22 J B**	**140**	**12**
Methyl tert-butyl ether	ND	80	14	ND	290	49
Naphthalene	ND	40	7.2	ND	210	38
Tetrachloroethene	**3.2 J**	**16**	**3.2**	**22 J**	**110**	**22**
Toluene	ND	16	4.2	ND	60	16
1,2,4-Trichlorobenzene	ND	80	7.8	ND	590	58
1,1,1-Trichloroethane	ND	16	2.4	ND	87	13
1,1,2-Trichloroethane	ND	16	4.2	ND	87	23
Trichloroethene	**1300**	**8.0**	**2.8**	**7200**	**43**	**15**
1,2,3-Trimethylbenzene	ND	16	16	ND	78	78
1,2,4-Trimethylbenzene	ND	16	5.0	ND	78	25
1,3,5-Trimethylbenzene	ND	16	5.2	ND	78	25
Vinyl chloride	ND	16	5.8	ND	41	15
Xylenes (total)	ND	32	4.8	ND	140	21

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SVDUP-3-12

GC/MS Volatiles

Lot-Sample #	H2B230465 - 023	**Work Order #**	MQ2071AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2062175	**Analysis Time....:**	01:12
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.80	0.23	ND	2.6	0.73
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**3.1 B**	**0.80**	**0.15**	**11 B**	**2.8**	**0.53**
Chloroform	**1.1**	**0.80**	**0.15**	**5.2**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.62 J**	**0.80**	**0.27**	**3.0 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	**26**	**0.80**	**0.24**	**100**	**3.2**	**0.95**
trans-1,2-Dichloroethene	**4.8**	**0.80**	**0.20**	**19**	**3.2**	**0.79**
1,1-Dichloroethene	**0.15 J**	**0.80**	**0.13**	**0.59 J**	**3.2**	**0.52**
Ethylbenzene	ND	0.80	0.27	ND	3.5	1.2
Methylene chloride	**0.78 J B**	**2.0**	**0.18**	**2.7 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	**0.23 J**	**0.80**	**0.16**	**1.6 J**	**5.4**	**1.1**
Toluene	**0.29 J**	**0.80**	**0.21**	**1.1 J**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**37**	**0.40**	**0.14**	**200**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**0.80 J**	**1.6**	**0.24**	**3.5 J**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV102-C-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 024 **Work Order #** MQ2081AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012
Prep Date.....: 03/06/2012
Prep Batch #.....: 2066141
Dilution Factor.: 76.75

Date Received..: 02/23/2012
Analysis Time....: 03/06/2012
Analysis Time....: 17:50
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	6.1	1.8	ND	20	5.6
Carbon tetrachloride	ND	6.1	1.2	ND	39	7.2
Chlorodifluoromethane	**5.1 J**	**6.1**	**1.2**	**18 J**	**22**	**4.1**
Chloroform	**6.6**	**6.1**	**1.2**	**32**	**30**	**5.6**
Dichlorodifluoromethane	ND	6.1	2.1	ND	30	10
1,1-Dichloroethane	**440**	**6.1**	**0.77**	**1800**	**25**	**3.1**
1,2-Dichloroethane	ND	6.1	1.5	ND	25	5.9
cis-1,2-Dichloroethene	**7.7**	**6.1**	**1.8**	**31**	**24**	**7.3**
trans-1,2-Dichloroethene	ND	6.1	1.5	ND	24	6.1
1,1-Dichloroethene	**220**	**6.1**	**1.0**	**890**	**24**	**4.0**
Ethylbenzene	**84**	**6.1**	**2.1**	**370**	**27**	**9.0**
Methylene chloride	**3.5 J B**	**15**	**1.4**	**12 J B**	**53**	**4.8**
Methyl tert-butyl ether	ND	31	5.2	ND	110	19
Naphthalene	**67**	**15**	**2.8**	**350**	**80**	**14**
Tetrachloroethene	ND	6.1	1.2	ND	42	8.3
Toluene	**12**	**6.1**	**1.6**	**46**	**23**	**6.1**
1,2,4-Trichlorobenzene	ND	31	3.0	ND	230	22
1,1,1-Trichloroethane	**96**	**6.1**	**0.92**	**520**	**34**	**5.0**
1,1,2-Trichloroethane	ND	6.1	1.6	ND	34	8.8
Trichloroethene	**140**	**3.1**	**1.1**	**740**	**16**	**5.8**
1,2,3-Trimethylbenzene	**21**	**6.1**	**6.1**	**100**	**30**	**30**
1,2,4-Trimethylbenzene	**13**	**6.1**	**1.9**	**64**	**30**	**9.4**
1,3,5-Trimethylbenzene	**5.3 J**	**6.1**	**2.0**	**26 J**	**30**	**9.8**
Vinyl chloride	ND	6.1	2.2	ND	16	5.7
Xylenes (total)	**640**	**12**	**1.8**	**2800**	**53**	**8.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2B290000 - 022B **Work Order #** MQ5MG1AA **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	02/28/2012	**Analysis Time....:**	02/28/2012
Prep Batch #.....:	2060022	**Analysis Time....:**	12:01
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.038 J**	**0.20**	**0.018**	**0.13 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	110	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2B290000 - 022C **Work Order #** MQ5MG1AC **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	02/28/2012	**Analysis Time....:**	02/28/2012
Prep Batch #.....:	2060022	**Analysis Time....:**	09:53
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.10	16.0	13.1	82	70 - 130
Carbon tetrachloride	5.00	5.59	31.5	35.2	112	70 - 130
Chlorodifluoromethane	5.00	6.09	17.7	21.6	122	60 - 140
Chloroform	5.00	4.94	24.4	24.1	99	70 - 130
Dichlorodifluoromethane	5.00	6.28	24.7	31.0	126	60 - 140
1,1-Dichloroethane	5.00	4.36	20.2	17.6	87	70 - 130
1,2-Dichloroethane	5.00	4.91	20.2	19.9	98	70 - 130
cis-1,2-Dichloroethene	5.00	4.44	19.8	17.6	89	70 - 130
trans-1,2-Dichloroethene	5.00	4.82	19.8	19.1	96	70 - 130
1,1-Dichloroethene	5.00	4.55	19.8	18.1	91	70 - 130
Ethylbenzene	5.00	3.97	21.7	17.2	79	70 - 130
Methylene chloride	5.00	4.36	17.4	15.1	87	70 - 130
Methyl tert-butyl ether	5.00	3.97	18.0	14.3	79	60 - 140
Naphthalene	5.00	2.46	26.2	12.9	49	40 - 140
Tetrachloroethene	5.00	4.47	33.9	30.3	89	70 - 130
Toluene	5.00	3.81	18.8	14.4	76	70 - 130
1,2,4-Trichlorobenzene	5.00	2.58	37.1	19.2 a ME	52 a ME	60 - 140
1,1,1-Trichloroethane	5.00	5.61	27.3	30.6	112	70 - 130
1,1,2-Trichloroethane	5.00	3.91	27.3	21.3	78	70 - 130
Trichloroethene	5.00	4.43	26.9	23.8	89	70 - 130
1,2,3-Trimethylbenzene	5.00	3.86	24.6	19.0	77	20 - 180
1,2,4-Trimethylbenzene	5.00	3.74	24.6	18.4	75	70 - 130
1,3,5-Trimethylbenzene	5.00	3.72	24.6	18.3	74	70 - 130
Vinyl chloride	5.00	4.55	12.8	11.6	91	70 - 130
Xylenes (total)	15.0	11.9	65.1	51.7	79	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

Qualifiers

a	Spiked analyte recovery is outside stated control limits.
ME	The percent recovery of the analyte is outside the control limits but within marginal exceedance limits.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2B290000 - 038B **Work Order #** MQ5M31AA **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	02/28/2012	**Analysis Time....:**	02/28/2012
Prep Batch #.....:	2060038	**Analysis Time....:**	11:11
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.034 J**	**0.20**	**0.018**	**0.12 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.067 J**	**0.20**	**0.036**	**0.35 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	**0.039 J**	**0.40**	**0.039**	**0.29 J**	**3.0**	**0.29**
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2B290000 - 038C **Work Order #** MQ5M31AC **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	02/28/2012	**Analysis Time....:**	02/28/2012
Prep Batch #.....:	2060038	**Analysis Time....:**	09:17
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.54	16.0	14.5	91	70 - 130
Carbon tetrachloride	5.00	6.78	31.5	42.7 a ME	136 a ME	70 - 130
Chlorodifluoromethane	5.00	5.83	17.7	20.6	117	60 - 140
Chloroform	5.00	5.04	24.4	24.6	101	70 - 130
Dichlorodifluoromethane	5.00	5.95	24.7	29.4	119	60 - 140
1,1-Dichloroethane	5.00	4.98	20.2	20.2	100	70 - 130
1,2-Dichloroethane	5.00	5.44	20.2	22.0	109	70 - 130
cis-1,2-Dichloroethene	5.00	4.92	19.8	19.5	98	70 - 130
trans-1,2-Dichloroethene	5.00	4.99	19.8	19.8	100	70 - 130
1,1-Dichloroethene	5.00	5.03	19.8	19.9	101	70 - 130
Ethylbenzene	5.00	4.52	21.7	19.6	90	70 - 130
Methylene chloride	5.00	4.84	17.4	16.8	97	70 - 130
Methyl tert-butyl ether	5.00	4.51	18.0	16.3	90	60 - 140
Naphthalene	5.00	6.12	26.2	32.1	122	40 - 140
Tetrachloroethene	5.00	4.89	33.9	33.2	98	70 - 130
Toluene	5.00	4.46	18.8	16.8	89	70 - 130
1,2,4-Trichlorobenzene	5.00	5.76	37.1	42.8	115	60 - 140
1,1,1-Trichloroethane	5.00	5.47	27.3	29.8	109	70 - 130
1,1,2-Trichloroethane	5.00	4.58	27.3	25.0	92	70 - 130
Trichloroethene	5.00	5.63	26.9	30.3	113	70 - 130
1,2,3-Trimethylbenzene	5.00	5.00	24.6	24.6	100	20 - 180
1,2,4-Trimethylbenzene	5.00	4.84	24.6	23.8	97	70 - 130
1,3,5-Trimethylbenzene	5.00	4.65	24.6	22.9	93	70 - 130
Vinyl chloride	5.00	4.82	12.8	12.3	96	70 - 130
Xylenes (total)	15.0	13.7	65.1	59.6	91	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	114	60 - 140

Qualifiers

a	Spiked analyte recovery is outside stated control limits.
ME	The percent recovery of the analyte is outside the control limits but within marginal exceedance limits.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C020000 - 175B	**Work Order #**	MQ70J1AA	**Matrix.....:**	AIR
	02/22/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/05/2012		
Prep Batch #.....:	2062175	**Analysis Time....:**	16:09		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	**0.070 J**	**0.080**	**0.015**	**0.25 J**	**0.28**	**0.053**
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.038 J**	**0.20**	**0.018**	**0.13 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	111	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C020000 - 175C **Work Order #** MQ70J1AC **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/05/2012
Prep Batch #.....:	2062175	**Analysis Time....:**	12:28
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.38	16.0	14.0	88	70 - 130
Carbon tetrachloride	5.00	5.90	31.5	37.1	118	70 - 130
Chlorodifluoromethane	5.00	6.13	17.7	21.7	123	60 - 140
Chloroform	5.00	4.88	24.4	23.8	98	70 - 130
Dichlorodifluoromethane	5.00	6.71	24.7	33.2	134	60 - 140
1,1-Dichloroethane	5.00	4.30	20.2	17.4	86	70 - 130
1,2-Dichloroethane	5.00	4.76	20.2	19.2	95	70 - 130
cis-1,2-Dichloroethene	5.00	4.98	19.8	19.8	100	70 - 130
trans-1,2-Dichloroethene	5.00	5.13	19.8	20.3	103	70 - 130
1,1-Dichloroethene	5.00	5.07	19.8	20.1	101	70 - 130
Ethylbenzene	5.00	4.10	21.7	17.8	82	70 - 130
Methylene chloride	5.00	4.49	17.4	15.6	90	70 - 130
Methyl tert-butyl ether	5.00	3.99	18.0	14.4	80	60 - 140
Naphthalene	5.00	7.85	26.2	41.2 a	157 a	40 - 140
Tetrachloroethene	5.00	5.33	33.9	36.2	107	70 - 130
Toluene	5.00	3.90	18.8	14.7	78	70 - 130
1,2,4-Trichlorobenzene	5.00	8.23	37.1	61.1 a	165 a	60 - 140
1,1,1-Trichloroethane	5.00	5.56	27.3	30.3	111	70 - 130
1,1,2-Trichloroethane	5.00	4.00	27.3	21.8	80	70 - 130
Trichloroethene	5.00	6.18	26.9	33.2	124	70 - 130
1,2,3-Trimethylbenzene	5.00	4.80	24.6	23.6	96	20 - 180
1,2,4-Trimethylbenzene	5.00	4.45	24.6	21.9	89	70 - 130
1,3,5-Trimethylbenzene	5.00	4.77	24.6	23.4	95	70 - 130
Vinyl chloride	5.00	4.62	12.8	11.8	92	70 - 130
Xylenes (total)	15.0	12.5	65.1	54.2	83	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

a Spiked analyte recovery is outside stated control limits.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C050000 - 117B **Work Order #** MQ8MN1AA **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/05/2012
Prep Batch #.....:	2065117	**Analysis Time....:**	11:27
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.050 J**	**0.20**	**0.018**	**0.17 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C050000 - 117C **Work Order #** MQ8MN1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/05/2012
Prep Batch #.....:	2065117	**Analysis Time....:**	09:32
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.47	16.0	14.3	89	70 - 130
Carbon tetrachloride	5.00	4.94	31.5	31.1	99	70 - 130
Chlorodifluoromethane	5.00	3.75	17.7	13.3	75	60 - 140
Chloroform	5.00	4.78	24.4	23.3	96	70 - 130
Dichlorodifluoromethane	5.00	4.91	24.7	24.3	98	60 - 140
1,1-Dichloroethane	5.00	4.82	20.2	19.5	96	70 - 130
1,2-Dichloroethane	5.00	4.62	20.2	18.7	92	70 - 130
cis-1,2-Dichloroethene	5.00	4.85	19.8	19.2	97	70 - 130
trans-1,2-Dichloroethene	5.00	4.79	19.8	19.0	96	70 - 130
1,1-Dichloroethene	5.00	4.70	19.8	18.6	94	70 - 130
Ethylbenzene	5.00	5.06	21.7	22.0	101	70 - 130
Methylene chloride	5.00	4.27	17.4	14.8	85	70 - 130
Methyl tert-butyl ether	5.00	5.03	18.0	18.1	101	60 - 140
Naphthalene	5.00	3.56	26.2	18.6	71	40 - 140
Tetrachloroethene	5.00	4.77	33.9	32.4	95	70 - 130
Toluene	5.00	4.94	18.8	18.6	99	70 - 130
1,2,4-Trichlorobenzene	5.00	3.77	37.1	28.0	75	60 - 140
1,1,1-Trichloroethane	5.00	4.76	27.3	26.0	95	70 - 130
1,1,2-Trichloroethane	5.00	4.96	27.3	27.1	99	70 - 130
Trichloroethene	5.00	4.56	26.9	24.5	91	70 - 130
1,2,3-Trimethylbenzene	5.10	4.97	25.1	24.4	97	20 - 180
1,2,4-Trimethylbenzene	5.00	4.75	24.6	23.4	95	70 - 130
1,3,5-Trimethylbenzene	5.00	4.90	24.6	24.1	98	70 - 130
Vinyl chloride	5.00	4.81	12.8	12.3	96	70 - 130
Xylenes (total)	15.0	15.2	65.1	65.8	101	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C060000 - 141B **Work Order #** MQ9GW1AA **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	13:32
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.050 J**	**0.20**	**0.018**	**0.17 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C060000 - 141C **Work Order #** MQ9GW1AC **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	10:33
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.71	16.0	15.0	94	70 - 130
Carbon tetrachloride	5.00	5.03	31.5	31.7	101	70 - 130
Chlorodifluoromethane	5.00	5.32	17.7	18.8	106	60 - 140
Chloroform	5.00	5.19	24.4	25.3	104	70 - 130
Dichlorodifluoromethane	5.00	5.83	24.7	28.9	117	60 - 140
1,1-Dichloroethane	5.00	5.23	20.2	21.2	105	70 - 130
1,2-Dichloroethane	5.00	5.24	20.2	21.2	105	70 - 130
cis-1,2-Dichloroethene	5.00	5.00	19.8	19.8	100	70 - 130
trans-1,2-Dichloroethene	5.00	5.14	19.8	20.4	103	70 - 130
1,1-Dichloroethene	5.00	5.37	19.8	21.3	107	70 - 130
Ethylbenzene	5.00	5.25	21.7	22.8	105	70 - 130
Methylene chloride	5.00	4.62	17.4	16.0	92	70 - 130
Methyl tert-butyl ether	5.00	5.71	18.0	20.6	114	60 - 140
Naphthalene	5.00	3.79	26.2	19.9	76	40 - 140
Tetrachloroethene	5.00	5.10	33.9	34.6	102	70 - 130
Toluene	5.00	5.10	18.8	19.2	102	70 - 130
1,2,4-Trichlorobenzene	5.00	3.86	37.1	28.6	77	60 - 140
1,1,1-Trichloroethane	5.00	5.26	27.3	28.7	105	70 - 130
1,1,2-Trichloroethane	5.00	5.24	27.3	28.6	105	70 - 130
Trichloroethene	5.00	4.66	26.9	25.1	93	70 - 130
1,2,3-Trimethylbenzene	5.10	4.99	25.1	24.5	98	20 - 180
1,2,4-Trimethylbenzene	5.00	4.86	24.6	23.9	97	70 - 130
1,3,5-Trimethylbenzene	5.00	4.98	24.6	24.5	100	70 - 130
Vinyl chloride	5.00	5.65	12.8	14.4	113	70 - 130
Xylenes (total)	15.0	15.9	65.1	68.9	106	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV130-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 001	**Work Order #**	MQ21A1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**7.0**	**0.80**	**23**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**0.65 J B**	**0.80**	**2.3 J B**	**2.8**
Chloroform	**24**	**0.80**	**110**	**3.9**
Dichlorodifluoromethane	**0.80**	**0.80**	**4.0**	**4.0**
1,1-Dichloroethane	**7.8**	**0.80**	**31**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	**0.32 J**	**0.80**	**1.3 J**	**3.2**
trans-1,2-Dichloroethene	**0.30 J**	**0.80**	**1.2 J**	**3.2**
1,1-Dichloroethene	**24**	**0.80**	**97**	**3.2**
Ethylbenzene	**3.8**	**0.80**	**16**	**3.5**
Methylene chloride	**4.9 B**	**2.0**	**17 B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**82**	**2.0**	**430**	**10**
Tetrachloroethene	**0.83**	**0.80**	**5.6**	**5.4**
Toluene	**13**	**0.80**	**47**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**140**	**0.80**	**790**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**97**	**0.40**	**520**	**2.1**
1,2,3-Trimethylbenzene	**7.6**	**0.80**	**38**	**3.9**
1,2,4-Trimethylbenzene	**19**	**0.80**	**94**	**3.9**
1,3,5-Trimethylbenzene	**5.2**	**0.80**	**26**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**21**	**1.6**	**91**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV130-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 001	**Work Order #**	MQ21A1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV131-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 002	**Work Order #**	MQ21C1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**2.0**	**0.80**	**6.3**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**1.9 B**	**0.80**	**6.8 B**	**2.8**
Chloroform	**0.44 J**	**0.80**	**2.1 J**	**3.9**
Dichlorodifluoromethane	**0.52 J**	**0.80**	**2.6 J**	**4.0**
1,1-Dichloroethane	**1.1**	**0.80**	**4.5**	**3.2**
1,2-Dichloroethane	**0.43 J**	**0.80**	**1.7 J**	**3.2**
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	**0.89**	**0.80**	**3.5**	**3.2**
1,1-Dichloroethene	**1.5**	**0.80**	**5.8**	**3.2**
Ethylbenzene	**32**	**0.80**	**140**	**3.5**
Methylene chloride	**5.5 B**	**2.0**	**19 B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**34**	**2.0**	**180**	**10**
Tetrachloroethene	**0.26 J**	**0.80**	**1.8 J**	**5.4**
Toluene	**59**	**0.80**	**220**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**2.2**	**0.80**	**12**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.17 J**	**0.40**	**0.92 J**	**2.1**
1,2,3-Trimethylbenzene	**6.3**	**0.80**	**31**	**3.9**
1,2,4-Trimethylbenzene	**20**	**0.80**	**99**	**3.9**
1,3,5-Trimethylbenzene	**7.0**	**0.80**	**34**	**3.9**
Vinyl chloride	**0.41 J**	**0.80**	**1.1 J**	**2.0**
Xylenes (total)	**170**	**1.6**	**750**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV131-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 002	**Work Order #**	MQ21C1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV129-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 003	**Work Order #**	MQ21D1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.57 J**	**0.80**	**1.8 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**0.82 B**	**0.80**	**2.9 B**	**2.8**
Chloroform	**1.5**	**0.80**	**7.1**	**3.9**
Dichlorodifluoromethane	**0.41 J**	**0.80**	**2.0 J**	**4.0**
1,1-Dichloroethane	**10**	**0.80**	**42**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	**2.1**	**0.80**	**8.5**	**3.2**
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	**34**	**0.80**	**130**	**3.2**
Ethylbenzene	**2.1**	**0.80**	**8.9**	**3.5**
Methylene chloride	**0.63 J B**	**2.0**	**2.2 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**16**	**2.0**	**86**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**3.2**	**0.80**	**12**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.26 J**	**0.80**	**1.4 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**50**	**0.40**	**270**	**2.1**
1,2,3-Trimethylbenzene	**2.8**	**0.80**	**14**	**3.9**
1,2,4-Trimethylbenzene	**5.2**	**0.80**	**25**	**3.9**
1,3,5-Trimethylbenzene	**1.5**	**0.80**	**7.2**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**10**	**1.6**	**45**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV129-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 003	**Work Order #**	MQ21D1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV112-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 004	**Work Order #**	MQ21E1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**10 B**	**0.80**	**37 B**	**2.8**
Chloroform	**0.16 J**	**0.80**	**0.79 J**	**3.9**
Dichlorodifluoromethane	**1.4**	**0.80**	**6.8**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.1**	**0.80**	**5.0**	**3.5**
Methylene chloride	**0.82 J B**	**2.0**	**2.9 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**38**	**2.0**	**200**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**0.99**	**0.80**	**3.7**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.13 J**	**0.80**	**0.71 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	**0.34 J**	**0.80**	**1.6 J**	**3.9**
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**9.9**	**1.6**	**43**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV112-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 004	**Work Order #**	MQ21E1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV104-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 005	**Work Order #**	MQ21F1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.37 J**	**0.80**	**1.2 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**0.90 B**	**0.80**	**3.2 B**	**2.8**
Chloroform	**0.34 J**	**0.80**	**1.7 J**	**3.9**
Dichlorodifluoromethane	**0.40 J**	**0.80**	**2.0 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.9**	**0.80**	**8.1**	**3.5**
Methylene chloride	**0.65 J B**	**2.0**	**2.3 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**2.9**	**2.0**	**15**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**5.5**	**0.80**	**21**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.20 J**	**0.40**	**1.1 J**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	**1.2**	**0.80**	**5.9**	**3.9**
1,3,5-Trimethylbenzene	**0.29 J**	**0.80**	**1.4 J**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**8.2**	**1.6**	**36**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV104-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 005	**Work Order #**	MQ21F1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV044-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 006	**Work Order #**	MQ21G1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.26 J**	**0.80**	**0.82 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**3.9 B**	**0.80**	**14 B**	**2.8**
Chloroform	**0.66 J**	**0.80**	**3.2 J**	**3.9**
Dichlorodifluoromethane	**0.43 J**	**0.80**	**2.1 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.5**	**0.80**	**6.4**	**3.5**
Methylene chloride	**0.91 J B**	**2.0**	**3.2 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**46**	**2.0**	**240**	**10**
Tetrachloroethene	**0.22 J**	**0.80**	**1.5 J**	**5.4**
Toluene	**2.1**	**0.80**	**7.8**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**8.3**	**0.40**	**44**	**2.1**
1,2,3-Trimethylbenzene	**4.5**	**0.80**	**22**	**3.9**
1,2,4-Trimethylbenzene	**7.0**	**0.80**	**34**	**3.9**
1,3,5-Trimethylbenzene	**2.0**	**0.80**	**10**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**9.8**	**1.6**	**43**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV044-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 006	**Work Order #**	MQ21G1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV057-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 007	**Work Order #**	MQ21H1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**14 B**	**0.80**	**51 B**	**2.8**
Chloroform	ND	0.80	ND	3.9
Dichlorodifluoromethane	**0.45 J**	**0.80**	**2.2 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	ND	0.80	ND	3.5
Methylene chloride	**0.77 J B**	**2.0**	**2.7 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**1.8 J**	**2.0**	**9.2 J**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**1.4**	**0.80**	**5.1**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	ND	0.80	ND	3.9
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**0.94 J**	**1.6**	**4.1 J**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV057-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 007	**Work Order #**	MQ21H1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SVB5-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 008	**Work Order #**	MQ21J1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	166	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	13	ND	42
Carbon tetrachloride	ND	13	ND	84
Chlorodifluoromethane	ND	13	ND	47
Chloroform	**2.8 J**	**13**	**14 J**	**65**
Dichlorodifluoromethane	ND	13	ND	66
1,1-Dichloroethane	ND	13	ND	54
1,2-Dichloroethane	ND	13	ND	54
cis-1,2-Dichloroethene	**55**	**13**	**220**	**53**
trans-1,2-Dichloroethene	**3.7 J**	**13**	**15 J**	**53**
1,1-Dichloroethene	ND	13	ND	53
Ethylbenzene	**9.2 J**	**13**	**40 J**	**58**
Methylene chloride	**6.7 J B**	**33**	**23 J B**	**120**
Methyl tert-butyl ether	ND	66	ND	240
Naphthalene	**98**	**33**	**510**	**170**
Tetrachloroethene	**3.2 J**	**13**	**22 J**	**90**
Toluene	**13**	**13**	**49**	**50**
1,2,4-Trichlorobenzene	ND	66	ND	490
1,1,1-Trichloroethane	ND	13	ND	72
1,1,2-Trichloroethane	ND	13	ND	72
Trichloroethene	**2000**	**6.6**	**11000**	**36**
1,2,3-Trimethylbenzene	ND	13	ND	65
1,2,4-Trimethylbenzene	**17**	**13**	**81**	**65**
1,3,5-Trimethylbenzene	**5.5 J**	**13**	**27 J**	**65**
Vinyl chloride	ND	13	ND	34
Xylenes (total)	**49**	**27**	**210**	**120**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SVB5-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 008	**Work Order #**	MQ21J1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV088-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 009	**Work Order #**	MQ21K1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	56	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	4.5	ND	14
Carbon tetrachloride	ND	4.5	ND	28
Chlorodifluoromethane	**9.7 B**	**4.5**	**34 B**	**16**
Chloroform	**2.0 J**	**4.5**	**9.7 J**	**22**
Dichlorodifluoromethane	ND	4.5	ND	22
1,1-Dichloroethane	ND	4.5	ND	18
1,2-Dichloroethane	ND	4.5	ND	18
cis-1,2-Dichloroethene	**170**	**4.5**	**670**	**18**
trans-1,2-Dichloroethene	**3.6 J**	**4.5**	**14 J**	**18**
1,1-Dichloroethene	**0.82 J**	**4.5**	**3.3 J**	**18**
Ethylbenzene	**3.6 J**	**4.5**	**15 J**	**19**
Methylene chloride	**2.7 J B**	**11**	**9.4 J B**	**39**
Methyl tert-butyl ether	ND	22	ND	81
Naphthalene	**100**	**11**	**540**	**59**
Tetrachloroethene	ND	4.5	ND	30
Toluene	**3.1 J**	**4.5**	**12 J**	**17**
1,2,4-Trichlorobenzene	ND	22	ND	170
1,1,1-Trichloroethane	ND	4.5	ND	24
1,1,2-Trichloroethane	ND	4.5	ND	24
Trichloroethene	**710**	**2.2**	**3800**	**12**
1,2,3-Trimethylbenzene	**6.0**	**4.5**	**30**	**22**
1,2,4-Trimethylbenzene	**8.0**	**4.5**	**39**	**22**
1,3,5-Trimethylbenzene	**2.3 J**	**4.5**	**11 J**	**22**
Vinyl chloride	ND	4.5	ND	11
Xylenes (total)	**35**	**9.0**	**150**	**39**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV088-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 009	**Work Order #**	MQ21K1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV113-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 010	**Work Order #**	MQ21L1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	81.17	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	6.5	ND	21
Carbon tetrachloride	ND	6.5	ND	41
Chlorodifluoromethane	**3.6 J B**	**6.5**	**13 J B**	**23**
Chloroform	**7.8**	**6.5**	**38**	**32**
Dichlorodifluoromethane	ND	6.5	ND	32
1,1-Dichloroethane	ND	6.5	ND	26
1,2-Dichloroethane	ND	6.5	ND	26
cis-1,2-Dichloroethene	**130**	**6.5**	**500**	**26**
trans-1,2-Dichloroethene	ND	6.5	ND	26
1,1-Dichloroethene	ND	6.5	ND	26
Ethylbenzene	ND	6.5	ND	28
Methylene chloride	**3.5 J B**	**16**	**12 J B**	**56**
Methyl tert-butyl ether	ND	32	ND	120
Naphthalene	**12 J**	**16**	**64 J**	**85**
Tetrachloroethene	**2.0 J**	**6.5**	**14 J**	**44**
Toluene	**4.0 J**	**6.5**	**15 J**	**24**
1,2,4-Trichlorobenzene	ND	32	ND	240
1,1,1-Trichloroethane	ND	6.5	ND	35
1,1,2-Trichloroethane	ND	6.5	ND	35
Trichloroethene	**1100**	**3.2**	**5700**	**17**
1,2,3-Trimethylbenzene	ND	6.5	ND	32
1,2,4-Trimethylbenzene	ND	6.5	ND	32
1,3,5-Trimethylbenzene	ND	6.5	ND	32
Vinyl chloride	ND	6.5	ND	17
Xylenes (total)	ND	13	ND	56

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV113-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 010	**Work Order #**	MQ21L1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV115-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 011	**Work Order #**	MQ21M1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**1.4 B**	**0.80**	**4.8 B**	**2.8**
Chloroform	**0.15 J**	**0.80**	**0.76 J**	**3.9**
Dichlorodifluoromethane	**0.53 J**	**0.80**	**2.6 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**0.30 J**	**0.80**	**1.3 J**	**3.5**
Methylene chloride	**0.99 J B**	**2.0**	**3.4 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**0.70 J**	**2.0**	**3.7 J**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**0.63 J**	**0.80**	**2.4 J**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.33 J**	**0.80**	**1.8 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.96**	**0.40**	**5.2**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	ND	0.80	ND	3.9
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**2.9**	**1.6**	**13**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV115-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 011	**Work Order #**	MQ21M1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV114-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 012	**Work Order #**	MQ21N1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.26 J**	**0.80**	**0.83 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**4.6 B**	**0.80**	**16 B**	**2.8**
Chloroform	**4.3**	**0.80**	**21**	**3.9**
Dichlorodifluoromethane	**1.2**	**0.80**	**6.0**	**4.0**
1,1-Dichloroethane	**0.36 J**	**0.80**	**1.5 J**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	**0.44 J**	**0.80**	**1.7 J**	**3.2**
Ethylbenzene	**2.6**	**0.80**	**11**	**3.5**
Methylene chloride	**1.8 J B**	**2.0**	**6.4 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**3.1**	**2.0**	**16**	**10**
Tetrachloroethene	**4.2**	**0.80**	**28**	**5.4**
Toluene	**1.1**	**0.80**	**4.0**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**48**	**0.80**	**260**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**13**	**0.40**	**72**	**2.1**
1,2,3-Trimethylbenzene	**0.83**	**0.80**	**4.1**	**3.9**
1,2,4-Trimethylbenzene	**2.9**	**0.80**	**14**	**3.9**
1,3,5-Trimethylbenzene	**0.70 J**	**0.80**	**3.5 J**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**19**	**1.6**	**84**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV114-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 012	**Work Order #**	MQ21N1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV134-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 013	**Work Order #**	MQ21P1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.52 J**	**0.80**	**1.6 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**1.3 B**	**0.80**	**4.6 B**	**2.8**
Chloroform	**3.3**	**0.80**	**16**	**3.9**
Dichlorodifluoromethane	**0.49 J**	**0.80**	**2.4 J**	**4.0**
1,1-Dichloroethane	**0.72 J**	**0.80**	**2.9 J**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**4.1**	**0.80**	**18**	**3.5**
Methylene chloride	**0.92 J B**	**2.0**	**3.2 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**46**	**2.0**	**240**	**10**
Tetrachloroethene	**0.76 J**	**0.80**	**5.2 J**	**5.4**
Toluene	**4.8**	**0.80**	**18**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.39 J**	**0.80**	**2.1 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	**6.8**	**0.80**	**34**	**3.9**
1,2,4-Trimethylbenzene	**12**	**0.80**	**57**	**3.9**
1,3,5-Trimethylbenzene	**4.0**	**0.80**	**19**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**21**	**1.6**	**92**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV134-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 013	**Work Order #**	MQ21P1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV133-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 014	**Work Order #**	MQ21Q1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	805.6	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	64	ND	210
Carbon tetrachloride	ND	64	ND	410
Chlorodifluoromethane	**420 B**	**64**	**1500 B**	**230**
Chloroform	**17 J**	**64**	**83 J**	**310**
Dichlorodifluoromethane	**26 J**	**64**	**130 J**	**320**
1,1-Dichloroethane	ND	64	ND	260
1,2-Dichloroethane	ND	64	ND	260
cis-1,2-Dichloroethene	ND	64	ND	260
trans-1,2-Dichloroethene	ND	64	ND	260
1,1-Dichloroethene	ND	64	ND	260
Ethylbenzene	ND	64	ND	280
Methylene chloride	**770 B**	**160**	**2700 B**	**560**
Methyl tert-butyl ether	ND	320	ND	1200
Naphthalene	**420**	**160**	**2200**	**840**
Tetrachloroethene	**330**	**64**	**2200**	**440**
Toluene	**49 J**	**64**	**180 J**	**240**
1,2,4-Trichlorobenzene	ND	320	ND	2400
1,1,1-Trichloroethane	ND	64	ND	350
1,1,2-Trichloroethane	ND	64	ND	350
Trichloroethene	**18000 E**	**32**	**99000 E**	**170**
1,2,3-Trimethylbenzene	ND	64	ND	320
1,2,4-Trimethylbenzene	ND	64	ND	320
1,3,5-Trimethylbenzene	ND	64	ND	320
Vinyl chloride	ND	64	ND	160
Xylenes (total)	**40 J**	**130**	**170 J**	**560**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
E	Estimated result. Result concentration exceeds the calibration range.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV133-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 014	**Work Order #**	MQ21Q1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV133-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 014	**Work Order #**	MQ21Q2AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	4494.7	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Trichloroethene	**9300 D**	**180**	**50000 D**	**970**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

D Result was obtained from the analysis of a dilution.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV111-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 015	**Work Order #**	MQ21R1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.53 J**	**0.80**	**1.7 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**8.5 B**	**0.80**	**30 B**	**2.8**
Chloroform	**8.0**	**0.80**	**39**	**3.9**
Dichlorodifluoromethane	**0.51 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	**1.2**	**0.80**	**4.8**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	**0.52 J**	**0.80**	**2.1 J**	**3.2**
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	**0.84**	**0.80**	**3.3**	**3.2**
Ethylbenzene	**3.7**	**0.80**	**16**	**3.5**
Methylene chloride	**0.86 J B**	**2.0**	**3.0 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**140**	**2.0**	**750**	**10**
Tetrachloroethene	**0.19 J**	**0.80**	**1.3 J**	**5.4**
Toluene	**1.3**	**0.80**	**5.0**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.27 J**	**0.80**	**1.5 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**68**	**0.40**	**370**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	**0.75 J**	**0.80**	**3.7 J**	**3.9**
1,3,5-Trimethylbenzene	**0.47 J**	**0.80**	**2.3 J**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**42**	**1.6**	**180**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV111-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 015	**Work Order #**	MQ21R1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV060-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 016	**Work Order #**	MQ21T1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	145.45	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	12	ND	37
Carbon tetrachloride	ND	12	ND	73
Chlorodifluoromethane	**5.1 J B**	**12**	**18 J B**	**41**
Chloroform	**12**	**12**	**56**	**57**
Dichlorodifluoromethane	ND	12	ND	58
1,1-Dichloroethane	**18**	**12**	**71**	**47**
1,2-Dichloroethane	ND	12	ND	47
cis-1,2-Dichloroethene	**50**	**12**	**200**	**46**
trans-1,2-Dichloroethene	**6.6 J**	**12**	**26 J**	**46**
1,1-Dichloroethene	**2.7 J**	**12**	**11 J**	**46**
Ethylbenzene	**43**	**12**	**190**	**51**
Methylene chloride	**7.3 J B**	**29**	**25 J B**	**100**
Methyl tert-butyl ether	ND	58	ND	210
Naphthalene	**53**	**29**	**280**	**150**
Tetrachloroethene	**3.3 J**	**12**	**23 J**	**79**
Toluene	**3.7 J**	**12**	**14 J**	**44**
1,2,4-Trichlorobenzene	ND	58	ND	430
1,1,1-Trichloroethane	**2.0 J**	**12**	**11 J**	**63**
1,1,2-Trichloroethane	ND	12	ND	63
Trichloroethene	**570**	**5.8**	**3000**	**31**
1,2,3-Trimethylbenzene	ND	12	ND	57
1,2,4-Trimethylbenzene	**4.0 J**	**12**	**20 J**	**57**
1,3,5-Trimethylbenzene	ND	12	ND	57
Vinyl chloride	ND	12	ND	30
Xylenes (total)	**290**	**23**	**1200**	**100**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	91	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV060-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 016	**Work Order #**	MQ21T1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV132-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 017	**Work Order #**	MQ21W1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**1.1**	**0.80**	**3.6**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**5.3**	**0.80**	**19**	**2.8**
Chloroform	**0.59 J**	**0.80**	**2.9 J**	**3.9**
Dichlorodifluoromethane	**0.65 J**	**0.80**	**3.2 J**	**4.0**
1,1-Dichloroethane	**0.18 J**	**0.80**	**0.73 J**	**3.2**
1,2-Dichloroethane	**0.23 J**	**0.80**	**0.94 J**	**3.2**
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	**0.51 J**	**0.80**	**2.0 J**	**3.2**
1,1-Dichloroethene	**0.46 J**	**0.80**	**1.8 J**	**3.2**
Ethylbenzene	**5.5**	**0.80**	**24**	**3.5**
Methylene chloride	**1.2 J B**	**2.0**	**4.2 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**77**	**2.0**	**410**	**10**
Tetrachloroethene	**0.29 J**	**0.80**	**1.9 J**	**5.4**
Toluene	**8.0**	**0.80**	**30**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.34 J**	**0.80**	**1.8 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.66**	**0.40**	**3.5**	**2.1**
1,2,3-Trimethylbenzene	**8.2**	**0.80**	**40**	**3.9**
1,2,4-Trimethylbenzene	**14**	**0.80**	**68**	**3.9**
1,3,5-Trimethylbenzene	**4.1**	**0.80**	**20**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**30**	**1.6**	**130**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV132-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 017	**Work Order #**	MQ21W1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV127-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 018	**Work Order #**	MQ2101AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	5439.71	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	440	ND	1400
Carbon tetrachloride	ND	440	ND	2700
Chlorodifluoromethane	**320 J B**	**440**	**1100 J B**	**1500**
Chloroform	ND	440	ND	2100
Dichlorodifluoromethane	ND	440	ND	2200
1,1-Dichloroethane	ND	440	ND	1800
1,2-Dichloroethane	ND	440	ND	1800
cis-1,2-Dichloroethene	ND	440	ND	1700
trans-1,2-Dichloroethene	ND	440	ND	1700
1,1-Dichloroethene	ND	440	ND	1700
Ethylbenzene	ND	440	ND	1900
Methylene chloride	**510 J B**	**1100**	**1800 J B**	**3800**
Methyl tert-butyl ether	ND	2200	ND	7800
Naphthalene	**830 J**	**1100**	**4300 J**	**5700**
Tetrachloroethene	ND	440	ND	3000
Toluene	ND	440	ND	1600
1,2,4-Trichlorobenzene	ND	2200	ND	16000
1,1,1-Trichloroethane	ND	440	ND	2400
1,1,2-Trichloroethane	ND	440	ND	2400
Trichloroethene	**46000**	**220**	**240000**	**1200**
1,2,3-Trimethylbenzene	**440**	**440**	**2200**	**2100**
1,2,4-Trimethylbenzene	**820**	**440**	**4000**	**2100**
1,3,5-Trimethylbenzene	**210 J**	**440**	**1000 J**	**2100**
Vinyl chloride	ND	440	ND	1100
Xylenes (total)	**680 J**	**870**	**2900 J**	**3800**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	93	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV127-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 018	**Work Order #**	MQ2101AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SVDUP-1-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 019	**Work Order #**	MQ2111AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	103.44	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	8.3	ND	26
Carbon tetrachloride	ND	8.3	ND	52
Chlorodifluoromethane	**4.3 J B**	**8.3**	**15 J B**	**29**
Chloroform	**19**	**8.3**	**94**	**40**
Dichlorodifluoromethane	ND	8.3	ND	41
1,1-Dichloroethane	**31**	**8.3**	**120**	**33**
1,2-Dichloroethane	ND	8.3	ND	33
cis-1,2-Dichloroethene	**85**	**8.3**	**340**	**33**
trans-1,2-Dichloroethene	**9.5**	**8.3**	**38**	**33**
1,1-Dichloroethene	**3.1 J**	**8.3**	**12 J**	**33**
Ethylbenzene	**100**	**8.3**	**460**	**36**
Methylene chloride	**5.9 J B**	**21**	**20 J B**	**72**
Methyl tert-butyl ether	ND	41	ND	150
Naphthalene	**150**	**21**	**770**	**110**
Tetrachloroethene	**5.8 J**	**8.3**	**40 J**	**56**
Toluene	**7.8 J**	**8.3**	**29 J**	**31**
1,2,4-Trichlorobenzene	ND	41	ND	310
1,1,1-Trichloroethane	**3.2 J**	**8.3**	**17 J**	**45**
1,1,2-Trichloroethane	ND	8.3	ND	45
Trichloroethene	**910**	**4.1**	**4900**	**22**
1,2,3-Trimethylbenzene	ND	8.3	ND	41
1,2,4-Trimethylbenzene	**13**	**8.3**	**64**	**41**
1,3,5-Trimethylbenzene	**3.9 J**	**8.3**	**19 J**	**41**
Vinyl chloride	ND	8.3	ND	21
Xylenes (total)	**710**	**17**	**3100**	**72**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	94	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SVDUP-1-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 019	**Work Order #**	MQ2111AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV128-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 020	**Work Order #**	MQ2121AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	45.45	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**6.2**	**3.6**	**20**	**12**
Carbon tetrachloride	ND	3.6	ND	23
Chlorodifluoromethane	**2.9 J**	**3.6**	**10 J**	**13**
Chloroform	**1.2 J**	**3.6**	**5.9 J**	**18**
Dichlorodifluoromethane	ND	3.6	ND	18
1,1-Dichloroethane	**0.64 J**	**3.6**	**2.6 J**	**15**
1,2-Dichloroethane	ND	3.6	ND	15
cis-1,2-Dichloroethene	**12**	**3.6**	**46**	**14**
trans-1,2-Dichloroethene	**2.5 J**	**3.6**	**9.8 J**	**14**
1,1-Dichloroethene	ND	3.6	ND	14
Ethylbenzene	**54**	**3.6**	**240**	**16**
Methylene chloride	**7.1 J B**	**9.1**	**25 J B**	**32**
Methyl tert-butyl ether	ND	18	ND	66
Naphthalene	**49**	**9.1**	**260**	**48**
Tetrachloroethene	**19**	**3.6**	**130**	**25**
Toluene	**33**	**3.6**	**120**	**14**
1,2,4-Trichlorobenzene	ND	18	ND	130
1,1,1-Trichloroethane	ND	3.6	ND	20
1,1,2-Trichloroethane	ND	3.6	ND	20
Trichloroethene	**3.5**	**1.8**	**19**	**9.8**
1,2,3-Trimethylbenzene	**5.3**	**3.6**	**26**	**18**
1,2,4-Trimethylbenzene	**14**	**3.6**	**67**	**18**
1,3,5-Trimethylbenzene	**4.8**	**3.6**	**24**	**18**
Vinyl chloride	**1.8 J**	**3.6**	**4.5 J**	**9.3**
Xylenes (total)	**360**	**7.3**	**1500**	**32**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	94	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV128-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 020	**Work Order #**	MQ2121AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SVDUP-2-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 021	**Work Order #**	MQ2131AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.42 J**	**0.80**	**1.3 J**	**2.6**
Carbon tetrachloride	**0.24 J**	**0.80**	**1.5 J**	**5.0**
Chlorodifluoromethane	**6.1**	**0.80**	**22**	**2.8**
Chloroform	**0.56 J**	**0.80**	**2.7 J**	**3.9**
Dichlorodifluoromethane	**0.58 J**	**0.80**	**2.9 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.8**	**0.80**	**7.8**	**3.5**
Methylene chloride	**1.2 J B**	**2.0**	**4.1 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**38**	**2.0**	**200**	**10**
Tetrachloroethene	**0.18 J**	**0.80**	**1.2 J**	**5.4**
Toluene	**4.8**	**0.80**	**18**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.15 J**	**0.40**	**0.79 J**	**2.1**
1,2,3-Trimethylbenzene	**1.6**	**0.80**	**8.0**	**3.9**
1,2,4-Trimethylbenzene	**3.9**	**0.80**	**19**	**3.9**
1,3,5-Trimethylbenzene	**0.92**	**0.80**	**4.5**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**9.2**	**1.6**	**40**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SVDUP-2-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 021	**Work Order #**	MQ2131AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV063-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 022	**Work Order #**	MQ2141AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.36 J**	**0.80**	**1.1 J**	**2.6**
Carbon tetrachloride	**0.20 J**	**0.80**	**1.2 J**	**5.0**
Chlorodifluoromethane	**6.0**	**0.80**	**21**	**2.8**
Chloroform	**0.49 J**	**0.80**	**2.4 J**	**3.9**
Dichlorodifluoromethane	**0.50 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.5**	**0.80**	**6.4**	**3.5**
Methylene chloride	**1.1 J B**	**2.0**	**3.7 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**19**	**2.0**	**99**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**4.5**	**0.80**	**17**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	**1.2**	**0.80**	**5.8**	**3.9**
1,2,4-Trimethylbenzene	**2.8**	**0.80**	**14**	**3.9**
1,3,5-Trimethylbenzene	**0.65 J**	**0.80**	**3.2 J**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**7.2**	**1.6**	**31**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV063-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 022	**Work Order #**	MQ2141AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV126-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 023	**Work Order #**	MQ2151AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	172.27	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**27**	**14**	**86**	**44**
Carbon tetrachloride	ND	14	ND	87
Chlorodifluoromethane	**5.6 J**	**14**	**20 J**	**49**
Chloroform	ND	14	ND	67
Dichlorodifluoromethane	ND	14	ND	68
1,1-Dichloroethane	ND	14	ND	56
1,2-Dichloroethane	ND	14	ND	56
cis-1,2-Dichloroethene	**88**	**14**	**350**	**55**
trans-1,2-Dichloroethene	**10 J**	**14**	**41 J**	**55**
1,1-Dichloroethene	**92**	**14**	**360**	**55**
Ethylbenzene	**17**	**14**	**72**	**60**
Methylene chloride	**10 J B**	**34**	**36 J B**	**120**
Methyl tert-butyl ether	ND	69	ND	250
Naphthalene	**47**	**34**	**250**	**180**
Tetrachloroethene	ND	14	ND	93
Toluene	**14**	**14**	**54**	**52**
1,2,4-Trichlorobenzene	ND	69	ND	510
1,1,1-Trichloroethane	ND	14	ND	75
1,1,2-Trichloroethane	ND	14	ND	75
Trichloroethene	**51**	**6.9**	**280**	**37**
1,2,3-Trimethylbenzene	ND	14	ND	68
1,2,4-Trimethylbenzene	**5.8 J**	**14**	**29 J**	**68**
1,3,5-Trimethylbenzene	ND	14	ND	68
Vinyl chloride	**27000 E**	**14**	**68000 E**	**35**
Xylenes (total)	**81**	**28**	**350**	**120**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
E	Estimated result. Result concentration exceeds the calibration range.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV126-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 023	**Work Order #**	MQ2151AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV126-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 023	**Work Order #**	MQ2152AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/06/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2066141				
Dilution Factor.:	6818.2	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Vinyl chloride	**32000 D**	**550**	**82000 D**	**1400**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

D Result was obtained from the analysis of a dilution.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV121-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 024	**Work Order #**	MQ2161AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	**0.90**	**0.80**	**5.7**	**5.0**
Chlorodifluoromethane	**0.75 J**	**0.80**	**2.6 J**	**2.8**
Chloroform	**8.6**	**0.80**	**42**	**3.9**
Dichlorodifluoromethane	**0.46 J**	**0.80**	**2.3 J**	**4.0**
1,1-Dichloroethane	**0.14 J**	**0.80**	**0.58 J**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**3.6**	**0.80**	**16**	**3.5**
Methylene chloride	**0.72 J B**	**2.0**	**2.5 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**76**	**2.0**	**400**	**10**
Tetrachloroethene	**0.35 J**	**0.80**	**2.4 J**	**5.4**
Toluene	**5.6**	**0.80**	**21**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.33 J**	**0.80**	**1.8 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**31**	**0.40**	**170**	**2.1**
1,2,3-Trimethylbenzene	**6.9**	**0.80**	**34**	**3.9**
1,2,4-Trimethylbenzene	**11**	**0.80**	**55**	**3.9**
1,3,5-Trimethylbenzene	**3.4**	**0.80**	**17**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**19**	**1.6**	**83**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV121-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 024	**Work Order #**	MQ2161AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV101-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 025	**Work Order #**	MQ2171AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	19.23	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	1.5	ND	4.9
Carbon tetrachloride	ND	1.5	ND	9.7
Chlorodifluoromethane	**11**	**1.5**	**39**	**5.4**
Chloroform	ND	1.5	ND	7.5
Dichlorodifluoromethane	**0.77 J**	**1.5**	**3.8 J**	**7.6**
1,1-Dichloroethane	ND	1.5	ND	6.2
1,2-Dichloroethane	ND	1.5	ND	6.2
cis-1,2-Dichloroethene	ND	1.5	ND	6.1
trans-1,2-Dichloroethene	ND	1.5	ND	6.1
1,1-Dichloroethene	ND	1.5	ND	6.1
Ethylbenzene	**0.55 J**	**1.5**	**2.4 J**	**6.7**
Methylene chloride	**1.7 J B**	**3.8**	**5.8 J B**	**13**
Methyl tert-butyl ether	ND	7.7	ND	28
Naphthalene	**3.6 J**	**3.8**	**19 J**	**20**
Tetrachloroethene	**0.55 J**	**1.5**	**3.7 J**	**10**
Toluene	**31**	**1.5**	**120**	**5.8**
1,2,4-Trichlorobenzene	ND	7.7	ND	57
1,1,1-Trichloroethane	**3.8**	**1.5**	**21**	**8.4**
1,1,2-Trichloroethane	ND	1.5	ND	8.4
Trichloroethene	**1.4**	**0.77**	**7.3**	**4.1**
1,2,3-Trimethylbenzene	ND	1.5	ND	7.6
1,2,4-Trimethylbenzene	ND	1.5	ND	7.6
1,3,5-Trimethylbenzene	ND	1.5	ND	7.6
Vinyl chloride	ND	1.5	ND	3.9
Xylenes (total)	**2.5 J**	**3.1**	**11 J**	**13**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	94	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV101-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 025	**Work Order #**	MQ2171AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV100-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 026	**Work Order #**	MQ2181AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	**0.31 J**	**0.80**	**2.0 J**	**5.0**
Chlorodifluoromethane	**0.89**	**0.80**	**3.1**	**2.8**
Chloroform	**1.3**	**0.80**	**6.3**	**3.9**
Dichlorodifluoromethane	**0.49 J**	**0.80**	**2.4 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	ND	0.80	ND	3.5
Methylene chloride	**0.72 J B**	**2.0**	**2.5 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**0.52 J**	**2.0**	**2.7 J**	**10**
Tetrachloroethene	**0.16 J**	**0.80**	**1.1 J**	**5.4**
Toluene	**0.46 J**	**0.80**	**1.7 J**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**1.9**	**0.40**	**10**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	ND	0.80	ND	3.9
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	ND	1.6	ND	6.9

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV100-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 026	**Work Order #**	MQ2181AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV122-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 027	**Work Order #**	MQ2191AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.35 J**	**0.80**	**1.1 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**5.5**	**0.80**	**19**	**2.8**
Chloroform	**0.26 J**	**0.80**	**1.3 J**	**3.9**
Dichlorodifluoromethane	**0.51 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**11**	**0.80**	**47**	**3.5**
Methylene chloride	**1.6 J B**	**2.0**	**5.6 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**66**	**2.0**	**350**	**10**
Tetrachloroethene	**1.1**	**0.80**	**7.2**	**5.4**
Toluene	**12**	**0.80**	**45**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**1.1**	**0.40**	**5.8**	**2.1**
1,2,3-Trimethylbenzene	**6.0**	**0.80**	**29**	**3.9**
1,2,4-Trimethylbenzene	**12**	**0.80**	**59**	**3.9**
1,3,5-Trimethylbenzene	**3.7**	**0.80**	**18**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**58**	**1.6**	**250**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV122-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 027	**Work Order #**	MQ2191AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV105-Z-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 028	**Work Order #**	MQ22A1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	45.45	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	3.6	ND	12
Carbon tetrachloride	ND	3.6	ND	23
Chlorodifluoromethane	**1.2 J**	**3.6**	**4.3 J**	**13**
Chloroform	ND	3.6	ND	18
Dichlorodifluoromethane	ND	3.6	ND	18
1,1-Dichloroethane	ND	3.6	ND	15
1,2-Dichloroethane	ND	3.6	ND	15
cis-1,2-Dichloroethene	**5.3**	**3.6**	**21**	**14**
trans-1,2-Dichloroethene	ND	3.6	ND	14
1,1-Dichloroethene	ND	3.6	ND	14
Ethylbenzene	**3.9**	**3.6**	**17**	**16**
Methylene chloride	**2.8 J B**	**9.1**	**9.6 J B**	**32**
Methyl tert-butyl ether	ND	18	ND	66
Naphthalene	**9.4**	**9.1**	**49**	**48**
Tetrachloroethene	ND	3.6	ND	25
Toluene	**220**	**3.6**	**810**	**14**
1,2,4-Trichlorobenzene	ND	18	ND	130
1,1,1-Trichloroethane	ND	3.6	ND	20
1,1,2-Trichloroethane	ND	3.6	ND	20
Trichloroethene	**11**	**1.8**	**59**	**9.8**
1,2,3-Trimethylbenzene	ND	3.6	ND	18
1,2,4-Trimethylbenzene	ND	3.6	ND	18
1,3,5-Trimethylbenzene	ND	3.6	ND	18
Vinyl chloride	ND	3.6	ND	9.3
Xylenes (total)	**24**	**7.3**	**100**	**32**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	94	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV105-Z-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 028	**Work Order #**	MQ22A1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV123-Z-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 029	**Work Order #**	MQ22C1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	45.45	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	3.6	ND	12
Carbon tetrachloride	ND	3.6	ND	23
Chlorodifluoromethane	**1.4 J**	**3.6**	**4.9 J**	**13**
Chloroform	ND	3.6	ND	18
Dichlorodifluoromethane	ND	3.6	ND	18
1,1-Dichloroethane	ND	3.6	ND	15
1,2-Dichloroethane	ND	3.6	ND	15
cis-1,2-Dichloroethene	ND	3.6	ND	14
trans-1,2-Dichloroethene	ND	3.6	ND	14
1,1-Dichloroethene	ND	3.6	ND	14
Ethylbenzene	**7.0**	**3.6**	**30**	**16**
Methylene chloride	**2.0 J B**	**9.1**	**7.0 J B**	**32**
Methyl tert-butyl ether	ND	18	ND	66
Naphthalene	**49**	**9.1**	**260**	**48**
Tetrachloroethene	ND	3.6	ND	25
Toluene	**270**	**3.6**	**1000**	**14**
1,2,4-Trichlorobenzene	ND	18	ND	130
1,1,1-Trichloroethane	ND	3.6	ND	20
1,1,2-Trichloroethane	ND	3.6	ND	20
Trichloroethene	**3.8**	**1.8**	**21**	**9.8**
1,2,3-Trimethylbenzene	ND	3.6	ND	18
1,2,4-Trimethylbenzene	**6.6**	**3.6**	**33**	**18**
1,3,5-Trimethylbenzene	**1.9 J**	**3.6**	**9.4 J**	**18**
Vinyl chloride	ND	3.6	ND	9.3
Xylenes (total)	**39**	**7.3**	**170**	**32**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV123-Z-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 029	**Work Order #**	MQ22C1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV050-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 030	**Work Order #**	MQ22D1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.49 J**	**0.80**	**1.6 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**2.7**	**0.80**	**9.5**	**2.8**
Chloroform	**1.6**	**0.80**	**8.0**	**3.9**
Dichlorodifluoromethane	**0.47 J**	**0.80**	**2.3 J**	**4.0**
1,1-Dichloroethane	**0.22 J**	**0.80**	**0.90 J**	**3.2**
1,2-Dichloroethane	**0.21 J**	**0.80**	**0.84 J**	**3.2**
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	**0.36 J**	**0.80**	**1.4 J**	**3.2**
1,1-Dichloroethene	**0.25 J**	**0.80**	**1.00 J**	**3.2**
Ethylbenzene	**3.4**	**0.80**	**15**	**3.5**
Methylene chloride	**1.4 J B**	**2.0**	**4.8 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**3.2**	**2.0**	**17**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**10**	**0.80**	**39**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**1.7**	**0.80**	**9.1**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**2.2**	**0.40**	**12**	**2.1**
1,2,3-Trimethylbenzene	**2.5**	**0.80**	**12**	**3.9**
1,2,4-Trimethylbenzene	**5.0**	**0.80**	**24**	**3.9**
1,3,5-Trimethylbenzene	**1.9**	**0.80**	**9.2**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**16**	**1.6**	**69**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV050-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 030	**Work Order #**	MQ22D1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV103-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 031	**Work Order #**	MQ22E1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.28 J**	**0.80**	**0.89 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**5.1**	**0.80**	**18**	**2.8**
Chloroform	ND	0.80	ND	3.9
Dichlorodifluoromethane	**0.47 J**	**0.80**	**2.3 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**4.6**	**0.80**	**20**	**3.5**
Methylene chloride	**1.6 J B**	**2.0**	**5.6 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**13**	**2.0**	**70**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**0.64 J**	**0.80**	**2.4 J**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	**0.41 J**	**0.80**	**2.0 J**	**3.9**
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**47**	**1.6**	**210**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV103-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 031	**Work Order #**	MQ22E1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV124-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 032	**Work Order #**	MQ22F1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**2.0**	**0.80**	**6.4**	**2.6**
Carbon tetrachloride	**0.16 J**	**0.80**	**1.0 J**	**5.0**
Chlorodifluoromethane	**2.1**	**0.80**	**7.4**	**2.8**
Chloroform	**7.9**	**0.80**	**38**	**3.9**
Dichlorodifluoromethane	**0.53 J**	**0.80**	**2.6 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	**0.83**	**0.80**	**3.3**	**3.2**
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	**0.14 J**	**0.80**	**0.54 J**	**3.2**
Ethylbenzene	**3.0**	**0.80**	**13**	**3.5**
Methylene chloride	**0.84 J B**	**2.0**	**2.9 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**25**	**2.0**	**130**	**10**
Tetrachloroethene	**1.3**	**0.80**	**9.0**	**5.4**
Toluene	**8.9**	**0.80**	**33**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**2.3**	**0.40**	**12**	**2.1**
1,2,3-Trimethylbenzene	**1.9**	**0.80**	**9.4**	**3.9**
1,2,4-Trimethylbenzene	**4.4**	**0.80**	**21**	**3.9**
1,3,5-Trimethylbenzene	**1.3**	**0.80**	**6.4**	**3.9**
Vinyl chloride	**16**	**0.80**	**41**	**2.0**
Xylenes (total)	**14**	**1.6**	**62**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV124-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 032	**Work Order #**	MQ22F1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV091-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 033	**Work Order #**	MQ22G1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.88**	**0.80**	**2.8**	**2.6**
Carbon tetrachloride	**0.22 J**	**0.80**	**1.4 J**	**5.0**
Chlorodifluoromethane	**1.5**	**0.80**	**5.2**	**2.8**
Chloroform	**7.5**	**0.80**	**37**	**3.9**
Dichlorodifluoromethane	**0.50 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**2.1**	**0.80**	**9.1**	**3.5**
Methylene chloride	**2.3 B**	**2.0**	**8.0 B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**12**	**2.0**	**65**	**10**
Tetrachloroethene	**1.3**	**0.80**	**9.1**	**5.4**
Toluene	**5.1**	**0.80**	**19**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**2.7**	**0.40**	**15**	**2.1**
1,2,3-Trimethylbenzene	**1.0**	**0.80**	**4.9**	**3.9**
1,2,4-Trimethylbenzene	**2.7**	**0.80**	**13**	**3.9**
1,3,5-Trimethylbenzene	**0.73 J**	**0.80**	**3.6 J**	**3.9**
Vinyl chloride	**2.1**	**0.80**	**5.3**	**2.0**
Xylenes (total)	**9.6**	**1.6**	**42**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV091-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 033	**Work Order #**	MQ22G1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV125-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 034	**Work Order #**	MQ22H1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.57 J**	**0.80**	**1.8 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**2.3**	**0.80**	**8.2**	**2.8**
Chloroform	**5.9**	**0.80**	**29**	**3.9**
Dichlorodifluoromethane	**0.50 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**0.28 J**	**0.80**	**1.2 J**	**3.5**
Methylene chloride	**2.5 B**	**2.0**	**8.5 B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**0.62 J**	**2.0**	**3.3 J**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**2.4**	**0.80**	**9.2**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.52**	**0.40**	**2.8**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	ND	0.80	ND	3.9
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**0.59 J**	**1.6**	**2.6 J**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV125-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 034	**Work Order #**	MQ22H1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C050000 - 033B	**Work Order #**	MQ7781AA	**Matrix.....:**	AIR
	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.080	ND	0.26
Carbon tetrachloride	ND	0.080	ND	0.50
Chlorodifluoromethane	**0.052 J**	**0.080**	**0.18 J**	**0.28**
Chloroform	ND	0.080	ND	0.39
Dichlorodifluoromethane	ND	0.080	ND	0.40
1,1-Dichloroethane	ND	0.080	ND	0.32
1,2-Dichloroethane	ND	0.080	ND	0.32
cis-1,2-Dichloroethene	ND	0.080	ND	0.32
trans-1,2-Dichloroethene	ND	0.080	ND	0.32
1,1-Dichloroethene	ND	0.080	ND	0.32
Ethylbenzene	ND	0.080	ND	0.35
Methylene chloride	**0.091 J**	**0.20**	**0.32 J**	**0.69**
Methyl tert-butyl ether	ND	0.40	ND	1.4
Naphthalene	ND	0.20	ND	1.0
Tetrachloroethene	ND	0.080	ND	0.54
Toluene	ND	0.080	ND	0.30
1,2,4-Trichlorobenzene	ND	0.40	ND	3.0
1,1,1-Trichloroethane	ND	0.080	ND	0.44
1,1,2-Trichloroethane	ND	0.080	ND	0.44
Trichloroethene	ND	0.040	ND	0.21
1,2,3-Trimethylbenzene	ND	0.080	ND	0.39
1,2,4-Trimethylbenzene	ND	0.080	ND	0.39
1,3,5-Trimethylbenzene	ND	0.080	ND	0.39
Vinyl chloride	ND	0.080	ND	0.20
Xylenes (total)	ND	0.16	ND	0.69

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C050000 - 033B	**Work Order #**	MQ7781AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C050000 - 033C **Work Order #** MQ7781AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012
Prep Batch #.....:	2065033		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.58	16	14.6	92	70 - 130
Carbon tetrachloride	5.00	4.63	31	29.1	93	70 - 130
Chlorodifluoromethane	5.00	4.29	18	15.2	86	60 - 140
Chloroform	5.00	4.92	24	24.0	98	70 - 130
Dichlorodifluoromethane	5.00	4.55	25	22.5	91	60 - 140
1,1-Dichloroethane	5.00	5.00	20	20.2	100	70 - 130
1,2-Dichloroethane	5.00	4.72	20	19.1	94	70 - 130
cis-1,2-Dichloroethene	5.00	5.03	20	20.0	101	70 - 130
trans-1,2-Dichloroethene	5.00	4.68	20	18.6	94	70 - 130
1,1-Dichloroethene	5.00	5.46	20	21.7	109	70 - 130
Ethylbenzene	5.00	4.95	22	21.5	99	70 - 130
Methylene chloride	5.00	4.64	17	16.1	93	70 - 130
Methyl tert-butyl ether	5.00	5.01	18	18.1	100	60 - 140
Naphthalene	5.00	3.68	26	19.3	74	40 - 140
Tetrachloroethene	5.00	4.53	34	30.7	91	70 - 130
Toluene	5.00	4.74	19	17.9	95	70 - 130
1,2,4-Trichlorobenzene	5.00	3.67	37	27.3	73	60 - 140
1,1,1-Trichloroethane	5.00	4.88	27	26.6	98	70 - 130
1,1,2-Trichloroethane	5.00	4.61	27	25.2	92	70 - 130
Trichloroethene	5.00	4.55	27	24.4	91	70 - 130
1,2,3-Trimethylbenzene	5.10	5.19	25	25.5	102	20 - 180
1,2,4-Trimethylbenzene	5.00	4.68	25	23.0	94	70 - 130
1,3,5-Trimethylbenzene	5.00	4.89	25	24.0	98	70 - 130
Vinyl chloride	5.00	4.57	13	11.7	91	70 - 130
Xylenes (total)	15.0	14.6	65	63.5	98	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample #	H2C050000 - 033C	**Work Order #**	MQ7781AC	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C050000 - 117B	**Work Order #**	MQ8MN1AA	**Matrix.....:**	AIR
	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.080	ND	0.26
Carbon tetrachloride	ND	0.080	ND	0.50
Chlorodifluoromethane	ND	0.080	ND	0.28
Chloroform	ND	0.080	ND	0.39
Dichlorodifluoromethane	ND	0.080	ND	0.40
1,1-Dichloroethane	ND	0.080	ND	0.32
1,2-Dichloroethane	ND	0.080	ND	0.32
cis-1,2-Dichloroethene	ND	0.080	ND	0.32
trans-1,2-Dichloroethene	ND	0.080	ND	0.32
1,1-Dichloroethene	ND	0.080	ND	0.32
Ethylbenzene	ND	0.080	ND	0.35
Methylene chloride	**0.050 J**	**0.20**	**0.17 J**	**0.69**
Methyl tert-butyl ether	ND	0.40	ND	1.4
Naphthalene	ND	0.20	ND	1.0
Tetrachloroethene	ND	0.080	ND	0.54
Toluene	ND	0.080	ND	0.30
1,2,4-Trichlorobenzene	ND	0.40	ND	3.0
1,1,1-Trichloroethane	ND	0.080	ND	0.44
1,1,2-Trichloroethane	ND	0.080	ND	0.44
Trichloroethene	ND	0.040	ND	0.21
1,2,3-Trimethylbenzene	ND	0.080	ND	0.39
1,2,4-Trimethylbenzene	ND	0.080	ND	0.39
1,3,5-Trimethylbenzene	ND	0.080	ND	0.39
Vinyl chloride	ND	0.080	ND	0.20
Xylenes (total)	ND	0.16	ND	0.69

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C050000 - 117B	**Work Order #**	MQ8MN1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C050000 - 117C **Work Order #** MQ8MN1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012
Prep Batch #.....:	2065117		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.47	16	14.3	89	70 - 130
Carbon tetrachloride	5.00	4.94	31	31.1	99	70 - 130
Chlorodifluoromethane	5.00	3.75	18	13.3	75	60 - 140
Chloroform	5.00	4.78	24	23.3	96	70 - 130
Dichlorodifluoromethane	5.00	4.91	25	24.3	98	60 - 140
1,1-Dichloroethane	5.00	4.82	20	19.5	96	70 - 130
1,2-Dichloroethane	5.00	4.62	20	18.7	92	70 - 130
cis-1,2-Dichloroethene	5.00	4.85	20	19.2	97	70 - 130
trans-1,2-Dichloroethene	5.00	4.79	20	19.0	96	70 - 130
1,1-Dichloroethene	5.00	4.70	20	18.6	94	70 - 130
Ethylbenzene	5.00	5.06	22	22.0	101	70 - 130
Methylene chloride	5.00	4.27	17	14.8	85	70 - 130
Methyl tert-butyl ether	5.00	5.03	18	18.1	101	60 - 140
Naphthalene	5.00	3.56	26	18.6	71	40 - 140
Tetrachloroethene	5.00	4.77	34	32.4	95	70 - 130
Toluene	5.00	4.94	19	18.6	99	70 - 130
1,2,4-Trichlorobenzene	5.00	3.77	37	28.0	75	60 - 140
1,1,1-Trichloroethane	5.00	4.76	27	26.0	95	70 - 130
1,1,2-Trichloroethane	5.00	4.96	27	27.1	99	70 - 130
Trichloroethene	5.00	4.56	27	24.5	91	70 - 130
1,2,3-Trimethylbenzene	5.10	4.97	25	24.4	97	20 - 180
1,2,4-Trimethylbenzene	5.00	4.75	25	23.4	95	70 - 130
1,3,5-Trimethylbenzene	5.00	4.90	25	24.1	98	70 - 130
Vinyl chloride	5.00	4.81	13	12.3	96	70 - 130
Xylenes (total)	15.0	15.2	65	65.8	101	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample #	H2C050000 - 117C	**Work Order #**	MQ8MN1AC	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C060000 - 141B	**Work Order #**	MQ9GW1AA	**Matrix.....:**	AIR
	02/22/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/06/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2066141				
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Vinyl chloride	ND	0.080	ND	0.20

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C060000 - 141C **Work Order #** MQ9GW1AC **Matrix.....:** AIR

Prep Date.....: 02/22/2012 **Date Received..:** 02/23/2012
Prep Batch #.....: 03/06/2012 **Analysis Date...** 03/06/2012
Dilution Factor.: 2066141
Method.....: 1 TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Vinyl chloride	5.00	5.65	13	14.4	113	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA091-C-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 001	**Work Order #**	MQ22L1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/02/2012	**Analysis Time....:**	03/03/2012
Prep Batch #.....:	2062154	**Analysis Time....:**	04:21
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.12**	**0.080**	**0.023**	**0.38**	**0.26**	**0.073**
Carbon tetrachloride	**0.071 J**	**0.080**	**0.015**	**0.45 J**	**0.50**	**0.094**
Chlorodifluoromethane	**2.0**	**0.080**	**0.015**	**7.2**	**0.28**	**0.053**
Chloroform	**0.018 J**	**0.080**	**0.015**	**0.087 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.48**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.95 B**	**0.20**	**0.018**	**3.3 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.36**	**0.080**	**0.021**	**1.3**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.058 J**	**0.16**	**0.024**	**0.25 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA124-C-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 002	**Work Order #**	MQ22M1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/02/2012	**Analysis Time....:**	03/03/2012
Prep Batch #.....:	2062154	**Analysis Time....:**	05:15
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.12**	**0.080**	**0.023**	**0.40**	**0.26**	**0.073**
Carbon tetrachloride	**0.062 J**	**0.080**	**0.015**	**0.39 J**	**0.50**	**0.094**
Chlorodifluoromethane	**4.0**	**0.080**	**0.015**	**14**	**0.28**	**0.053**
Chloroform	**0.023 J**	**0.080**	**0.015**	**0.11 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.49**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.46 B**	**0.20**	**0.018**	**1.6 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.28**	**0.080**	**0.021**	**1.1**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA063-B-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 003	**Work Order #**	MQ22N1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/02/2012	**Analysis Time....:**	03/03/2012
Prep Batch #.....:	2062154	**Analysis Time....:**	06:04
Dilution Factor.:	2	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.20**	**0.16**	**0.046**	**0.63**	**0.51**	**0.15**
Carbon tetrachloride	**0.075 J**	**0.16**	**0.030**	**0.47 J**	**1.0**	**0.19**
Chlorodifluoromethane	**8.3**	**0.16**	**0.030**	**30**	**0.57**	**0.11**
Chloroform	**0.070 J**	**0.16**	**0.030**	**0.34 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.49**	**0.16**	**0.054**	**2.4**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	ND	0.16	0.026	ND	0.63	0.10
Ethylbenzene	**0.62**	**0.16**	**0.054**	**2.7**	**0.69**	**0.23**
Methylene chloride	**6.0 B**	**0.40**	**0.036**	**21 B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	**0.081 J B**	**0.40**	**0.072**	**0.43 J B**	**2.1**	**0.38**
Tetrachloroethene	ND	0.16	0.032	ND	1.1	0.22
Toluene	**33**	**0.16**	**0.042**	**120**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.045 J**	**0.080**	**0.028**	**0.24 J**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	**0.082 J**	**0.16**	**0.050**	**0.40 J**	**0.79**	**0.25**
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**3.1**	**0.32**	**0.048**	**13**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: BCK1-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 004	**Work Order #**	MQ22P1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/02/2012	**Analysis Time....:**	03/03/2012
Prep Batch #.....:	2062154	**Analysis Time....:**	06:57
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.16**	**0.080**	**0.023**	**0.51**	**0.26**	**0.073**
Carbon tetrachloride	**0.054 J**	**0.080**	**0.015**	**0.34 J**	**0.50**	**0.094**
Chlorodifluoromethane	**0.38**	**0.080**	**0.015**	**1.3**	**0.28**	**0.053**
Chloroform	**0.025 J**	**0.080**	**0.015**	**0.12 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.46**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.038 J**	**0.080**	**0.019**	**0.15 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.83 B**	**0.20**	**0.018**	**2.9 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.041 J**	**0.080**	**0.016**	**0.28 J**	**0.54**	**0.11**
Toluene	**0.15**	**0.080**	**0.021**	**0.58**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.17**	**0.080**	**0.012**	**0.95**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.052 J**	**0.16**	**0.024**	**0.23 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: BCK2-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 005	**Work Order #**	MQ22Q1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/02/2012	**Analysis Time....:**	03/03/2012
Prep Batch #.....:	2062154	**Analysis Time....:**	07:50
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.11**	**0.080**	**0.023**	**0.36**	**0.26**	**0.073**
Carbon tetrachloride	**0.061 J**	**0.080**	**0.015**	**0.39 J**	**0.50**	**0.094**
Chlorodifluoromethane	**0.37**	**0.080**	**0.015**	**1.3**	**0.28**	**0.053**
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	**0.45**	**0.080**	**0.027**	**2.2**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**2.5 B**	**0.20**	**0.018**	**8.8 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.25**	**0.080**	**0.021**	**0.93**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: BCK3-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 006 **Work Order #** MQ22R1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2066125 **Analysis Time....:** 12:51
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.13**	**0.080**	**0.023**	**0.41**	**0.26**	**0.073**
Carbon tetrachloride	**0.070 J**	**0.080**	**0.015**	**0.44 J**	**0.50**	**0.094**
Chlorodifluoromethane	**0.43**	**0.080**	**0.015**	**1.5**	**0.28**	**0.053**
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	**0.47**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.27 B**	**0.20**	**0.018**	**0.94 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.054 J**	**0.080**	**0.016**	**0.37 J**	**0.54**	**0.11**
Toluene	**0.12**	**0.080**	**0.021**	**0.45**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.052 J**	**0.16**	**0.024**	**0.23 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: BCK4-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 007	**Work Order #**	MQ22T1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	13:44
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.14**	**0.080**	**0.023**	**0.45**	**0.26**	**0.073**
Carbon tetrachloride	**0.067 J**	**0.080**	**0.015**	**0.42 J**	**0.50**	**0.094**
Chlorodifluoromethane	**1.1**	**0.080**	**0.015**	**3.9**	**0.28**	**0.053**
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	**0.47**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.036 J**	**0.080**	**0.027**	**0.15 J**	**0.35**	**0.12**
Methylene chloride	**0.92 B**	**0.20**	**0.018**	**3.2 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.12**	**0.080**	**0.021**	**0.44**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.12 J**	**0.16**	**0.024**	**0.53 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA121-B-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 008	**Work Order #**	MQ22V1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	14:36
Dilution Factor.:	2	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.087 J**	**0.16**	**0.046**	**0.28 J**	**0.51**	**0.15**
Carbon tetrachloride	ND	0.16	0.030	ND	1.0	0.19
Chlorodifluoromethane	**6.7**	**0.16**	**0.030**	**24**	**0.57**	**0.11**
Chloroform	**0.073 J**	**0.16**	**0.030**	**0.36 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.47**	**0.16**	**0.054**	**2.3**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	ND	0.16	0.026	ND	0.63	0.10
Ethylbenzene	ND	0.16	0.054	ND	0.69	0.23
Methylene chloride	**1.3 B**	**0.40**	**0.036**	**4.7 B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	ND	0.16	0.032	ND	1.1	0.22
Toluene	**2.3**	**0.16**	**0.042**	**8.7**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.052 J**	**0.080**	**0.028**	**0.28 J**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	ND	0.16	0.050	ND	0.79	0.25
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	ND	0.32	0.048	ND	1.4	0.21

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA101-B-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 009	**Work Order #**	MQ22W1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	05:29
Dilution Factor.:	5	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.26 J**	**0.40**	**0.12**	**0.85 J**	**1.3**	**0.37**
Carbon tetrachloride	ND	0.40	0.075	ND	2.5	0.47
Chlorodifluoromethane	**10**	**0.40**	**0.075**	**37**	**1.4**	**0.27**
Chloroform	ND	0.40	0.075	ND	2.0	0.37
Dichlorodifluoromethane	**0.54**	**0.40**	**0.14**	**2.7**	**2.0**	**0.67**
1,1-Dichloroethane	ND	0.40	0.050	ND	1.6	0.20
1,2-Dichloroethane	ND	0.40	0.095	ND	1.6	0.38
cis-1,2-Dichloroethene	ND	0.40	0.12	ND	1.6	0.48
trans-1,2-Dichloroethene	ND	0.40	0.10	ND	1.6	0.40
1,1-Dichloroethene	ND	0.40	0.065	ND	1.6	0.26
Ethylbenzene	**1.0**	**0.40**	**0.14**	**4.4**	**1.7**	**0.59**
Methylene chloride	**1.6 B**	**1.0**	**0.090**	**5.7 B**	**3.5**	**0.31**
Methyl tert-butyl ether	ND	2.0	0.34	ND	7.2	1.2
Naphthalene	ND	1.0	0.18	ND	5.2	0.94
Tetrachloroethene	ND	0.40	0.080	ND	2.7	0.54
Toluene	**46**	**0.40**	**0.10**	**170**	**1.5**	**0.40**
1,2,4-Trichlorobenzene	ND	2.0	0.20	ND	15	1.4
1,1,1-Trichloroethane	ND	0.40	0.060	ND	2.2	0.33
1,1,2-Trichloroethane	ND	0.40	0.10	ND	2.2	0.57
Trichloroethene	**0.089 J**	**0.20**	**0.070**	**0.48 J**	**1.1**	**0.38**
1,2,3-Trimethylbenzene	ND	0.40	0.40	ND	2.0	2.0
1,2,4-Trimethylbenzene	ND	0.40	0.12	ND	2.0	0.61
1,3,5-Trimethylbenzene	ND	0.40	0.13	ND	2.0	0.64
Vinyl chloride	ND	0.40	0.14	ND	1.0	0.37
Xylenes (total)	**5.6**	**0.80**	**0.12**	**24**	**3.5**	**0.52**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA130-C-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 010	**Work Order #**	MQ22X1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012		
Prep Batch #.....:	2066125	**Analysis Time....:**	16:20		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.15**	**0.080**	**0.023**	**0.47**	**0.26**	**0.073**
Carbon tetrachloride	**0.070 J**	**0.080**	**0.015**	**0.44 J**	**0.50**	**0.094**
Chlorodifluoromethane	**1.7**	**0.080**	**0.015**	**5.8**	**0.28**	**0.053**
Chloroform	**0.017 J**	**0.080**	**0.015**	**0.084 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.47**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.069 J**	**0.080**	**0.027**	**0.30 J**	**0.35**	**0.12**
Methylene chloride	**1.6 B**	**0.20**	**0.018**	**5.5 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.74**	**0.080**	**0.021**	**2.8**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.076 J**	**0.080**	**0.012**	**0.41 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.024 J**	**0.040**	**0.014**	**0.13 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.33**	**0.16**	**0.024**	**1.5**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA131-C-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 011	**Work Order #**	MQ2201AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	17:16
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.20**	**0.080**	**0.023**	**0.64**	**0.26**	**0.073**
Carbon tetrachloride	**0.070 J**	**0.080**	**0.015**	**0.44 J**	**0.50**	**0.094**
Chlorodifluoromethane	**15**	**0.080**	**0.015**	**52**	**0.28**	**0.053**
Chloroform	**0.029 J**	**0.080**	**0.015**	**0.14 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.48**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.20**	**0.080**	**0.027**	**0.88**	**0.35**	**0.12**
Methylene chloride	**1.4 B**	**0.20**	**0.018**	**4.8 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.056 J**	**0.20**	**0.036**	**0.29 J**	**1.0**	**0.19**
Tetrachloroethene	**0.019 J**	**0.080**	**0.016**	**0.13 J**	**0.54**	**0.11**
Toluene	**1.7**	**0.080**	**0.021**	**6.4**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.083**	**0.080**	**0.012**	**0.45**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.035 J**	**0.040**	**0.014**	**0.19 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.056 J**	**0.080**	**0.025**	**0.28 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**1.0**	**0.16**	**0.024**	**4.3**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA129-C-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 012	**Work Order #**	MQ2211AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	18:07
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.20**	**0.080**	**0.023**	**0.64**	**0.26**	**0.073**
Carbon tetrachloride	**0.070 J**	**0.080**	**0.015**	**0.44 J**	**0.50**	**0.094**
Chlorodifluoromethane	**13**	**0.080**	**0.015**	**48**	**0.28**	**0.053**
Chloroform	**0.034 J**	**0.080**	**0.015**	**0.16 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.47**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.14**	**0.080**	**0.027**	**0.60**	**0.35**	**0.12**
Methylene chloride	**2.4 B**	**0.20**	**0.018**	**8.2 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.069 J**	**0.20**	**0.036**	**0.36 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**1.8**	**0.080**	**0.021**	**6.8**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.18**	**0.080**	**0.012**	**0.98**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.058**	**0.040**	**0.014**	**0.31**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.057 J**	**0.080**	**0.025**	**0.28 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.68**	**0.16**	**0.024**	**3.0**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA112-C-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 013	**Work Order #**	MQ2221AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	07:08
Dilution Factor.:	2	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.15 J**	**0.16**	**0.046**	**0.49 J**	**0.51**	**0.15**
Carbon tetrachloride	**0.040 J**	**0.16**	**0.030**	**0.25 J**	**1.0**	**0.19**
Chlorodifluoromethane	**20**	**0.16**	**0.030**	**72**	**0.57**	**0.11**
Chloroform	ND	0.16	0.030	ND	0.78	0.15
Dichlorodifluoromethane	**0.51**	**0.16**	**0.054**	**2.5**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	ND	0.16	0.026	ND	0.63	0.10
Ethylbenzene	ND	0.16	0.054	ND	0.69	0.23
Methylene chloride	**1.0 B**	**0.40**	**0.036**	**3.6 B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	ND	0.16	0.032	ND	1.1	0.22
Toluene	**0.76**	**0.16**	**0.042**	**2.9**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	**0.071 J**	**0.16**	**0.024**	**0.39 J**	**0.87**	**0.13**
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.031 J**	**0.080**	**0.028**	**0.17 J**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	ND	0.16	0.050	ND	0.79	0.25
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	ND	0.32	0.048	ND	1.4	0.21

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA104-C-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 014	**Work Order #**	MQ2231AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	19:53
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.13**	**0.080**	**0.023**	**0.42**	**0.26**	**0.073**
Carbon tetrachloride	**0.068 J**	**0.080**	**0.015**	**0.43 J**	**0.50**	**0.094**
Chlorodifluoromethane	**3.2**	**0.080**	**0.015**	**11**	**0.28**	**0.053**
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	**0.46**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.15 J B**	**0.20**	**0.018**	**0.53 J B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.14**	**0.080**	**0.021**	**0.53**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.10 J**	**0.16**	**0.024**	**0.44 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA001-C-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 015	**Work Order #**	MQ2241AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	04:28
Dilution Factor.:	45.45	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	3.6	1.0	ND	12	3.3
Carbon tetrachloride	ND	3.6	0.68	ND	23	4.3
Chlorodifluoromethane	**470**	**3.6**	**0.68**	**1700**	**13**	**2.4**
Chloroform	ND	3.6	0.68	ND	18	3.3
Dichlorodifluoromethane	ND	3.6	1.2	ND	18	6.1
1,1-Dichloroethane	ND	3.6	0.45	ND	15	1.8
1,2-Dichloroethane	ND	3.6	0.86	ND	15	3.5
cis-1,2-Dichloroethene	ND	3.6	1.1	ND	14	4.3
trans-1,2-Dichloroethene	ND	3.6	0.91	ND	14	3.6
1,1-Dichloroethene	ND	3.6	0.59	ND	14	2.3
Ethylbenzene	ND	3.6	1.2	ND	16	5.3
Methylene chloride	**2.1 J B**	**9.1**	**0.82**	**7.5 J B**	**32**	**2.8**
Methyl tert-butyl ether	ND	18	3.1	ND	66	11
Naphthalene	ND	9.1	1.6	ND	48	8.6
Tetrachloroethene	ND	3.6	0.73	ND	25	4.9
Toluene	**2.0 J**	**3.6**	**0.95**	**7.6 J**	**14**	**3.6**
1,2,4-Trichlorobenzene	ND	18	1.8	ND	130	13
1,1,1-Trichloroethane	ND	3.6	0.55	ND	20	3.0
1,1,2-Trichloroethane	ND	3.6	0.95	ND	20	5.2
Trichloroethene	ND	1.8	0.64	ND	9.8	3.4
1,2,3-Trimethylbenzene	ND	3.6	3.6	ND	18	18
1,2,4-Trimethylbenzene	ND	3.6	1.1	ND	18	5.6
1,3,5-Trimethylbenzene	ND	3.6	1.2	ND	18	5.8
Vinyl chloride	ND	3.6	1.3	ND	9.3	3.4
Xylenes (total)	ND	7.3	1.1	ND	32	4.7

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA044-C-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 016	**Work Order #**	MQ2251AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	16:21
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.53**	**0.080**	**0.023**	**1.7**	**0.26**	**0.073**
Carbon tetrachloride	**0.091**	**0.080**	**0.015**	**0.57**	**0.50**	**0.094**
Chlorodifluoromethane	**13**	**0.080**	**0.015**	**45**	**0.28**	**0.053**
Chloroform	**0.037 J**	**0.080**	**0.015**	**0.18 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.61**	**0.080**	**0.027**	**3.0**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.14**	**0.080**	**0.027**	**0.60**	**0.35**	**0.12**
Methylene chloride	**0.94 B**	**0.20**	**0.018**	**3.3 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.093 J**	**0.20**	**0.036**	**0.49 J**	**1.0**	**0.19**
Tetrachloroethene	**0.020 J**	**0.080**	**0.016**	**0.14 J**	**0.54**	**0.11**
Toluene	**3.0**	**0.080**	**0.021**	**11**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.050 J**	**0.080**	**0.012**	**0.27 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.031 J**	**0.040**	**0.014**	**0.16 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.062 J**	**0.080**	**0.025**	**0.30 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.67**	**0.16**	**0.024**	**2.9**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA057-B-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 017	**Work Order #**	MQ2261AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	22:31
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.19**	**0.080**	**0.023**	**0.62**	**0.26**	**0.073**
Carbon tetrachloride	**0.088**	**0.080**	**0.015**	**0.55**	**0.50**	**0.094**
Chlorodifluoromethane	**15**	**0.080**	**0.015**	**51**	**0.28**	**0.053**
Chloroform	**0.053 J**	**0.080**	**0.015**	**0.26 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.48**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.15**	**0.080**	**0.027**	**0.63**	**0.35**	**0.12**
Methylene chloride	**0.76 B**	**0.20**	**0.018**	**2.6 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.044 J**	**0.20**	**0.036**	**0.23 J**	**1.0**	**0.19**
Tetrachloroethene	**0.016 J**	**0.080**	**0.016**	**0.11 J**	**0.54**	**0.11**
Toluene	**3.3**	**0.080**	**0.021**	**12**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.048 J**	**0.080**	**0.012**	**0.26 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.028 J**	**0.040**	**0.014**	**0.15 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.056 J**	**0.080**	**0.025**	**0.28 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.71**	**0.16**	**0.024**	**3.1**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA135-C-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 018	**Work Order #**	MQ2271AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	23:26
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.080**	**0.023**	**0.68**	**0.26**	**0.073**
Carbon tetrachloride	**0.069 J**	**0.080**	**0.015**	**0.43 J**	**0.50**	**0.094**
Chlorodifluoromethane	**10**	**0.080**	**0.015**	**35**	**0.28**	**0.053**
Chloroform	**0.030 J**	**0.080**	**0.015**	**0.15 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.49**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.034 J**	**0.080**	**0.019**	**0.14 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.11**	**0.080**	**0.027**	**0.49**	**0.35**	**0.12**
Methylene chloride	**0.80 B**	**0.20**	**0.018**	**2.8 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.018 J**	**0.080**	**0.016**	**0.12 J**	**0.54**	**0.11**
Toluene	**3.0**	**0.080**	**0.021**	**11**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.036 J**	**0.080**	**0.012**	**0.19 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.019 J**	**0.040**	**0.014**	**0.10 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.045 J**	**0.080**	**0.025**	**0.22 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.54**	**0.16**	**0.024**	**2.3**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA088-C-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 019	**Work Order #**	MQ2291AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	00:19
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.19**	**0.080**	**0.023**	**0.60**	**0.26**	**0.073**
Carbon tetrachloride	**0.069 J**	**0.080**	**0.015**	**0.43 J**	**0.50**	**0.094**
Chlorodifluoromethane	**11**	**0.080**	**0.015**	**39**	**0.28**	**0.053**
Chloroform	**0.029 J**	**0.080**	**0.015**	**0.14 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.47**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.11**	**0.080**	**0.027**	**0.48**	**0.35**	**0.12**
Methylene chloride	**0.84 B**	**0.20**	**0.018**	**2.9 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.072 J**	**0.20**	**0.036**	**0.38 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**2.4**	**0.080**	**0.021**	**9.2**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.050 J**	**0.080**	**0.012**	**0.27 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.024 J**	**0.040**	**0.014**	**0.13 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.048 J**	**0.080**	**0.025**	**0.24 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.54**	**0.16**	**0.024**	**2.3**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA113-C-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 020	**Work Order #**	MQ23C1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	02:04
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.19**	**0.080**	**0.023**	**0.61**	**0.26**	**0.073**
Carbon tetrachloride	**0.073 J**	**0.080**	**0.015**	**0.46 J**	**0.50**	**0.094**
Chlorodifluoromethane	**8.1**	**0.080**	**0.015**	**29**	**0.28**	**0.053**
Chloroform	**0.029 J**	**0.080**	**0.015**	**0.14 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.45**	**0.080**	**0.027**	**2.2**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.11**	**0.080**	**0.027**	**0.47**	**0.35**	**0.12**
Methylene chloride	**0.66 B**	**0.20**	**0.018**	**2.3 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.041 J**	**0.20**	**0.036**	**0.22 J**	**1.0**	**0.19**
Tetrachloroethene	**0.016 J**	**0.080**	**0.016**	**0.11 J**	**0.54**	**0.11**
Toluene	**3.2**	**0.080**	**0.021**	**12**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.047 J**	**0.080**	**0.025**	**0.23 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.53**	**0.16**	**0.024**	**2.3**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA115-C-12

GC/MS Volatiles

Lot-Sample #	H2B230467 - 021	**Work Order #**	MQ23D1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	02:56
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.18**	**0.080**	**0.023**	**0.59**	**0.26**	**0.073**
Carbon tetrachloride	**0.070 J**	**0.080**	**0.015**	**0.44 J**	**0.50**	**0.094**
Chlorodifluoromethane	**8.0**	**0.080**	**0.015**	**28**	**0.28**	**0.053**
Chloroform	**0.030 J**	**0.080**	**0.015**	**0.15 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.47**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.096**	**0.080**	**0.027**	**0.42**	**0.35**	**0.12**
Methylene chloride	**0.62 B**	**0.20**	**0.018**	**2.2 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.055 J**	**0.20**	**0.036**	**0.29 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**3.0**	**0.080**	**0.021**	**11**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.042 J**	**0.080**	**0.025**	**0.21 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.45**	**0.16**	**0.024**	**2.0**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C020000 - 154B **Work Order #** MQ7WC1AA **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/02/2012	**Analysis Time....:**	03/02/2012
Prep Batch #.....:	2062154	**Analysis Time....:**	12:38
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.030 J**	**0.20**	**0.018**	**0.11 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.046 J**	**0.20**	**0.036**	**0.24 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C020000 - 154C **Work Order #** MQ7WC1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/02/2012	**Analysis Time....:**	03/02/2012
Prep Batch #.....:	2062154	**Analysis Time....:**	11:33
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	3.48	16.0	11.1	70	70 - 130
Carbon tetrachloride	5.00	4.78	31.5	30.1	96	70 - 130
Chlorodifluoromethane	5.00	5.03	17.7	17.8	101	60 - 140
Chloroform	5.00	4.47	24.4	21.8	89	70 - 130
Dichlorodifluoromethane	5.00	5.06	24.7	25.0	101	60 - 140
1,1-Dichloroethane	5.00	4.17	20.2	16.9	83	70 - 130
1,2-Dichloroethane	5.00	4.47	20.2	18.1	89	70 - 130
cis-1,2-Dichloroethene	5.00	4.12	19.8	16.3	82	70 - 130
trans-1,2-Dichloroethene	5.00	4.24	19.8	16.8	85	70 - 130
1,1-Dichloroethene	5.00	4.21	19.8	16.7	84	70 - 130
Ethylbenzene	5.00	3.64	21.7	15.8	73	70 - 130
Methylene chloride	5.00	4.01	17.4	13.9	80	70 - 130
Methyl tert-butyl ether	5.00	3.95	18.0	14.2	79	60 - 140
Naphthalene	5.00	4.05	26.2	21.3	81	40 - 140
Tetrachloroethene	5.00	3.80	33.9	25.8	76	70 - 130
Toluene	5.00	3.63	18.8	13.7	73	70 - 130
1,2,4-Trichlorobenzene	5.00	3.63	37.1	26.9	73	60 - 140
1,1,1-Trichloroethane	5.00	4.77	27.3	26.0	95	70 - 130
1,1,2-Trichloroethane	5.00	3.70	27.3	20.2	74	70 - 130
Trichloroethene	5.00	3.60	26.9	19.4	72	70 - 130
1,2,3-Trimethylbenzene	5.00	3.69	24.6	18.1	74	20 - 180
1,2,4-Trimethylbenzene	5.00	3.62	24.6	17.8	72	70 - 130
1,3,5-Trimethylbenzene	5.00	3.48	24.6	17.1	70	70 - 130
Vinyl chloride	5.00	4.43	12.8	11.3	89	70 - 130
Xylenes (total)	15.0	11.0	65.1	47.6	73	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C060000 - 125B **Work Order #** MQ9FL1AA **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	11:05
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.045 J**	**0.20**	**0.018**	**0.16 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C060000 - 125C **Work Order #** MQ9FL1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	09:16
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	3.94	16.0	12.6	79	70 - 130
Carbon tetrachloride	5.00	6.17	31.5	38.8	123	70 - 130
Chlorodifluoromethane	5.00	6.31	17.7	22.3	126	60 - 140
Chloroform	5.00	5.08	24.4	24.8	102	70 - 130
Dichlorodifluoromethane	5.00	6.25	24.7	30.9	125	60 - 140
1,1-Dichloroethane	5.00	4.78	20.2	19.4	96	70 - 130
1,2-Dichloroethane	5.00	5.42	20.2	21.9	108	70 - 130
cis-1,2-Dichloroethene	5.00	4.50	19.8	17.8	90	70 - 130
trans-1,2-Dichloroethene	5.00	4.42	19.8	17.5	88	70 - 130
1,1-Dichloroethene	5.00	4.41	19.8	17.5	88	70 - 130
Ethylbenzene	5.00	4.02	21.7	17.5	80	70 - 130
Methylene chloride	5.00	4.24	17.4	14.7	85	70 - 130
Methyl tert-butyl ether	5.00	4.16	18.0	15.0	83	60 - 140
Naphthalene	5.00	3.94	26.2	20.6	79	40 - 140
Tetrachloroethene	5.00	4.22	33.9	28.6	84	70 - 130
Toluene	5.00	3.85	18.8	14.5	77	70 - 130
1,2,4-Trichlorobenzene	5.00	3.71	37.1	27.5	74	60 - 140
1,1,1-Trichloroethane	5.00	5.67	27.3	30.9	113	70 - 130
1,1,2-Trichloroethane	5.00	3.86	27.3	21.0	77	70 - 130
Trichloroethene	5.00	4.56	26.9	24.5	91	70 - 130
1,2,3-Trimethylbenzene	5.00	4.09	24.6	20.1	82	20 - 180
1,2,4-Trimethylbenzene	5.00	4.00	24.6	19.7	80	70 - 130
1,3,5-Trimethylbenzene	5.00	3.83	24.6	18.8	77	70 - 130
Vinyl chloride	5.00	5.39	12.8	13.8	108	70 - 130
Xylenes (total)	15.0	12.2	65.1	52.8	81	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	108	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C070000 - 130B	**Work Order #**	MRAAQ1AA	**Matrix.....:**	AIR
	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012		
Prep Batch #.....:	2067130	**Analysis Time....:**	12:00		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.049 J**	**0.20**	**0.018**	**0.17 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C070000 - 130C **Work Order #** MRAAQ1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	10:06
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	5.01	16.0	16.0	100	70 - 130
Carbon tetrachloride	5.00	5.39	31.5	33.9	108	70 - 130
Chlorodifluoromethane	5.00	4.89	17.7	17.3	98	60 - 140
Chloroform	5.00	5.58	24.4	27.2	112	70 - 130
Dichlorodifluoromethane	5.00	5.80	24.7	28.7	116	60 - 140
1,1-Dichloroethane	5.00	5.65	20.2	22.9	113	70 - 130
1,2-Dichloroethane	5.00	5.61	20.2	22.7	112	70 - 130
cis-1,2-Dichloroethene	5.00	5.40	19.8	21.4	108	70 - 130
trans-1,2-Dichloroethene	5.00	5.36	19.8	21.3	107	70 - 130
1,1-Dichloroethene	5.00	5.29	19.8	21.0	106	70 - 130
Ethylbenzene	5.00	5.74	21.7	24.9	115	70 - 130
Methylene chloride	5.00	4.81	17.4	16.7	96	70 - 130
Methyl tert-butyl ether	5.00	6.04	18.0	21.8	121	60 - 140
Naphthalene	5.00	4.93	26.2	25.9	99	40 - 140
Tetrachloroethene	5.00	5.35	33.9	36.3	107	70 - 130
Toluene	5.00	5.52	18.8	20.8	110	70 - 130
1,2,4-Trichlorobenzene	5.00	5.12	37.1	38.0	102	60 - 140
1,1,1-Trichloroethane	5.00	5.68	27.3	31.0	114	70 - 130
1,1,2-Trichloroethane	5.00	5.66	27.3	30.9	113	70 - 130
Trichloroethene	5.00	4.98	26.9	26.8	100	70 - 130
1,2,3-Trimethylbenzene	5.10	5.50	25.1	27.1	108	20 - 180
1,2,4-Trimethylbenzene	5.00	5.37	24.6	26.4	107	70 - 130
1,3,5-Trimethylbenzene	5.00	5.39	24.6	26.5	108	70 - 130
Vinyl chloride	5.00	5.33	12.8	13.6	107	70 - 130
Xylenes (total)	15.0	17.2	65.1	74.6	114	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA114-C-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 001	**Work Order #**	MQ23M1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	11:59
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.19**	**0.080**	**0.023**	**0.59**	**0.26**	**0.073**
Carbon tetrachloride	**0.076 J**	**0.080**	**0.015**	**0.48 J**	**0.50**	**0.094**
Chlorodifluoromethane	**15**	**0.080**	**0.015**	**54**	**0.28**	**0.053**
Chloroform	**0.026 J**	**0.080**	**0.015**	**0.13 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.48**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.14**	**0.080**	**0.027**	**0.59**	**0.35**	**0.12**
Methylene chloride	**1.2 B**	**0.20**	**0.018**	**4.2 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.038 J**	**0.20**	**0.036**	**0.20 J**	**1.0**	**0.19**
Tetrachloroethene	**0.016 J**	**0.080**	**0.016**	**0.11 J**	**0.54**	**0.11**
Toluene	**1.8**	**0.080**	**0.021**	**6.8**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.10**	**0.080**	**0.012**	**0.57**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.043**	**0.040**	**0.014**	**0.23**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.046 J**	**0.080**	**0.025**	**0.22 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.69**	**0.16**	**0.024**	**3.0**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA134-C-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 002	**Work Order #**	MQ23N1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	19:36
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.20**	**0.080**	**0.023**	**0.64**	**0.26**	**0.073**
Carbon tetrachloride	**0.073 J**	**0.080**	**0.015**	**0.46 J**	**0.50**	**0.094**
Chlorodifluoromethane	**15**	**0.080**	**0.015**	**52**	**0.28**	**0.053**
Chloroform	**0.028 J**	**0.080**	**0.015**	**0.14 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.50**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	**0.017 J**	**0.080**	**0.010**	**0.070 J**	**0.32**	**0.040**
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.14**	**0.080**	**0.027**	**0.60**	**0.35**	**0.12**
Methylene chloride	**1.3 B**	**0.20**	**0.018**	**4.5 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.089 J**	**0.20**	**0.036**	**0.47 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**2.0**	**0.080**	**0.021**	**7.4**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.11**	**0.080**	**0.012**	**0.59**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.051**	**0.040**	**0.014**	**0.27**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.042 J**	**0.080**	**0.025**	**0.21 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.70**	**0.16**	**0.024**	**3.1**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA133-C-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 003	**Work Order #**	MQ23P1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	19:00
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.80	0.23	ND	2.6	0.73
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**33**	**0.80**	**0.15**	**120**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.56 J**	**0.80**	**0.27**	**2.8 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	ND	0.80	0.27	ND	3.5	1.2
Methylene chloride	**1.5 J B**	**2.0**	**0.18**	**5.1 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**1.8**	**0.80**	**0.21**	**6.8**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	ND	0.40	0.14	ND	2.1	0.75
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	ND	1.6	0.24	ND	6.9	1.0

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA111-C-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 004	**Work Order #**	MQ23R1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	18:07
Dilution Factor.:	2.5	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.16 J**	**0.20**	**0.058**	**0.52 J**	**0.64**	**0.18**
Carbon tetrachloride	**0.057 J**	**0.20**	**0.038**	**0.36 J**	**1.3**	**0.24**
Chlorodifluoromethane	**26**	**0.20**	**0.038**	**91**	**0.71**	**0.13**
Chloroform	ND	0.20	0.038	ND	0.98	0.18
Dichlorodifluoromethane	**0.48**	**0.20**	**0.068**	**2.4**	**0.99**	**0.33**
1,1-Dichloroethane	ND	0.20	0.025	ND	0.81	0.10
1,2-Dichloroethane	ND	0.20	0.048	ND	0.81	0.19
cis-1,2-Dichloroethene	**0.22**	**0.20**	**0.060**	**0.88**	**0.79**	**0.24**
trans-1,2-Dichloroethene	ND	0.20	0.050	ND	0.79	0.20
1,1-Dichloroethene	ND	0.20	0.032	ND	0.79	0.13
Ethylbenzene	**0.13 J**	**0.20**	**0.068**	**0.56 J**	**0.87**	**0.29**
Methylene chloride	**1.1 B**	**0.50**	**0.045**	**3.9 B**	**1.7**	**0.16**
Methyl tert-butyl ether	ND	1.0	0.17	ND	3.6	0.61
Naphthalene	ND	0.50	0.090	ND	2.6	0.47
Tetrachloroethene	ND	0.20	0.040	ND	1.4	0.27
Toluene	**2.2**	**0.20**	**0.052**	**8.4**	**0.75**	**0.20**
1,2,4-Trichlorobenzene	ND	1.0	0.098	ND	7.4	0.72
1,1,1-Trichloroethane	**0.035 J**	**0.20**	**0.030**	**0.19 J**	**1.1**	**0.16**
1,1,2-Trichloroethane	ND	0.20	0.052	ND	1.1	0.29
Trichloroethene	**0.25**	**0.10**	**0.035**	**1.4**	**0.54**	**0.19**
1,2,3-Trimethylbenzene	ND	0.20	0.20	ND	0.98	0.98
1,2,4-Trimethylbenzene	ND	0.20	0.062	ND	0.98	0.31
1,3,5-Trimethylbenzene	ND	0.20	0.065	ND	0.98	0.32
Vinyl chloride	ND	0.20	0.072	ND	0.51	0.19
Xylenes (total)	**0.62**	**0.40**	**0.060**	**2.7**	**1.7**	**0.26**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA060-C-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 005	**Work Order #**	MQ23V1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	22:15
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.18**	**0.080**	**0.023**	**0.56**	**0.26**	**0.073**
Carbon tetrachloride	**0.074 J**	**0.080**	**0.015**	**0.47 J**	**0.50**	**0.094**
Chlorodifluoromethane	**3.5**	**0.080**	**0.015**	**12**	**0.28**	**0.053**
Chloroform	**0.025 J**	**0.080**	**0.015**	**0.12 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.46**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.092**	**0.080**	**0.027**	**0.40**	**0.35**	**0.12**
Methylene chloride	**0.48 B**	**0.20**	**0.018**	**1.7 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.044 J**	**0.20**	**0.036**	**0.23 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.79**	**0.080**	**0.021**	**3.0**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.024 J**	**0.080**	**0.012**	**0.13 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.023 J**	**0.040**	**0.014**	**0.12 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.028 J**	**0.080**	**0.025**	**0.14 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.51**	**0.16**	**0.024**	**2.2**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA132-C-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 006	**Work Order #**	MQ2301AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	23:11
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.24**	**0.080**	**0.023**	**0.77**	**0.26**	**0.073**
Carbon tetrachloride	**0.086**	**0.080**	**0.015**	**0.54**	**0.50**	**0.094**
Chlorodifluoromethane	**5.6**	**0.080**	**0.015**	**20**	**0.28**	**0.053**
Chloroform	**0.028 J**	**0.080**	**0.015**	**0.14 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.52**	**0.080**	**0.027**	**2.6**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.097**	**0.080**	**0.027**	**0.42**	**0.35**	**0.12**
Methylene chloride	**0.55 B**	**0.20**	**0.018**	**1.9 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.052 J**	**0.20**	**0.036**	**0.27 J**	**1.0**	**0.19**
Tetrachloroethene	**0.024 J**	**0.080**	**0.016**	**0.16 J**	**0.54**	**0.11**
Toluene	**1.8**	**0.080**	**0.021**	**6.8**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.017 J**	**0.080**	**0.012**	**0.091 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.015 J**	**0.040**	**0.014**	**0.082 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.072 J**	**0.080**	**0.025**	**0.36 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.46**	**0.16**	**0.024**	**2.0**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IADUP2-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 007	**Work Order #**	MQ2341AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	00:01
Dilution Factor.:	2	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.22**	**0.16**	**0.046**	**0.71**	**0.51**	**0.15**
Carbon tetrachloride	**0.046 J**	**0.16**	**0.030**	**0.29 J**	**1.0**	**0.19**
Chlorodifluoromethane	**8.7**	**0.16**	**0.030**	**31**	**0.57**	**0.11**
Chloroform	**0.046 J**	**0.16**	**0.030**	**0.22 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.56**	**0.16**	**0.054**	**2.8**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	ND	0.16	0.026	ND	0.63	0.10
Ethylbenzene	**0.55**	**0.16**	**0.054**	**2.4**	**0.69**	**0.23**
Methylene chloride	**6.8 B**	**0.40**	**0.036**	**24 B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	ND	0.16	0.032	ND	1.1	0.22
Toluene	**32**	**0.16**	**0.042**	**120**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.045 J**	**0.080**	**0.028**	**0.24 J**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	ND	0.16	0.050	ND	0.79	0.25
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**2.3**	**0.32**	**0.048**	**10.0**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA050-C-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 008	**Work Order #**	MQ2371AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	00:57
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.22**	**0.080**	**0.023**	**0.69**	**0.26**	**0.073**
Carbon tetrachloride	**0.092**	**0.080**	**0.015**	**0.58**	**0.50**	**0.094**
Chlorodifluoromethane	**4.7**	**0.080**	**0.015**	**17**	**0.28**	**0.053**
Chloroform	**0.036 J**	**0.080**	**0.015**	**0.17 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.56**	**0.080**	**0.027**	**2.7**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.043 J**	**0.080**	**0.027**	**0.19 J**	**0.35**	**0.12**
Methylene chloride	**0.42 B**	**0.20**	**0.018**	**1.5 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.93**	**0.080**	**0.021**	**3.5**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.12 J**	**0.16**	**0.024**	**0.53 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA126-C-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 009	**Work Order #**	MQ2391AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	01:51
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.080**	**0.023**	**0.66**	**0.26**	**0.073**
Carbon tetrachloride	**0.086**	**0.080**	**0.015**	**0.54**	**0.50**	**0.094**
Chlorodifluoromethane	**1.2**	**0.080**	**0.015**	**4.3**	**0.28**	**0.053**
Chloroform	**0.023 J**	**0.080**	**0.015**	**0.11 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.52**	**0.080**	**0.027**	**2.6**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.039 J**	**0.080**	**0.027**	**0.17 J**	**0.35**	**0.12**
Methylene chloride	**0.25 B**	**0.20**	**0.018**	**0.87 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.61**	**0.080**	**0.021**	**2.3**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.058 J**	**0.080**	**0.012**	**0.32 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.028 J**	**0.080**	**0.025**	**0.14 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.14 J**	**0.16**	**0.024**	**0.61 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA125-C-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 010	**Work Order #**	MQ24C1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	02:42
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.080**	**0.023**	**0.66**	**0.26**	**0.073**
Carbon tetrachloride	**0.083**	**0.080**	**0.015**	**0.52**	**0.50**	**0.094**
Chlorodifluoromethane	**5.6**	**0.080**	**0.015**	**20**	**0.28**	**0.053**
Chloroform	**0.027 J**	**0.080**	**0.015**	**0.13 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.52**	**0.080**	**0.027**	**2.6**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.032 J**	**0.080**	**0.027**	**0.14 J**	**0.35**	**0.12**
Methylene chloride	**0.66 B**	**0.20**	**0.018**	**2.3 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.045 J**	**0.080**	**0.016**	**0.31 J**	**0.54**	**0.11**
Toluene	**0.54**	**0.080**	**0.021**	**2.0**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.016 J**	**0.080**	**0.012**	**0.088 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.10 J**	**0.16**	**0.024**	**0.45 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA051-C-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 011	**Work Order #**	MQ24E1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	05:17
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.18**	**0.080**	**0.023**	**0.58**	**0.26**	**0.073**
Carbon tetrachloride	**0.070 J**	**0.080**	**0.015**	**0.44 J**	**0.50**	**0.094**
Chlorodifluoromethane	**7.5**	**0.080**	**0.015**	**27**	**0.28**	**0.053**
Chloroform	**0.036 J**	**0.080**	**0.015**	**0.18 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.48**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.058 J**	**0.080**	**0.027**	**0.25 J**	**0.35**	**0.12**
Methylene chloride	**0.28 B**	**0.20**	**0.018**	**0.98 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.038 J**	**0.20**	**0.036**	**0.20 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**1.2**	**0.080**	**0.021**	**4.5**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.033 J**	**0.080**	**0.025**	**0.16 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.26**	**0.16**	**0.024**	**1.1**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA103-C-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 012	**Work Order #**	MQ24F1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	06:11
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.080**	**0.023**	**0.67**	**0.26**	**0.073**
Carbon tetrachloride	**0.085**	**0.080**	**0.015**	**0.54**	**0.50**	**0.094**
Chlorodifluoromethane	**7.8**	**0.080**	**0.015**	**27**	**0.28**	**0.053**
Chloroform	**0.052 J**	**0.080**	**0.015**	**0.25 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.51**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.048 J**	**0.080**	**0.027**	**0.21 J**	**0.35**	**0.12**
Methylene chloride	**0.59 B**	**0.20**	**0.018**	**2.1 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.64**	**0.080**	**0.021**	**2.4**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.033 J**	**0.040**	**0.014**	**0.18 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.033 J**	**0.080**	**0.025**	**0.16 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.19**	**0.16**	**0.024**	**0.84**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IADUP-2-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 013	**Work Order #**	MQ24J1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	07:04
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.20**	**0.080**	**0.023**	**0.63**	**0.26**	**0.073**
Carbon tetrachloride	**0.086**	**0.080**	**0.015**	**0.54**	**0.50**	**0.094**
Chlorodifluoromethane	**4.2**	**0.080**	**0.015**	**15**	**0.28**	**0.053**
Chloroform	**0.028 J**	**0.080**	**0.015**	**0.14 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.51**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.11**	**0.080**	**0.027**	**0.47**	**0.35**	**0.12**
Methylene chloride	**0.68 B**	**0.20**	**0.018**	**2.4 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.63**	**0.20**	**0.036**	**3.3**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.89**	**0.080**	**0.021**	**3.3**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.031 J**	**0.080**	**0.012**	**0.17 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.024 J**	**0.040**	**0.014**	**0.13 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.056 J**	**0.080**	**0.025**	**0.27 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	**0.036 J**	**0.080**	**0.029**	**0.093 J**	**0.20**	**0.074**
Xylenes (total)	**0.60**	**0.16**	**0.024**	**2.6**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA128-C-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 014	**Work Order #**	MQ24L2AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/09/2012	**Analysis Time....:**	03/10/2012		
Prep Batch #.....:	2069094	**Analysis Time....:**	06:55		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.080**	**0.023**	**0.68**	**0.26**	**0.073**
Carbon tetrachloride	**0.078 J**	**0.080**	**0.015**	**0.49 J**	**0.50**	**0.094**
Chlorodifluoromethane	**7.4**	**0.080**	**0.015**	**26**	**0.28**	**0.053**
Chloroform	**0.040 J**	**0.080**	**0.015**	**0.20 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.68**	**0.080**	**0.027**	**3.3**	**0.40**	**0.13**
1,1-Dichloroethane	**0.013 J**	**0.080**	**0.010**	**0.051 J**	**0.32**	**0.040**
1,2-Dichloroethane	**0.025 J**	**0.080**	**0.019**	**0.10 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.13**	**0.080**	**0.027**	**0.55**	**0.35**	**0.12**
Methylene chloride	**8.9 B**	**0.20**	**0.018**	**31 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.022 J**	**0.080**	**0.016**	**0.15 J**	**0.54**	**0.11**
Toluene	**0.66**	**0.080**	**0.021**	**2.5**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**2.2**	**0.080**	**0.012**	**12**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.13**	**0.040**	**0.014**	**0.68**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.074 J**	**0.080**	**0.025**	**0.36 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	**0.027 J**	**0.080**	**0.026**	**0.13 J**	**0.39**	**0.13**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.68**	**0.16**	**0.024**	**3.0**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	112	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA127-C-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 015	**Work Order #**	MQ24M1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	03:47
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.14**	**0.080**	**0.023**	**0.45**	**0.26**	**0.073**
Carbon tetrachloride	**0.069 J**	**0.080**	**0.015**	**0.43 J**	**0.50**	**0.094**
Chlorodifluoromethane	**4.2**	**0.080**	**0.015**	**15**	**0.28**	**0.053**
Chloroform	**0.023 J**	**0.080**	**0.015**	**0.11 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.48**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.056 J**	**0.080**	**0.027**	**0.24 J**	**0.35**	**0.12**
Methylene chloride	**0.54 B**	**0.20**	**0.018**	**1.9 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.64**	**0.080**	**0.021**	**2.4**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.013 J**	**0.080**	**0.012**	**0.069 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.049**	**0.040**	**0.014**	**0.26**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.25**	**0.16**	**0.024**	**1.1**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA100-B-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 016	**Work Order #**	MQ24N1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	04:38
Dilution Factor.:	5	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.26 J**	**0.40**	**0.12**	**0.81 J**	**1.3**	**0.37**
Carbon tetrachloride	ND	0.40	0.075	ND	2.5	0.47
Chlorodifluoromethane	**13**	**0.40**	**0.075**	**45**	**1.4**	**0.27**
Chloroform	ND	0.40	0.075	ND	2.0	0.37
Dichlorodifluoromethane	**0.52**	**0.40**	**0.14**	**2.6**	**2.0**	**0.67**
1,1-Dichloroethane	ND	0.40	0.050	ND	1.6	0.20
1,2-Dichloroethane	ND	0.40	0.095	ND	1.6	0.38
cis-1,2-Dichloroethene	ND	0.40	0.12	ND	1.6	0.48
trans-1,2-Dichloroethene	ND	0.40	0.10	ND	1.6	0.40
1,1-Dichloroethene	ND	0.40	0.065	ND	1.6	0.26
Ethylbenzene	**1.3**	**0.40**	**0.14**	**5.5**	**1.7**	**0.59**
Methylene chloride	**1.6 B**	**1.0**	**0.090**	**5.6 B**	**3.5**	**0.31**
Methyl tert-butyl ether	ND	2.0	0.34	ND	7.2	1.2
Naphthalene	ND	1.0	0.18	ND	5.2	0.94
Tetrachloroethene	ND	0.40	0.080	ND	2.7	0.54
Toluene	**78**	**0.40**	**0.10**	**290**	**1.5**	**0.40**
1,2,4-Trichlorobenzene	ND	2.0	0.20	ND	15	1.4
1,1,1-Trichloroethane	ND	0.40	0.060	ND	2.2	0.33
1,1,2-Trichloroethane	ND	0.40	0.10	ND	2.2	0.57
Trichloroethene	ND	0.20	0.070	ND	1.1	0.38
1,2,3-Trimethylbenzene	ND	0.40	0.40	ND	2.0	2.0
1,2,4-Trimethylbenzene	**0.14 J**	**0.40**	**0.12**	**0.69 J**	**2.0**	**0.61**
1,3,5-Trimethylbenzene	ND	0.40	0.13	ND	2.0	0.64
Vinyl chloride	ND	0.40	0.14	ND	1.0	0.37
Xylenes (total)	**5.8**	**0.80**	**0.12**	**25**	**3.5**	**0.52**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA122-B-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 017	**Work Order #**	MQ24P1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	06:12
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.23 J**	**0.80**	**0.23**	**0.72 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**15**	**0.80**	**0.15**	**54**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.51 J**	**0.80**	**0.27**	**2.5 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**0.64 J**	**0.80**	**0.27**	**2.8 J**	**3.5**	**1.2**
Methylene chloride	**1.5 J B**	**2.0**	**0.18**	**5.3 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**53**	**0.80**	**0.21**	**200**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	ND	0.40	0.14	ND	2.1	0.75
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**2.9**	**1.6**	**0.24**	**13**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA105-7-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 018	**Work Order #**	MQ24Q1AA	**Matrix.....:**	AIR

Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	19:51
Dilution Factor.:	124.5	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	10	2.9	ND	32	9.1
Carbon tetrachloride	ND	10	1.9	ND	63	12
Chlorodifluoromethane	ND	10	1.9	ND	35	6.6
Chloroform	ND	10	1.9	ND	49	9.1
Dichlorodifluoromethane	ND	10	3.4	ND	49	17
1,1-Dichloroethane	ND	10	1.2	ND	40	5.0
1,2-Dichloroethane	ND	10	2.4	ND	40	9.6
cis-1,2-Dichloroethene	ND	10	3.0	ND	39	12
trans-1,2-Dichloroethene	ND	10	2.5	ND	39	9.9
1,1-Dichloroethene	ND	10	1.6	ND	39	6.4
Ethylbenzene	**7.4 J**	**10**	**3.4**	**32 J**	**43**	**15**
Methylene chloride	**4.6 J B**	**25**	**2.2**	**16 J B**	**86**	**7.8**
Methyl tert-butyl ether	ND	50	8.5	ND	180	31
Naphthalene	ND	25	4.5	ND	130	23
Tetrachloroethene	ND	10	2.0	ND	68	14
Toluene	**590**	**10**	**2.6**	**2200**	**38**	**9.9**
1,2,4-Trichlorobenzene	ND	50	4.9	ND	370	36
1,1,1-Trichloroethane	ND	10	1.5	ND	54	8.2
1,1,2-Trichloroethane	ND	10	2.6	ND	54	14
Trichloroethene	ND	5.0	1.7	ND	27	9.4
1,2,3-Trimethylbenzene	ND	10	10	ND	49	49
1,2,4-Trimethylbenzene	ND	10	3.1	ND	49	15
1,3,5-Trimethylbenzene	ND	10	3.2	ND	49	16
Vinyl chloride	ND	10	3.6	ND	25	9.2
Xylenes (total)	**41**	**20**	**3.0**	**180**	**86**	**13**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA123-Z-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 019 **Work Order #** MQ24R1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/07/2012 **Analysis Time....:** 03/07/2012
Prep Batch #.....: 2067130 **Analysis Time....:** 20:43
Dilution Factor.: 126.4 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	10	2.9	ND	32	9.3
Carbon tetrachloride	ND	10	1.9	ND	64	12
Chlorodifluoromethane	ND	10	1.9	ND	36	6.7
Chloroform	ND	10	1.9	ND	49	9.3
Dichlorodifluoromethane	ND	10	3.4	ND	50	17
1,1-Dichloroethane	ND	10	1.3	ND	41	5.1
1,2-Dichloroethane	ND	10	2.4	ND	41	9.7
cis-1,2-Dichloroethene	ND	10	3.0	ND	40	12
trans-1,2-Dichloroethene	ND	10	2.5	ND	40	10
1,1-Dichloroethene	ND	10	1.6	ND	40	6.5
Ethylbenzene	**8.6 J**	**10**	**3.4**	**37 J**	**44**	**15**
Methylene chloride	**4.7 J B**	**25**	**2.3**	**16 J B**	**88**	**7.9**
Methyl tert-butyl ether	ND	51	8.6	ND	180	31
Naphthalene	ND	25	4.6	ND	130	24
Tetrachloroethene	ND	10	2.0	ND	69	14
Toluene	**690**	**10**	**2.7**	**2600**	**38**	**10**
1,2,4-Trichlorobenzene	ND	51	4.9	ND	380	37
1,1,1-Trichloroethane	ND	10	1.5	ND	55	8.3
1,1,2-Trichloroethane	ND	10	2.7	ND	55	14
Trichloroethene	ND	5.1	1.8	ND	27	9.5
1,2,3-Trimethylbenzene	ND	10	10	ND	50	50
1,2,4-Trimethylbenzene	ND	10	3.2	ND	50	16
1,3,5-Trimethylbenzene	ND	10	3.3	ND	50	16
Vinyl chloride	ND	10	3.7	ND	26	9.4
Xylenes (total)	**47**	**20**	**3.0**	**200**	**88**	**13**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C060000 - 125B	**Work Order #**	MQ9FL1AA	**Matrix.....:**	AIR
	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012		
Prep Batch #.....:	2066125	**Analysis Time....:**	11:05		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.045 J**	**0.20**	**0.018**	**0.16 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C060000 - 125C **Work Order #** MQ9FL1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	09:16
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	3.94	16.0	12.6	79	70 - 130
Carbon tetrachloride	5.00	6.17	31.5	38.8	123	70 - 130
Chlorodifluoromethane	5.00	6.31	17.7	22.3	126	60 - 140
Chloroform	5.00	5.08	24.4	24.8	102	70 - 130
Dichlorodifluoromethane	5.00	6.25	24.7	30.9	125	60 - 140
1,1-Dichloroethane	5.00	4.78	20.2	19.4	96	70 - 130
1,2-Dichloroethane	5.00	5.42	20.2	21.9	108	70 - 130
cis-1,2-Dichloroethene	5.00	4.50	19.8	17.8	90	70 - 130
trans-1,2-Dichloroethene	5.00	4.42	19.8	17.5	88	70 - 130
1,1-Dichloroethene	5.00	4.41	19.8	17.5	88	70 - 130
Ethylbenzene	5.00	4.02	21.7	17.5	80	70 - 130
Methylene chloride	5.00	4.24	17.4	14.7	85	70 - 130
Methyl tert-butyl ether	5.00	4.16	18.0	15.0	83	60 - 140
Naphthalene	5.00	3.94	26.2	20.6	79	40 - 140
Tetrachloroethene	5.00	4.22	33.9	28.6	84	70 - 130
Toluene	5.00	3.85	18.8	14.5	77	70 - 130
1,2,4-Trichlorobenzene	5.00	3.71	37.1	27.5	74	60 - 140
1,1,1-Trichloroethane	5.00	5.67	27.3	30.9	113	70 - 130
1,1,2-Trichloroethane	5.00	3.86	27.3	21.0	77	70 - 130
Trichloroethene	5.00	4.56	26.9	24.5	91	70 - 130
1,2,3-Trimethylbenzene	5.00	4.09	24.6	20.1	82	20 - 180
1,2,4-Trimethylbenzene	5.00	4.00	24.6	19.7	80	70 - 130
1,3,5-Trimethylbenzene	5.00	3.83	24.6	18.8	77	70 - 130
Vinyl chloride	5.00	5.39	12.8	13.8	108	70 - 130
Xylenes (total)	15.0	12.2	65.1	52.8	81	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	108	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C060000 - 141B **Work Order #** MQ9GW1AA **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	13:32
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.050 J**	**0.20**	**0.018**	**0.17 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C060000 - 141C **Work Order #** MQ9GW1AC **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	10:33
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.71	16.0	15.0	94	70 - 130
Carbon tetrachloride	5.00	5.03	31.5	31.7	101	70 - 130
Chlorodifluoromethane	5.00	5.32	17.7	18.8	106	60 - 140
Chloroform	5.00	5.19	24.4	25.3	104	70 - 130
Dichlorodifluoromethane	5.00	5.83	24.7	28.9	117	60 - 140
1,1-Dichloroethane	5.00	5.23	20.2	21.2	105	70 - 130
1,2-Dichloroethane	5.00	5.24	20.2	21.2	105	70 - 130
cis-1,2-Dichloroethene	5.00	5.00	19.8	19.8	100	70 - 130
trans-1,2-Dichloroethene	5.00	5.14	19.8	20.4	103	70 - 130
1,1-Dichloroethene	5.00	5.37	19.8	21.3	107	70 - 130
Ethylbenzene	5.00	5.25	21.7	22.8	105	70 - 130
Methylene chloride	5.00	4.62	17.4	16.0	92	70 - 130
Methyl tert-butyl ether	5.00	5.71	18.0	20.6	114	60 - 140
Naphthalene	5.00	3.79	26.2	19.9	76	40 - 140
Tetrachloroethene	5.00	5.10	33.9	34.6	102	70 - 130
Toluene	5.00	5.10	18.8	19.2	102	70 - 130
1,2,4-Trichlorobenzene	5.00	3.86	37.1	28.6	77	60 - 140
1,1,1-Trichloroethane	5.00	5.26	27.3	28.7	105	70 - 130
1,1,2-Trichloroethane	5.00	5.24	27.3	28.6	105	70 - 130
Trichloroethene	5.00	4.66	26.9	25.1	93	70 - 130
1,2,3-Trimethylbenzene	5.10	4.99	25.1	24.5	98	20 - 180
1,2,4-Trimethylbenzene	5.00	4.86	24.6	23.9	97	70 - 130
1,3,5-Trimethylbenzene	5.00	4.98	24.6	24.5	100	70 - 130
Vinyl chloride	5.00	5.65	12.8	14.4	113	70 - 130
Xylenes (total)	15.0	15.9	65.1	68.9	106	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C070000 - 130B **Work Order #** MRAAQ1AA **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	12:00
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.049 J**	**0.20**	**0.018**	**0.17 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C070000 - 130C **Work Order #** MRAAQ1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	10:06
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	5.01	16.0	16.0	100	70 - 130
Carbon tetrachloride	5.00	5.39	31.5	33.9	108	70 - 130
Chlorodifluoromethane	5.00	4.89	17.7	17.3	98	60 - 140
Chloroform	5.00	5.58	24.4	27.2	112	70 - 130
Dichlorodifluoromethane	5.00	5.80	24.7	28.7	116	60 - 140
1,1-Dichloroethane	5.00	5.65	20.2	22.9	113	70 - 130
1,2-Dichloroethane	5.00	5.61	20.2	22.7	112	70 - 130
cis-1,2-Dichloroethene	5.00	5.40	19.8	21.4	108	70 - 130
trans-1,2-Dichloroethene	5.00	5.36	19.8	21.3	107	70 - 130
1,1-Dichloroethene	5.00	5.29	19.8	21.0	106	70 - 130
Ethylbenzene	5.00	5.74	21.7	24.9	115	70 - 130
Methylene chloride	5.00	4.81	17.4	16.7	96	70 - 130
Methyl tert-butyl ether	5.00	6.04	18.0	21.8	121	60 - 140
Naphthalene	5.00	4.93	26.2	25.9	99	40 - 140
Tetrachloroethene	5.00	5.35	33.9	36.3	107	70 - 130
Toluene	5.00	5.52	18.8	20.8	110	70 - 130
1,2,4-Trichlorobenzene	5.00	5.12	37.1	38.0	102	60 - 140
1,1,1-Trichloroethane	5.00	5.68	27.3	31.0	114	70 - 130
1,1,2-Trichloroethane	5.00	5.66	27.3	30.9	113	70 - 130
Trichloroethene	5.00	4.98	26.9	26.8	100	70 - 130
1,2,3-Trimethylbenzene	5.10	5.50	25.1	27.1	108	20 - 180
1,2,4-Trimethylbenzene	5.00	5.37	24.6	26.4	107	70 - 130
1,3,5-Trimethylbenzene	5.00	5.39	24.6	26.5	108	70 - 130
Vinyl chloride	5.00	5.33	12.8	13.6	107	70 - 130
Xylenes (total)	15.0	17.2	65.1	74.6	114	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C090000 - 094B	**Work Order #**	MRCJQ1AA	**Matrix.....:**	AIR
	02/24/2012	**Date Received..:**	02/25/2012		
Prep Date.....:	03/09/2012	**Analysis Time....:**	03/09/2012		
Prep Batch #.....:	2069094	**Analysis Time....:**	12:24		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.044 J**	**0.20**	**0.018**	**0.15 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	111	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C090000 - 094C **Work Order #** MRCJQ1AC **Matrix.....:** AIR

	02/24/2012	**Date Received..:**	02/25/2012
Prep Date.....:	03/09/2012	**Analysis Time....:**	03/09/2012
Prep Batch #.....:	2069094	**Analysis Time....:**	10:32
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.62	16.0	14.8	92	70 - 130
Carbon tetrachloride	5.00	5.66	31.5	35.6	113	70 - 130
Chlorodifluoromethane	5.00	6.22	17.7	22.0	124	60 - 140
Chloroform	5.00	5.13	24.4	25.1	103	70 - 130
Dichlorodifluoromethane	5.00	6.52	24.7	32.2	130	60 - 140
1,1-Dichloroethane	5.00	4.61	20.2	18.6	92	70 - 130
1,2-Dichloroethane	5.00	5.70	20.2	23.1	114	70 - 130
cis-1,2-Dichloroethene	5.00	4.76	19.8	18.9	95	70 - 130
trans-1,2-Dichloroethene	5.00	4.57	19.8	18.1	91	70 - 130
1,1-Dichloroethene	5.00	4.27	19.8	16.9	85	70 - 130
Ethylbenzene	5.00	4.78	21.7	20.8	96	70 - 130
Methylene chloride	5.00	4.13	17.4	14.3	83	70 - 130
Methyl tert-butyl ether	5.00	4.54	18.0	16.4	91	60 - 140
Naphthalene	5.00	5.00	26.2	26.2	100	40 - 140
Tetrachloroethene	5.00	4.99	33.9	33.9	100	70 - 130
Toluene	5.00	4.32	18.8	16.3	86	70 - 130
1,2,4-Trichlorobenzene	5.00	5.48	37.1	40.7	110	60 - 140
1,1,1-Trichloroethane	5.00	5.94	27.3	32.4	119	70 - 130
1,1,2-Trichloroethane	5.00	4.43	27.3	24.1	89	70 - 130
Trichloroethene	5.00	5.04	26.9	27.1	101	70 - 130
1,2,3-Trimethylbenzene	5.00	5.16	24.6	25.4	103	20 - 180
1,2,4-Trimethylbenzene	5.00	4.95	24.6	24.3	99	70 - 130
1,3,5-Trimethylbenzene	5.00	5.21	24.6	25.6	104	70 - 130
Vinyl chloride	5.00	4.27	12.8	10.9	85	70 - 130
Xylenes (total)	15.0	14.6	65.1	63.3	97	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA117-A-12

GC/MS Volatiles

Lot-Sample # H2B240437 - 001 **Work Order #** MQ3J01AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/24/2012
Prep Date.....: 03/07/2012 **Analysis Time....:** 03/08/2012
Prep Batch #.....: 2067130 **Analysis Time....:** 01:53
Dilution Factor.: 19.23 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	1.5	0.44	ND	4.9	1.4
Carbon tetrachloride	ND	1.5	0.29	ND	9.7	1.8
Chlorodifluoromethane	**2.6**	**1.5**	**0.29**	**9.1**	**5.4**	**1.0**
Chloroform	ND	1.5	0.29	ND	7.5	1.4
Dichlorodifluoromethane	**0.81 J**	**1.5**	**0.52**	**4.0 J**	**7.6**	**2.6**
1,1-Dichloroethane	ND	1.5	0.19	ND	6.2	0.78
1,2-Dichloroethane	ND	1.5	0.37	ND	6.2	1.5
cis-1,2-Dichloroethene	ND	1.5	0.46	ND	6.1	1.8
trans-1,2-Dichloroethene	ND	1.5	0.38	ND	6.1	1.5
1,1-Dichloroethene	ND	1.5	0.25	ND	6.1	0.99
Ethylbenzene	**4.5**	**1.5**	**0.52**	**20**	**6.7**	**2.3**
Methylene chloride	**1.4 J B**	**3.8**	**0.35**	**4.8 J B**	**13**	**1.2**
Methyl tert-butyl ether	ND	7.7	1.3	ND	28	4.7
Naphthalene	ND	3.8	0.69	ND	20	3.6
Tetrachloroethene	ND	1.5	0.31	ND	10	2.1
Toluene	**150**	**1.5**	**0.40**	**580**	**5.8**	**1.5**
1,2,4-Trichlorobenzene	ND	7.7	0.75	ND	57	5.6
1,1,1-Trichloroethane	ND	1.5	0.23	ND	8.4	1.3
1,1,2-Trichloroethane	ND	1.5	0.40	ND	8.4	2.2
Trichloroethene	ND	0.77	0.27	ND	4.1	1.4
1,2,3-Trimethylbenzene	ND	1.5	1.5	ND	7.6	7.6
1,2,4-Trimethylbenzene	**0.80 J**	**1.5**	**0.48**	**3.9 J**	**7.6**	**2.4**
1,3,5-Trimethylbenzene	ND	1.5	0.50	ND	7.6	2.5
Vinyl chloride	ND	1.5	0.56	ND	3.9	1.4
Xylenes (total)	**22**	**3.1**	**0.46**	**96**	**13**	**2.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA106-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 002	**Work Order #**	MQ3KF1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	20:55
Dilution Factor.:	5	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.37 J**	**0.40**	**0.12**	**1.2 J**	**1.3**	**0.37**
Carbon tetrachloride	**0.11 J**	**0.40**	**0.075**	**0.68 J**	**2.5**	**0.47**
Chlorodifluoromethane	**3.6**	**0.40**	**0.075**	**13**	**1.4**	**0.27**
Chloroform	ND	0.40	0.075	ND	2.0	0.37
Dichlorodifluoromethane	**0.82**	**0.40**	**0.14**	**4.0**	**2.0**	**0.67**
1,1-Dichloroethane	ND	0.40	0.050	ND	1.6	0.20
1,2-Dichloroethane	ND	0.40	0.095	ND	1.6	0.38
cis-1,2-Dichloroethene	ND	0.40	0.12	ND	1.6	0.48
trans-1,2-Dichloroethene	ND	0.40	0.10	ND	1.6	0.40
1,1-Dichloroethene	ND	0.40	0.065	ND	1.6	0.26
Ethylbenzene	**1.6**	**0.40**	**0.14**	**6.8**	**1.7**	**0.59**
Methylene chloride	**2.0 B**	**1.0**	**0.090**	**7.1 B**	**3.5**	**0.31**
Methyl tert-butyl ether	ND	2.0	0.34	ND	7.2	1.2
Naphthalene	ND	1.0	0.18	ND	5.2	0.94
Tetrachloroethene	ND	0.40	0.080	ND	2.7	0.54
Toluene	**46**	**0.40**	**0.10**	**170**	**1.5**	**0.40**
1,2,4-Trichlorobenzene	ND	2.0	0.20	ND	15	1.4
1,1,1-Trichloroethane	ND	0.40	0.060	ND	2.2	0.33
1,1,2-Trichloroethane	ND	0.40	0.10	ND	2.2	0.57
Trichloroethene	ND	0.20	0.070	ND	1.1	0.38
1,2,3-Trimethylbenzene	ND	0.40	0.40	ND	2.0	2.0
1,2,4-Trimethylbenzene	**0.53**	**0.40**	**0.12**	**2.6**	**2.0**	**0.61**
1,3,5-Trimethylbenzene	**0.18 J**	**0.40**	**0.13**	**0.91 J**	**2.0**	**0.64**
Vinyl chloride	ND	0.40	0.14	ND	1.0	0.37
Xylenes (total)	**9.2**	**0.80**	**0.12**	**40**	**3.5**	**0.52**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA107-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 003	**Work Order #**	MQ3KK1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	21:48
Dilution Factor.:	5	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.24 J**	**0.40**	**0.12**	**0.77 J**	**1.3**	**0.37**
Carbon tetrachloride	**0.079 J**	**0.40**	**0.075**	**0.50 J**	**2.5**	**0.47**
Chlorodifluoromethane	**2.0**	**0.40**	**0.075**	**7.1**	**1.4**	**0.27**
Chloroform	ND	0.40	0.075	ND	2.0	0.37
Dichlorodifluoromethane	**0.61**	**0.40**	**0.14**	**3.0**	**2.0**	**0.67**
1,1-Dichloroethane	ND	0.40	0.050	ND	1.6	0.20
1,2-Dichloroethane	ND	0.40	0.095	ND	1.6	0.38
cis-1,2-Dichloroethene	ND	0.40	0.12	ND	1.6	0.48
trans-1,2-Dichloroethene	ND	0.40	0.10	ND	1.6	0.40
1,1-Dichloroethene	ND	0.40	0.065	ND	1.6	0.26
Ethylbenzene	**0.85**	**0.40**	**0.14**	**3.7**	**1.7**	**0.59**
Methylene chloride	**0.78 J B**	**1.0**	**0.090**	**2.7 J B**	**3.5**	**0.31**
Methyl tert-butyl ether	ND	2.0	0.34	ND	7.2	1.2
Naphthalene	ND	1.0	0.18	ND	5.2	0.94
Tetrachloroethene	ND	0.40	0.080	ND	2.7	0.54
Toluene	**26**	**0.40**	**0.10**	**98**	**1.5**	**0.40**
1,2,4-Trichlorobenzene	ND	2.0	0.20	ND	15	1.4
1,1,1-Trichloroethane	ND	0.40	0.060	ND	2.2	0.33
1,1,2-Trichloroethane	ND	0.40	0.10	ND	2.2	0.57
Trichloroethene	ND	0.20	0.070	ND	1.1	0.38
1,2,3-Trimethylbenzene	ND	0.40	0.40	ND	2.0	2.0
1,2,4-Trimethylbenzene	**0.24 J**	**0.40**	**0.12**	**1.2 J**	**2.0**	**0.61**
1,3,5-Trimethylbenzene	ND	0.40	0.13	ND	2.0	0.64
Vinyl chloride	ND	0.40	0.14	ND	1.0	0.37
Xylenes (total)	**4.7**	**0.80**	**0.12**	**20**	**3.5**	**0.52**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	112	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA079-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 004	**Work Order #**	MQ3KL1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	13:38
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.80	0.23	ND	2.6	0.73
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**1.9**	**0.80**	**0.15**	**6.6**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.64 J**	**0.80**	**0.27**	**3.2 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**1.1**	**0.80**	**0.27**	**4.7**	**3.5**	**1.2**
Methylene chloride	**1.1 J B**	**2.0**	**0.18**	**3.7 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**30**	**0.80**	**0.21**	**110**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	ND	0.40	0.14	ND	2.1	0.75
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	**0.42 J**	**0.80**	**0.25**	**2.1 J**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**6.4**	**1.6**	**0.24**	**28**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA097-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 005	**Work Order #**	MQ3KM1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	22:39
Dilution Factor.:	5	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.26 J**	**0.40**	**0.12**	**0.84 J**	**1.3**	**0.37**
Carbon tetrachloride	**0.089 J**	**0.40**	**0.075**	**0.56 J**	**2.5**	**0.47**
Chlorodifluoromethane	**3.0**	**0.40**	**0.075**	**11**	**1.4**	**0.27**
Chloroform	ND	0.40	0.075	ND	2.0	0.37
Dichlorodifluoromethane	**0.57**	**0.40**	**0.14**	**2.8**	**2.0**	**0.67**
1,1-Dichloroethane	ND	0.40	0.050	ND	1.6	0.20
1,2-Dichloroethane	ND	0.40	0.095	ND	1.6	0.38
cis-1,2-Dichloroethene	ND	0.40	0.12	ND	1.6	0.48
trans-1,2-Dichloroethene	ND	0.40	0.10	ND	1.6	0.40
1,1-Dichloroethene	ND	0.40	0.065	ND	1.6	0.26
Ethylbenzene	**1.2**	**0.40**	**0.14**	**5.1**	**1.7**	**0.59**
Methylene chloride	**1.5 B**	**1.0**	**0.090**	**5.0 B**	**3.5**	**0.31**
Methyl tert-butyl ether	ND	2.0	0.34	ND	7.2	1.2
Naphthalene	ND	1.0	0.18	ND	5.2	0.94
Tetrachloroethene	ND	0.40	0.080	ND	2.7	0.54
Toluene	**36**	**0.40**	**0.10**	**140**	**1.5**	**0.40**
1,2,4-Trichlorobenzene	ND	2.0	0.20	ND	15	1.4
1,1,1-Trichloroethane	ND	0.40	0.060	ND	2.2	0.33
1,1,2-Trichloroethane	ND	0.40	0.10	ND	2.2	0.57
Trichloroethene	ND	0.20	0.070	ND	1.1	0.38
1,2,3-Trimethylbenzene	ND	0.40	0.40	ND	2.0	2.0
1,2,4-Trimethylbenzene	**0.13 J**	**0.40**	**0.12**	**0.66 J**	**2.0**	**0.61**
1,3,5-Trimethylbenzene	ND	0.40	0.13	ND	2.0	0.64
Vinyl chloride	ND	0.40	0.14	ND	1.0	0.37
Xylenes (total)	**6.5**	**0.80**	**0.12**	**28**	**3.5**	**0.52**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	113	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA015-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 006	**Work Order #**	MQ3KP1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	00:13
Dilution Factor.:	163.64	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	13	3.8	ND	42	12
Carbon tetrachloride	ND	13	2.5	ND	82	15
Chlorodifluoromethane	ND	13	2.5	ND	46	8.7
Chloroform	ND	13	2.5	ND	64	12
Dichlorodifluoromethane	ND	13	4.4	ND	65	22
1,1-Dichloroethane	ND	13	1.6	ND	53	6.6
1,2-Dichloroethane	ND	13	3.1	ND	53	13
cis-1,2-Dichloroethene	ND	13	3.9	ND	52	16
trans-1,2-Dichloroethene	ND	13	3.3	ND	52	13
1,1-Dichloroethene	ND	13	2.1	ND	52	8.4
Ethylbenzene	**27**	**13**	**4.4**	**120**	**57**	**19**
Methylene chloride	**6.2 J B**	**33**	**2.9**	**21 J B**	**110**	**10**
Methyl tert-butyl ether	ND	65	11	ND	240	40
Naphthalene	ND	33	5.9	ND	170	31
Tetrachloroethene	ND	13	2.6	ND	89	18
Toluene	**650**	**13**	**3.4**	**2400**	**49**	**13**
1,2,4-Trichlorobenzene	ND	65	6.4	ND	490	47
1,1,1-Trichloroethane	ND	13	2.0	ND	71	11
1,1,2-Trichloroethane	ND	13	3.4	ND	71	19
Trichloroethene	ND	6.5	2.3	ND	35	12
1,2,3-Trimethylbenzene	ND	13	13	ND	64	64
1,2,4-Trimethylbenzene	ND	13	4.1	ND	64	20
1,3,5-Trimethylbenzene	ND	13	4.3	ND	64	21
Vinyl chloride	ND	13	4.7	ND	33	12
Xylenes (total)	**170**	**26**	**3.9**	**740**	**110**	**17**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA108-A-12

GC/MS Volatiles

Lot-Sample # H2B240437 - 007 **Work Order #** MQ3KV1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/24/2012
Prep Date.....: 03/07/2012 **Analysis Time....:** 03/08/2012
Prep Batch #.....: 2067130 **Analysis Time....:** 01:03
Dilution Factor.: 45.45 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	3.6	1.0	ND	12	3.3
Carbon tetrachloride	ND	3.6	0.68	ND	23	4.3
Chlorodifluoromethane	**2.2 J**	**3.6**	**0.68**	**7.9 J**	**13**	**2.4**
Chloroform	ND	3.6	0.68	ND	18	3.3
Dichlorodifluoromethane	ND	3.6	1.2	ND	18	6.1
1,1-Dichloroethane	ND	3.6	0.45	ND	15	1.8
1,2-Dichloroethane	ND	3.6	0.86	ND	15	3.5
cis-1,2-Dichloroethene	ND	3.6	1.1	ND	14	4.3
trans-1,2-Dichloroethene	ND	3.6	0.91	ND	14	3.6
1,1-Dichloroethene	ND	3.6	0.59	ND	14	2.3
Ethylbenzene	**15**	**3.6**	**1.2**	**64**	**16**	**5.3**
Methylene chloride	**2.0 J B**	**9.1**	**0.82**	**7.1 J B**	**32**	**2.8**
Methyl tert-butyl ether	ND	18	3.1	ND	66	11
Naphthalene	ND	9.1	1.6	ND	48	8.6
Tetrachloroethene	ND	3.6	0.73	ND	25	4.9
Toluene	**410**	**3.6**	**0.95**	**1500**	**14**	**3.6**
1,2,4-Trichlorobenzene	ND	18	1.8	ND	130	13
1,1,1-Trichloroethane	ND	3.6	0.55	ND	20	3.0
1,1,2-Trichloroethane	ND	3.6	0.95	ND	20	5.2
Trichloroethene	ND	1.8	0.64	ND	9.8	3.4
1,2,3-Trimethylbenzene	ND	3.6	3.6	ND	18	18
1,2,4-Trimethylbenzene	ND	3.6	1.1	ND	18	5.6
1,3,5-Trimethylbenzene	ND	3.6	1.2	ND	18	5.8
Vinyl chloride	ND	3.6	1.3	ND	9.3	3.4
Xylenes (total)	**94**	**7.3**	**1.1**	**410**	**32**	**4.7**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA075-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 008	**Work Order #**	MQ3KW1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	23:31
Dilution Factor.:	2.5	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.33**	**0.20**	**0.058**	**1.1**	**0.64**	**0.18**
Carbon tetrachloride	**0.098 J**	**0.20**	**0.038**	**0.62 J**	**1.3**	**0.24**
Chlorodifluoromethane	**1.8**	**0.20**	**0.038**	**6.5**	**0.71**	**0.13**
Chloroform	**0.049 J**	**0.20**	**0.038**	**0.24 J**	**0.98**	**0.18**
Dichlorodifluoromethane	**0.65**	**0.20**	**0.068**	**3.2**	**0.99**	**0.33**
1,1-Dichloroethane	ND	0.20	0.025	ND	0.81	0.10
1,2-Dichloroethane	ND	0.20	0.048	ND	0.81	0.19
cis-1,2-Dichloroethene	ND	0.20	0.060	ND	0.79	0.24
trans-1,2-Dichloroethene	ND	0.20	0.050	ND	0.79	0.20
1,1-Dichloroethene	ND	0.20	0.032	ND	0.79	0.13
Ethylbenzene	**0.80**	**0.20**	**0.068**	**3.5**	**0.87**	**0.29**
Methylene chloride	**0.75 B**	**0.50**	**0.045**	**2.6 B**	**1.7**	**0.16**
Methyl tert-butyl ether	ND	1.0	0.17	ND	3.6	0.61
Naphthalene	**0.11 J**	**0.50**	**0.090**	**0.55 J**	**2.6**	**0.47**
Tetrachloroethene	**0.064 J**	**0.20**	**0.040**	**0.44 J**	**1.4**	**0.27**
Toluene	**22**	**0.20**	**0.052**	**82**	**0.75**	**0.20**
1,2,4-Trichlorobenzene	ND	1.0	0.098	ND	7.4	0.72
1,1,1-Trichloroethane	ND	0.20	0.030	ND	1.1	0.16
1,1,2-Trichloroethane	ND	0.20	0.052	ND	1.1	0.29
Trichloroethene	**0.22**	**0.10**	**0.035**	**1.2**	**0.54**	**0.19**
1,2,3-Trimethylbenzene	ND	0.20	0.20	ND	0.98	0.98
1,2,4-Trimethylbenzene	**0.10 J**	**0.20**	**0.062**	**0.50 J**	**0.98**	**0.31**
1,3,5-Trimethylbenzene	ND	0.20	0.065	ND	0.98	0.32
Vinyl chloride	ND	0.20	0.072	ND	0.51	0.19
Xylenes (total)	**4.9**	**0.40**	**0.060**	**21**	**1.7**	**0.26**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	110	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA076-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 009	**Work Order #**	MQ3KX1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	05:22
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.35**	**0.080**	**0.023**	**1.1**	**0.26**	**0.073**
Carbon tetrachloride	**0.076 J**	**0.080**	**0.015**	**0.48 J**	**0.50**	**0.094**
Chlorodifluoromethane	**0.42**	**0.080**	**0.015**	**1.5**	**0.28**	**0.053**
Chloroform	**0.027 J**	**0.080**	**0.015**	**0.13 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.47**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.18**	**0.080**	**0.027**	**0.79**	**0.35**	**0.12**
Methylene chloride	**0.18 J B**	**0.20**	**0.018**	**0.61 J B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.043 J**	**0.080**	**0.016**	**0.29 J**	**0.54**	**0.11**
Toluene	**2.5**	**0.080**	**0.021**	**9.4**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.29**	**0.080**	**0.012**	**1.6**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.023 J**	**0.040**	**0.014**	**0.12 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.051 J**	**0.080**	**0.025**	**0.25 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.87**	**0.16**	**0.024**	**3.8**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA077-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 010	**Work Order #**	MQ3K01AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	03:37
Dilution Factor.:	10	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.25 J**	**0.80**	**0.23**	**0.79 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**1.2**	**0.80**	**0.15**	**4.3**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.55 J**	**0.80**	**0.27**	**2.7 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**1.6**	**0.80**	**0.27**	**7.0**	**3.5**	**1.2**
Methylene chloride	**0.79 J B**	**2.0**	**0.18**	**2.8 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**43**	**0.80**	**0.21**	**160**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	ND	0.40	0.14	ND	2.1	0.75
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**10**	**1.6**	**0.24**	**45**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA096-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 011	**Work Order #**	MQ3K11AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	13:41
Dilution Factor.:	20	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	1.6	0.46	ND	5.1	1.5
Carbon tetrachloride	ND	1.6	0.30	ND	10	1.9
Chlorodifluoromethane	**0.62 J**	**1.6**	**0.30**	**2.2 J**	**5.7**	**1.1**
Chloroform	ND	1.6	0.30	ND	7.8	1.5
Dichlorodifluoromethane	**0.78 J**	**1.6**	**0.54**	**3.9 J**	**7.9**	**2.7**
1,1-Dichloroethane	ND	1.6	0.20	ND	6.5	0.81
1,2-Dichloroethane	ND	1.6	0.38	ND	6.5	1.5
cis-1,2-Dichloroethene	ND	1.6	0.48	ND	6.3	1.9
trans-1,2-Dichloroethene	ND	1.6	0.40	ND	6.3	1.6
1,1-Dichloroethene	ND	1.6	0.26	ND	6.3	1.0
Ethylbenzene	**1.8**	**1.6**	**0.54**	**7.8**	**6.9**	**2.3**
Methylene chloride	**0.93 J B**	**4.0**	**0.36**	**3.2 J B**	**14**	**1.3**
Methyl tert-butyl ether	ND	8.0	1.4	ND	29	4.9
Naphthalene	ND	4.0	0.72	ND	21	3.8
Tetrachloroethene	ND	1.6	0.32	ND	11	2.2
Toluene	**75**	**1.6**	**0.42**	**280**	**6.0**	**1.6**
1,2,4-Trichlorobenzene	ND	8.0	0.78	ND	59	5.8
1,1,1-Trichloroethane	ND	1.6	0.24	ND	8.7	1.3
1,1,2-Trichloroethane	ND	1.6	0.42	ND	8.7	2.3
Trichloroethene	ND	0.80	0.28	ND	4.3	1.5
1,2,3-Trimethylbenzene	ND	1.6	1.6	ND	7.9	7.9
1,2,4-Trimethylbenzene	ND	1.6	0.50	ND	7.9	2.5
1,3,5-Trimethylbenzene	ND	1.6	0.52	ND	7.9	2.6
Vinyl chloride	ND	1.6	0.58	ND	4.1	1.5
Xylenes (total)	**11**	**3.2**	**0.48**	**47**	**14**	**2.1**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA120-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 012	**Work Order #**	MQ3K31AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	14:37
Dilution Factor.:	5	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.24 J**	**0.40**	**0.12**	**0.78 J**	**1.3**	**0.37**
Carbon tetrachloride	**0.087 J**	**0.40**	**0.075**	**0.55 J**	**2.5**	**0.47**
Chlorodifluoromethane	**12**	**0.40**	**0.075**	**41**	**1.4**	**0.27**
Chloroform	ND	0.40	0.075	ND	2.0	0.37
Dichlorodifluoromethane	**0.60**	**0.40**	**0.14**	**3.0**	**2.0**	**0.67**
1,1-Dichloroethane	ND	0.40	0.050	ND	1.6	0.20
1,2-Dichloroethane	ND	0.40	0.095	ND	1.6	0.38
cis-1,2-Dichloroethene	ND	0.40	0.12	ND	1.6	0.48
trans-1,2-Dichloroethene	ND	0.40	0.10	ND	1.6	0.40
1,1-Dichloroethene	ND	0.40	0.065	ND	1.6	0.26
Ethylbenzene	**0.77**	**0.40**	**0.14**	**3.3**	**1.7**	**0.59**
Methylene chloride	**0.64 J B**	**1.0**	**0.090**	**2.2 J B**	**3.5**	**0.31**
Methyl tert-butyl ether	ND	2.0	0.34	ND	7.2	1.2
Naphthalene	ND	1.0	0.18	ND	5.2	0.94
Tetrachloroethene	ND	0.40	0.080	ND	2.7	0.54
Toluene	**23**	**0.40**	**0.10**	**86**	**1.5**	**0.40**
1,2,4-Trichlorobenzene	ND	2.0	0.20	ND	15	1.4
1,1,1-Trichloroethane	ND	0.40	0.060	ND	2.2	0.33
1,1,2-Trichloroethane	ND	0.40	0.10	ND	2.2	0.57
Trichloroethene	ND	0.20	0.070	ND	1.1	0.38
1,2,3-Trimethylbenzene	ND	0.40	0.40	ND	2.0	2.0
1,2,4-Trimethylbenzene	ND	0.40	0.12	ND	2.0	0.61
1,3,5-Trimethylbenzene	ND	0.40	0.13	ND	2.0	0.64
Vinyl chloride	ND	0.40	0.14	ND	1.0	0.37
Xylenes (total)	**4.5**	**0.80**	**0.12**	**20**	**3.5**	**0.52**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IADUP-3

GC/MS Volatiles

Lot-Sample #	H2B240437 - 013	**Work Order #**	MQ3K41AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	15:32
Dilution Factor.:	2	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.18**	**0.16**	**0.046**	**0.58**	**0.51**	**0.15**
Carbon tetrachloride	**0.11 J**	**0.16**	**0.030**	**0.68 J**	**1.0**	**0.19**
Chlorodifluoromethane	**7.9**	**0.16**	**0.030**	**28**	**0.57**	**0.11**
Chloroform	**0.042 J**	**0.16**	**0.030**	**0.20 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.68**	**0.16**	**0.054**	**3.4**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	**0.028 J**	**0.16**	**0.026**	**0.11 J**	**0.63**	**0.10**
Ethylbenzene	**0.26**	**0.16**	**0.054**	**1.1**	**0.69**	**0.23**
Methylene chloride	**4.6 B**	**0.40**	**0.036**	**16 B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	**0.089 J**	**0.40**	**0.072**	**0.47 J**	**2.1**	**0.38**
Tetrachloroethene	**0.039 J**	**0.16**	**0.032**	**0.26 J**	**1.1**	**0.22**
Toluene	**5.6**	**0.16**	**0.042**	**21**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.12**	**0.080**	**0.028**	**0.65**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	**0.054 J**	**0.16**	**0.050**	**0.26 J**	**0.79**	**0.25**
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**1.4**	**0.32**	**0.048**	**6.0**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	110	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IADUP-4

GC/MS Volatiles

Lot-Sample #	H2B240437 - 014	**Work Order #**	MQ3K51AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/09/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	06:44
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.37**	**0.080**	**0.023**	**1.2**	**0.26**	**0.073**
Carbon tetrachloride	**0.087**	**0.080**	**0.015**	**0.54**	**0.50**	**0.094**
Chlorodifluoromethane	**0.66**	**0.080**	**0.015**	**2.3**	**0.28**	**0.053**
Chloroform	**0.093**	**0.080**	**0.015**	**0.45**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.59**	**0.080**	**0.027**	**2.9**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	**0.068 J**	**0.080**	**0.013**	**0.27 J**	**0.32**	**0.052**
Ethylbenzene	**0.033 J**	**0.080**	**0.027**	**0.14 J**	**0.35**	**0.12**
Methylene chloride	**0.36 B**	**0.20**	**0.018**	**1.3 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.49**	**0.080**	**0.016**	**3.3**	**0.54**	**0.11**
Toluene	**0.55**	**0.080**	**0.021**	**2.1**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.013 J**	**0.080**	**0.012**	**0.069 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.18**	**0.040**	**0.014**	**0.97**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.10 J**	**0.16**	**0.024**	**0.44 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IADUP-5

GC/MS Volatiles

Lot-Sample #	H2B240437 - 015	**Work Order #**	MQ3K61AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/09/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	07:45
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.20**	**0.080**	**0.023**	**0.64**	**0.26**	**0.073**
Carbon tetrachloride	**0.089**	**0.080**	**0.015**	**0.56**	**0.50**	**0.094**
Chlorodifluoromethane	**1.0**	**0.080**	**0.015**	**3.5**	**0.28**	**0.053**
Chloroform	**0.033 J**	**0.080**	**0.015**	**0.16 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.59**	**0.080**	**0.027**	**2.9**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	**0.054 J**	**0.080**	**0.013**	**0.22 J**	**0.32**	**0.052**
Ethylbenzene	**0.11**	**0.080**	**0.027**	**0.46**	**0.35**	**0.12**
Methylene chloride	**0.44 B**	**0.20**	**0.018**	**1.5 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.30**	**0.080**	**0.016**	**2.1**	**0.54**	**0.11**
Toluene	**2.4**	**0.080**	**0.021**	**8.9**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.030 J**	**0.080**	**0.012**	**0.16 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.38**	**0.040**	**0.014**	**2.0**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.47**	**0.16**	**0.024**	**2.1**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA018-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 016	**Work Order #**	MQ3K81AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	18:15
Dilution Factor.:	2	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.26**	**0.16**	**0.046**	**0.83**	**0.51**	**0.15**
Carbon tetrachloride	**0.10 J**	**0.16**	**0.030**	**0.64 J**	**1.0**	**0.19**
Chlorodifluoromethane	**0.61**	**0.16**	**0.030**	**2.2**	**0.57**	**0.11**
Chloroform	**0.053 J**	**0.16**	**0.030**	**0.26 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.68**	**0.16**	**0.054**	**3.4**	**0.79**	**0.27**
1,1-Dichloroethane	**0.034 J**	**0.16**	**0.020**	**0.14 J**	**0.65**	**0.081**
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	**0.15 J**	**0.16**	**0.048**	**0.60 J**	**0.63**	**0.19**
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	**0.53**	**0.16**	**0.026**	**2.1**	**0.63**	**0.10**
Ethylbenzene	**0.33**	**0.16**	**0.054**	**1.4**	**0.69**	**0.23**
Methylene chloride	**0.25 J B**	**0.40**	**0.036**	**0.85 J B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	**0.15 J**	**0.16**	**0.032**	**1.0 J**	**1.1**	**0.22**
Toluene	**9.4**	**0.16**	**0.042**	**35**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	**0.028 J**	**0.16**	**0.024**	**0.15 J**	**0.87**	**0.13**
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.94**	**0.080**	**0.028**	**5.1**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	ND	0.16	0.050	ND	0.79	0.25
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**1.7**	**0.32**	**0.048**	**7.6**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA094-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 017	**Work Order #**	MQ3LA1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	19:10
Dilution Factor.:	2	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.32**	**0.16**	**0.046**	**1.0**	**0.51**	**0.15**
Carbon tetrachloride	**0.11 J**	**0.16**	**0.030**	**0.69 J**	**1.0**	**0.19**
Chlorodifluoromethane	**0.91**	**0.16**	**0.030**	**3.2**	**0.57**	**0.11**
Chloroform	**0.053 J**	**0.16**	**0.030**	**0.26 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.70**	**0.16**	**0.054**	**3.5**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	**0.026 J**	**0.16**	**0.026**	**0.10 J**	**0.63**	**0.10**
Ethylbenzene	**0.60**	**0.16**	**0.054**	**2.6**	**0.69**	**0.23**
Methylene chloride	**0.60 B**	**0.40**	**0.036**	**2.1 B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	**0.073 J**	**0.16**	**0.032**	**0.49 J**	**1.1**	**0.22**
Toluene	**19**	**0.16**	**0.042**	**71**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.10**	**0.080**	**0.028**	**0.56**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	**0.078 J**	**0.16**	**0.050**	**0.38 J**	**0.79**	**0.25**
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**3.3**	**0.32**	**0.048**	**15**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	114	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA102-C-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 018	**Work Order #**	MQ3LD1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2067124	**Analysis Time....:**	03:41
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.26**	**0.080**	**0.023**	**0.83**	**0.26**	**0.073**
Carbon tetrachloride	**0.068 J**	**0.080**	**0.015**	**0.43 J**	**0.50**	**0.094**
Chlorodifluoromethane	**3.1**	**0.080**	**0.015**	**11**	**0.28**	**0.053**
Chloroform	**0.037 J**	**0.080**	**0.015**	**0.18 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.44**	**0.080**	**0.027**	**2.2**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.29**	**0.080**	**0.027**	**1.3**	**0.35**	**0.12**
Methylene chloride	**0.34 B**	**0.20**	**0.018**	**1.2 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.037 J**	**0.080**	**0.016**	**0.25 J**	**0.54**	**0.11**
Toluene	**6.1**	**0.080**	**0.021**	**23**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.059 J**	**0.080**	**0.012**	**0.32 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.038 J**	**0.040**	**0.014**	**0.20 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.063 J**	**0.080**	**0.025**	**0.31 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**1.4**	**0.16**	**0.024**	**6.1**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA118-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 019	**Work Order #**	MQ3LF1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/09/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	00:23
Dilution Factor.:	5	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.28 J**	**0.40**	**0.12**	**0.89 J**	**1.3**	**0.37**
Carbon tetrachloride	**0.098 J**	**0.40**	**0.075**	**0.61 J**	**2.5**	**0.47**
Chlorodifluoromethane	**10**	**0.40**	**0.075**	**37**	**1.4**	**0.27**
Chloroform	ND	0.40	0.075	ND	2.0	0.37
Dichlorodifluoromethane	**0.61**	**0.40**	**0.14**	**3.0**	**2.0**	**0.67**
1,1-Dichloroethane	ND	0.40	0.050	ND	1.6	0.20
1,2-Dichloroethane	ND	0.40	0.095	ND	1.6	0.38
cis-1,2-Dichloroethene	ND	0.40	0.12	ND	1.6	0.48
trans-1,2-Dichloroethene	ND	0.40	0.10	ND	1.6	0.40
1,1-Dichloroethene	ND	0.40	0.065	ND	1.6	0.26
Ethylbenzene	**1.2**	**0.40**	**0.14**	**5.0**	**1.7**	**0.59**
Methylene chloride	**0.44 J B**	**1.0**	**0.090**	**1.5 J B**	**3.5**	**0.31**
Methyl tert-butyl ether	ND	2.0	0.34	ND	7.2	1.2
Naphthalene	ND	1.0	0.18	ND	5.2	0.94
Tetrachloroethene	ND	0.40	0.080	ND	2.7	0.54
Toluene	**33**	**0.40**	**0.10**	**130**	**1.5**	**0.40**
1,2,4-Trichlorobenzene	ND	2.0	0.20	ND	15	1.4
1,1,1-Trichloroethane	ND	0.40	0.060	ND	2.2	0.33
1,1,2-Trichloroethane	ND	0.40	0.10	ND	2.2	0.57
Trichloroethene	ND	0.20	0.070	ND	1.1	0.38
1,2,3-Trimethylbenzene	ND	0.40	0.40	ND	2.0	2.0
1,2,4-Trimethylbenzene	ND	0.40	0.12	ND	2.0	0.61
1,3,5-Trimethylbenzene	ND	0.40	0.13	ND	2.0	0.64
Vinyl chloride	ND	0.40	0.14	ND	1.0	0.37
Xylenes (total)	**6.9**	**0.80**	**0.12**	**30**	**3.5**	**0.52**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	112	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA119-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 020	**Work Order #**	MQ3LJ1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2067124	**Analysis Time....:**	05:22
Dilution Factor.:	2	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.16**	**0.046**	**0.67**	**0.51**	**0.15**
Carbon tetrachloride	**0.061 J**	**0.16**	**0.030**	**0.38 J**	**1.0**	**0.19**
Chlorodifluoromethane	**9.3**	**0.16**	**0.030**	**33**	**0.57**	**0.11**
Chloroform	**0.044 J**	**0.16**	**0.030**	**0.21 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.43**	**0.16**	**0.054**	**2.1**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	ND	0.16	0.026	ND	0.63	0.10
Ethylbenzene	**1.1**	**0.16**	**0.054**	**4.6**	**0.69**	**0.23**
Methylene chloride	**0.26 J B**	**0.40**	**0.036**	**0.91 J B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	**0.035 J**	**0.16**	**0.032**	**0.24 J**	**1.1**	**0.22**
Toluene	**27**	**0.16**	**0.042**	**100**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	ND	0.080	0.028	ND	0.43	0.15
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	**0.17**	**0.16**	**0.050**	**0.84**	**0.79**	**0.25**
1,3,5-Trimethylbenzene	**0.057 J**	**0.16**	**0.052**	**0.28 J**	**0.79**	**0.26**
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**6.2**	**0.32**	**0.048**	**27**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA116-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 021	**Work Order #**	MQ3LL1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2067124	**Analysis Time....:**	06:16
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.18**	**0.080**	**0.023**	**0.58**	**0.26**	**0.073**
Carbon tetrachloride	**0.073 J**	**0.080**	**0.015**	**0.46 J**	**0.50**	**0.094**
Chlorodifluoromethane	**0.99**	**0.080**	**0.015**	**3.5**	**0.28**	**0.053**
Chloroform	**0.045 J**	**0.080**	**0.015**	**0.22 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.45**	**0.080**	**0.027**	**2.2**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	**0.026 J**	**0.080**	**0.024**	**0.10 J**	**0.32**	**0.095**
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	**0.087**	**0.080**	**0.013**	**0.35**	**0.32**	**0.052**
Ethylbenzene	**0.27**	**0.080**	**0.027**	**1.2**	**0.35**	**0.12**
Methylene chloride	**0.80 B**	**0.20**	**0.018**	**2.8 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.095**	**0.080**	**0.016**	**0.65**	**0.54**	**0.11**
Toluene	**14**	**0.080**	**0.021**	**54**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.015 J**	**0.080**	**0.012**	**0.081 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.26**	**0.040**	**0.014**	**1.4**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.83**	**0.16**	**0.024**	**3.6**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA110-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 022	**Work Order #**	MQ3LN1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2067124	**Analysis Time....:**	07:06
Dilution Factor.:	2	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.19**	**0.16**	**0.046**	**0.60**	**0.51**	**0.15**
Carbon tetrachloride	**0.079 J**	**0.16**	**0.030**	**0.49 J**	**1.0**	**0.19**
Chlorodifluoromethane	**0.66**	**0.16**	**0.030**	**2.3**	**0.57**	**0.11**
Chloroform	**0.042 J**	**0.16**	**0.030**	**0.20 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.46**	**0.16**	**0.054**	**2.3**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	**0.073 J**	**0.16**	**0.026**	**0.29 J**	**0.63**	**0.10**
Ethylbenzene	**0.75**	**0.16**	**0.054**	**3.2**	**0.69**	**0.23**
Methylene chloride	**0.26 J B**	**0.40**	**0.036**	**0.89 J B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	**0.090 J**	**0.16**	**0.032**	**0.61 J**	**1.1**	**0.22**
Toluene	**24**	**0.16**	**0.042**	**89**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.17**	**0.080**	**0.028**	**0.90**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	**0.082 J**	**0.16**	**0.050**	**0.40 J**	**0.79**	**0.25**
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**4.2**	**0.32**	**0.048**	**18**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA109-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 023	**Work Order #**	MQ3LQ1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2067124	**Analysis Time....:**	07:57
Dilution Factor.:	2	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.16**	**0.046**	**0.66**	**0.51**	**0.15**
Carbon tetrachloride	**0.078 J**	**0.16**	**0.030**	**0.49 J**	**1.0**	**0.19**
Chlorodifluoromethane	**0.55**	**0.16**	**0.030**	**1.9**	**0.57**	**0.11**
Chloroform	**0.051 J**	**0.16**	**0.030**	**0.25 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.46**	**0.16**	**0.054**	**2.3**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	**0.072 J**	**0.16**	**0.026**	**0.29 J**	**0.63**	**0.10**
Ethylbenzene	**0.58**	**0.16**	**0.054**	**2.5**	**0.69**	**0.23**
Methylene chloride	**0.25 J B**	**0.40**	**0.036**	**0.86 J B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	**0.092 J**	**0.16**	**0.032**	**0.63 J**	**1.1**	**0.22**
Toluene	**24**	**0.16**	**0.042**	**91**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.20**	**0.080**	**0.028**	**1.1**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	ND	0.16	0.050	ND	0.79	0.25
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**2.2**	**0.32**	**0.048**	**9.7**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA093-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 024	**Work Order #**	MQ3LT1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/09/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	08:52
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.23**	**0.080**	**0.023**	**0.74**	**0.26**	**0.073**
Carbon tetrachloride	**0.10**	**0.080**	**0.015**	**0.66**	**0.50**	**0.094**
Chlorodifluoromethane	**1.9**	**0.080**	**0.015**	**6.6**	**0.28**	**0.053**
Chloroform	**0.040 J**	**0.080**	**0.015**	**0.20 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.72**	**0.080**	**0.027**	**3.6**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.024 J**	**0.080**	**0.019**	**0.097 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	**0.052 J**	**0.080**	**0.013**	**0.21 J**	**0.32**	**0.052**
Ethylbenzene	**0.065 J**	**0.080**	**0.027**	**0.28 J**	**0.35**	**0.12**
Methylene chloride	**0.58 B**	**0.20**	**0.018**	**2.0 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.30**	**0.080**	**0.016**	**2.0**	**0.54**	**0.11**
Toluene	**1.9**	**0.080**	**0.021**	**7.3**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.034 J**	**0.080**	**0.012**	**0.18 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.41**	**0.040**	**0.014**	**2.2**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.18**	**0.16**	**0.024**	**0.77**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	110	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C070000 - 124B	**Work Order #**	MQ97X1AA	**Matrix.....:**	AIR
	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012		
Prep Batch #.....:	2067124	**Analysis Time....:**	14:37		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.035 J**	**0.20**	**0.018**	**0.12 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C070000 - 124C **Work Order #** MQ97X1AC **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067124	**Analysis Time....:**	12:31
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.04	16.0	12.9	81	70 - 130
Carbon tetrachloride	5.00	5.55	31.5	34.9	111	70 - 130
Chlorodifluoromethane	5.00	4.85	17.7	17.2	97	60 - 140
Chloroform	5.00	4.73	24.4	23.1	95	70 - 130
Dichlorodifluoromethane	5.00	4.93	24.7	24.4	99	60 - 140
1,1-Dichloroethane	5.00	4.29	20.2	17.4	86	70 - 130
1,2-Dichloroethane	5.00	5.02	20.2	20.3	100	70 - 130
cis-1,2-Dichloroethene	5.00	4.34	19.8	17.2	87	70 - 130
trans-1,2-Dichloroethene	5.00	4.16	19.8	16.5	83	70 - 130
1,1-Dichloroethene	5.00	4.09	19.8	16.2	82	70 - 130
Ethylbenzene	5.00	4.15	21.7	18.0	83	70 - 130
Methylene chloride	5.00	3.94	17.4	13.7	79	70 - 130
Methyl tert-butyl ether	5.00	4.15	18.0	15.0	83	60 - 140
Naphthalene	5.00	2.67	26.2	14.0	53	40 - 140
Tetrachloroethene	5.00	4.20	33.9	28.5	84	70 - 130
Toluene	5.00	4.02	18.8	15.1	80	70 - 130
1,2,4-Trichlorobenzene	5.00	2.70	37.1	20.0 a ME	54 a ME	60 - 140
1,1,1-Trichloroethane	5.00	5.06	27.3	27.6	101	70 - 130
1,1,2-Trichloroethane	5.00	3.98	27.3	21.7	80	70 - 130
Trichloroethene	5.00	4.55	26.9	24.4	91	70 - 130
1,2,3-Trimethylbenzene	5.00	4.25	24.6	20.9	85	20 - 180
1,2,4-Trimethylbenzene	5.00	4.22	24.6	20.7	84	70 - 130
1,3,5-Trimethylbenzene	5.00	4.02	24.6	19.8	80	70 - 130
Vinyl chloride	5.00	4.49	12.8	11.5	90	70 - 130
Xylenes (total)	15.0	12.5	65.1	54.2	83	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

a	Spiked analyte recovery is outside stated control limits.
ME	The percent recovery of the analyte is outside the control limits but within marginal exceedance limits.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C070000 - 130B **Work Order #** MRAAQ1AA **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	12:00
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.049 J**	**0.20**	**0.018**	**0.17 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C070000 - 130C **Work Order #** MRAAQ1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	10:06
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	5.01	16.0	16.0	100	70 - 130
Carbon tetrachloride	5.00	5.39	31.5	33.9	108	70 - 130
Chlorodifluoromethane	5.00	4.89	17.7	17.3	98	60 - 140
Chloroform	5.00	5.58	24.4	27.2	112	70 - 130
Dichlorodifluoromethane	5.00	5.80	24.7	28.7	116	60 - 140
1,1-Dichloroethane	5.00	5.65	20.2	22.9	113	70 - 130
1,2-Dichloroethane	5.00	5.61	20.2	22.7	112	70 - 130
cis-1,2-Dichloroethene	5.00	5.40	19.8	21.4	108	70 - 130
trans-1,2-Dichloroethene	5.00	5.36	19.8	21.3	107	70 - 130
1,1-Dichloroethene	5.00	5.29	19.8	21.0	106	70 - 130
Ethylbenzene	5.00	5.74	21.7	24.9	115	70 - 130
Methylene chloride	5.00	4.81	17.4	16.7	96	70 - 130
Methyl tert-butyl ether	5.00	6.04	18.0	21.8	121	60 - 140
Naphthalene	5.00	4.93	26.2	25.9	99	40 - 140
Tetrachloroethene	5.00	5.35	33.9	36.3	107	70 - 130
Toluene	5.00	5.52	18.8	20.8	110	70 - 130
1,2,4-Trichlorobenzene	5.00	5.12	37.1	38.0	102	60 - 140
1,1,1-Trichloroethane	5.00	5.68	27.3	31.0	114	70 - 130
1,1,2-Trichloroethane	5.00	5.66	27.3	30.9	113	70 - 130
Trichloroethene	5.00	4.98	26.9	26.8	100	70 - 130
1,2,3-Trimethylbenzene	5.10	5.50	25.1	27.1	108	20 - 180
1,2,4-Trimethylbenzene	5.00	5.37	24.6	26.4	107	70 - 130
1,3,5-Trimethylbenzene	5.00	5.39	24.6	26.5	108	70 - 130
Vinyl chloride	5.00	5.33	12.8	13.6	107	70 - 130
Xylenes (total)	15.0	17.2	65.1	74.6	114	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C080000 - 093B **Work Order #** MRAMK1AA **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	12:45
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.039 J**	**0.20**	**0.018**	**0.14 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	108	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C080000 - 093C **Work Order #** MRAMK1AC **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	10:45
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.41	16.0	14.1	88	70 - 130
Carbon tetrachloride	5.00	5.55	31.5	34.9	111	70 - 130
Chlorodifluoromethane	5.00	5.96	17.7	21.1	119	60 - 140
Chloroform	5.00	4.92	24.4	24.0	98	70 - 130
Dichlorodifluoromethane	5.00	5.96	24.7	29.4	119	60 - 140
1,1-Dichloroethane	5.00	4.50	20.2	18.2	90	70 - 130
1,2-Dichloroethane	5.00	5.36	20.2	21.7	107	70 - 130
cis-1,2-Dichloroethene	5.00	4.61	19.8	18.3	92	70 - 130
trans-1,2-Dichloroethene	5.00	4.37	19.8	17.3	87	70 - 130
1,1-Dichloroethene	5.00	4.70	19.8	18.6	94	70 - 130
Ethylbenzene	5.00	4.13	21.7	17.9	83	70 - 130
Methylene chloride	5.00	4.38	17.4	15.2	88	70 - 130
Methyl tert-butyl ether	5.00	3.68	18.0	13.3	74	60 - 140
Naphthalene	5.00	3.05	26.2	16.0	61	40 - 140
Tetrachloroethene	5.00	4.53	33.9	30.7	91	70 - 130
Toluene	5.00	3.86	18.8	14.5	77	70 - 130
1,2,4-Trichlorobenzene	5.00	3.18	37.1	23.6	64	60 - 140
1,1,1-Trichloroethane	5.00	5.76	27.3	31.4	115	70 - 130
1,1,2-Trichloroethane	5.00	3.84	27.3	21.0	77	70 - 130
Trichloroethene	5.00	4.81	26.9	25.8	96	70 - 130
1,2,3-Trimethylbenzene	5.00	4.13	24.6	20.3	83	20 - 180
1,2,4-Trimethylbenzene	5.00	3.77	24.6	18.5	75	70 - 130
1,3,5-Trimethylbenzene	5.00	4.11	24.6	20.2	82	70 - 130
Vinyl chloride	5.00	3.94	12.8	10.1	79	70 - 130
Xylenes (total)	15.0	12.3	65.1	53.2	82	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

APPENDIX D—DATA VALIDATION REPORTS

Tetra Tech INC **INTERNAL CORRESPONDENCE**

TO: **R. SAMUELS** **DATE:** **APRIL 4, 2012**

FROM: **JOSEPH KALINYAK** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MIDDLE RIVER
SDG H2B230465

SAMPLES: 24 / Air / VOC

SV001-C-12	SV015-A-12	SV018-A-12
SV075-A-12	SV076-A-12	SV077-A-12
SV079-A-12	SV093-A-12	SV094-A-12
SV096-A-12	SV097-A-12	SV102-C-12
SV106-A-12	SV107-A-12	SV108-A-12
SV109-A-12	SV116-A-12	SV117-A-12
SV118-A-12	SV119-A-12	SV120-A-12
SVDUP-3-12	SVDUP-5-12	SVDUP4-12

Overview

The sample set for Lockheed Middle River SDG H2B230466 consisted of twenty-four (24) air samples. The air samples were analyzed for a select list of volatile organic compounds (VOC). Three (3) field duplicate pairs were associated with this sample delivery group (SDG); SVDUP-3-12 / SV001-C-12, SVDUP-5-12 / SV079-A-12, and SVDUP4-12 / SV015-A-12.

The samples were collected by Tetra Tech on February 22, 2012 and sent to TestAmerica Laboratory. The laboratory analyzed the samples in accordance with EPA Method TO-15 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank/canister blank results, blank spike/blank spike duplicate results, surrogate spike recoveries, internal standard recoveries, field duplicate precision, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Issues

No major issues were identified.

Minor Issues

- The following VOC contaminants were detected in the method blanks at the following maximum concentrations as listed below:

Analyte	Maximum Conc. $\mu g/m^3$	Action Level $\mu g/m^3$
Methylene Chloride (1)	0.13	1.3
Methylene Chloride (2)	0.12	1.2
Naphthalene (2)	0.35	1.75
1,2,4-Trichlorobenzene (2)	0.29	1.45

Chlorodifluoromethane [3]	0.25	1.25
Methylene Chloride [3]	0.13	1.3
Methylene Chloride [4]	0.17	1.7
Methylene Chloride [5]	0.17	1.7

(1) Method blank for 02/28/12 analyses for instrument MG for batch 2060022 affecting samples SV018-A-12, SV093-A-12, SV109-A-12, and SV116-A-12.
(2) Method blank for 02/28/12 analyses for instrument MJ for batch 2060038 affecting samples SV001-C-12, SV094-A-12, SV118-A-12, and SVDUP4-12.
(3) Method blank for 03/05/12 analyses for instrument MG for batch 2062175 affecting samples SV015-A-12, SV108-A-12, SV096-A-12, SV079-A-12, SV097-A-12, SVDUP-5-12, and SVDUP-3-12.
(4) Method blank for 03/05/12 analyses for instrument ME for batch 2065117 affecting samples SV120-A-12, SV117-A-12, and SV106-A-12.
(5) Method blank for 03/06/12 analyses for instrument ME for batch 2066141 affecting samples SV119-A-12, SV075-A-12, SV076-A-12, SV077-A-12, SV102-C-12, and SV107-A-12.

An action level of ten times for the common laboratory contaminant methylene chloride and five times for the other laboratory contaminants has been used to evaluate sample data for blank contamination. Dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. All positive methylene chloride sample results were qualified due to blank contamination. Positive sample analyte results if less than the action level were qualified non-detected, (B), due to blank contamination.

- The continuing calibration verification (CCV) percent difference (%D) was greater than the 30% and >50% quality control limit for instrument MG for naphthalene on 02/28/12 @ 09:53. The CCV %D was greater than the 30% and <50% quality control limit for 1,2,4-trichlorobenzene on 02/28/12 @ 09:53.
  Affected Samples: SV018-A-12, SV093-A-12, SV109-A-12, and SV116-A-12
  Action: The sample positive and non-detected naphthalene results were qualified estimated, (J) and (UJ), respectively. The sample non-detected 1,2,4-trichlorobenzene results were not qualified.

- The CCV %D was greater than the 30% and <50% quality control limit for dichlorodifluoromethane and the CCV %Ds were greater than the 30% and >50% quality control limit for naphthalene and 1,2,4-trichlorobenzene for instrument MG on 03/05/12 @ 12:28.
  Affected Samples:

SV015-A-12	SV079-A-12	SV096-A-12
SV097-A-12	SV108-A-12	SVDUP-3-12
SVDUP-5-12		

  Action: The sample positive dichlorodifluoromethane results were qualified estimated, (J), and the non-detected dichlorodifluoromethane results were not qualified. The sample positive and non-detected naphthalene and 1,2,4-trichlorobenzene results were qualified estimated, (J) and (UJ), respectively.

- The laboratory control sample (LCS) percent recoveries (%Rs) was less than the quality control limit for 1,2,4-trichlorobenzene for instrument MG on 02/28/12
  Affected Samples: SV018-A-12, SV093-A-12, SV109-A-12, and SV116-A-12
  Action: The non-detected results for all sample 1,2,4-trichlorobenzene results were qualified estimated, (UJ).

- Positive results below the Reporting Limit (RL) and above the detection limit were qualified as estimated, (J), due to uncertainty near the detection limit.

- The RPD was greater than the 50% quality control limit for the analytes 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, ethylbenzene, toluene, total xylenes, trans-1,2-dichloroethene, and trichloroethene for the field duplicate pair samples SVDUP4-12 and SV015-A-12. The positive and non-detected results for the aforementioned analytes were qualified estimated, (J) and (UJ), respectively, for field duplicate imprecision.

Additional Comments

The initial calibration relative standard deviation (RSD) was greater than the 30% quality control limit for instrument ME for methylene chloride on 03/01/12.

Affecting Samples: SV106-A-12, SV117-A-12, SV120-A-12, SV075-A-12, SV076-A-12, SV077-A-12, SV102-C-12, SV107-A-12, SV119-A-12

Action: All samples were qualified for method blank contamination and were not qualified.

The CCV %D was greater than the 30% and <50% quality control limit for instrument MJ for carbon tetrachloride on 02/28/12 @ 09:17.

Affected Samples: SV001-C-12, SV094-A-12, SV118-A-12, and SVDUP4-12

Action: The samples had non-detected carbon tetrachloride results which were not qualified.

The LCS %R was greater than the quality control limit for carbon tetrachloride for instrument MJ on 02/28/12.

Affected Samples: SV001-C-12, SV094-A-12, SV118-A-12, SVDUP4-12.

Action: All samples had non-detected carbon tetrachloride results and no validation action was necessary.

The LCS %R was greater than the quality control limit for naphthalene and 1,2,4-trichlorobenzene for instrument MG on 03/05/12.

Affected Samples: SV015-A-12, SV108-A-12, SV096-A-12, SV079-A-12, SV097-A-12, SVDUP-5-12, and SVDUP-3-12

Action: All samples had non-detected naphthalene and 1,2,4-trichlorobenzene results and no validation action was necessary.

Samples were analyzed at dilutions as listed below.

Samples	Dilution
SV001-C-12	10X
SV015-A-12	78.25X
SV018-A-12	3448.35X
SV075-A-12	10X
SV076-A-12	10X
SV077-A-12	10X
SV079-A-12	164.5X
SV093-A-12	10X
SV094-A-12	10X
SV096-A-12	10X
SV097-A-12	10X
SV102-C-12	76.75X
SV106-A-12	10X
SV107-A-12	10X

SV108-A-12	183.5X
SV109-A-12	10X
SV116-A-12	10X
SV117-A-12	10X
SV118-A-12	75.75X
SV119-A-12	10X
SV120-A-12	10X
SVDUP-3-12	10X
SVDUP-5-12	199.4X
SVDUP4-12	10X

The laboratory reported the VOC air result concentrations in units of µg/m3 and also ppbv on the sample forms. The results in the database and the qualified analytical result concentrations are reported as µg/m3 only.

Sample results were reported to the Method Detection Limit (MDL).

The laboratory did not include the surrogate recovery and internal standard forms in the data summary report. The validation chemist manually searched the data package for the information.

EXECUTIVE SUMMARY

Laboratory Performance Issues: Sample results were qualified for method blank contamination, CCV %D, and LCS %R quality control limit non-compliances.

Other Factors Affecting Data Quality: Positive results below the Reporting Limit (RL) and above the detection limit were qualified as estimated, (J), due to uncertainty near the detection limit. Sample analyte results for field duplicate pair samples SVDUP4-12 and SV015-A-12 were qualified for field duplicate imprecision.

The data for these analyses were reviewed with reference to the USEPA Method TO-15 and the Region III Modifications to the National Functional Guidelines for Organic Data Review (September 1994).

TetraTech
Joseph Kalinyak
Chemist/Data Validator

TetraTech
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:
Appendix A - Qualified Analytical Results
Appendix B - Results as Reported by the Laboratory
Appendix C - Support Documentation

Appendix A

Qualified Analytical Results

Value Qualifier Key (Val Qual)

J – The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

UJ – The result is an estimated non-detected quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

U - Value is a non-detect as reported by the laboratory.

UR – Non-detected result is considered rejected, (UR), as a result of technical non-compliances.

DATA QUALIFICATION CODE (QUAL CODE)

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed

PROJ_NO: 03953	NSAMPLE	SV001-C-12			SV015-A-12			SV018-A-12			SV075-A-12		
SDG: H2B230465	LAB_ID	H2B230465006			H2B230465013			H2B230465004			H2B230465015		
FRACTION: OV	SAMP_DATE	2/22/2012			2/22/2012			2/22/2012			2/22/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.65	U		840	J	G	300	J	P	0.65	U	
1,1,2-TRICHLOROETHANE		1.1	U		9	U		400	U		1.1	U	
1,1-DICHLOROETHANE		0.4	U		65	J	G	1300			0.4	U	
1,1-DICHLOROETHENE		0.52	U		780	J	G	69000			0.52	U	
1,2,3-TRIMETHYLBENZENE		3.9	U		31	U		1400	U		48		
1,2,4-TRICHLOROBENZENE		2.9	U		23	UJ	C	1000	UJ	E	2.9	U	
1,2,4-TRIMETHYLBENZENE		1.2	U		9.6	U		420	U		88		
1,2-DICHLOROETHANE		0.77	U		6	U		270	U		0.77	U	
1,3,5-TRIMETHYLBENZENE		1.3	U		10	U		440	U		29		
BENZENE		0.73	U		5.7	U		250	U		2.4	J	P
CARBON TETRACHLORIDE		0.94	U		7.4	U		330	U		0.94	U	
CHLORODIFLUOROMETHANE		5.2			47	B	A	180	U		12		
CHLOROFORM		5			5.7	U		250	U		18		
CIS-1,2-DICHLOROETHENE		100			1100	J	G	6700			0.95	U	
DICHLORODIFLUOROMETHANE		2.4	J	P	10	U		460	U		2.7	J	P
ETHYLBENZENE		1.2	U		9.2	UJ	G	400	U		25		
METHYL TERT-BUTYL ETHER		2.5	U		19	U		850	U		2.5	U	
METHYLENE CHLORIDE		2.6	B	A	18	B	A	420	B	A	2.6	B	A
NAPHTHALENE		1.9	U		15	UJ	C	650	UJ	C	390		
TETRACHLOROETHENE		1.8	J	P	8.5	U		370	U		8.1		
TOLUENE		1.2	J	P	47	J	G	270	U		49		
TOTAL XYLENES		1	U		8.2	UJ	G	360	U		120		
TRANS-1,2-DICHLOROETHENE		18			46	J	G	270	U		0.79	U	
TRICHLOROETHENE		160			2400	J	G	83000			4.2		
VINYL CHLORIDE		0.74	U		5.8	U		300	J	P	0.74	U	

PROJ_NO: 03953	NSAMPLE	SV076-A-12			SV077-A-12			SV079-A-12			SV093-A-12		
SDG: H2B230465	LAB_ID	H2B230465016			H2B230465017			H2B230465020			H2B230465003		
FRACTION: OV	SAMP_DATE	2/22/2012			2/22/2012			2/22/2012			2/22/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.65	U		0.65	U		11	U		0.65	U	
1,1,2-TRICHLOROETHANE		1.1	U		1.1	U		19	U		1.1	U	
1,1-DICHLOROETHANE		0.4	U		0.4	U		6.7	U		1.1	J	P
1,1-DICHLOROETHENE		0.52	U		0.52	U		8.5	U		0.89	J	P
1,2,3-TRIMETHYLBENZENE		3.9	U		52			65	U		3.9	U	
1,2,4-TRICHLOROBENZENE		2.9	U		2.9	U		48	UJ	C	2.9	UJ	E
1,2,4-TRIMETHYLBENZENE		4.6			87			20	U		1.2	U	
1,2-DICHLOROETHANE		0.77	U		0.77	U		13	U		0.77	U	
1,3,5-TRIMETHYLBENZENE		1.3	J	P	26			21	U		1.3	U	
BENZENE		1.1	J	P	0.9	J	P	12	U		1.1	J	P
CARBON TETRACHLORIDE		0.94	U		0.94	U		16	U		0.94	U	
CHLORODIFLUOROMETHANE		3.4			26			26	B	A	4		
CHLOROFORM		0.73	U		1.1	J	P	17	J	P	0.73	U	
CIS-1,2-DICHLOROETHENE		0.95	U		0.95	U		3000			0.95	U	
DICHLORODIFLUOROMETHANE		2.6	J	P	3	J	P	22	U		3	J	P
ETHYLBENZENE		8.1			21			19	U		1.2	U	
METHYL TERT-BUTYL ETHER		2.5	U		2.5	U		40	U		2.5	U	
METHYLENE CHLORIDE		2.3	B	A	6.6	B	A	19	B	A	2.3	B	A
NAPHTHALENE		28			520			31	UJ	C	1.9	UJ	C
TETRACHLOROETHENE		1.1	U		8.5			22	J	P	1.1	U	
TOLUENE		110			48			13	U		2	J	P
TOTAL XYLENES		51			110			17	U		1	U	
TRANS-1,2-DICHLOROETHENE		0.79	U		0.79	U		600			0.79	U	
TRICHLOROETHENE		1.1	J	P	3.7			7900			1.9	J	P
VINYL CHLORIDE		0.74	U		0.74	U		12	U		0.74	U	

PROJ_NO: 03953	NSAMPLE	SV094-A-12			SV096-A-12			SV097-A-12			SV102-C-12		
SDG: H2B230465	LAB_ID	H2B230465005			H2B230465018			H2B230465021			H2B230465024		
FRACTION: OV	SAMP_DATE	2/22/2012			2/22/2012			2/22/2012			2/22/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.65	U		3.8	J	P	0.65	U		520		
1,1,2-TRICHLOROETHANE		1.1	U		1.1	U		1.1	U		8.8	U	
1,1-DICHLOROETHANE		0.4	U		0.4	U		0.4	U		1800		
1,1-DICHLOROETHENE		0.52	U		0.52	U		0.52	U		890		
1,2,3-TRIMETHYLBENZENE		3.9	U		3.9	U		3.9	U		100		
1,2,4-TRICHLOROBENZENE		2.9	U		2.9	UJ	C	2.9	UJ	C	22	U	
1,2,4-TRIMETHYLBENZENE		1.2	U		1.8	J	P	1.4	J	P	64		
1,2-DICHLOROETHANE		0.77	U		0.77	U		0.77	U		5.9	U	
1,3,5-TRIMETHYLBENZENE		1.3	U		1.3	U		1.8	J	P	26	J	P
BENZENE		1.2	J	P	1	J	P	0.85	J	P	5.6	U	
CARBON TETRACHLORIDE		0.94	U		0.94	U		0.94	U		7.2	U	
CHLORODIFLUOROMETHANE		2.9			40			28			18	J	P
CHLOROFORM		0.73	U		0.77	J	P	0.73	U		32		
CIS-1,2-DICHLOROETHENE		0.95	U		0.95	U		0.95	U		31		
DICHLORODIFLUOROMETHANE		2.4	J	P	4	J	C	3.6	J	CP	10	U	
ETHYLBENZENE		1.2	U		8.6			2	J	P	370		
METHYL TERT-BUTYL ETHER		2.5	U		2.5	U		2.5	U		19	U	
METHYLENE CHLORIDE		7.5	B	A	8.3	B	A	4.9	B	A	12	B	A
NAPHTHALENE		1.9	U		1.9	UJ	C	1.9	UJ	C	350		
TETRACHLOROETHENE		1.1	U		1.3	J	P	1.1	U		8.3	U	
TOLUENE		2.1	J	P	230			40			46		
TOTAL XYLENES		1	U		45			12			2800		
TRANS-1,2-DICHLOROETHENE		0.79	U		0.79	U		0.79	U		6.1	U	
TRICHLOROETHENE		0.75	U		1.1	J	P	2	J	P	740		
VINYL CHLORIDE		0.74	U		0.74	U		0.74	U		5.7	U	

PROJ_NO: 03953	NSAMPLE	SV106-A-12			SV107-A-12			SV108-A-12			SV109-A-12		
SDG: H2B230465	LAB_ID	H2B230465012			H2B230465019			H2B230465014			H2B230465002		
FRACTION: OV	SAMP_DATE	2/22/2012			2/22/2012			2/22/2012			2/22/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		7.1			0.65	U		200			0.65	U	
1,1,2-TRICHLOROETHANE		1.1	U		1.1	U		21	U		1.1	U	
1,1-DICHLOROETHANE		9			0.4	U		2900			0.4	U	
1,1-DICHLOROETHENE		1.7	J	P	0.52	U		3900			0.54	J	P
1,2,3-TRIMETHYLBENZENE		12			6.9			72	U		3.9	U	
1,2,4-TRICHLOROBENZENE		2.9	U		2.9	U		53	UJ	C	2.9	UJ	E
1,2,4-TRIMETHYLBENZENE		19			7.4			23	U		3	J	P
1,2-DICHLOROETHANE		0.77	U		0.77	U		14	U		0.77	U	
1,3,5-TRIMETHYLBENZENE		6			4.8			23	U		3.6	J	P
BENZENE		0.73	U		1.9	J	P	13	U		1.8	J	P
CARBON TETRACHLORIDE		0.94	U		0.94	U		17	U		0.94	U	
CHLORODIFLUOROMETHANE		8.3			64			9.7	U		2.9		
CHLOROFORM		4.3			1.7	J	P	13	U		1	J	P
CIS-1,2-DICHLOROETHENE		0.95	U		1.1	J	P	240			0.95	U	
DICHLORODIFLUOROMETHANE		2.8	J	P	3.8	J	P	25	U		2.9	J	P
ETHYLBENZENE		2.8	J	P	75			22	U		1.2	U	
METHYL TERT-BUTYL ETHER		2.5	U		2.5	U		45	U		2.5	U	
METHYLENE CHLORIDE		3.8	B	A	16	B	A	20	B	A	3.7	B	A
NAPHTHALENE		25			11			35	UJ	C	6.5	J	CP
TETRACHLOROETHENE		1.5	J	P	2.4	J	P	20	U		1.1	U	
TOLUENE		44			110			40	J	P	5.5		
TOTAL XYLENES		19			300			19	U		1	U	
TRANS-1,2-DICHLOROETHENE		0.79	U		0.79	U		15	U		0.85	J	P
TRICHLOROETHENE		11			2.6			480			6.6		
VINYL CHLORIDE		0.74	U		0.74	U		19	J	P	0.74	U	

PROJ_NO: 03953	NSAMPLE	SV116-A-12			SV117-A-12			SV118-A-12			SV119-A-12		
SDG: H2B230465	LAB_ID	H2B230465001			H2B230465011			H2B230465008			H2B230465009		
FRACTION: OV	SAMP_DATE	2/22/2012			2/22/2012			2/22/2012			2/22/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.65	U		5.4			20	J	P	1.1	J	P
1,1,2-TRICHLOROETHANE		1.1	U		1.1	U		8.7	U		1.1	U	
1,1-DICHLOROETHANE		0.59	J	P	0.4	U		84			0.4	U	
1,1-DICHLOROETHENE		0.88	J	P	0.52	U		800			0.52	U	
1,2,3-TRIMETHYLBENZENE		31			26			30	U		5.8		
1,2,4-TRICHLOROBENZENE		2.9	UJ	E	2.9	U		22	U		2.9	U	
1,2,4-TRIMETHYLBENZENE		55			49			56			10		
1,2-DICHLOROETHANE		0.89	J	P	0.77	U		5.8	U		0.77	U	
1,3,5-TRIMETHYLBENZENE		15			15			21	J	P	3.5	J	P
BENZENE		2	J	P	4			5.6	U		1.1	J	P
CARBON TETRACHLORIDE		0.94	U		0.94	U		7.1	U		0.94	U	
CHLORODIFLUOROMETHANE		3			3			13	J	P	38		
CHLOROFORM		2.2	J	P	4.1			15	J	P	2.7	J	P
CIS-1,2-DICHLOROETHENE		0.95	U		0.95	U		280			0.95	U	
DICHLORODIFLUOROMETHANE		3.1	J	P	2.3	J	P	10	U		3.5	J	P
ETHYLBENZENE		17			24			68			15		
METHYL TERT-BUTYL ETHER		2.5	U		2.5	U		19	U		2.5	U	
METHYLENE CHLORIDE		3.4	B	A	1.9	B	A	25	B	A	7	B	A
NAPHTHALENE		420	J	C	220			440			24		
TETRACHLOROETHENE		2.9	J	P	9			8.2	U		1.6	J	P
TOLUENE		23			46			22	J	P	62		
TOTAL XYLENES		86			120			490			95		
TRANS-1,2-DICHLOROETHENE		0.8	J	P	0.79	U		14	J	P	0.79	U	
TRICHLOROETHENE		18			76			2600			2	J	P
VINYL CHLORIDE		0.74	U		0.74	U		5.6	U		0.74	U	

PROJ_NO: 03953	NSAMPLE	SV120-A-12			SVDUP-3-12			SVDUP4-12			SVDUP-5-12		
SDG: H2B230465	LAB_ID	H2B230465007			H2B230465023			H2B230465010			H2B230465022		
FRACTION: OV	SAMP_DATE	2/22/2012			2/22/2012			2/22/2012			2/22/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF				SV001-C-12			SV015-A-12			SV079-A-12		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		5.1			0.65	U		100	J	G	13	U	
1,1,2-TRICHLOROETHANE		1.1	U		1.1	U		1.1	U		23	U	
1,1-DICHLOROETHANE		0.4	U		0.4	U		10	J	G	8.1	U	
1,1-DICHLOROETHENE		0.52	U		0.59	J	P	99	J	G	10	U	
1,2,3-TRIMETHYLBENZENE		13			3.9	U		3.9	U		78	U	
1,2,4-TRICHLOROBENZENE		2.9	U		2.9	UJ	C	2.9	U		58	UJ	C
1,2,4-TRIMETHYLBENZENE		23			1.2	U		1.2	U		25	U	
1,2-DICHLOROETHANE		0.77	U		0.77	U		0.77	U		15	U	
1,3,5-TRIMETHYLBENZENE		7.6			1.3	U		1.3	U		25	U	
BENZENE		1.1	J	P	0.73	U		1.1	J	P	15	U	
CARBON TETRACHLORIDE		0.94	U		0.94	U		0.94	U		19	U	
CHLORODIFLUOROMETHANE		33			11	B	A	4			11	U	
CHLOROFORM		2.3	J	P	5.2			1.4	J	P	17	J	P
CIS-1,2-DICHLOROETHENE		0.95	U		100			160	J	G	2400		
DICHLORODIFLUOROMETHANE		2.5	J	P	3	J	CP	2.3	J	P	27	U	
ETHYLBENZENE		66			1.2	U		19	J	G	23	U	
METHYL TERT-BUTYL ETHER		2.5	U		2.5	U		2.5	U		49	U	
METHYLENE CHLORIDE		7.9	B	A	2.7	B	A	3.6	B	A	22	B	A
NAPHTHALENE		82			1.9	UJ	C	1.9	U		38	UJ	C
TETRACHLOROETHENE		8			1.6	J	P	1.1	U		22	J	P
TOLUENE		53			1.1	J	P	440	J	G	16	U	
TOTAL XYLENES		340			3.5	J	P	120	J	G	21	U	
TRANS-1,2-DICHLOROETHENE		0.79	U		19			5.3	J	G	500		
TRICHLOROETHENE		4.6			200			280	J	G	7200		
VINYL CHLORIDE		0.74	U		0.74	U		0.74	U		15	U	

Appendix B

Results as Reported by the Laboratory

Tetra Tech, Inc

Client Sample ID: SV001-C-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 006 **Work Order #** MQ20K1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 02/28/2012 **Analysis Time....:** 02/29/2012
Prep Batch #.....: 2060038 **Analysis Time....:** 04:19
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.80	0.23	ND	2.6	0.73
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**1.5**	**0.80**	**0.15**	**5.2**	**2.8**	**0.53**
Chloroform	**1.0**	**0.80**	**0.15**	**5.0**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.48 J**	**0.80**	**0.27**	**2.4 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	**25**	**0.80**	**0.24**	**100**	**3.2**	**0.95**
trans-1,2-Dichloroethene	**4.6**	**0.80**	**0.20**	**18**	**3.2**	**0.79**
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	ND	0.80	0.27	ND	3.5	1.2
Methylene chloride	**0.76 J B**	**2.0**	**0.18**	**2.6 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	**0.26 J**	**0.80**	**0.16**	**1.8 J**	**5.4**	**1.1**
Toluene	**0.33 J**	**0.80**	**0.21**	**1.2 J**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**29**	**0.40**	**0.14**	**160**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	ND	1.6	0.24	ND	6.9	1.0

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV015-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 013 **Work Order #** MQ20T1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012
Prep Date.....: 03/05/2012
Prep Batch #.....: 2062175
Dilution Factor.: 78.25

Date Received..: 02/23/2012
Analysis Time....: 03/05/2012
Analysis Time....: 19:00
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	6.3	1.8	ND	20	5.7
Carbon tetrachloride	ND	6.3	1.2	ND	39	7.4
Chlorodifluoromethane	**13 B**	**6.3**	**1.2**	**47 B**	**22**	**4.2**
Chloroform	ND	6.3	1.2	ND	31	5.7
Dichlorodifluoromethane	ND	6.3	2.1	ND	31	10
1,1-Dichloroethane	**16**	**6.3**	**0.78**	**65**	**25**	**3.2**
1,2-Dichloroethane	ND	6.3	1.5	ND	25	6.0
cis-1,2-Dichloroethene	**270**	**6.3**	**1.9**	**1100**	**25**	**7.4**
trans-1,2-Dichloroethene	**12**	**6.3**	**1.6**	**46**	**25**	**6.2**
1,1-Dichloroethene	**200**	**6.3**	**1.0**	**780**	**25**	**4.0**
Ethylbenzene	ND	6.3	2.1	ND	27	9.2
Methylene chloride	**5.3 J B**	**16**	**1.4**	**18 J B**	**54**	**4.9**
Methyl tert-butyl ether	ND	31	5.3	ND	110	19
Naphthalene	ND	16	2.8	ND	82	15
Tetrachloroethene	ND	6.3	1.3	ND	42	8.5
Toluene	**12**	**6.3**	**1.6**	**47**	**24**	**6.2**
1,2,4-Trichlorobenzene	ND	31	3.1	ND	230	23
1,1,1-Trichloroethane	**150**	**6.3**	**0.94**	**840**	**34**	**5.1**
1,1,2-Trichloroethane	ND	6.3	1.6	ND	34	9.0
Trichloroethene	**440**	**3.1**	**1.1**	**2400**	**17**	**5.9**
1,2,3-Trimethylbenzene	ND	6.3	6.3	ND	31	31
1,2,4-Trimethylbenzene	ND	6.3	2.0	ND	31	9.6
1,3,5-Trimethylbenzene	ND	6.3	2.0	ND	31	10
Vinyl chloride	ND	6.3	2.3	ND	16	5.8
Xylenes (total)	ND	13	1.9	ND	54	8.2

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	110	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV018-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 004 **Work Order #** MQ20H1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 02/28/2012 **Analysis Time....:** 02/29/2012
Prep Batch #.....: 2060022 **Analysis Time....:** 08:00
Dilution Factor.: 3448.35 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	280	79	ND	880	250
Carbon tetrachloride	ND	280	52	ND	1700	330
Chlorodifluoromethane	ND	280	52	ND	980	180
Chloroform	ND	280	52	ND	1300	250
Dichlorodifluoromethane	ND	280	93	ND	1400	460
1,1-Dichloroethane	**320**	**280**	**34**	**1300**	**1100**	**140**
1,2-Dichloroethane	ND	280	66	ND	1100	270
cis-1,2-Dichloroethene	**1700**	**280**	**83**	**6700**	**1100**	**330**
trans-1,2-Dichloroethene	ND	280	69	ND	1100	270
1,1-Dichloroethene	**18000**	**280**	**45**	**69000**	**1100**	**180**
Ethylbenzene	ND	280	93	ND	1200	400
Methylene chloride	**120 J B**	**690**	**62**	**420 J B**	**2400**	**220**
Methyl tert-butyl ether	ND	1400	230	ND	5000	850
Naphthalene	ND	690	120	ND	3600	650
Tetrachloroethene	ND	280	55	ND	1900	370
Toluene	ND	280	72	ND	1000	270
1,2,4-Trichlorobenzene	ND	1400	130	ND	10000	1000
1,1,1-Trichloroethane	**55 J**	**280**	**41**	**300 J**	**1500**	**230**
1,1,2-Trichloroethane	ND	280	72	ND	1500	400
Trichloroethene	**16000**	**140**	**48**	**83000**	**740**	**260**
1,2,3-Trimethylbenzene	ND	280	280	ND	1400	1400
1,2,4-Trimethylbenzene	ND	280	86	ND	1400	420
1,3,5-Trimethylbenzene	ND	280	90	ND	1400	440
Vinyl chloride	**120 J**	**280**	**100**	**300 J**	**710**	**260**
Xylenes (total)	ND	550	83	ND	2400	360

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	115	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV075-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 015 **Work Order #** MQ20X1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2066141 **Analysis Time....:** 15:17
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.74 J**	**0.80**	**0.23**	**2.4 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**3.3**	**0.80**	**0.15**	**12**	**2.8**	**0.53**
Chloroform	**3.8**	**0.80**	**0.15**	**18**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.54 J**	**0.80**	**0.27**	**2.7 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**5.7**	**0.80**	**0.27**	**25**	**3.5**	**1.2**
Methylene chloride	**0.74 J B**	**2.0**	**0.18**	**2.6 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**74**	**2.0**	**0.36**	**390**	**10**	**1.9**
Tetrachloroethene	**1.2**	**0.80**	**0.16**	**8.1**	**5.4**	**1.1**
Toluene	**13**	**0.80**	**0.21**	**49**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.79**	**0.40**	**0.14**	**4.2**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**9.8**	**0.80**	**0.80**	**48**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**18**	**0.80**	**0.25**	**88**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**5.9**	**0.80**	**0.26**	**29**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**29**	**1.6**	**0.24**	**120**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV076-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 016 **Work Order #** MQ2001AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2066141 **Analysis Time....:** 16:09
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.33 J**	**0.80**	**0.23**	**1.1 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**0.96**	**0.80**	**0.15**	**3.4**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.53 J**	**0.80**	**0.27**	**2.6 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**1.9**	**0.80**	**0.27**	**8.1**	**3.5**	**1.2**
Methylene chloride	**0.66 J B**	**2.0**	**0.18**	**2.3 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**5.4**	**2.0**	**0.36**	**28**	**10**	**1.9**
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**28**	**0.80**	**0.21**	**110**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.20 J**	**0.40**	**0.14**	**1.1 J**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	**0.94**	**0.80**	**0.25**	**4.6**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**0.27 J**	**0.80**	**0.26**	**1.3 J**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**12**	**1.6**	**0.24**	**51**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV077-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 017 **Work Order #** MQ2011AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012
Prep Date.....: 03/06/2012
Prep Batch #.....: 2066141
Dilution Factor.: 10

Date Received..: 02/23/2012
Analysis Time....: 03/06/2012
Analysis Time....: 16:59
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.28 J**	**0.80**	**0.23**	**0.90 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**7.4**	**0.80**	**0.15**	**26**	**2.8**	**0.53**
Chloroform	**0.23 J**	**0.80**	**0.15**	**1.1 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.60 J**	**0.80**	**0.27**	**3.0 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**4.9**	**0.80**	**0.27**	**21**	**3.5**	**1.2**
Methylene chloride	**1.9 J B**	**2.0**	**0.18**	**6.6 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**99**	**2.0**	**0.36**	**520**	**10**	**1.9**
Tetrachloroethene	**1.3**	**0.80**	**0.16**	**8.5**	**5.4**	**1.1**
Toluene	**13**	**0.80**	**0.21**	**48**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.68**	**0.40**	**0.14**	**3.7**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**11**	**0.80**	**0.80**	**52**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**18**	**0.80**	**0.25**	**87**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**5.3**	**0.80**	**0.26**	**26**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**26**	**1.6**	**0.24**	**110**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV079-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 020 **Work Order #** MQ2041AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/05/2012 **Analysis Time....:** 03/05/2012
Prep Batch #.....: 2062175 **Analysis Time....:** 22:39
Dilution Factor.: 164.5 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	13	3.8	ND	42	12
Carbon tetrachloride	ND	13	2.5	ND	83	16
Chlorodifluoromethane	**7.3 J B**	**13**	**2.5**	**26 J B**	**47**	**8.7**
Chloroform	**3.5 J**	**13**	**2.5**	**17 J**	**64**	**12**
Dichlorodifluoromethane	ND	13	4.4	ND	65	22
1,1-Dichloroethane	ND	13	1.6	ND	53	6.7
1,2-Dichloroethane	ND	13	3.1	ND	53	13
cis-1,2-Dichloroethene	**750**	**13**	**3.9**	**3000**	**52**	**16**
trans-1,2-Dichloroethene	**150**	**13**	**3.3**	**600**	**52**	**13**
1,1-Dichloroethene	ND	13	2.1	ND	52	8.5
Ethylbenzene	ND	13	4.4	ND	57	19
Methylene chloride	**5.6 J B**	**33**	**3.0**	**19 J B**	**110**	**10**
Methyl tert-butyl ether	ND	66	11	ND	240	40
Naphthalene	ND	33	5.9	ND	170	31
Tetrachloroethene	**3.3 J**	**13**	**2.6**	**22 J**	**89**	**18**
Toluene	ND	13	3.5	ND	50	13
1,2,4-Trichlorobenzene	ND	66	6.4	ND	490	48
1,1,1-Trichloroethane	ND	13	2.0	ND	72	11
1,1,2-Trichloroethane	ND	13	3.5	ND	72	19
Trichloroethene	**1500**	**6.6**	**2.3**	**7900**	**35**	**12**
1,2,3-Trimethylbenzene	ND	13	13	ND	65	65
1,2,4-Trimethylbenzene	ND	13	4.1	ND	65	20
1,3,5-Trimethylbenzene	ND	13	4.3	ND	65	21
Vinyl chloride	ND	13	4.8	ND	34	12
Xylenes (total)	ND	26	3.9	ND	110	17

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV093-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 003 **Work Order #** MQ20G1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 02/28/2012 **Analysis Time....:** 02/29/2012
Prep Batch #.....: 2060022 **Analysis Time....:** 07:05
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.36 J**	**0.80**	**0.23**	**1.1 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**1.1**	**0.80**	**0.15**	**4.0**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.60 J**	**0.80**	**0.27**	**3.0 J**	**4.0**	**1.3**
1,1-Dichloroethane	**0.28 J**	**0.80**	**0.10**	**1.1 J**	**3.2**	**0.40**
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	**0.22 J**	**0.80**	**0.13**	**0.89 J**	**3.2**	**0.52**
Ethylbenzene	ND	0.80	0.27	ND	3.5	1.2
Methylene chloride	**0.65 J B**	**2.0**	**0.18**	**2.3 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**0.52 J**	**0.80**	**0.21**	**2.0 J**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.35 J**	**0.40**	**0.14**	**1.9 J**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	ND	1.6	0.24	ND	6.9	1.0

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	111	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV094-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 005 **Work Order #** MQ20J1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 02/28/2012 **Analysis Time....:** 02/29/2012
Prep Batch #.....: 2060038 **Analysis Time....:** 03:23
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.36 J**	**0.80**	**0.23**	**1.2 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**0.81**	**0.80**	**0.15**	**2.9**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.49 J**	**0.80**	**0.27**	**2.4 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	ND	0.80	0.27	ND	3.5	1.2
Methylene chloride	**2.1 B**	**2.0**	**0.18**	**7.5 B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**0.55 J**	**0.80**	**0.21**	**2.1 J**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	ND	0.40	0.14	ND	2.1	0.75
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	ND	1.6	0.24	ND	6.9	1.0

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV096-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 018 **Work Order #** MQ2021AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/05/2012 **Analysis Time....:** 03/05/2012
Prep Batch #.....: 2062175 **Analysis Time....:** 20:53
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.32 J**	**0.80**	**0.23**	**1.0 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**11 B**	**0.80**	**0.15**	**40 B**	**2.8**	**0.53**
Chloroform	**0.16 J**	**0.80**	**0.15**	**0.77 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.81**	**0.80**	**0.27**	**4.0**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**2.0**	**0.80**	**0.27**	**8.6**	**3.5**	**1.2**
Methylene chloride	**2.4 B**	**2.0**	**0.18**	**8.3 B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	**0.19 J**	**0.80**	**0.16**	**1.3 J**	**5.4**	**1.1**
Toluene	**61**	**0.80**	**0.21**	**230**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	**0.70 J**	**0.80**	**0.12**	**3.8 J**	**4.4**	**0.65**
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.20 J**	**0.40**	**0.14**	**1.1 J**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	**0.36 J**	**0.80**	**0.25**	**1.8 J**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**10**	**1.6**	**0.24**	**45**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	111	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV097-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 021 **Work Order #** MQ2051AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/05/2012 **Analysis Time....:** 03/05/2012
Prep Batch #.....: 2062175 **Analysis Time....:** 23:30
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.27 J**	**0.80**	**0.23**	**0.85 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**7.9 B**	**0.80**	**0.15**	**28 B**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.72 J**	**0.80**	**0.27**	**3.6 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**0.46 J**	**0.80**	**0.27**	**2.0 J**	**3.5**	**1.2**
Methylene chloride	**1.4 J B**	**2.0**	**0.18**	**4.9 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**11**	**0.80**	**0.21**	**40**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.38 J**	**0.40**	**0.14**	**2.0 J**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	**0.28 J**	**0.80**	**0.25**	**1.4 J**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**0.36 J**	**0.80**	**0.26**	**1.8 J**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**2.9**	**1.6**	**0.24**	**12**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV102-C-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 024 **Work Order #** MQ2081AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012
Prep Date.....: 03/06/2012
Prep Batch #.....: 2066141
Dilution Factor.: 76.75

Date Received..: 02/23/2012
Analysis Time....: 03/06/2012
Analysis Time....: 17:50
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	6.1	1.8	ND	20	5.6
Carbon tetrachloride	ND	6.1	1.2	ND	39	7.2
Chlorodifluoromethane	**5.1 J**	**6.1**	**1.2**	**18 J**	**22**	**4.1**
Chloroform	**6.6**	**6.1**	**1.2**	**32**	**30**	**5.6**
Dichlorodifluoromethane	ND	6.1	2.1	ND	30	10
1,1-Dichloroethane	**440**	**6.1**	**0.77**	**1800**	**25**	**3.1**
1,2-Dichloroethane	ND	6.1	1.5	ND	25	5.9
cis-1,2-Dichloroethene	**7.7**	**6.1**	**1.8**	**31**	**24**	**7.3**
trans-1,2-Dichloroethene	ND	6.1	1.5	ND	24	6.1
1,1-Dichloroethene	**220**	**6.1**	**1.0**	**890**	**24**	**4.0**
Ethylbenzene	**84**	**6.1**	**2.1**	**370**	**27**	**9.0**
Methylene chloride	**3.5 J B**	**15**	**1.4**	**12 J B**	**53**	**4.8**
Methyl tert-butyl ether	ND	31	5.2	ND	110	19
Naphthalene	**67**	**15**	**2.8**	**350**	**80**	**14**
Tetrachloroethene	ND	6.1	1.2	ND	42	8.3
Toluene	**12**	**6.1**	**1.6**	**46**	**23**	**6.1**
1,2,4-Trichlorobenzene	ND	31	3.0	ND	230	22
1,1,1-Trichloroethane	**96**	**6.1**	**0.92**	**520**	**34**	**5.0**
1,1,2-Trichloroethane	ND	6.1	1.6	ND	34	8.8
Trichloroethene	**140**	**3.1**	**1.1**	**740**	**16**	**5.8**
1,2,3-Trimethylbenzene	**21**	**6.1**	**6.1**	**100**	**30**	**30**
1,2,4-Trimethylbenzene	**13**	**6.1**	**1.9**	**64**	**30**	**9.4**
1,3,5-Trimethylbenzene	**5.3 J**	**6.1**	**2.0**	**26 J**	**30**	**9.8**
Vinyl chloride	ND	6.1	2.2	ND	16	5.7
Xylenes (total)	**640**	**12**	**1.8**	**2800**	**53**	**8.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV106-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 012 **Work Order #** MQ20R1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/05/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2065117 **Analysis Time....:** 07:00
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.80	0.23	ND	2.6	0.73
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**2.3**	**0.80**	**0.15**	**8.3**	**2.8**	**0.53**
Chloroform	**0.88**	**0.80**	**0.15**	**4.3**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.56 J**	**0.80**	**0.27**	**2.8 J**	**4.0**	**1.3**
1,1-Dichloroethane	**2.2**	**0.80**	**0.10**	**9.0**	**3.2**	**0.40**
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	**0.43 J**	**0.80**	**0.13**	**1.7 J**	**3.2**	**0.52**
Ethylbenzene	**0.64 J**	**0.80**	**0.27**	**2.8 J**	**3.5**	**1.2**
Methylene chloride	**1.1 J B**	**2.0**	**0.18**	**3.8 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**4.8**	**2.0**	**0.36**	**25**	**10**	**1.9**
Tetrachloroethene	**0.22 J**	**0.80**	**0.16**	**1.5 J**	**5.4**	**1.1**
Toluene	**12**	**0.80**	**0.21**	**44**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	**1.3**	**0.80**	**0.12**	**7.1**	**4.4**	**0.65**
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**2.0**	**0.40**	**0.14**	**11**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**2.5**	**0.80**	**0.80**	**12**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**3.9**	**0.80**	**0.25**	**19**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**1.2**	**0.80**	**0.26**	**6.0**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**4.4**	**1.6**	**0.24**	**19**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV107-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 019 **Work Order #** MQ2031AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/07/2012
Prep Batch #.....: 2066141 **Analysis Time....:** 04:23
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.58 J**	**0.80**	**0.23**	**1.9 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**18**	**0.80**	**0.15**	**64**	**2.8**	**0.53**
Chloroform	**0.36 J**	**0.80**	**0.15**	**1.7 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.78 J**	**0.80**	**0.27**	**3.8 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	**0.28 J**	**0.80**	**0.24**	**1.1 J**	**3.2**	**0.95**
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**17**	**0.80**	**0.27**	**75**	**3.5**	**1.2**
Methylene chloride	**4.6 B**	**2.0**	**0.18**	**16 B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**2.0**	**2.0**	**0.36**	**11**	**10**	**1.9**
Tetrachloroethene	**0.36 J**	**0.80**	**0.16**	**2.4 J**	**5.4**	**1.1**
Toluene	**29**	**0.80**	**0.21**	**110**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.48**	**0.40**	**0.14**	**2.6**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**1.4**	**0.80**	**0.80**	**6.9**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**1.5**	**0.80**	**0.25**	**7.4**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**0.97**	**0.80**	**0.26**	**4.8**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**70**	**1.6**	**0.24**	**300**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV108-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 014 **Work Order #** MQ20W1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/05/2012 **Analysis Time....:** 03/05/2012
Prep Batch #.....: 2062175 **Analysis Time....:** 19:57
Dilution Factor.: 183.5 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	15	4.2	ND	47	13
Carbon tetrachloride	ND	15	2.8	ND	92	17
Chlorodifluoromethane	ND	15	2.8	ND	52	9.7
Chloroform	ND	15	2.8	ND	72	13
Dichlorodifluoromethane	ND	15	5.0	ND	73	25
1,1-Dichloroethane	**710**	**15**	**1.8**	**2900**	**59**	**7.4**
1,2-Dichloroethane	ND	15	3.5	ND	59	14
cis-1,2-Dichloroethene	**61**	**15**	**4.4**	**240**	**58**	**17**
trans-1,2-Dichloroethene	ND	15	3.7	ND	58	15
1,1-Dichloroethene	**990**	**15**	**2.4**	**3900**	**58**	**9.5**
Ethylbenzene	ND	15	5.0	ND	64	22
Methylene chloride	**5.8 J B**	**37**	**3.3**	**20 J B**	**130**	**11**
Methyl tert-butyl ether	ND	73	12	ND	260	45
Naphthalene	ND	37	6.6	ND	190	35
Tetrachloroethene	ND	15	2.9	ND	100	20
Toluene	**11 J**	**15**	**3.9**	**40 J**	**55**	**15**
1,2,4-Trichlorobenzene	ND	73	7.2	ND	540	53
1,1,1-Trichloroethane	**38**	**15**	**2.2**	**200**	**80**	**12**
1,1,2-Trichloroethane	ND	15	3.9	ND	80	21
Trichloroethene	**90**	**7.3**	**2.6**	**480**	**39**	**14**
1,2,3-Trimethylbenzene	ND	15	15	ND	72	72
1,2,4-Trimethylbenzene	ND	15	4.6	ND	72	23
1,3,5-Trimethylbenzene	ND	15	4.8	ND	72	23
Vinyl chloride	**7.4 J**	**15**	**5.3**	**19 J**	**38**	**14**
Xylenes (total)	ND	29	4.4	ND	130	19

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV109-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 002 **Work Order #** MQ20F1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 02/28/2012 **Analysis Time....:** 02/29/2012
Prep Batch #.....: 2060022 **Analysis Time....:** 06:08
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.58 J**	**0.80**	**0.23**	**1.8 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**0.83**	**0.80**	**0.15**	**2.9**	**2.8**	**0.53**
Chloroform	**0.21 J**	**0.80**	**0.15**	**1.0 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.59 J**	**0.80**	**0.27**	**2.9 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	**0.21 J**	**0.80**	**0.20**	**0.85 J**	**3.2**	**0.79**
1,1-Dichloroethene	**0.14 J**	**0.80**	**0.13**	**0.54 J**	**3.2**	**0.52**
Ethylbenzene	ND	0.80	0.27	ND	3.5	1.2
Methylene chloride	**1.1 J B**	**2.0**	**0.18**	**3.7 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**1.2 J**	**2.0**	**0.36**	**6.5 J**	**10**	**1.9**
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**1.5**	**0.80**	**0.21**	**5.5**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**1.2**	**0.40**	**0.14**	**6.6**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	**0.61 J**	**0.80**	**0.25**	**3.0 J**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**0.73 J**	**0.80**	**0.26**	**3.6 J**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	ND	1.6	0.24	ND	6.9	1.0

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	110	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV116-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 001 **Work Order #** MQ20D1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 02/28/2012 **Analysis Time....:** 02/29/2012
Prep Batch #.....: 2060022 **Analysis Time....:** 05:14
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.63 J**	**0.80**	**0.23**	**2.0 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**0.85**	**0.80**	**0.15**	**3.0**	**2.8**	**0.53**
Chloroform	**0.45 J**	**0.80**	**0.15**	**2.2 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.62 J**	**0.80**	**0.27**	**3.1 J**	**4.0**	**1.3**
1,1-Dichloroethane	**0.15 J**	**0.80**	**0.10**	**0.59 J**	**3.2**	**0.40**
1,2-Dichloroethane	**0.22 J**	**0.80**	**0.19**	**0.89 J**	**3.2**	**0.77**
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	**0.20 J**	**0.80**	**0.20**	**0.80 J**	**3.2**	**0.79**
1,1-Dichloroethene	**0.22 J**	**0.80**	**0.13**	**0.88 J**	**3.2**	**0.52**
Ethylbenzene	**4.0**	**0.80**	**0.27**	**17**	**3.5**	**1.2**
Methylene chloride	**0.99 J B**	**2.0**	**0.18**	**3.4 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**80**	**2.0**	**0.36**	**420**	**10**	**1.9**
Tetrachloroethene	**0.43 J**	**0.80**	**0.16**	**2.9 J**	**5.4**	**1.1**
Toluene	**6.1**	**0.80**	**0.21**	**23**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**3.3**	**0.40**	**0.14**	**18**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**6.4**	**0.80**	**0.80**	**31**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**11**	**0.80**	**0.25**	**55**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**3.1**	**0.80**	**0.26**	**15**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**20**	**1.6**	**0.24**	**86**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	115	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV117-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 011 **Work Order #** MQ20Q1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/05/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2065117 **Analysis Time....:** 05:18
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**1.2**	**0.80**	**0.23**	**4.0**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**0.86**	**0.80**	**0.15**	**3.0**	**2.8**	**0.53**
Chloroform	**0.85**	**0.80**	**0.15**	**4.1**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.47 J**	**0.80**	**0.27**	**2.3 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**5.5**	**0.80**	**0.27**	**24**	**3.5**	**1.2**
Methylene chloride	**0.56 J B**	**2.0**	**0.18**	**1.9 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**42**	**2.0**	**0.36**	**220**	**10**	**1.9**
Tetrachloroethene	**1.3**	**0.80**	**0.16**	**9.0**	**5.4**	**1.1**
Toluene	**12**	**0.80**	**0.21**	**46**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	**0.99**	**0.80**	**0.12**	**5.4**	**4.4**	**0.65**
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**14**	**0.40**	**0.14**	**76**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**5.3**	**0.80**	**0.80**	**26**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**10**	**0.80**	**0.25**	**49**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**3.0**	**0.80**	**0.26**	**15**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**28**	**1.6**	**0.24**	**120**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV118-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 008 **Work Order #** MQ20M1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 02/28/2012 **Analysis Time....:** 02/29/2012
Prep Batch #.....: 2060038 **Analysis Time....:** 06:07
Dilution Factor.: 75.75 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	6.1	1.7	ND	19	5.6
Carbon tetrachloride	ND	6.1	1.1	ND	38	7.1
Chlorodifluoromethane	**3.7 J**	**6.1**	**1.1**	**13 J**	**21**	**4.0**
Chloroform	**3.0 J**	**6.1**	**1.1**	**15 J**	**30**	**5.5**
Dichlorodifluoromethane	ND	6.1	2.0	ND	30	10
1,1-Dichloroethane	**21**	**6.1**	**0.76**	**84**	**25**	**3.1**
1,2-Dichloroethane	ND	6.1	1.4	ND	25	5.8
cis-1,2-Dichloroethene	**71**	**6.1**	**1.8**	**280**	**24**	**7.2**
trans-1,2-Dichloroethene	**3.5 J**	**6.1**	**1.5**	**14 J**	**24**	**6.0**
1,1-Dichloroethene	**200**	**6.1**	**0.98**	**800**	**24**	**3.9**
Ethylbenzene	**16**	**6.1**	**2.0**	**68**	**26**	**8.9**
Methylene chloride	**7.2 J B**	**15**	**1.4**	**25 J B**	**53**	**4.7**
Methyl tert-butyl ether	ND	30	5.2	ND	110	19
Naphthalene	**85 B**	**15**	**2.7**	**440 B**	**79**	**14**
Tetrachloroethene	ND	6.1	1.2	ND	41	8.2
Toluene	**5.9 J**	**6.1**	**1.6**	**22 J**	**23**	**6.0**
1,2,4-Trichlorobenzene	ND	30	3.0	ND	220	22
1,1,1-Trichloroethane	**3.7 J**	**6.1**	**0.91**	**20 J**	**33**	**5.0**
1,1,2-Trichloroethane	ND	6.1	1.6	ND	33	8.7
Trichloroethene	**480**	**3.0**	**1.1**	**2600**	**16**	**5.7**
1,2,3-Trimethylbenzene	ND	6.1	6.1	ND	30	30
1,2,4-Trimethylbenzene	**11**	**6.1**	**1.9**	**56**	**30**	**9.3**
1,3,5-Trimethylbenzene	**4.3 J**	**6.1**	**2.0**	**21 J**	**30**	**9.7**
Vinyl chloride	ND	6.1	2.2	ND	15	5.6
Xylenes (total)	**110**	**12**	**1.8**	**490**	**53**	**7.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV119-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 009 **Work Order #** MQ20N1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012
Prep Date.....: 03/06/2012
Prep Batch #.....: 2066141
Dilution Factor.: 10

Date Received..: 02/23/2012
Analysis Time....: 03/06/2012
Analysis Time....: 14:25
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.36 J**	**0.80**	**0.23**	**1.1 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**11**	**0.80**	**0.15**	**38**	**2.8**	**0.53**
Chloroform	**0.55 J**	**0.80**	**0.15**	**2.7 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.72 J**	**0.80**	**0.27**	**3.5 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**3.5**	**0.80**	**0.27**	**15**	**3.5**	**1.2**
Methylene chloride	**2.0 B**	**2.0**	**0.18**	**7.0 B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**4.5**	**2.0**	**0.36**	**24**	**10**	**1.9**
Tetrachloroethene	**0.24 J**	**0.80**	**0.16**	**1.6 J**	**5.4**	**1.1**
Toluene	**16**	**0.80**	**0.21**	**62**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	**0.20 J**	**0.80**	**0.12**	**1.1 J**	**4.4**	**0.65**
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.37 J**	**0.40**	**0.14**	**2.0 J**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**1.2**	**0.80**	**0.80**	**5.8**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**2.1**	**0.80**	**0.25**	**10**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**0.70 J**	**0.80**	**0.26**	**3.5 J**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**22**	**1.6**	**0.24**	**95**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV120-A-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 007 **Work Order #** MQ20L1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/05/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2065117 **Analysis Time....:** 04:30
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.36 J**	**0.80**	**0.23**	**1.1 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**9.5**	**0.80**	**0.15**	**33**	**2.8**	**0.53**
Chloroform	**0.46 J**	**0.80**	**0.15**	**2.3 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.50 J**	**0.80**	**0.27**	**2.5 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**15**	**0.80**	**0.27**	**66**	**3.5**	**1.2**
Methylene chloride	**2.3 B**	**2.0**	**0.18**	**7.9 B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	**16**	**2.0**	**0.36**	**82**	**10**	**1.9**
Tetrachloroethene	**1.2**	**0.80**	**0.16**	**8.0**	**5.4**	**1.1**
Toluene	**14**	**0.80**	**0.21**	**53**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	**0.93**	**0.80**	**0.12**	**5.1**	**4.4**	**0.65**
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**0.86**	**0.40**	**0.14**	**4.6**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	**2.6**	**0.80**	**0.80**	**13**	**3.9**	**3.9**
1,2,4-Trimethylbenzene	**4.6**	**0.80**	**0.25**	**23**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	**1.5**	**0.80**	**0.26**	**7.6**	**3.9**	**1.3**
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**78**	**1.6**	**0.24**	**340**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SVDUP-3-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 023 **Work Order #** MQ2071AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/05/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2062175 **Analysis Time....:** 01:12
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.80	0.23	ND	2.6	0.73
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**3.1 B**	**0.80**	**0.15**	**11 B**	**2.8**	**0.53**
Chloroform	**1.1**	**0.80**	**0.15**	**5.2**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.62 J**	**0.80**	**0.27**	**3.0 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	**26**	**0.80**	**0.24**	**100**	**3.2**	**0.95**
trans-1,2-Dichloroethene	**4.8**	**0.80**	**0.20**	**19**	**3.2**	**0.79**
1,1-Dichloroethene	**0.15 J**	**0.80**	**0.13**	**0.59 J**	**3.2**	**0.52**
Ethylbenzene	ND	0.80	0.27	ND	3.5	1.2
Methylene chloride	**0.78 J B**	**2.0**	**0.18**	**2.7 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	**0.23 J**	**0.80**	**0.16**	**1.6 J**	**5.4**	**1.1**
Toluene	**0.29 J**	**0.80**	**0.21**	**1.1 J**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**37**	**0.40**	**0.14**	**200**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**0.80 J**	**1.6**	**0.24**	**3.5 J**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SVDUP-5-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 022 **Work Order #** MQ2061AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/05/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2062175 **Analysis Time....:** 00:21
Dilution Factor.: 199.4 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	16	4.6	ND	51	15
Carbon tetrachloride	ND	16	3.0	ND	100	19
Chlorodifluoromethane	ND	16	3.0	ND	56	11
Chloroform	**3.4 J**	**16**	**3.0**	**17 J**	**78**	**15**
Dichlorodifluoromethane	ND	16	5.4	ND	79	27
1,1-Dichloroethane	ND	16	2.0	ND	65	8.1
1,2-Dichloroethane	ND	16	3.8	ND	65	15
cis-1,2-Dichloroethene	**610**	**16**	**4.8**	**2400**	**63**	**19**
trans-1,2-Dichloroethene	**130**	**16**	**4.0**	**500**	**63**	**16**
1,1-Dichloroethene	ND	16	2.6	ND	63	10
Ethylbenzene	ND	16	5.4	ND	69	23
Methylene chloride	**6.4 J B**	**40**	**3.6**	**22 J B**	**140**	**12**
Methyl tert-butyl ether	ND	80	14	ND	290	49
Naphthalene	ND	40	7.2	ND	210	38
Tetrachloroethene	**3.2 J**	**16**	**3.2**	**22 J**	**110**	**22**
Toluene	ND	16	4.2	ND	60	16
1,2,4-Trichlorobenzene	ND	80	7.8	ND	590	58
1,1,1-Trichloroethane	ND	16	2.4	ND	87	13
1,1,2-Trichloroethane	ND	16	4.2	ND	87	23
Trichloroethene	**1300**	**8.0**	**2.8**	**7200**	**43**	**15**
1,2,3-Trimethylbenzene	ND	16	16	ND	78	78
1,2,4-Trimethylbenzene	ND	16	5.0	ND	78	25
1,3,5-Trimethylbenzene	ND	16	5.2	ND	78	25
Vinyl chloride	ND	16	5.8	ND	41	15
Xylenes (total)	ND	32	4.8	ND	140	21

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SVDUP4-12

GC/MS Volatiles

Lot-Sample # H2B230465 - 010 **Work Order #** MQ20P1AA **Matrix.....:** AIR

Date Sampled...: 02/22/2012 **Date Received..:** 02/23/2012
Prep Date.....: 02/28/2012 **Analysis Time....:** 02/29/2012
Prep Batch #.....: 2060038 **Analysis Time....:** 07:59
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.33 J**	**0.80**	**0.23**	**1.1 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**1.1**	**0.80**	**0.15**	**4.0**	**2.8**	**0.53**
Chloroform	**0.30 J**	**0.80**	**0.15**	**1.4 J**	**3.9**	**0.73**
Dichlorodifluoromethane	**0.46 J**	**0.80**	**0.27**	**2.3 J**	**4.0**	**1.3**
1,1-Dichloroethane	**2.6**	**0.80**	**0.10**	**10**	**3.2**	**0.40**
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	**40**	**0.80**	**0.24**	**160**	**3.2**	**0.95**
trans-1,2-Dichloroethene	**1.3**	**0.80**	**0.20**	**5.3**	**3.2**	**0.79**
1,1-Dichloroethene	**25**	**0.80**	**0.13**	**99**	**3.2**	**0.52**
Ethylbenzene	**4.4**	**0.80**	**0.27**	**19**	**3.5**	**1.2**
Methylene chloride	**1.0 J B**	**2.0**	**0.18**	**3.6 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**120**	**0.80**	**0.21**	**440**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	**19**	**0.80**	**0.12**	**100**	**4.4**	**0.65**
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	**52**	**0.40**	**0.14**	**280**	**2.1**	**0.75**
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**27**	**1.6**	**0.24**	**120**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Appendix C

Support Documentation

HOLDTIME

SDG H2B230465

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	SV106-A-12	H2B230465012	NM	2/22/2012	3/5/2012	3/6/2012	12	1	13
OV	UG/M3	SV015-A-12	H2B230465013	NM	2/22/2012	3/5/2012	3/5/2012	12	0	12
OV	UG/M3	SV018-A-12	H2B230465004	NM	2/22/2012	2/28/2012	2/29/2012	6	1	7
OV	UG/M3	SV075-A-12	H2B230465015	NM	2/22/2012	3/6/2012	3/6/2012	13	0	13
OV	UG/M3	SV076-A-12	H2B230465016	NM	2/22/2012	3/6/2012	3/6/2012	13	0	13
OV	UG/M3	SV077-A-12	H2B230465017	NM	2/22/2012	3/6/2012	3/6/2012	13	0	13
OV	UG/M3	SV079-A-12	H2B230465020	NM	2/22/2012	3/5/2012	3/5/2012	12	0	12
OV	UG/M3	SV093-A-12	H2B230465003	NM	2/22/2012	2/28/2012	2/29/2012	6	1	7
OV	UG/M3	SV094-A-12	H2B230465005	NM	2/22/2012	2/28/2012	2/29/2012	6	1	7
OV	UG/M3	SV096-A-12	H2B230465018	NM	2/22/2012	3/5/2012	3/5/2012	12	0	12
OV	UG/M3	SV001-C-12	H2B230465006	NM	2/22/2012	2/28/2012	2/29/2012	6	1	7
OV	UG/M3	SV102-C-12	H2B230465024	NM	2/22/2012	3/6/2012	3/6/2012	13	0	13
OV	UG/M3	SVDUP-5-12	H2B230465022	NM	2/22/2012	3/5/2012	3/6/2012	12	1	13
OV	UG/M3	SV107-A-12	H2B230465019	NM	2/22/2012	3/6/2012	3/7/2012	13	1	14
OV	UG/M3	SV108-A-12	H2B230465014	NM	2/22/2012	3/5/2012	3/5/2012	12	0	12

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	SV109-A-12	H2B230465002	NM	2/22/2012	2/28/2012	2/29/2012	6	1	7
OV	UG/M3	SV116-A-12	H2B230465001	NM	2/22/2012	2/28/2012	2/29/2012	6	1	7
OV	UG/M3	SV117-A-12	H2B230465011	NM	2/22/2012	3/5/2012	3/6/2012	12	1	13
OV	UG/M3	SV118-A-12	H2B230465008	NM	2/22/2012	2/28/2012	2/29/2012	6	1	7
OV	UG/M3	SV119-A-12	H2B230465009	NM	2/22/2012	3/6/2012	3/6/2012	13	0	13
OV	UG/M3	SV120-A-12	H2B230465007	NM	2/22/2012	3/5/2012	3/6/2012	12	1	13
OV	UG/M3	SVDUP-3-12	H2B230465023	NM	2/22/2012	3/5/2012	3/6/2012	12	1	13
OV	UG/M3	SVDUP4-12	H2B230465010	NM	2/22/2012	2/28/2012	2/29/2012	6	1	7
OV	UG/M3	SV097-A-12	H2B230465021	NM	2/22/2012	3/5/2012	3/5/2012	12	0	12

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

~~H2B230465~~ H2B230465

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS
Company: Tetra Tech	Phone: (770) 413-0965	___ of ___ COCs
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959	
City/State/Zip Stone Mountain, GA 30087	TAL Contact:	
Phone: (770) 413-0965 ext. 232		
FAX:		
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**	
Site/location: Middle River MD, MRC	Standard (Specify) ✓	
PO # 112IC03953	Rush (Specify)	

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-116-A-12	2/22/12	0954	1102	-28.7	0	K102	L-5126	X											
SV-109-A-12		0945	1104	-28.9	0	K454	SL-1227	X											
SV-093-A-12		0926	1058	-29.2	0	K463	L-5150	X											
SV-018-A-12		0930	1100	-28.9	0	K276	L-1702	X											
SV-094-A-12		0949	1105	-29.2	-1	K360	L-1706	X											
SV-001-C-12	✓	0948	1049	-28.9	0	K306	L-5152	X											

Sampled by : RS

Temperature (Fahrenheit)

	Interior	Ambient
Start		
Stop		

6 Boxes Rec'd @ Ambient Temp 21°C with out custody seal
2/23/12
6 Boxes Rec'd x #

Pressure (inches of Hg)

	Interior	Ambient
Start		
Stop		

7980 & 940 3655 M

24 cans / 30 Flows

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by: Rick Samuels	Date/Time: 2/22/12 1500	Canisters Received by: Paul Shepherd
Samples Relinquished by: Paul Shepherd	Date/Time: 2/22/12 1620	Received by: [signature] 2/23/12 940
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2823046S

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-120-A-12	2/23/12	1030	1131	-30	0	K131	L-A7168	X											
SV-118-A-12		1032	1132	-30	0	K312	L-5183	X											
SV-119-A-12		1028	1130	-29	0	K-133	L-5178	X											
SV-DUP4-12				-28	0	K-137	L-5190	X											
SV-117-A-12		1000	1115	-29	-2	K-216	L-5128	X											
SV-106-A-12		1002	1117	-29	-2	K-156	L-5107	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by: Rick Samuels	Date/Time: 2/22/12 1500	Canisters Received by: Paul Lockwood	
Samples Relinquished by: Paul Lockwood	Date/Time: 2/22/12 1620	Received by:	
Relinquished by:	Date/Time:	Received by: 2/23/12 940	

Lab Use Only — Shipper Name: — Opened by: — Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B230465

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Rick Samuels	Sampled By: RS	of COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	Analysis Turnaround Time		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-015-A-12	2/22/12	935	1051	-30	0	K223	L8183	X											
SV-108-A-12		938	1053	-30	0	K509	L-4151	X											
SV-075-A-12		1005	1104	-30	-10	K358	L-5122	X											
SV-076-A-12		1000	1101	-28	0	K150	L-5164	X											
SV-077-A12		1012	1110	-30	-2	K171	L-8182	X											
SV-096-A-12		943	1057	-30	0	K339	9712	X											

IL 6/14

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2/23/12 940
Relinquished by:	Date/Time:	Received by:

Lab Use Only — Shipper Name: — Opened by: — Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B230465

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Rick Samuels	Sampled By: RS	of COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	Analysis Turnaround Time		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-107-A-12	2/22/12	1005	1119	-29	-4	K0986	L-4107	X											
SV-079-A-12		1010	1129	-29	0	K347	L-5189	X											
SV-097-A-12		1020	1121	-29	0	K178	L-3840	X											
SV-DUP-5-12				-29	0	K515	6669	X											
								X											
								X											

@6910 1 Liter

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by: Rick Samuels	Date/Time: 2/22/12 / 1500	Canisters Received by: Paul Bayford
Samples Relinquished by: Paul Bayford	Date/Time: 2/22/12 / 1620	Received by: [signature] 3/23/12 940
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

1-12B2304165

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type: Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-DUP-3-12	2/22/12	—	—	-29.2	0	K127	L-A7116	X										
SV-102-C-12	2/22/12	0756	1045	-28.9	0	K313	L-5804	X										
								X										
								X										
								X										
								X										

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient		
Start				
Stop				

Pressure (inches of Hg)	Interior	Ambient		
Start				
Stop				

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by: Rick Samuels	Date/Time: 2/22/12 / 1500	Canisters Received by: Paul Hayward	
Samples Relinquished by: Paul Hayward	Date/Time: 2/22/12 / 1620	Received by: [signature] 2/23/12 940	
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: H2B230465

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)		✓		☑ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	1A C.O.C. List Sample ID as: SV-119-A-12, Canister Label Reads SV-118-A-12 matched by Canister ID + Flow ID. Log by COC ~~1A C.O.C. List Sample ID As: IA-108A-12 Canister L~~ GPH 2/23/12 GPH 2/23/12
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)	✓			☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____ ☐ 2c Cooling initiated for recently collected samples, ice present.	1A C.O.C. List Sample ID As: SV-108-A-12, Canister Label Reads IA-108A-12, match by Canister ID + Flow ID, Log by COC
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ 3a Sample preservative =	4A
4. Were custody seals present/intact on cooler and/or containers?		✓		☑ 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	✓			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?			✓	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	✓			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?	✓				

Quote #: 83292 PM Instructions: NA

Sample Receiving Associate: [signature] Date: 2/23/12

QA026R22.doc, 012811

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2B230465*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
2/23/12	NA	28.31	MQ20D	L5126	-0.1	–												9697B
			MQ20F	SL1227	+0.4	–												9695
			MQ20G	L5150	+0.6	–												9712
			MQ20H	LA7062	+0.6	–	2/24/12	S	28.61						0148	10	+2.1	9706B
			MQ20J	LA7060	+0.3	–												9712
			MQ20K	L5152	+0.6	–												9699B
			MQ20L	LA7168	+0.4	–												9677B
			MQ20M	L5183	-1.0	–	2/24/12	x1	28.61	-2.2	+25.2							~~9706B~~ 2/23/12
			MQ20N	L5178	+0.4	–												~~9677B 9706B~~ 2/23/12
			MQ20P	L5190	+0.4	–												~~9712 9677B~~ 2/23/12
			MQ20Q	L5128	+1.3	–												9712
			MQ20R	L5107	-2.4	–												↓
			MQ20T	L8183	+0.2	–	2/24/12	x1	28.69	-0.9	+28.6							↓
			MQ20W	L4151	0	–	↓	↓	↓	-1.4	+35.1							9653
			MQ20X	L5122	-7.8	+3.4												9712
			MQ200	L5164	+0.4	–												↓
			MQ201	L8182	-3.4	–												↓
			MQ202	L6114	+0.1	–												↓
			MQ203	LA7072	-3.3	–	2/24/12	x1	28.81	-4.9	+37.0							9677B
			MQ204	L5189	0	–	3/5/12	x1	29.17	-2.3	+29.1							9712
↓	↓	↓	MQ205	L3840	+0.5	–												↓

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2B230465*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (- in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
km 4/23/12	NA	28.34	MQ206	LA6910 ✓	-0.2	-	km 4/24/12	X2	28.84	-1.8	+29.9	+28.4						9654
|	|	|	MQ207	LA7116 ✓	+0.6	-	|		28.84	-0.3	+27.4							9712
↓	↓	↓	MQ208	L5104 ✓	+0.5	-	↓	X1	↓	-0.5	+28.6							9700B

PROJECT NARRATIVE
H2B230465

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

The chain of custody lists a sample ID as SV-119-A-12; however the canister tag lists the ID as SV-118-A-12. The sample was matched by canister ID and flow ID. The sample was logged according to the chain of custody.

The chain of custody lists a sample ID as SV-108-A-12; however the canister tag lists the ID as IA-108A-12. The sample was matched by canister ID and flow ID. The sample was logged according to the chain of custody.

Custody seals were not present.

All sample IDs were revised to remove the dash (-) after SV, per client request.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

The EPA method requires that all target analytes in the continuing calibration verification standard be within 30% difference from the initial calibration. According to the laboratory standard operating procedure, the continuing calibration is acceptable if it meets the laboratory control sample acceptance criteria. Even though the calibration verification analyzed on the following dates exhibited a % difference of > 30% for corresponding compounds, the results were within the LCS acceptance limits.
2/28/12 on instrument MG: 1,2,4-trichlorobenzene, naphthalene
2/28/12 on instrument MJ: carbon tetrachloride
3/05/12 on instrument MG: dichlorodifluoromethane

The daily standard and laboratory control sample recovery for 1,2,4-trichlorobenzene and naphthalene were above QC limits for batch 2062175. However, since the recovery was high, and 1,2,4-trichlorobenzene and naphthalene were not detected above the reporting limit in the associated samples, the validity of the data is unaffected.

PROJECT NARRATIVE
H2B230465

For this method, the continuing calibration verification standard and the LCS are the same sample. While the result for 1,2,4-trichlorobenzene is flagged as being outside limits for batch 2060022 and carbon tetrachloride for batch 2060038, the results met the acceptance criteria which allows for 1analytes to be within marginal exceedence limits.

Quantitation for 1,2,3-trimethylbenzene was previously based on a one-point calibration standard at the reporting limit.

The quantitation for 1,2,3-trimethylbenzene was based on a minimum 5-point calibration curve. The following interim criteria are being used until the method performance for this additional analyte is fully established:

- The initial calibration acceptance criteria is set at 40% RSD. Any compound greater than 40% RSD was changed to a linear or quadratic model with an r2 ≥ 0.990 acceptance criteria.
- There are no criteria for second source standard verification % D. The second source standard was independently prepared from the same parent mixture (as the primary source).
- The continuing calibration verification criteria are set at 50% D. Any compound greater than 50% D must pass the LCS criteria.
- The LCS recovery criteria are set at 20% to 180%.
- A method detection limit study has not been performed. The detection of the analyte is demonstrated by detection of the calibration standard at the reporting limit. No estimated results are reported below the reporting limit.

SAMPLE SUMMARY

H2B230465

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MQ20D	001	SV116-A-12	02/22/12	11:02
MQ20F	002	SV109-A-12	02/22/12	11:04
MQ20G	003	SV093-A-12	02/22/12	10:58
MQ20H	004	SV018-A-12	02/22/12	11:00
MQ20J	005	SV094-A-12	02/22/12	11:05
MQ20K	006	SV001-C-12	02/22/12	10:49
MQ20L	007	SV120-A-12	02/22/12	11:31
MQ20M	008	SV118-A-12	02/22/12	11:32
MQ20N	009	SV119-A-12	02/22/12	11:30
MQ20P	010	SVDUP4-12	02/22/12	
MQ20Q	011	SV117-A-12	02/22/12	11:15
MQ20R	012	SV106-A-12	02/22/12	11:17
MQ20T	013	SV015-A-12	02/22/12	10:51
MQ20W	014	SV108-A-12	02/22/12	10:53
MQ20X	015	SV075-A-12	02/22/12	11:04
MQ200	016	SV076-A-12	02/22/12	11:01
MQ201	017	SV077-A-12	02/22/12	11:10
MQ202	018	SV096-A-12	02/22/12	10:57
MQ203	019	SV107-A-12	02/22/12	11:19
MQ204	020	SV079-A-12	02/22/12	11:29
MQ205	021	SV097-A-12	02/22/12	11:21
MQ206	022	SVDUP-5-12	02/22/12	
MQ207	023	SVDUP-3-12	02/22/12	
MQ208	024	SV102-C-12	02/22/12	10:45

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	12/16/11	Instrument:	MG	ICAL Batch/Scan Name:	G121611I	Scanned ☐

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad		✓			✓
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓		acetaldehyde 43% RSD	✓
11. If curves were used, is correlation coefficient ≥0.990?		✓			✓
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.		✓		123 TCBZ quad	✓
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).		✓			✓
14. Is the "Y" intercept less than the RL for each curve?		✓			✓
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?	✓				NA
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			✓
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3-, 1,4-, and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)		✓		Dodecane 161%	✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?		✓		123 TCBZ 133% all other 70-130	✓
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 12/19/11	2nd Level Reviewer :	Date: 12/21/11
Comments:		Comments:	
UR · 4ppbv Dodecane, 123 TCBZ			
acetaldehyde not valid 90 RSD 43%			

O.K for Low level 12/21/11
NV State

111216.ZZZ

TA-Knoxville
TO-14 Autosampler Log

Sample	Position/Volume	Date	Time
BFB	16 - 101 mL	12/16/2011	11:17:56 AM
ICAL	1 - 50 mL	12/16/2011	11:48:07 AM
ICAL	1 - 102 mL	12/16/2011	12:39:49 PM
ICAL	1 - 201 mL	12/16/2011	1:30:40 PM
IC01	2 - 201 mL	12/16/2011	2:28:50 PM
IC02	3 - 201 mL	12/16/2011	3:23:18 PM
IC03	4 - 201 mL	12/16/2011	4:17:01 PM
IC04	5 - 201 mL	12/16/2011	5:10:33 PM
IC05	6 - 201 mL	12/16/2011	6:04:22 PM
IC06	7 - 202 mL	12/16/2011	6:58:27 PM
IC07	8 - 201 mL	12/16/2011	7:51:30 PM
blk	16 - 202 mL	12/16/2011	8:44:25 PM
icv	9 - 101 mL	12/16/2011	9:35:02 PM
lcs	9 - 201 mL	12/16/2011	10:26:04 PM
blk	16 - 501 mL	12/16/2011	11:22:07 PM
blk	16 - 501 mL	12/17/2011	12:17:15 AM

TestAmerica Laboratories, Inc. – Knoxville 2

CANISTER RUN LOG

GCMS Analysis: AIR Inst: MG

Analyst: HMT Qtims Batch: ICAL

Date: 12/16/11 ICAL Batch: G121611I Target Batch: G121611I IS #1 Area: 404705

Surr/IS ID & Vol.: 40MLV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1117	✓	tune	GBFBL16	-	16	100	1	
1148	✓	MDL	GMDLL16	CX2316	1	50		
1239	✓	ICAL 1	GICL161		1	100		
1330	✓	2	2		1	200		
1428	✓	3	3	CX2315	2			
1523	✓	4	4	CX2314	3			
1617	✓	5	5	CX2313	4			
1710	✓	6	6	CX2312	5			
1804	✓	7	7	CX2311	6			
1858	✓	8	8	CX2310	7			
1951	✓	9	9	CX2309	8			
2044	N	blk	Blank1	-	16	200		
2135	✓	ICV	GICVL16	CX2306	9	100		
2226	not needed	LCS	GLCSL16		9	200		
2322	N ~~✓~~ 12/19/11 H	blk	BLANK2	-	16	500		
0017	✓		GBIKL16	-				

12/19/11

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 12/19/11

MS027r16.DOC, 051210

Data File: /var/chem/gcms/mg.i/G121611I.b/gbfb116.d

Date : 16-DEC-2011 11:17

Client ID: BFB

Instrument: mg.i

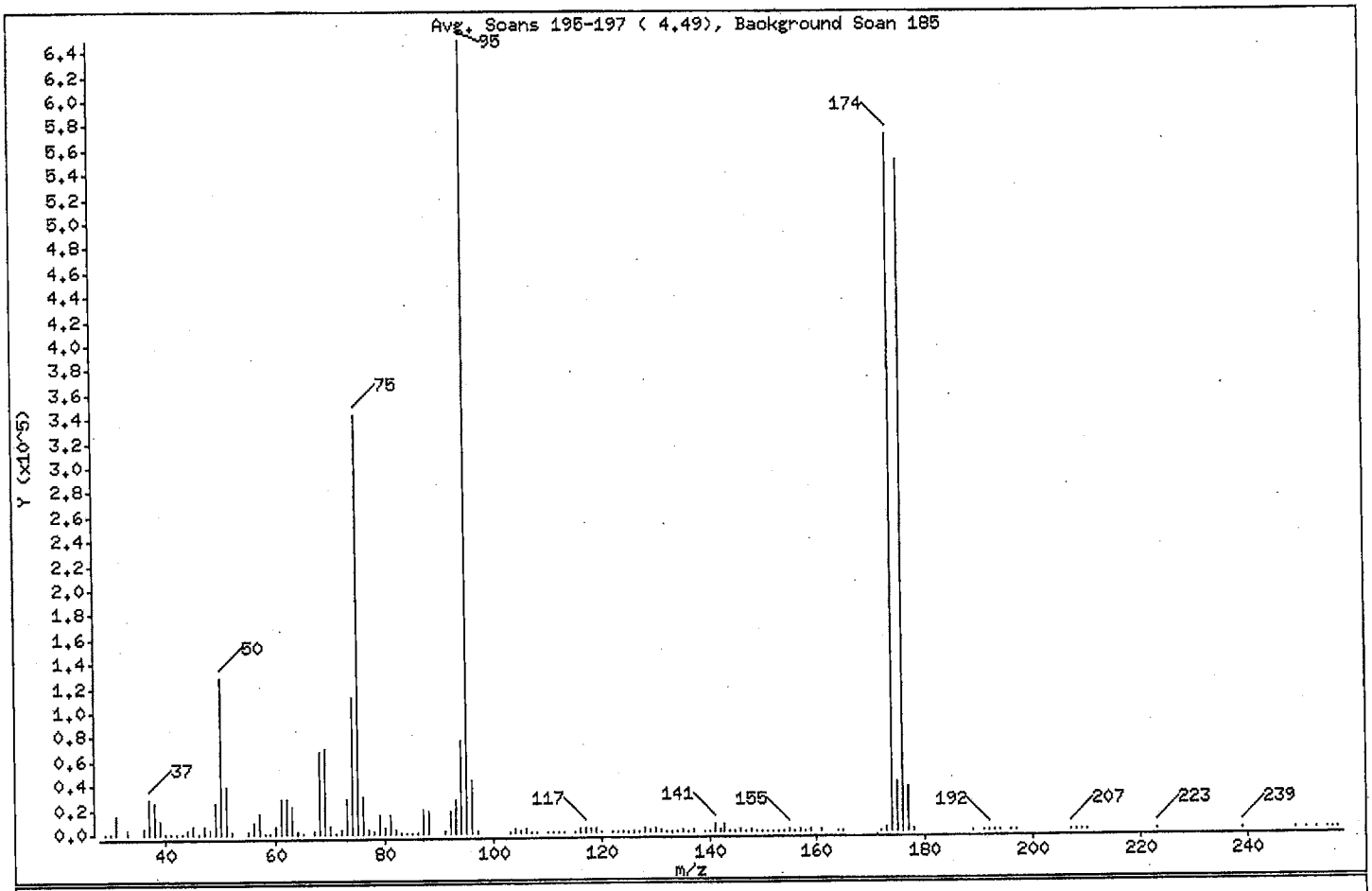
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.70
75	30.00 - 60.00% of mass 95	52.96
96	5.00 - 9.00% of mass 95	6.73
173	Less than 2.00% of mass 174	0.36 (0.41)
174	50.00 - 120.00% of mass 95	87.99
175	5.00 - 9.00% of mass 174	6.25 (7.11)
176	95.00 - 101.00% of mass 174	84.83 (96.40)
177	5.00 - 9.00% of mass 176	5.57 (6.57)

Report Date:12/19/2011

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/mg.i/G121611I.b/gicl161.d
STD 2 = /var/chem/gcms/mg.i/G121611I.b/gicl162.d
STD 3 = /var/chem/gcms/mg.i/G121611I.b/gicl163.d
STD 4 = /var/chem/gcms/mg.i/G121611I.b/gicl164.d
STD 5 = /var/chem/gcms/mg.i/G121611I.b/gicl165.d
STD 6 = /var/chem/gcms/mg.i/G121611I.b/gicl166.d
STD 7 = /var/chem/gcms/mg.i/G121611I.b/gicl167.d
STD 8 = /var/chem/gcms/mg.i/G121611I.b/gicl168.d
STD 9 = /var/chem/gcms/mg.i/G121611I.b/gicl169.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
1,4-Difluorobenzene	10.362	10.362	10.368	10.362	10.368	10.368	10.368	10.394	10.378	10.370
Chlorobenzene-d5	15.172	15.172	15.172	15.172	15.172	15.172	15.178	15.188	15.178	15.175
Bromochloromethane	8.238	8.238	8.238	8.238	8.243	8.243	8.243	8.275	8.259	8.246
4-Bromofluorobenzene	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110
~ 2-Methylnaphthalene	NA	NA	1.436	1.436	1.436	1.436	1.436	1.434	1.436	1.436
Chlorodifluoromethane	0.448	0.448	0.448	0.448	0.446	0.447	0.447	0.447	0.446	0.447
Propene	NA	NA	0.448	0.448	0.447	0.448	0.448	0.447	0.447	0.448
Dichlorodifluoromethane	0.454	0.453	0.453	0.453	0.453	0.453	0.453	0.453	0.452	0.453
Chloromethane	0.472	0.472	0.472	0.472	0.471	0.472	0.472	0.472	0.471	0.472
1,2-Dichlorotetrafluoroethan	0.473	0.472	0.473	0.472	0.472	0.472	0.472	0.472	0.472	0.472
Methanol	NA	NA	NA	NA	0.490	0.490	0.490	0.492	0.490	0.490
~ acetaldehyde	NA	NA	NA	0.489	0.489	0.489	0.489	0.490	0.488	0.489
Vinyl Chloride	0.490	0.489	0.490	0.490	0.489	0.489	0.489	0.489	0.489	0.489
n-Butane	0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.497	0.498
1,3-Butadiene	0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.497	0.498
Bromomethane	0.532	0.531	0.532	0.532	0.531	0.532	0.532	0.531	0.530	0.531
Chloroethane	0.546	0.546	0.546	0.546	0.545	0.545	0.545	0.546	0.545	0.546
~ ethanol	NA	0.563	0.564	0.562	0.562	0.562	0.562	0.567	0.563	0.563
Vinyl Bromide	0.578	0.576	0.577	0.576	0.576	0.577	0.577	0.577	0.576	0.577
2-methyl butane	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580
Trichlorofluoromethane	0.604	0.604	0.604	0.604	0.604	0.604	0.604	0.604	0.603	0.604
Acrolein	NA	NA	0.611	0.610	0.609	0.609	0.609	0.610	0.609	0.610
Acetonitrile	NA	NA	0.620	0.619	0.619	0.619	0.619	0.621	0.619	0.619
Acetone	NA	NA	NA	NA	0.625	0.624	0.624	0.626	0.624	0.625
Isopropyl alcohol	NA	NA	0.641	0.637	0.637	0.636	0.636	0.642	0.636	0.638
Pentane	NA	0.626	0.626	0.626	0.625	0.626	0.625	0.626	0.624	0.626
Ethyl Ether	0.651	0.650	0.651	0.649	0.649	0.648	0.648	0.649	0.647	0.649
1,1-Dichloroethene	0.679	0.678	0.679	0.678	0.678	0.678	0.679	0.679	0.678	0.678
tert-butanol	NA	NA	0.707	0.703	0.701	0.700	0.700	0.705	0.700	0.702
Acrylonitrile	0.697	0.697	0.697	0.696	0.696	0.696	0.696	0.698	0.696	0.696
1,1,2-Trichlorotrifluoroetha	0.698	0.696	0.697	0.697	0.696	0.696	0.696	0.697	0.696	0.696
Methylene Chloride	NA	NA	0.718	0.718	0.717	0.717	0.717	0.718	0.717	0.717
3-Chloropropene	0.718	0.717	0.718	0.718	0.717	0.718	0.718	0.718	0.718	0.718
Carbon Disulfide	0.732	0.732	0.732	0.732	0.732	0.732	0.732	0.732	0.732	0.732
trans-1,2-Dichloroethene	0.803	0.804	0.804	0.804	0.803	0.803	0.804	0.804	0.803	0.804
~ 2-Methyl Pentane	0.802	0.802	0.802	0.802	0.801	0.801	0.801	0.801	0.801	0.801
Methyl-t-Butyl Ether	0.830	0.828	0.828	0.826	0.825	0.824	0.823	0.824	0.822	0.826

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/mg.i/G121611I.b/gicl161.d
STD 2 = /var/chem/gcms/mg.i/G121611I.b/gicl162.d
STD 3 = /var/chem/gcms/mg.i/G121611I.b/gicl163.d
STD 4 = /var/chem/gcms/mg.i/G121611I.b/gicl164.d
STD 5 = /var/chem/gcms/mg.i/G121611I.b/gicl165.d
STD 6 = /var/chem/gcms/mg.i/G121611I.b/gicl166.d
STD 7 = /var/chem/gcms/mg.i/G121611I.b/gicl167.d
STD 8 = /var/chem/gcms/mg.i/G121611I.b/gicl168.d
STD 9 = /var/chem/gcms/mg.i/G121611I.b/gicl169.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
1,1-Dichloroethane	0.851	0.851	0.851	0.851	0.851	0.851	0.851	0.851	0.851	0.851
Vinyl Acetate	0.868	0.867	0.868	0.867	0.867	0.866	0.866	0.868	0.866	0.867
2-Butanone	NA	NA	0.927	0.925	0.923	0.923	0.922	0.923	0.921	0.923
Hexane	0.910	0.910	0.910	0.910	0.909	0.909	0.909	0.909	0.908	0.909
cis 1,2-Dichloroethene	0.962	0.963	0.962	0.963	0.962	0.963	0.963	0.963	0.962	0.962
Ethyl acetate	NA	0.995	0.995	0.993	0.992	0.991	0.991	0.992	0.990	0.992
Chloroform	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
Tetrahydrofuran	1.070	1.066	1.066	1.063	1.060	1.060	1.058	1.057	1.056	1.062
1,1,1-Trichloroethane	1.116	1.116	1.116	1.116	1.116	1.116	1.116	1.115	1.115	1.116
1,2-Dichloroethane	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.901	0.900	0.900
1-Butanol	NA	NA	0.964	0.960	0.957	0.956	0.955	0.957	0.954	0.958
Benzene	0.944	0.944	0.944	0.944	0.944	0.944	0.944	0.944	0.944	0.944
Cyclohexane	0.940	0.939	0.940	0.940	0.939	0.939	0.939	0.939	0.939	0.939
Carbon Tetrachloride	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945
~ 2,3-dimethylpentane	0.952	0.951	0.950	0.950	0.950	0.950	0.950	0.950	0.951	0.950
~ Thiophene	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971
2,2,4-trimethylpentane	1.014	1.014	1.014	1.014	1.013	1.013	1.013	1.013	1.013	1.013
Heptane	1.052	1.052	1.051	1.052	1.051	1.051	1.052	1.051	1.051	1.051
1,2-Dichloropropane	1.066	1.065	1.064	1.065	1.065	1.065	1.065	1.064	1.064	1.065
Trichloroethene	1.068	1.068	1.067	1.068	1.068	1.068	1.068	1.067	1.067	1.068
Dibromomethane	1.078	1.078	1.077	1.078	1.078	1.078	1.078	1.077	1.078	1.078
Bromodichloromethane	1.093	1.093	1.092	1.093	1.092	1.092	1.092	1.092	1.092	1.092
1,4-dioxane	NA	1.111	1.110	1.107	1.105	1.104	1.104	1.103	1.102	1.106
Methyl Methacrylate	NA	1.108	1.108	1.108	1.107	1.107	1.107	1.106	1.106	1.107
~ 1-Methylnaphthalene	NA	NA	1.449	1.449	1.449	1.449	1.448	1.447	1.448	1.448
~ methyl cyclohexane	1.139	1.139	1.138	1.139	1.138	1.138	1.138	1.137	1.138	1.138
4-Methyl-2-pentanone	NA	1.195	1.194	1.193	1.191	1.191	1.191	1.190	1.190	1.192
cis-1,3-Dichloropropene	1.192	1.192	1.191	1.192	1.191	1.191	1.192	1.190	1.191	1.191
trans-1,3-Dichloropropene	0.862	0.862	0.862	0.862	0.862	0.862	0.861	0.862	0.862	0.862
Toluene	0.867	0.867	0.867	0.867	0.867	0.867	0.867	0.868	0.868	0.867
1,1,2-Trichloroethane	0.875	0.875	0.874	0.874	0.875	0.875	0.874	0.875	0.875	0.875
~ 2-methyl thiophene	0.878	0.878	0.878	0.878	0.878	0.878	0.878	0.878	0.878	0.878
~ 3-methyl thiophene	0.891	0.891	0.892	0.892	0.892	0.892	0.891	0.892	0.892	0.892
2-Hexanone	NA	0.906	0.906	0.905	0.904	0.904	0.903	0.904	0.904	0.904
Octane	0.912	0.912	0.912	0.912	0.912	0.912	0.912	0.912	0.912	0.912
Dibromochloromethane	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921
1,2-Dibromoethane	0.940	0.940	0.940	0.940	0.940	0.940	0.939	0.940	0.940	0.940

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/mg.i/G121611I.b/gicl161.d
STD 2 = /var/chem/gcms/mg.i/G121611I.b/gicl162.d
STD 3 = /var/chem/gcms/mg.i/G121611I.b/gicl163.d
STD 4 = /var/chem/gcms/mg.i/G121611I.b/gicl164.d
STD 5 = /var/chem/gcms/mg.i/G121611I.b/gicl165.d
STD 6 = /var/chem/gcms/mg.i/G121611I.b/gicl166.d
STD 7 = /var/chem/gcms/mg.i/G121611I.b/gicl167.d
STD 8 = /var/chem/gcms/mg.i/G121611I.b/gicl168.d
STD 9 = /var/chem/gcms/mg.i/G121611I.b/gicl169.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
Tetrachloroethene	0.943	0.943	0.943	0.943	0.943	0.943	0.943	0.943	0.944	0.943
Chlorobenzene	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
~ 2,3-dimethylheptane	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002
Ethylbenzene	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.022
~ 2-ethyl thiophene	1.029	1.029	1.029	1.029	1.029	1.029	1.029	1.029	1.029	1.029
m&p-Xylene	1.033	1.033	1.033	1.033	1.033	1.033	1.033	1.033	1.033	1.033
Nonane	NA	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
Bromoform	NA	1.064	1.064	1.064	1.064	1.064	1.064	1.064	1.064	1.064
Styrene	1.065	1.065	1.065	1.065	1.065	1.065	1.064	1.064	1.065	1.065
o-Xylene	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068
1,1,2,2-Tetrachloroethane	1.092	1.092	1.092	1.092	1.092	1.092	1.092	1.092	1.092	1.092
1,2,3-Trichloropropane	1.102	1.102	1.102	1.102	1.102	1.102	1.102	1.102	1.102	1.102
Cumene	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107
n-Propylbenzene	1.144	1.144	1.144	1.144	1.144	1.144	1.143	1.143	1.144	1.144
2-chlorotoluene	1.147	1.146	1.147	1.147	1.147	1.147	1.146	1.146	1.147	1.147
4-Ethyltoluene	1.154	1.154	1.154	1.154	1.154	1.154	1.154	1.153	1.154	1.154
1,3,5-Trimethylbenzene	1.160	1.160	1.160	1.160	1.160	1.160	1.159	1.159	1.160	1.160
Alpha-Methylstyrene	NA	NA	1.176	1.176	1.176	1.176	1.176	1.175	1.176	1.176
Decane	NA	1.179	1.179	1.179	1.179	1.179	1.178	1.178	1.179	1.179
tert-butylbenzene	1.189	1.189	1.189	1.189	1.189	1.189	1.188	1.188	1.189	1.189
1,2,4-Trimethylbenzene	NA	1.190	1.190	1.190	1.190	1.190	1.189	1.189	1.190	1.190
sec-butylbenzene	1.207	1.207	1.207	1.207	1.207	1.207	1.207	1.206	1.207	1.207
1,3-Dichlorobenzene	NA	1.208	1.208	1.208	1.208	1.208	1.208	1.208	1.208	1.208
Benzyl Chloride	NA	1.215	1.215	1.215	1.215	1.215	1.214	1.214	1.214	1.215
1,4-Dichlorobenzene	NA	1.215	1.215	1.215	1.215	1.215	1.214	1.214	1.214	1.215
p-Cymene	NA	1.218	1.218	1.218	1.218	1.218	1.218	1.218	1.218	1.218
~ 1,2,3- Trimethylbenzene	1.222	1.222	1.222	1.222	1.222	1.222	1.222	1.221	1.222	1.222
~ n-butylcyclohexane	1.224	1.224	1.224	1.224	1.224	1.224	1.224	1.224	1.224	1.224
~ Indane	1.239	1.239	1.239	1.239	1.239	1.239	1.238	1.238	1.239	1.239
1,2-Dichlorobenzene	NA	1.239	1.239	1.239	1.239	1.239	1.239	1.238	1.239	1.239
n-butylbenzene	NA	1.248	1.248	1.248	1.248	1.248	1.248	1.247	1.248	1.248
~ Indene	1.248	1.248	1.248	1.248	1.248	1.248	1.248	1.247	1.248	1.248
Undecane	NA	NA	1.269	1.269	1.269	1.269	1.268	1.268	1.268	1.268
~ 1,2-dimethyl-4-ethylenzene	NA	1.274	1.274	1.274	1.274	1.274	1.273	1.273	1.273	1.274
~ 1,2,4,5-tetramethylbenzene	NA	1.299	1.300	1.300	1.299	1.299	1.299	1.298	1.299	1.299
~ 1,2,3,5-tetramethylbenzene	NA	1.303	1.303	1.303	1.303	1.303	1.303	1.302	1.303	1.303
~ 1,2,3,4-tetramethylbenzene	NA	1.329	1.329	1.329	1.329	1.329	1.329	1.328	1.329	1.329

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/mg.i/G121611I.b/gicl161.d
STD 2 = /var/chem/gcms/mg.i/G121611I.b/gicl162.d
STD 3 = /var/chem/gcms/mg.i/G121611I.b/gicl163.d
STD 4 = /var/chem/gcms/mg.i/G121611I.b/gicl164.d
STD 5 = /var/chem/gcms/mg.i/G121611I.b/gicl165.d
STD 6 = /var/chem/gcms/mg.i/G121611I.b/gicl166.d
STD 7 = /var/chem/gcms/mg.i/G121611I.b/gicl167.d
STD 8 = /var/chem/gcms/mg.i/G121611I.b/gicl168.d
STD 9 = /var/chem/gcms/mg.i/G121611I.b/gicl169.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
Dodecane	NA	1.339	1.339	1.339	1.339	1.339	1.339	NA	NA	1.339
1,2,4-Trichlorobenzene	NA	1.352	1.352	1.352	1.352	1.352	1.352	1.351	1.352	1.352
Napthalene	NA	1.361	1.361	1.361	1.361	1.361	1.361	1.360	1.361	1.361
~ benzo(b) thiophene	NA	1.368	1.368	1.368	1.368	1.368	1.368	1.367	1.368	1.368
Hexachlorobutadiene	NA	1.376	1.376	1.376	1.376	1.375	1.375	1.374	1.375	1.375
1,2,3-trichlorobenzene	NA	1.380	1.380	1.380	1.380	1.380	1.380	NA	NA	1.380

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Calibration File Names:
Level 1: /var/chem/gcms/mg.i/G121611I.b/gicl161.d
Level 2: /var/chem/gcms/mg.i/G121611I.b/gicl162.d
Level 3: /var/chem/gcms/mg.i/G121611I.b/gicl163.d
Level 4: /var/chem/gcms/mg.i/G121611I.b/gicl164.d
Level 5: /var/chem/gcms/mg.i/G121611I.b/gicl165.d
Level 6: /var/chem/gcms/mg.i/G121611I.b/gicl166.d
Level 7: /var/chem/gcms/mg.i/G121611I.b/gicl167.d
Level 8: /var/chem/gcms/mg.i/G121611I.b/gicl168.d
Level 9: /var/chem/gcms/mg.i/G121611I.b/gicl169.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
M 83 Xylene (total)	0.99563	1.10266	0.98912	0.99742	1.01380	0.93697					
	0.95604	0.92856	0.81164				AVRG		0.97020		8.09712
5 Chlorodifluoromethane	0.48906	0.55582	0.46784	0.39678	0.39738	0.39217					
	0.35045	0.33450	0.35528				AVRG		0.41547		17.74523
6 Propene	+++++	+++++	1.44049	1.05829	1.05070	1.05657					
	0.92819	0.85459	0.88078				AVRG		1.03852		18.98866

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
7 Dichlorodifluoromethane	4.23725 / 3.48686	4.23567 / 3.33421	4.00378 / 3.51231	3.85502	3.92088	3.95396	AVRG		3.83777		8.48755
8 Chloromethane	0.51212 / 0.31215	0.41417 / 0.31125	0.42641 / 0.30526	0.35502	0.34620	0.35747	AVRG		0.37112		18.38919
9 1,2-Dichlorotetrafluoroethane	2.87034 / 2.19580	2.63543 / 2.27084	2.46388 / 2.42413	2.36146	2.41550	2.47281	AVRG		2.45669		8.11289
10 Methanol	+++++ / 0.68712	+++++ / 0.64132	+++++ / 0.50378	+++++	0.88172	0.68247	AVRG		0.67928		19.92788
~~11 acetaldehyde~~	+++++ / 0.17580	+++++ / 0.11397	+++++ / 0.11160	0.31139	0.18715	0.13462	AVRG		0.17242		~~43.46796~~ <- NA
12 Vinyl Chloride	1.45753 / 1.18584	1.52282 / 1.19161	1.38090 / 1.19174	1.31344	1.28270	1.31375	AVRG		1.31559		9.15250
13 n-Butane	2.57521 / 1.77224	2.41694 / 1.73771	2.16234 / 1.71070	1.99139	1.93266	1.94034	AVRG		2.02661		14.97888

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
14 1,3-Butadiene	1.16828	1.10205	1.00137	0.94297	0.90346	0.93895					
	0.86535	0.84363	0.84655				AVRG		0.95696		11.94258
15 Bromomethane	1.42293	1.30733	1.24897	1.18414	1.13496	1.20545					
	1.09930	1.14116	1.18974				AVRG		1.21489		8.22309
16 Chloroethane	0.73806	0.73734	0.71544	0.66928	0.61864	0.66426					
	0.61630	0.63421	0.64744				AVRG		0.67122		7.17650
17 - ethanol	+++++	0.60224	0.40580	0.37804	0.35359	0.30915					
	0.33616	0.32426	0.26094				AVRG		0.37127		27.76284
18 Vinyl Bromide	1.46929	1.28968	1.18304	1.14031	1.10039	1.16663					
	1.08836	1.12100	1.19142				AVRG		1.19446		9.99178
19 2-methyl butane	1.69146	1.48392	1.45408	1.35308	1.26701	1.34482					
	1.25855	1.30111	1.29435				AVRG		1.38315		10.10395
20 Trichlorofluoromethane	4.31586	3.97925	3.90200	3.82325	3.78344	3.95690					
	3.60367	3.57514	3.72801				AVRG		3.85194		5.83457

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
21 Acrolein	+++++	+++++	0.51312	0.40107	0.33842	0.32691					
	0.36434	0.36884	0.33554				AVRG		0.37832		17.07567
22 Acetonitrile	+++++	+++++	0.42932	0.33491	0.33037	0.31671					
	0.36922	0.42710	0.38097				AVRG		0.36980		12.36361
25 Pentane	+++++	0.27251	0.26552	0.23241	0.22138	0.23775					
	0.22930	0.23685	0.24201				AVRG		0.24222		7.33065
23 Acetone	+++++	+++++	+++++	+++++	0.55018	0.42073					
	0.57597	0.41117	0.33980				AVRG		0.45957		21.74702
24 Isopropyl alcohol	+++++	+++++	1.43224	1.39041	1.39232	1.17278					
	1.33295	1.22559	1.09040				AVRG		1.29096		10.01789
26 Ethyl Ether	1.45164	1.80901	1.51414	1.47803	1.47538	1.33121					
	1.35828	1.27101	1.15037				AVRG		1.42656		12.96893
27 1,1-Dichloroethene	1.42340	1.18308	1.14031	1.09878	1.07921	1.14719					
	1.04969	1.04602	1.08887				AVRG		1.13962		10.15856

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
29 Acrylonitrile	0.90987	1.05511	0.85318	0.85168	0.85283	0.77590					
	0.79814	0.76911	0.69195				AVRG		0.83975		12.23377
30 1,1,2-Trichlorotrifluoroethan	2.80161	2.55944	2.51326	2.45106	2.43251	2.49429					
	2.25517	2.25194	2.37792				AVRG		2.45969		6.79409
28 tert-butanol	+++++	+++++	1.23111	1.56074	1.92595	1.40960					
	1.98310	1.38308	1.52900				AVRG		1.57466		17.85872
31 Methylene Chloride	+++++	+++++	1.35610	1.15655	1.08531	1.07768					
	0.96497	0.94988	0.98053				AVRG		1.08157		13.19279
32 3-Chloropropene	1.41799	1.29208	1.29794	1.25925	1.25332	1.27874					
	1.12368	1.08340	1.11859				AVRG		1.23611		8.69686
33 Carbon Disulfide	4.74820	4.17613	4.16900	3.86124	3.83032	3.98973					
	3.61239	3.54923	3.68700				AVRG		3.95814		9.38177
35 - 2-Methyl Pentane	3.64770	3.33639	3.14163	3.15440	3.06278	3.12114					
	2.74676	2.62471	2.66314				AVRG		3.05541		10.89192

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
34 trans-1,2-Dichloroethene	1.65098 / 1.27077	1.42102 / 1.25840	1.43254 / 1.30204	1.39217	1.34925	1.40947	AVRG		1.38740		8.53358
36 Methyl-t-Butyl Ether	3.74890 / 3.45069	4.38165 / 3.37135	3.60953 / 2.95683	3.62055	3.62934	3.25980	AVRG		3.55874		10.98762
37 1,1-Dichloroethane	2.83409 / 2.22404	2.64251 / 2.17914	2.50560 / 2.26241	2.42235	2.40540	2.47979	AVRG		2.43948		8.57336
38 Vinyl Acetate	2.76584 / 3.06663	3.52283 / 2.92637	3.05261 / 2.62006	3.09411	3.24242	2.89265	AVRG		3.02039		8.76405
39 2-Butanone	+++++ / 0.55845	+++++ / 0.52624	0.64244 / 0.44385	0.57094	0.56980	0.48191	AVRG		0.54195		12.02022
40 Hexane	1.49942 / 1.00586	1.32186 / 0.97983	1.22915 / 1.02170	1.13364	1.10260	1.12914	AVRG		1.15813		14.52693
41 cis 1,2-Dichloroethene	1.53637 / 1.20626	1.38260 / 1.19799	1.33989 / 1.26544	1.27838	1.27032	1.34337	AVRG		1.31340		7.90726

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INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
42 Ethyl acetate	+++++	3.04851	2.42637	2.52786	2.63927	2.28385					
	2.53612	2.44165	2.03083				AVRG		2.49181		11.72459
43 Chloroform	3.30621	3.14731	3.01665	2.90405	2.86759	2.92864					
	2.66717	2.60676	2.67703				AVRG		2.90238		8.00209
44 Tetrahydrofuran	1.24924	1.54515	1.32251	1.32671	1.38547	1.18509					
	1.28375	1.24532	1.06309				AVRG		1.28959		10.36046
45 1,1,1-Trichloroethane	3.57945	3.37565	3.31487	3.21150	3.19523	3.27745					
	2.93473	2.88957	2.97428				AVRG		3.19475		7.10010
46 1,2-Dichloroethane	0.44371	0.41722	0.41001	0.39460	0.39871	0.40159					
	0.37099	0.36064	0.36081				AVRG		0.39537		6.96927
49 Cyclohexane	0.19210	0.15652	0.14640	0.13744	0.13307	0.14188					
	0.12468	0.12367	0.12726				AVRG		0.14256		15.06830
48 Benzene	0.89010	0.80730	0.77696	0.74398	0.73310	0.74727					
	0.69743	0.68694	0.68409				AVRG		0.75191		8.79928

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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.73713	0.65084	0.66107	0.63962	0.63646	0.69268					
	0.60572	0.59244	0.61360				AVRG		0.64773		6.98559
51 - 2,3-dimethylpentane	0.24466	0.18939	0.18757	0.17431	0.17338	0.18408					
	0.16429	0.16126	0.16470				AVRG		0.18263		13.94636
47 1-Butanol	+++++	+++++	0.05693	0.06504	0.08195	0.06116					
	0.07918	0.05582	0.06246				AVRG		0.06608		15.76156
52 - Thiophene	0.53321	0.45494	0.44477	0.41651	0.41819	0.43775					
	0.39566	0.39237	0.39462				AVRG		0.43200		10.24958
53 2,2,4-trimethylpentane	1.49821	1.31492	1.34537	1.24913	1.22794	1.26821					
	1.13548	1.11226	1.10267				AVRG		1.25046		10.17567
54 Heptane	0.37634	0.31830	0.31703	0.28959	0.28844	0.29792					
	0.27095	0.26937	0.26756				AVRG		0.29950		11.52499
55 1,2-Dichloropropane	0.31561	0.29415	0.27520	0.26837	0.27090	0.26448					
	0.25327	0.24703	0.23357				AVRG		0.26917		9.15041

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End Cal Date : 16-DEC-2011 19:51
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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
56 Trichloroethene	0.46166	0.38041	0.36774	0.34412	0.34456	0.36458					
	0.32882	0.32972	0.34050				AVRG		0.36246		11.34917
180 ~ 2-nitropropane	+++++	+++++	+++++	0.67760	0.57199	0.50924					
	0.54961	0.53366	0.44038				AVRG		0.54708		14.31353
57 Dibromomethane	0.38205	0.34195	0.32850	0.31131	0.31278	0.32927					
	0.29611	0.29360	0.29454				AVRG		0.32112		8.89225
58 Bromodichloromethane	0.73654	0.66222	0.63466	0.62404	0.63573	0.65878					
	0.60232	0.59673	0.58954				AVRG		0.63784		7.06924
60 Methyl Methacrylate	+++++	0.36384	0.29573	0.30785	0.32861	0.29319					
	0.32289	0.31481	0.26198				AVRG		0.31111		9.58224
59 1,4-dioxane	+++++	0.11373	0.09201	0.09567	0.10035	0.09421					
	0.09764	0.09128	0.08198				AVRG		0.09586		9.44566
61 ~ methyl cyclohexane	0.57069	0.49343	0.49439	0.45808	0.45148	0.47692					
	0.42872	0.42315	0.42946				AVRG		0.46959		9.91899

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
63 cis-1,3-Dichloropropene	0.51688	0.47698	0.44623	0.44728	0.44654	0.44054					
	0.42968	0.41947	0.40040				AVRG		0.44711		7.52405
62 4-Methyl-2-pentanone	+++++	0.55565	0.46682	0.45994	0.45943	0.45497					
	0.45630	0.42836	0.40168				AVRG		0.46039		9.58657
64 trans-1,3-Dichloropropene	0.54788	0.54813	0.50836	0.50606	0.52194	0.50565					
	0.50473	0.49815	0.46070				AVRG		0.51129		5.19861
65 Toluene	1.12910	1.09977	0.98270	0.97264	0.98002	0.92365					
	0.92710	0.91374	0.84143				AVRG		0.97446		9.31580
66 1,1,2-Trichloroethane	0.31762	0.32190	0.28710	0.28835	0.29008	0.27694					
	0.27440	0.27297	0.24956				AVRG		0.28655		7.82668
67 ~ 2-methyl thiophene	0.91835	0.88704	0.79728	0.84632	0.83300	0.78235					
	0.78439	0.77914	0.72080				AVRG		0.81652		7.45359
68 ~ 3-methyl thiophene	0.91493	0.86130	0.80065	0.81697	0.81464	0.78089					
	0.78090	0.77043	0.71295				AVRG		0.80596		7.11838

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Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
69 2-Hexanone	+++++	0.30691	0.21558	0.22876	0.23434	0.23324					
	0.24608	0.23333	0.22067				AVRG		0.23986		11.93089
70 Octane	0.41203	0.37963	0.35313	0.33965	0.34372	0.34309					
	0.32291	0.31870	0.30095				AVRG		0.34598		9.64208
71 Dibromochloromethane	0.66836	0.64318	0.60218	0.61853	0.64518	0.64836					
	0.63894	0.63800	0.61209				AVRG		0.63498		3.22762
72 1,2-Dibromoethane	0.59175	0.56665	0.53027	0.53063	0.54582	0.53556					
	0.53021	0.52928	0.49244				AVRG		0.53918		5.11766
73 Tetrachloroethene	0.47659	0.38636	0.38164	0.36453	0.36153	0.36972					
	0.34505	0.34671	0.33668				AVRG		0.37431		11.16608
75 ~ 2,3-dimethylheptane	1.13261	1.01847	0.92204	0.90346	0.87965	0.84611					
	0.79126	0.73269	0.64385				AVRG		0.87446		16.74443
74 Chlorobenzene	0.90502	0.82887	0.78197	0.76753	0.77945	0.75812					
	0.74637	0.74154	0.69015				AVRG		0.77767		7.78079

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
76 Ethylbenzene	1.25479	1.37734	1.25361	1.25304	1.27506	1.18716					
	1.21653	1.19232	1.05493				AVRG		1.22942		7.01635
77 ~ 2-ethyl thiophene	1.01531	1.06793	0.98022	0.98579	1.01313	0.96087					
	0.97198	0.95227	0.85842				AVRG		0.97844		5.83416
78 m&p-Xylene	0.97096	1.08655	0.97589	0.97987	1.00035	0.92615					
	0.94468	0.91976	0.80510				AVRG		0.95659		7.86647
79 Nonane	+++++	0.70712	0.61278	0.62148	0.63092	0.60007					
	0.58452	0.55477	0.49340				AVRG		0.60063		10.28271
80 Bromoform	+++++	0.62359	0.58449	0.61049	0.65721	0.66388					
	0.67947	0.69547	0.65465				AVRG		0.64616		5.74134
81 Styrene	0.62428	0.70266	0.65341	0.72651	0.76532	0.72876					
	0.74326	0.74710	0.67050				AVRG		0.70687		6.75583
82 o-Xylene	1.04491	1.13489	1.01556	1.03251	1.04070	0.95862					
	0.97876	0.94617	0.82473				AVRG		0.99743		8.60183

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Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
84 1,1,2,2-Tetrachloroethane	0.66696	0.77139	0.65774	0.67571	0.70410	0.65355					
	0.67077	0.65242	0.56385				AVRG		0.66850		8.10097
85 1,2,3-Trichloropropane	0.20704	0.25684	0.22137	0.22499	0.23562	0.21405					
	0.22383	0.22064	0.18900				AVRG		0.22149		8.42874
86 Cumene	1.44306	1.67628	1.44982	1.45938	1.48505	1.37975					
	1.42314	1.38629	1.20215				AVRG		1.43388		8.59021
87 n-Propylbenzene	0.32859	0.41187	0.36487	0.37071	0.39804	0.36589					
	0.38769	0.38184	0.33217				AVRG		0.37130		7.47803
88 2-chlorotoluene	0.36106	0.40598	0.35443	0.35295	0.37071	0.35304					
	0.35354	0.34747	0.31319				AVRG		0.35693		6.76449
89 4-Ethyltoluene	1.17383	1.54738	1.31975	1.39265	1.47825	1.35962					
	1.42497	1.40219	1.19110				AVRG		1.36553		8.99498
90 1,3,5-Trimethylbenzene	0.54170	0.72349	0.62256	0.63668	0.67274	0.61980					
	0.65008	0.64451	0.55910				AVRG		0.63007		8.73085

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Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
91 Alpha-Methylstyrene	+++++	+++++	0.47716	0.52260	0.58545	0.56172					
	0.59256	0.58874	0.51754				AVRG		0.54940		8.07688
92 Decane	+++++	0.63587	0.50127	0.59445	0.72095	0.61293					
	0.68870	0.64798	0.55083				AVRG		0.61912		11.50660
93 tert-butylbenzene	1.05066	1.42598	1.18309	1.20842	1.27555	1.15889					
	1.21642	1.19751	1.04085				AVRG		1.19526		9.65424
94 1,2,4-Trimethylbenzene	+++++	1.25451	1.05408	1.12003	1.18976	1.08924					
	1.14411	1.11975	0.95814				AVRG		1.11620		7.93509
95 sec-butylbenzene	1.36398	1.82814	1.54805	1.60532	1.70704	1.56067					
	1.63047	1.58742	1.35716				AVRG		1.57647		9.47677
96 1,3-Dichlorobenzene	+++++	0.80707	0.69990	0.74626	0.79809	0.76482					
	0.78136	0.77816	0.71872				AVRG		0.76180		4.95022
97 Benzyl Chloride	+++++	1.02657	0.85552	0.95632	1.08486	0.99960					
	1.09430	1.07199	0.90495				AVRG		0.99926		8.77293

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Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
98 1,4-Dichlorobenzene	+++++	0.78535	0.67427	0.72295	0.78407	0.75480					
	0.77810	0.77779	0.71664				AVRG		0.74925		5.42646
99 p-Cymene	+++++	1.46300	1.18790	1.30107	1.42855	1.27870					
	1.36708	1.33242	1.12820				AVRG		1.31086		8.66143
100 ~ 1,2,3- Trimethylbenzene	0.81045	1.08422	0.86770	0.94386	1.02357	0.91605					
	0.96320	0.92749	0.78125				AVRG		0.92420		10.40858
101 ~ n-butylcyclohexane	0.75433	0.94098	0.80872	0.83593	0.88125	0.81506					
	0.80633	0.76429	0.68530				AVRG		0.81024		9.12004
102 ~ Indane	0.92423	1.10597	0.94862	0.97288	1.05068	0.96819					
	0.99386	0.97102	0.84955				AVRG		0.97611		7.44983
103 1,2-Dichlorobenzene	+++++	0.78637	0.66129	0.69669	0.75666	0.71206					
	0.72415	0.71501	0.65413				AVRG		0.71330		6.22998
104 n-butylbenzene	+++++	1.10854	0.89883	1.06295	1.25622	1.11803					
	1.21407	1.16118	0.96237				AVRG		1.09777		11.01227

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
105 - Indene	0.64744	0.76329	0.63339	0.71019	0.80903	0.74451					
	0.78383	0.77719	0.67582				AVRG		0.72719		8.71018
106 Undecane	+++++	+++++	0.37379	0.38443	0.39215	0.46989					
	0.48486	0.54654	0.46435				AVRG		0.44514		14.33353
107 - 1,2-dimethyl-4-ethylenzene	+++++	0.95971	0.70528	0.87607	1.09927	1.00357					
	1.11865	1.06618	0.90848				AVRG		0.96715		14.19354
108 - 1,2,4,5-tetramethylbenzene	+++++	0.75885	0.60649	0.65425	0.85817	0.85271					
	1.06567	0.95042	0.88361				AVRG		0.82877		18.24913
109 - 1,2,3,5-tetramethylbenzene	+++++	0.60392	0.45971	0.50357	0.66205	0.64571					
	0.80393	0.69874	0.65963				AVRG		0.62966		17.27177
110 - 1,2,3,4-tetramethylbenzene	+++++	0.66800	0.47132	0.52264	0.63281	0.68005					
	0.83479	0.65986	0.69522				AVRG		0.64559		17.14953
111 Dodecane	+++++	0.42289	0.25333	0.26313	0.30893	0.38906					
	0.30353	+++++	+++++				AVRG		0.32348		21.12813

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
112 1,2,4-Trichlorobenzene	+++++	0.41811	0.25731	0.28934	0.39661	0.38804					
	0.47584	0.29188	0.38300				AVRG		0.36252		20.74169
113 Napthalene	+++++	0.82275	0.52443	0.58394	0.81077	0.82001					
	0.95712	0.66514	0.76362				AVRG		0.74347		19.17641
114 - benzo(b) thiophene	+++++	0.57832	0.35112	0.37051	0.54305	0.53711					
	0.61197	0.40152	0.49299				AVRG		0.48582		20.43236
115 Hexachlorobutadiene	+++++	0.60286	0.30789	0.39526	0.54282	0.44949					
	0.53571	0.33769	0.43512				AVRG		0.45085		23.01228
116 1,2,3-trichlorobenzene	+++++	15461	15940	43611	149208	289865					
	734551	+++++	+++++				QUAD	0.000e+00	3.58150	-1.77001	0.99916
117 - 2-Methylnaphthalene	+++++	+++++	0.05307	0.04931	0.07384	0.08671					
	0.06388	0.04119	0.06388				AVRG		0.06170		25.03043
118 - 1-Methylnaphthalene	+++++	+++++	0.04606	0.04403	0.06305	0.07272					
	0.05282	0.03480	0.05274				AVRG		0.05232		24.00961

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.67375	0.74336	0.73726	0.73794	0.74355	0.74422					
	0.72578	0.71198	0.70096				AVRG		0.72431		3.36012

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	2/28/12	CCAL Batch/ Scan Name:	G022812	Instrument:	MG	ICAL Batch/ Scan Name:	612161I	Scanned

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		☐ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓		see comment. naph 51 ↓	✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		☐ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓	2/28/12		Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	MH
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				MH
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		☐ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits ☐ [lcs5] LCS outside marginal exceedences high, but analytes were not detected Acrolein 42 ↓ 124 TCBT 48 ↓ IPA 41 ↓ all OK G022414 except hexa. 42 ↓ was ↑47 tert-butanol 42 ↓ 1-butanol 48 ↓ Undecane 44 ↓	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓			NO hexachlorobutadiene	MH
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 2/28/12	2nd Level Reviewer :	Date: 2/29/12
Comments:		Comments:	
Acetonitrile 36 ↓	Dodecane 53 ↓		
Ethyl ether 39 ↓	Naph 51 ↓		
Acrylonitrile 37 ↓	123 TCBT 50 ↓		
Ethyl acetate 34 ↓			
THF 32 ↓			
Methyl Methacrylate 33 ↓			
2-Hexanone 35 ↓			
Decane 37 ↓			

TestAmerica Laboratories, Inc. – Knoxville 57

CANISTER RUN LOG

GCMS Analysis: AIR N4 06 Inst: MG

Analyst: HLS Qtims Batch: 2058169 MQ4UW 2059107 MQ5CP

Date: 2/28/12 ICAL Batch: G121611I Target Batch: G022812 IS #1 Area: 170304

Surr/IS ID & Vol.: 4DMCV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed Daily 2060022 MQ5MG

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0917	✓	tune	GBF6B28	-	16	100	1	TDS only
0953	✓	CCV	CCV	CX2323	15	↓	↓	
0953	✓	LCS	LCS	↓	↓	↓	↓	no hexachlorobutadiene
1101	ok	BLK	Flush	-	16	500		
1201	✓	↓	GB1UB28	.	↓	↓	↓	
1322	✓	H2B230413	MQ2D31AA	04742	1	100	317.19	honey
1419	✓	↓	2D4	12579	2	125	3215.07	5144.11
1517	✓	↓	2D5	0073	3	130	4032.34	6203.6
1616	✓	H2B240429	MQ3HX1AA	C8508	4	200	1	btxs.
1712	✓	↓	3H0	6652	5	↓	↓	
1804	✓		3H1	7516	6			
1901	✓		3H2	92026	7			
2000	✓		3H5	04731	8			
2055	✓		3H7	5H498	9			
2151	✓		3H8	6641	10			
2248	✓		3JD	1426	11			
2344	✓		3JE	1D12N	12			
0039	✓		3JG	2949	13			
0136	✓		3JH	1326	14			
0232	✓		3JL	6765	15			
0326	dup	↓	3JLD	↓	15	↓	↓	
0421	✓	H2B230430	MQ2KE2AA	12738	1	10	12.27	10mL 557.73
0514	✓	H2B230465	MQ2OD1AA	L5126	2	50	1	tetra
0608	✓		20F	SL1227	3			
0705	✓		20G	L5150	4	↓	↓	
0800	✓	↓ ↓	20H ↓	0148	5	↓ 100mL	2/28/12 689.67	100mL 2298.9
				2/29/12				

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 2/29/12

Test America - Knoxville

Entech Autosampler Log

Position	Volume	Date	Time
16	100	2/28/2012	9:17
15	100	2/28/2012	9:53
16	501	2/28/2012	11:01
16	501	2/28/2012	12:01
1	100	2/28/2012	13:22
2	125	2/28/2012	14:19
3	130	2/28/2012	15:17
4	200	2/28/2012	16:16
5	200	2/28/2012	17:12
6	200	2/28/2012	18:04
7	200	2/28/2012	19:01
8	200	2/28/2012	20:00
9	200	2/28/2012	20:55
10	200	2/28/2012	21:51
11	200	2/28/2012	22:48
12	200	2/28/2012	23:44
13	200	2/29/2012	0:39
14	200	2/29/2012	1:36
15	200	2/29/2012	2:31
15	202	2/29/2012	3:26
1	10	2/29/2012	4:21
2	50	2/29/2012	5:14
3	50	2/29/2012	6:08
4	50	2/29/2012	7:05
5	100	2/29/2012	8:00

Data File: /ohem/goms/mg.i/G022812.b/gbfbb28.d

Date : 28-FEB-2012 09:17

Client ID: BFB

Instrument: mg.i

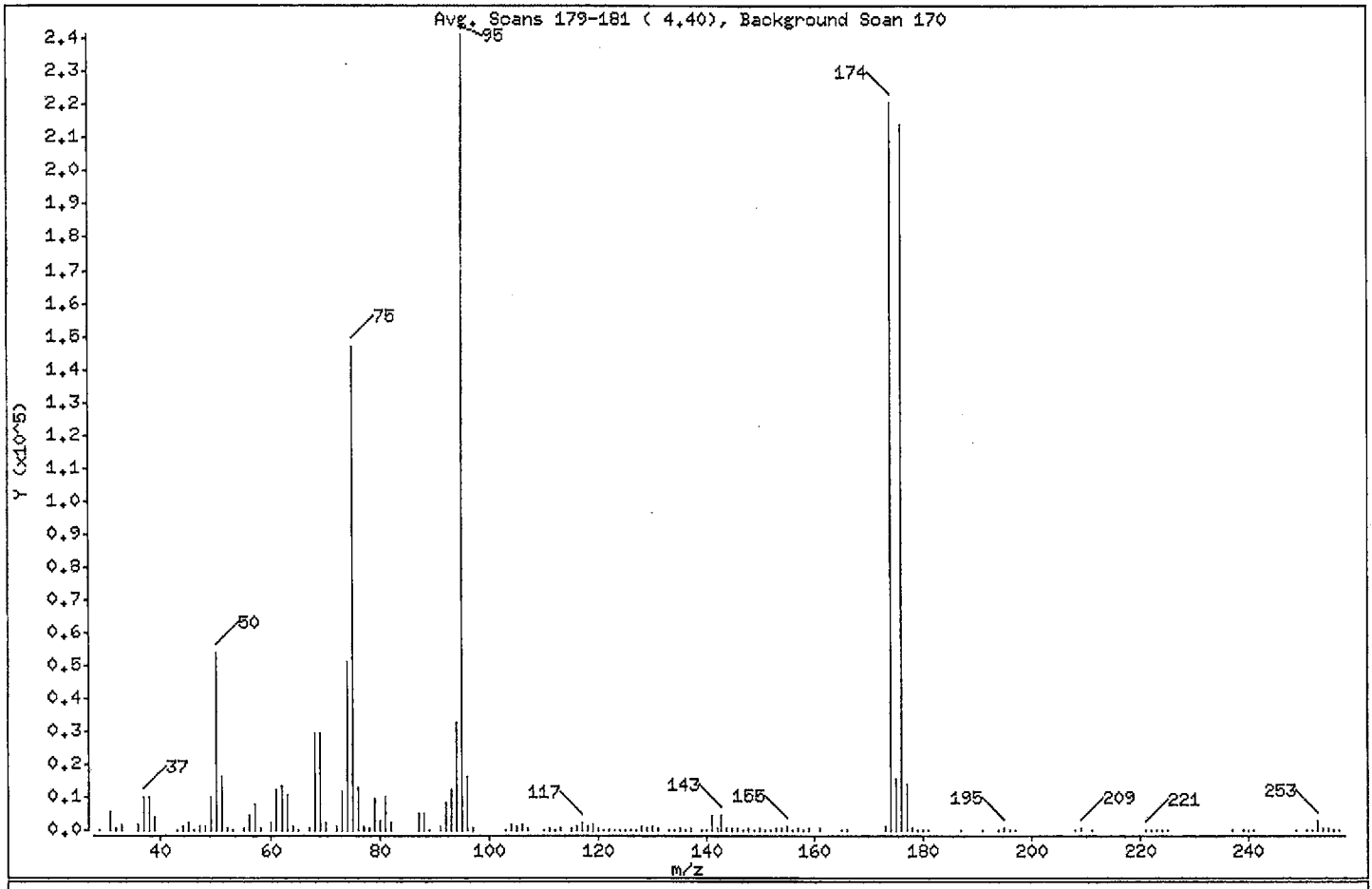
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.30
75	30.00 - 60.00% of mass 95	60.89 *
96	5.00 - 9.00% of mass 95	6.73
173	Less than 2.00% of mass 174	0.45 (0.49)
174	50.00 - 120.00% of mass 95	91.40
175	5.00 - 9.00% of mass 174	6.39 (7.00)
176	95.00 - 101.00% of mass 174	88.68 (97.02)
177	5.00 - 9.00% of mass 176	5.71 (6.44)

Ok
TO15
30-66%
2/28/12 [illegible]

Data File: /var/chem/gcms/mg.i/G022812.b/gccvb28.d
Report Date: 28-Feb-2012 13:08

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvb28.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G022812.b/TO15.m

Injection Date: 28-FEB-2012 09:53
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 4-Bromofluorobenzene	0.72431	0.76636	0.76636	0.000	-5.80472	30.00000	Averaged	
M 83 Xylene (total)	0.97020	0.77028	0.77028	0.000	20.60609	30.00000	Averaged	
5 Chlorodifluoromethane	0.41547	0.50643	0.50643	0.000	-21.89108	30.00000	Averaged	
6 Propene	1.03852	0.93161	0.93161	0.000	10.29377	30.00000	Averaged	
7 Dichlorodifluoromethane	3.83777	4.81658	4.81658	0.000	-25.50465	30.00000	Averaged	
8 Chloromethane	0.37112	0.34274	0.34274	0.000	7.64559	30.00000	Averaged	
9 1,2-Dichlorotetrafluoroetha	2.45669	2.65368	2.65368	0.000	-8.01870	30.00000	Averaged	
10 ~~Methanol~~	0.67928	0.20104	0.20104	0.000	~~70.40439~~	30.00000	Averaged	<- 45
11 ~ ~~acetaldehyde~~	0.17242	0.09357	0.09357	0.000	~~45.73492~~	30.00000	Averaged	<- 50-150
12 Vinyl Chloride	1.31559	1.19773	1.19773	0.000	8.95864	30.00000	Averaged	
13 n-Butane	2.02661	1.67833	1.67833	0.000	17.18566	30.00000	Averaged	
14 1,3-Butadiene	0.95696	0.84897	0.84897	0.000	11.28416	30.00000	Averaged	
15 Bromomethane	1.21489	1.07310	1.07310	0.000	11.67043	30.00000	Averaged	
16 Chloroethane	0.67122	0.54869	0.54869	0.000	18.25522	30.00000	Averaged	
17 ~ ~~ethanol~~	0.37127	0.20439	0.20439	0.000	~~-44.94899~~	30.00000	Averaged	<- 50-150
18 Vinyl Bromide	1.19446	1.06202	1.06202	0.000	11.08742	30.00000	Averaged	
19 2-methyl butane	1.38315	1.12782	1.12782	0.000	18.46037	30.00000	Averaged	
20 Trichlorofluoromethane	3.85194	4.21961	4.21961	0.000	-9.54496	30.00000	Averaged	
21 ~~Acrolein~~	0.37832	0.21960	0.21960	0.000	~~41.95332~~	30.00000	Averaged	<- 60-140 *
22 ~~Acetonitrile~~	0.36980	0.23407	0.23407	0.000	~~36.70419~~	30.00000	Averaged	<- 60-140
25 Pentane	0.24222	0.20937	0.20937	0.000	13.55973	30.00000	Averaged	
23 Acetone	0.45957	0.32694	0.32694	0.000	28.85940	30.00000	Averaged	
24 ~~Isopropyl alcohol~~	1.29096	0.76107	0.76107	0.000	~~41.04573~~	30.00000	Averaged	<- 60-140 *
26 ~~Ethyl Ether~~	1.42656	0.85657	0.85657	0.000	~~39.95593~~	30.00000	Averaged	<- *
27 1,1-Dichloroethene	1.13962	1.03773	1.03773	0.000	8.94030	30.00000	Averaged	
29 ~~Acrylonitrile~~	0.83975	0.53192	0.53192	0.000	~~36.65729~~	30.00000	Averaged	<- 60-140
30 1,1,2-Trichlorotrifluoroeth	2.45969	2.42102	2.42102	0.000	1.57214	30.00000	Averaged	
28 ~~tert-butanol~~	1.57466	0.92077	0.92077	0.000	~~41.52579~~	30.00000	Averaged	<- 60-140 *
31 Methylene Chloride	1.08157	0.94230	0.94230	0.000	12.87710	30.00000	Averaged	
32 3-Chloropropene	1.23611	1.00412	1.00412	0.000	18.76796	30.00000	Averaged	
33 Carbon Disulfide	3.95814	3.68528	3.68528	0.000	6.89363	30.00000	Averaged	
35 ~ 2-Methyl Pentane	3.05541	2.64503	2.64503	0.000	13.43101	30.00000	Averaged	
34 trans-1,2-Dichloroethene	1.38740	1.33731	1.33731	0.000	3.61074	30.00000	Averaged	
36 Methyl-t-Butyl Ether	3.55874	2.82359	2.82359	0.000	20.65758	30.00000	Averaged	
37 1,1-Dichloroethane	2.43948	2.12687	2.12687	0.000	12.81456	30.00000	Averaged	

Data File: /var/chem/gcms/mg.i/G022812.b/gccvb28.d
Report Date: 28-Feb-2012 13:08

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvb28.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G022812.b/TO15.m

Injection Date: 28-FEB-2012 09:53
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
38 Vinyl Acetate	3.02039	2.11027	2.11027	0.000	30.15242	30.00000	Averaged	<-OK
39 2-Butanone	0.54195	0.37944	0.37944	0.000	29.98504	30.00000	Averaged	
40 Hexane	1.15813	0.95509	0.95509	0.000	17.53186	30.00000	Averaged	
41 cis 1,2-Dichloroethene	1.31340	1.16686	1.16686	0.000	11.15742	30.00000	Averaged	
42 Ethyl acetate	2.49181	1.64936	1.64936	0.000	33.80861	30.00000	Averaged	<-60-140
43 Chloroform	2.90238	2.86936	2.86936	0.000	1.13762	30.00000	Averaged	
44 Tetrahydrofuran	1.28959	0.87111	0.87111	0.000	32.45838	30.00000	Averaged	<-60-140
45 1,1,1-Trichloroethane	3.19475	3.58614	3.58614	0.000	-12.25100	30.00000	Averaged	
46 1,2-Dichloroethane	0.39537	0.38843	0.38843	0.000	1.75444	30.00000	Averaged	
49 Cyclohexane	0.14256	0.12402	0.12402	0.000	13.00240	30.00000	Averaged	
48 Benzene	0.75191	0.61714	0.61714	0.000	17.92372	30.00000	Averaged	
50 Carbon Tetrachloride	0.64773	0.72384	0.72384	0.000	-11.75003	30.00000	Averaged	
51 ~ 2,3-dimethylpentane	0.18263	0.15013	0.15013	0.000	17.79647	30.00000	Averaged	
47 1-Butanol	0.06608	0.03449	0.03449	0.000	47.81058	30.00000	Averaged	<-60-140 *
52 ~ Thiophene	0.43200	0.35526	0.35526	0.000	17.76407	30.00000	Averaged	
53 2,2,4-trimethylpentane	1.25046	1.02941	1.02941	0.000	17.67748	30.00000	Averaged	
54 Heptane	0.29950	0.24554	0.24554	0.000	18.01700	30.00000	Averaged	
55 1,2-Dichloropropane	0.26917	0.21118	0.21118	0.000	21.54488	30.00000	Averaged	
56 Trichloroethene	0.36246	0.32087	0.32087	0.000	11.47480	30.00000	Averaged	
180 ~ 2-nitropropane	0.54708	0.38891	0.38891	0.000	28.91202	30.00000	Averaged	
57 Dibromomethane	0.32112	0.29985	0.29985	0.000	6.62356	30.00000	Averaged	
58 Bromodichloromethane	0.63784	0.61343	0.61343	0.000	3.82640	30.00000	Averaged	
60 Methyl Methacrylate	0.31111	0.20812	0.20812	0.000	33.10438	30.00000	Averaged	<-60-140
59 1,4-dioxane	0.09586	0.06990	0.06990	0.000	27.07691	30.00000	Averaged	
61 ~ methyl cyclohexane	0.46959	0.40529	0.40529	0.000	13.69247	30.00000	Averaged	
63 cis-1,3-Dichloropropene	0.44711	0.37808	0.37808	0.000	15.43860	30.00000	Averaged	
62 4-Methyl-2-pentanone	0.46039	0.33970	0.33970	0.000	26.21484	30.00000	Averaged	
64 trans-1,3-Dichloropropene	0.51129	0.42224	0.42224	0.000	17.41731	30.00000	Averaged	
65 Toluene	0.97446	0.74246	0.74246	0.000	23.80779	30.00000	Averaged	
66 1,1,2-Trichloroethane	0.28655	0.22413	0.22413	0.000	21.78191	30.00000	Averaged	
67 ~ 2-methyl thiophene	0.81652	0.63230	0.63230	0.000	22.56137	30.00000	Averaged	
68 ~ 3-methyl thiophene	0.80596	0.63571	0.63571	0.000	21.12371	30.00000	Averaged	
69 2-Hexanone	0.23986	0.15547	0.15547	0.000	35.18546	30.00000	Averaged	<-60-140
70 Octane	0.34598	0.28645	0.28645	0.000	17.20622	30.00000	Averaged	
71 Dibromochloromethane	0.63498	0.57532	0.57532	0.000	9.39606	30.00000	Averaged	

Data File: /var/chem/gcms/mg.i/G022812.b/gccvb28.d
Report Date: 28-Feb-2012 13:08

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvb28.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G022812.b/TO15.m

Injection Date: 28-FEB-2012 09:53
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
72 1,2-Dibromoethane	0.53918	0.43212	0.43212	0.000	19.85599	30.00000	Averaged	
73 Tetrachloroethene	0.37431	0.33461	0.33461	0.000	10.60563	30.00000	Averaged	
75 ~ 2,3-dimethylheptane	0.87446	0.67344	0.67344	0.000	22.98746	30.00000	Averaged	
74 Chlorobenzene	0.77767	0.62791	0.62791	0.000	19.25777	30.00000	Averaged	
76 Ethylbenzene	1.22942	0.97510	0.97510	0.000	20.68657	30.00000	Averaged	
77 ~ 2-ethyl thiophene	0.97844	0.80463	0.80463	0.000	17.76391	30.00000	Averaged	
78 m&p-Xylene	0.95659	0.76750	0.76750	0.000	19.76656	30.00000	Averaged	
79 Nonane	0.60063	0.47267	0.47267	0.000	21.30415	30.00000	Averaged	
80 Bromoform	0.64616	0.58031	0.58031	0.000	10.19068	30.00000	Averaged	
81 Styrene	0.70687	0.54833	0.54833	0.000	22.42815	30.00000	Averaged	
82 o-Xylene	0.99743	0.77584	0.77584	0.000	22.21578	30.00000	Averaged	
84 1,1,2,2-Tetrachloroethane	0.66850	0.46806	0.46806	0.000	29.98393	30.00000	Averaged	
85 1,2,3-Trichloropropane	0.22149	0.17631	0.17631	0.000	20.39706	30.00000	Averaged	
86 Cumene	1.43388	1.11043	1.11043	0.000	22.55773	30.00000	Averaged	
87 n-Propylbenzene	0.37130	0.28835	0.28835	0.000	22.33937	30.00000	Averaged	
88 2-chlorotoluene	0.35693	0.28407	0.28407	0.000	20.41285	30.00000	Averaged	
89 4-Ethyltoluene	1.36553	1.05137	1.05137	0.000	23.00620	30.00000	Averaged	
90 1,3,5-Trimethylbenzene	0.63007	0.46816	0.46816	0.000	25.69794	30.00000	Averaged	
91 Alpha-Methylstyrene	0.54940	0.40750	0.40750	0.000	25.82710	30.00000	Averaged	
~~92 Decane~~	0.61912	0.39158	0.39158	0.000	~~36.75293~~	30.00000	Averaged	<- 60-140
93 tert-butylbenzene	1.19526	0.90591	0.90591	0.000	24.20828	30.00000	Averaged	
94 1,2,4-Trimethylbenzene	1.11620	0.83500	0.83500	0.000	25.19236	30.00000	Averaged	
95 sec-butylbenzene	1.57647	1.17816	1.17816	0.000	25.26602	30.00000	Averaged	
96 1,3-Dichlorobenzene	0.76180	0.59576	0.59576	0.000	21.79542	30.00000	Averaged	
97 Benzyl Chloride	0.99926	0.74294	0.74294	0.000	25.65147	30.00000	Averaged	
98 1,4-Dichlorobenzene	0.74925	0.58334	0.58334	0.000	22.14310	30.00000	Averaged	
99 p-Cymene	1.31086	0.95378	0.95378	0.000	27.24057	30.00000	Averaged	
100 ~ 1,2,3- Trimethylbenzene	0.92420	0.68701	0.68701	0.000	25.66473	30.00000	Averaged	
101 ~ n-butylcyclohexane	0.81024	0.58789	0.58789	0.000	27.44289	30.00000	Averaged	
102 ~ Indane	0.97611	0.71009	0.71009	0.000	27.25295	30.00000	Averaged	
103 1,2-Dichlorobenzene	0.71330	0.52809	0.52809	0.000	25.96442	30.00000	Averaged	
104 n-butylbenzene	1.09777	0.78872	0.78872	0.000	28.15304	30.00000	Averaged	
~~105 ~ Indene~~	0.72719	0.50607	0.50607	0.000	~~30.40735~~	30.00000	Averaged	<-OK
~~106 Undecane~~	0.44514	0.24786	0.24786	0.000	~~44.31927~~	30.00000	Averaged	<- 60-140 OK
107 ~~~ 1,2-dimethyl-4-ethylenzen~~	0.96715	0.66156	0.66156	0.000	~~31.59791~~	30.00000	Averaged	<-OK
108 ~~~ 1,4,4,5-Tetramethylbenzen~~	0.82877	0.51167	0.51167	0.000	~~38.26154~~	30.00000	Averaged	<-OK

Data File: /var/chem/gcms/mg.i/G022812.b/gccvb28.d
Report Date: 28-Feb-2012 13:08

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvb28.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G022812.b/TO15.m

Injection Date: 28-FEB-2012 09:53
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.62966	0.38247	0.38247	0.000	39.25824	30.00000	Averaged	<- OK
110 ~ 1,2,3,4-tetramethylbenzen	0.64559	0.37778	0.37778	0.000	41.48324	30.00000	Averaged	<- OK
111 Dodecane	0.32348	0.15272	0.15272	0.000	52.78731	30.00000	Averaged	<- 40-140
112 1,2,4-Trichlorobenzene	0.36252	0.18726	0.18726	0.000	48.34350	30.00000	Averaged	<- 60-140 *
113 Napthalene	0.74347	0.36628	0.36628	0.000	50.73349	30.00000	Averaged	<- 40-140
114 ~ benzo(b) thiophene	0.48582	0.21866	0.21866	0.000	54.99858	30.00000	Averaged	<- 50-150 *
115 Hexachlorobutadiene	0.45085	0.25965	0.25965	0.000	42.41012	30.00000	Averaged	<- 60-140 *
116 1,2,3-trichlorobenzene	1.00448	2.00000	0.14546	0.000	49.77603	30.00000	Quadratic	<- 40-140
117 ~ 2-Methylnaphthalene	0.06170	0.04743	0.04743	0.000	23.13041	30.00000	Averaged	
118 ~ 1-Methylnaphthalene	0.05232	0.04006	0.04006	0.000	23.43304	30.00000	Averaged	

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2B290000 - 022B **Work Order #** MQ5MG1AA **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	02/28/2012	**Analysis Time....:**	02/28/2012
Prep Batch #.....:	2060022	**Analysis Time....:**	12:01
Dilution Factor.:	1	**Method.....:**	TO-15

Inst. MG

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.038 J**	**0.20**	**0.018**	**0.13 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	110	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2B290000 - 022C **Work Order #** MQ5MG1AC **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	02/28/2012	**Analysis Time....:**	02/28/2012
Prep Batch #.....:	2060022	**Analysis Time....:**	09:53
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.10	16.0	13.1	82	70 - 130
Carbon tetrachloride	5.00	5.59	31.5	35.2	112	70 - 130
Chlorodifluoromethane	5.00	6.09	17.7	21.6	122	60 - 140
Chloroform	5.00	4.94	24.4	24.1	99	70 - 130
Dichlorodifluoromethane	5.00	6.28	24.7	31.0	126	60 - 140
1,1-Dichloroethane	5.00	4.36	20.2	17.6	87	70 - 130
1,2-Dichloroethane	5.00	4.91	20.2	19.9	98	70 - 130
cis-1,2-Dichloroethene	5.00	4.44	19.8	17.6	89	70 - 130
trans-1,2-Dichloroethene	5.00	4.82	19.8	19.1	96	70 - 130
1,1-Dichloroethene	5.00	4.55	19.8	18.1	91	70 - 130
Ethylbenzene	5.00	3.97	21.7	17.2	79	70 - 130
Methylene chloride	5.00	4.36	17.4	15.1	87	70 - 130
Methyl tert-butyl ether	5.00	3.97	18.0	14.3	79	60 - 140
Naphthalene	5.00	2.46	26.2	12.9	49	40 - 140
Tetrachloroethene	5.00	4.47	33.9	30.3	89	70 - 130
Toluene	5.00	3.81	18.8	14.4	76	70 - 130
1,2,4-Trichlorobenzene	5.00	2.58	37.1	19.2 a ME	52 a ME	60 - 140
1,1,1-Trichloroethane	5.00	5.61	27.3	30.6	112	70 - 130
1,1,2-Trichloroethane	5.00	3.91	27.3	21.3	78	70 - 130
Trichloroethene	5.00	4.43	26.9	23.8	89	70 - 130
1,2,3-Trimethylbenzene	5.00	3.86	24.6	19.0	77	20 - 180
1,2,4-Trimethylbenzene	5.00	3.74	24.6	18.4	75	70 - 130
1,3,5-Trimethylbenzene	5.00	3.72	24.6	18.3	74	70 - 130
Vinyl chloride	5.00	4.55	12.8	11.6	91	70 - 130
Xylenes (total)	15.0	11.9	65.1	51.7	79	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

Qualifiers

a	Spiked analyte recovery is outside stated control limits.
ME	The percent recovery of the analyte is outside the control limits but within marginal exceedance limits.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

TestAmerica Laboratories, Inc. – Knoxville 61
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MG

Analyst: _____ Qtims Batch: 2062175 MQ70J 2065/35 MQ8R5

Date: 3/5/12 ICAL Batch: G/216/1I Target Batch: G0305/2A IS #1 Area: 137917

Surr/IS ID & Vol.: 40ml V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily _____

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1158	✓	tune	GBFBC05	–	16	100	1	
1228	✓	cw	CW	CX2323	14			(N) 124tclbz & Napth
1228	✓	les	LES					
1325	ok	Blk	flush	–	16	500		N for tetra
1421	200ml	✓ lot 9757	GBlkC05	1426	16			ok 200ml
1514	200ml	lot ✓	9760	S1494	STD	500		
1609	✓		9762	1006	1			use as daily.
1707	✓		9763	1531	2			
1804	✓		9764	6362	3			500 Methanol.
1900	✓	H2B230465	MQ20T1AA	L8183	4	20	3.13	tetra
1957	✓		20W	L4151	5	10	3.67	10ml
2053	✓		✓ 202	L6114	6	50	1	
2148	✓		203	LA7072	7	218	4.36	
2239	✓		✓ 204	L5189	8	10	3.29	10ml 3/6/12
2330	✓		✓ 205	L3840	9	50	1	
0021	✓		✓ 206	LA6910	10	25	9.97	199.4
0112	✓		✓ 207	LA7116	11	148.5	2.97	
0202	✓	H2B280420	MQ45J1AA	1321N	12	200	1	btex
0253	✓		455	1014N	13			
0343	✓		456	92009	14			
0433	✓		457	1146	15	446	2.23	
0524	dup		457D		15			
0615	✓		46A1AA	7513	1	200	1	
0706	✓		46C	7512	2			
0756	✓		46D	S-1493	3			
NO Run			46F	6353	4			
			46H	12342	5			
			46J	62352	6			3/6/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 3/6/12

Test America - Knoxville

Entech Autosampler Log

Position	Volume		Date	Time
16	101		3/5/2012	11:58
14	101		3/5/2012	12:28
16	500		3/5/2012	13:25
16	501		3/5/2012	14:21
16	0	500(Std)	3/5/2012	15:14
1	501		3/5/2012	16:09
2	502		3/5/2012	17:06
3	500		3/5/2012	18:04
4	20		3/5/2012	19:00
5	10		3/5/2012	19:57
6	50		3/5/2012	20:53
7	218		3/5/2012	21:48
8	10		3/5/2012	22:39
9	50		3/5/2012	23:29
10	25		3/6/2012	0:21
11	150		3/6/2012	1:12
12	202		3/6/2012	2:02
13	200		3/6/2012	2:53
14	202		3/6/2012	3:43
15	200		3/6/2012	4:33
15	200		3/6/2012	5:24
1	200		3/6/2012	6:14
2	200		3/6/2012	7:06
3	200		3/6/2012	7:56

Data File: /chem/gcms/mg.i/G030512A.b/gbfbo05.d

Date : 05-MAR-2012 11:58

Client ID: BFB

Instrument: mg.i

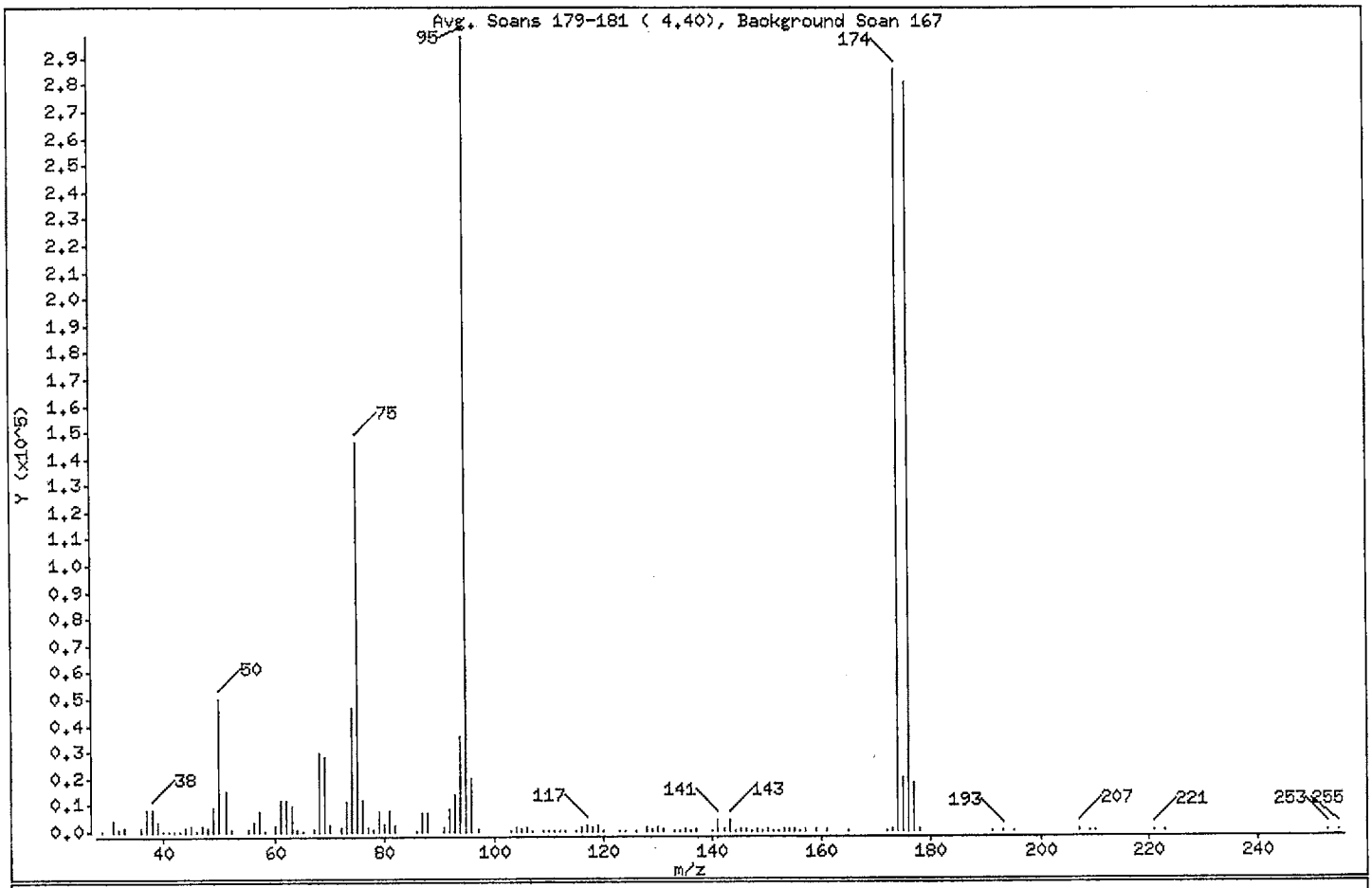
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	16.89
75	30.00 - 60.00% of mass 95	48.88
96	5.00 - 9.00% of mass 95	6.67
173	Less than 2.00% of mass 174	0.31 (0.33)
174	50.00 - 120.00% of mass 95	95.95
175	5.00 - 9.00% of mass 174	6.72 (7.01)
176	95.00 - 101.00% of mass 174	94.30 (98.28)
177	5.00 - 9.00% of mass 176	6.04 (6.40)

Data File: /var/chem/gcms/mg.i/G030512A.b/gccvc05.d
Report Date: 05-Mar-2012 13:03

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G030512A.b/TO15.m

Injection Date: 05-MAR-2012 12:28
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 4-Bromofluorobenzene	0.72431	0.75281	0.75281	0.000	-3.93382	30.00000	Averaged	
M 83 Xylene (total)	0.97020	0.80803	0.80803	0.000	16.71581	30.00000	Averaged	
5 Chlorodifluoromethane	0.41547	0.50912	0.50912	0.000	-22.53934	30.00000	Averaged	
6 Propene	1.03852	1.00020	1.00020	0.000	3.68979	30.00000	Averaged	
7 Dichlorodifluoromethane	3.83777	5.15004	5.15004	0.000	-34.19351	30.00000	Averaged	<-60-140
8 Chloromethane	0.37112	0.34614	0.34614	0.000	6.73077	30.00000	Averaged	
9 1,2-Dichlorotetrafluoroetha	2.45669	2.93120	2.93120	0.000	-19.31522	30.00000	Averaged	
10 Methanol	0.67928	0.17351	0.17351	0.000	-74.46675	30.00000	Averaged	<-NA
11 Acetaldehyde	0.17242	0.09064	0.09064	0.000	-47.43011	30.00000	Averaged	<-NA
12 Vinyl Chloride	1.31559	1.21613	1.21613	0.000	7.56069	30.00000	Averaged	
13 n-Butane	2.02661	1.64546	1.64546	0.000	18.80733	30.00000	Averaged	
14 1,3-Butadiene	0.95696	0.88774	0.88774	0.000	7.23287	30.00000	Averaged	
15 Bromomethane	1.21489	1.13724	1.13724	0.000	6.39098	30.00000	Averaged	
16 Chloroethane	0.67122	0.54612	0.54612	0.000	18.63768	30.00000	Averaged	
17 Ethanol	0.37127	0.18242	0.18242	0.000	-50.86751	30.00000	Averaged	<-20-180
18 Vinyl Bromide	1.19446	1.10761	1.10761	0.000	7.27067	30.00000	Averaged	
19 2-methyl butane	1.38315	1.17137	1.17137	0.000	15.31154	30.00000	Averaged	
20 Trichlorofluoromethane	3.85194	3.75411	3.75411	0.000	2.53981	30.00000	Averaged	
21 Acrolein	0.37832	0.23640	0.23640	0.000	-37.51240	30.00000	Averaged	<-60-140
22 Acetonitrile	0.36980	0.21501	0.21501	0.000	-41.85056	30.00000	Averaged	<- ↓
25 Pentane	0.24222	0.22281	0.22281	0.000	8.01029	30.00000	Averaged	
23 Acetone	0.45957	0.37759	0.37759	0.000	17.83838	30.00000	Averaged	
24 Isopropyl alcohol	1.29096	0.90414	0.90414	0.000	29.96368	30.00000	Averaged	
26 Ethyl Ether	1.42656	0.76561	0.76561	0.000	-46.33182	30.00000	Averaged	<-60-140
27 1,1-Dichloroethene	1.13962	1.15488	1.15488	0.000	-1.33911	30.00000	Averaged	
29 Acrylonitrile	0.83975	0.55850	0.55850	0.000	-33.49196	30.00000	Averaged	<-60-140
30 1,1,2-Trichlorotrifluoroeth	2.45969	2.26223	2.26223	0.000	8.02789	30.00000	Averaged	
28 tert-butanol	1.57466	1.73749	1.73749	0.000	-10.34101	30.00000	Averaged	
31 Methylene Chloride	1.08157	0.97100	0.97100	0.000	10.22371	30.00000	Averaged	
32 3-Chloropropene	1.23611	0.85421	0.85421	0.000	-30.89561	30.00000	Averaged	<-60-140
33 Carbon Disulfide	3.95814	3.94612	3.94612	0.000	0.30354	30.00000	Averaged	
35 ~ 2-Methyl Pentane	3.05541	2.54451	2.54451	0.000	16.72089	30.00000	Averaged	
34 trans-1,2-Dichloroethene	1.38740	1.42256	1.42256	0.000	-2.53356	30.00000	Averaged	
36 Methyl-t-Butyl Ether	3.55874	2.83686	2.83686	0.000	20.28459	30.00000	Averaged	
37 1,1-Dichloroethane	2.43948	2.09777	2.09777	0.000	14.00775	30.00000	Averaged	

Data File: /var/chem/gcms/mg.i/G030512A.b/gccvc05.d
Report Date: 05-Mar-2012 13:03

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G030512A.b/TO15.m

Injection Date: 05-MAR-2012 12:28
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
38 ~~Vinyl Acetate~~	3.02039	1.94996	1.94996	0.000	~~25.44008~~	30.00000	Averaged	<-60140
39 2-Butanone	0.54195	0.43979	0.43979	0.000	18.85048	30.00000	Averaged	
40 Hexane	1.15813	1.01814	1.01814	0.000	12.08766	30.00000	Averaged	
41 cis 1,2-Dichloroethene	1.31340	1.30921	1.30921	0.000	0.31879	30.00000	Averaged	
42 Ethyl acetate	2.49181	1.83171	1.83171	0.000	26.49054	30.00000	Averaged	
43 Chloroform	2.90238	2.83054	2.83054	0.000	2.47511	30.00000	Averaged	
~~44 Tetrahydrofuran~~	1.28959	0.88258	0.88258	0.000	~~31.56091~~	30.00000	Averaged	<-60140
45 1,1,1-Trichloroethane	3.19475	3.55096	3.55096	0.000	-11.14996	30.00000	Averaged	
46 1,2-Dichloroethane	0.39537	0.37611	0.37611	0.000	4.87048	30.00000	Averaged	
49 Cyclohexane	0.14256	0.13505	0.13505	0.000	5.26575	30.00000	Averaged	
48 Benzene	0.75191	0.65838	0.65838	0.000	12.43834	30.00000	Averaged	
50 Carbon Tetrachloride	0.64773	0.76480	0.76480	0.000	-18.07456	30.00000	Averaged	
51 ~ 2,3-dimethylpentane	0.18263	0.17004	0.17004	0.000	6.89409	30.00000	Averaged	
47 1-Butanol	0.06608	0.05360	0.05360	0.000	18.88380	30.00000	Averaged	
52 ~ Thiophene	0.43200	0.39963	0.39963	0.000	7.49370	30.00000	Averaged	
53 2,2,4-trimethylpentane	1.25046	1.26616	1.26616	0.000	-1.25507	30.00000	Averaged	
54 Heptane	0.29950	0.28157	0.28157	0.000	5.98646	30.00000	Averaged	
55 1,2-Dichloropropane	0.26917	0.22644	0.22644	0.000	15.87615	30.00000	Averaged	
56 Trichloroethene	0.36246	0.44783	0.44783	0.000	-23.55317	30.00000	Averaged	
180 ~ 2-nitropropane	0.54708	0.40548	0.40548	0.000	25.88313	30.00000	Averaged	
57 Dibromomethane	0.32112	0.34361	0.34361	0.000	-7.00178	30.00000	Averaged	
58 Bromodichloromethane	0.63784	0.67078	0.67078	0.000	-5.16498	30.00000	Averaged	
60 Methyl Methacrylate	0.31111	0.24152	0.24152	0.000	22.36801	30.00000	Averaged	
59 1,4-dioxane	0.09586	0.09459	0.09459	0.000	1.32267	30.00000	Averaged	
61 ~ methyl cyclohexane	0.46959	0.48046	0.48046	0.000	-2.31427	30.00000	Averaged	
63 cis-1,3-Dichloropropene	0.44711	0.39190	0.39190	0.000	12.34768	30.00000	Averaged	
62 4-Methyl-2-pentanone	0.46039	0.42406	0.42406	0.000	7.89172	30.00000	Averaged	
64 trans-1,3-Dichloropropene	0.51129	0.39002	0.39002	0.000	23.71771	30.00000	Averaged	
65 Toluene	0.97446	0.76054	0.76054	0.000	21.95260	30.00000	Averaged	
66 1,1,2-Trichloroethane	0.28655	0.22930	0.22930	0.000	19.97886	30.00000	Averaged	
67 ~ 2-methyl thiophene	0.81652	0.71299	0.71299	0.000	12.67928	30.00000	Averaged	
68 ~ 3-methyl thiophene	0.80596	0.66916	0.66916	0.000	16.97426	30.00000	Averaged	
69 2-Hexanone	0.23986	0.22216	0.22216	0.000	7.38142	30.00000	Averaged	
70 Octane	0.34598	0.32439	0.32439	0.000	6.24124	30.00000	Averaged	
71 Dibromochloromethane	0.63498	0.62791	0.62791	0.000	1.11299	30.00000	Averaged	

Data File: /var/chem/gcms/mg.i/G030512A.b/gccvc05.d
Report Date: 05-Mar-2012 13:03

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G030512A.b/TO15.m

Injection Date: 05-MAR-2012 12:28
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
72 1,2-Dibromoethane	0.53918	0.44589	0.44589	0.000	17.30255	30.00000	Averaged
73 Tetrachloroethene	0.37431	0.39913	0.39913	0.000	-6.63052	30.00000	Averaged
75 ~ 2,3-dimethylheptane	0.87446	0.63846	0.63846	0.000	26.98856	30.00000	Averaged
74 Chlorobenzene	0.77767	0.67937	0.67937	0.000	12.63996	30.00000	Averaged
76 Ethylbenzene	1.22942	1.00815	1.00815	0.000	17.99772	30.00000	Averaged
77 ~ 2-ethyl thiophene	0.97844	0.82582	0.82582	0.000	15.59756	30.00000	Averaged
78 m&p-Xylene	0.95659	0.79613	0.79613	0.000	16.77359	30.00000	Averaged
79 Nonane	0.60063	0.47959	0.47959	0.000	20.15228	30.00000	Averaged
80 Bromoform	0.64616	0.59931	0.59931	0.000	7.24961	30.00000	Averaged
81 Styrene	0.70687	0.56901	0.56901	0.000	19.50307	30.00000	Averaged
82 o-Xylene	0.99743	0.83181	0.83181	0.000	16.60432	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.66850	0.55344	0.55344	0.000	17.21132	30.00000	Averaged
85 1,2,3-Trichloropropane	0.22149	0.20150	0.20150	0.000	9.02132	30.00000	Averaged
86 Cumene	1.43388	1.20638	1.20638	0.000	15.86589	30.00000	Averaged
87 n-Propylbenzene	0.37130	0.35187	0.35187	0.000	5.23258	30.00000	Averaged
88 2-chlorotoluene	0.35693	0.32879	0.32879	0.000	7.88308	30.00000	Averaged
89 4-Ethyltoluene	1.36553	1.21698	1.21698	0.000	10.87845	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.63007	0.60068	0.60068	0.000	4.66590	30.00000	Averaged
91 Alpha-Methylstyrene	0.54940	0.50096	0.50096	0.000	8.81641	30.00000	Averaged
92 Decane	0.61912	0.49920	0.49920	0.000	19.36955	30.00000	Averaged
93 tert-butylbenzene	1.19526	1.13843	1.13843	0.000	4.75508	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.11620	0.99330	0.99330	0.000	11.01069	30.00000	Averaged
95 sec-butylbenzene	1.57647	1.38236	1.38236	0.000	12.31308	30.00000	Averaged
96 1,3-Dichlorobenzene	0.76180	0.73061	0.73061	0.000	4.09432	30.00000	Averaged
97 Benzyl Chloride	0.99926	0.93213	0.93213	0.000	6.71787	30.00000	Averaged
98 1,4-Dichlorobenzene	0.74925	0.71400	0.71400	0.000	4.70428	30.00000	Averaged
99 p-Cymene	1.31086	1.24753	1.24753	0.000	4.83181	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.92420	0.85364	0.85364	0.000	7.63505	30.00000	Averaged
101 ~ n-butylcyclohexane	0.81024	0.61173	0.61173	0.000	24.49988	30.00000	Averaged
102 ~ Indane	0.97611	0.90919	0.90919	0.000	6.85612	30.00000	Averaged
103 1,2-Dichlorobenzene	0.71330	0.69035	0.69035	0.000	3.21710	30.00000	Averaged
104 n-butylbenzene	1.09777	1.00651	1.00651	0.000	8.31371	30.00000	Averaged
105 ~ Indene	0.72719	0.67775	0.67775	0.000	6.79850	30.00000	Averaged
106 Undecane	0.44514	0.57759	0.57759	0.000	-29.75358	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96715	1.04590	1.04590	0.000	-8.14255	30.00000	Averaged
108 ~~~ 1,2,4,5-tetramethylbenzen	0.82877	1.11862	1.11862	0.000	~~-34.97548~~	30.00000	Averaged <-OK

Data File: /var/chem/gcms/mg.i/G030512A.b/gccvc05.d
Report Date: 05-Mar-2012 13:03

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G030512A.b/TO15.m

Injection Date: 05-MAR-2012 12:28
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
~~109 ~ 1,2,3,5-tetramethylbenzen~~	0.62966	0.83602	0.83602	0.000	~~-32.77299~~	30.00000	Averaged	<-Ok
~~110 ~ 1,2,3,4-tetramethylbenzen~~	0.64559	0.95779	0.95779	0.000	~~-48.36007~~	30.00000	Averaged	<-Ok
~~111 Dodecane~~	0.32348	0.60033	0.60033	0.000	~~-85.58617~~	30.00000	Averaged	<-NA
112 1,2,4-Trichlorobenzene	0.36252	0.59702	0.59702	0.000	-64.68651	30.00000	Averaged	<-60-140 (*)
113 Napthalene	0.74347	1.16729	1.16729	0.000	-57.00517	30.00000	Averaged	<-40-140 (**)
~~114 ~ benzo(b) thiophene~~	0.48582	0.71457	0.71457	0.000	~~-47.08472~~	30.00000	Averaged	<-Ok
115 ~~Hexachlorobutadiene~~	0.45085	0.62360	0.62360	0.000	~~-38.31466~~	30.00000	Averaged	<-60-140
~~116 1,2,3-trichlorobenzene~~	3.38822	2.00000	0.54694	0.000	~~-69.41118~~	30.00000	Quadratic	<-40-140 (**)
117 ~ 2-Methylnaphthalene	0.06170	0.18520	0.18520	0.000	-200	30.00000	Averaged	<-Ok
118 ~ 1-Methylnaphthalene	0.05232	0.15229	0.15229	0.000	-191	30.00000	Averaged	<-Ok

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C020000 - 175B **Work Order #** MQ70J1AA **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/05/2012
Prep Batch #.....:	2062175	**Analysis Time....:**	16:09
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	**0.070 J**	**0.080**	**0.015**	**0.25 J**	**0.28**	**0.053**
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.038 J**	**0.20**	**0.018**	**0.13 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	111	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C020000 - 175C **Work Order #** MQ70J1AC **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time....:**	03/05/2012
Prep Batch #.....:	2062175	**Analysis Time....:**	12:28
Dilution Factor.:	1	**Method.....:**	TO-15

INSTR. MG

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.38	16.0	14.0	88	70 - 130
Carbon tetrachloride	5.00	5.90	31.5	37.1	118	70 - 130
Chlorodifluoromethane	5.00	6.13	17.7	21.7	123	60 - 140
Chloroform	5.00	4.88	24.4	23.8	98	70 - 130
Dichlorodifluoromethane	5.00	6.71	24.7	33.2	134	60 - 140
1,1-Dichloroethane	5.00	4.30	20.2	17.4	86	70 - 130
1,2-Dichloroethane	5.00	4.76	20.2	19.2	95	70 - 130
cis-1,2-Dichloroethene	5.00	4.98	19.8	19.8	100	70 - 130
trans-1,2-Dichloroethene	5.00	5.13	19.8	20.3	103	70 - 130
1,1-Dichloroethene	5.00	5.07	19.8	20.1	101	70 - 130
Ethylbenzene	5.00	4.10	21.7	17.8	82	70 - 130
Methylene chloride	5.00	4.49	17.4	15.6	90	70 - 130
Methyl tert-butyl ether	5.00	3.99	18.0	14.4	80	60 - 140
Naphthalene	5.00	7.85	26.2	41.2 a	157 a	40 - 140
Tetrachloroethene	5.00	5.33	33.9	36.2	107	70 - 130
Toluene	5.00	3.90	18.8	14.7	78	70 - 130
1,2,4-Trichlorobenzene	5.00	8.23	37.1	61.1 a	165 a	60 - 140
1,1,1-Trichloroethane	5.00	5.56	27.3	30.3	111	70 - 130
1,1,2-Trichloroethane	5.00	4.00	27.3	21.8	80	70 - 130
Trichloroethene	5.00	6.18	26.9	33.2	124	70 - 130
1,2,3-Trimethylbenzene	5.00	4.80	24.6	23.6	96	20 - 180
1,2,4-Trimethylbenzene	5.00	4.45	24.6	21.9	89	70 - 130
1,3,5-Trimethylbenzene	5.00	4.77	24.6	23.4	95	70 - 130
Vinyl chloride	5.00	4.62	12.8	11.8	92	70 - 130
Xylenes (total)	15.0	12.5	65.1	54.2	83	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

a Spiked analyte recovery is outside stated control limits.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	2/24/12	Instrument::	MS	ICAL Batch/Scan Name:	J022412I	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad		✓			✓
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓		acetaldehyde 64% quad 1-methylnaph 50% linear 2-methylnaph 50% linear	✓
11. If curves were used, is correlation coefficient ≥0.990?		✓			✓
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.		✓			✓
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).		✓			✓
14. Is the "Y" intercept less than the RL for each curve?		✓			✓
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?	✓				✓
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			-
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)		✓		ICV 257% acetaldehyde.	✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 2/27/12	2nd Level Reviewer :	Date: 2/27/12
Comments:		Comments: OK for lower MW RL's	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Inst: MJ

Analyst: HMT Qtims Batch: ICAL

Date: 2/24/12 ICAL Batch: J022412I Target Batch: J022412I IS #1 Area: 668304

Surr/IS ID & Vol.: 40ml V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1418	✓	tune	JBFBB24	—	16	100	1	
1448	✓	MDL ✓	JMDLB24	CX2331	1	50		
1541	✓	ICAL 1	JICB241		1	100		
1633	✓	2	2		1	200		
1726	✓	3	3	CX2329	3	100		
1818	✓	4	4		3	200		
1909	✓	5	5	CX2327	5	100		
1959	✓	6	6		5	200		
2050	✓	7	7	CX2326	6			
2144	✓	8	8	CX2325	7			
2237	✓	9	9	CX2324	8			
2333	OK	blk	blk1	—	16	200		
0025	✓	ICV	JICVB24	CX2321	9	100		
0120	OK	LCS	LCS		9	200		
0215	OK	Blk	Blk	—	16	500		

JB 2/25/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: JB Date: 2/25/12

MS027r16.DOC, 051210

Test America - Knoxville

Entech Autosampler Log

Position	Volume	Date	Time
16	101	2/24/2012	14:18
1	50	2/24/2012	14:48
1	101	2/24/2012	15:41
1	201	2/24/2012	16:33
3	100	2/24/2012	17:26
3	202	2/24/2012	18:18
5	101	2/24/2012	19:09
5	200	2/24/2012	19:59
6	201	2/24/2012	20:50
7	201	2/24/2012	21:44
8	200	2/24/2012	22:37
16	201	2/24/2012	23:33
9	100	2/25/2012	0:25
9	202	2/25/2012	1:20
16	501	2/25/2012	2:15

Data File: /chem/gcms/mj.i/J022412I.b/jbfbb24.d

Date : 24-FEB-2012 14:18

Client ID: BFB

Instrument: mj.i

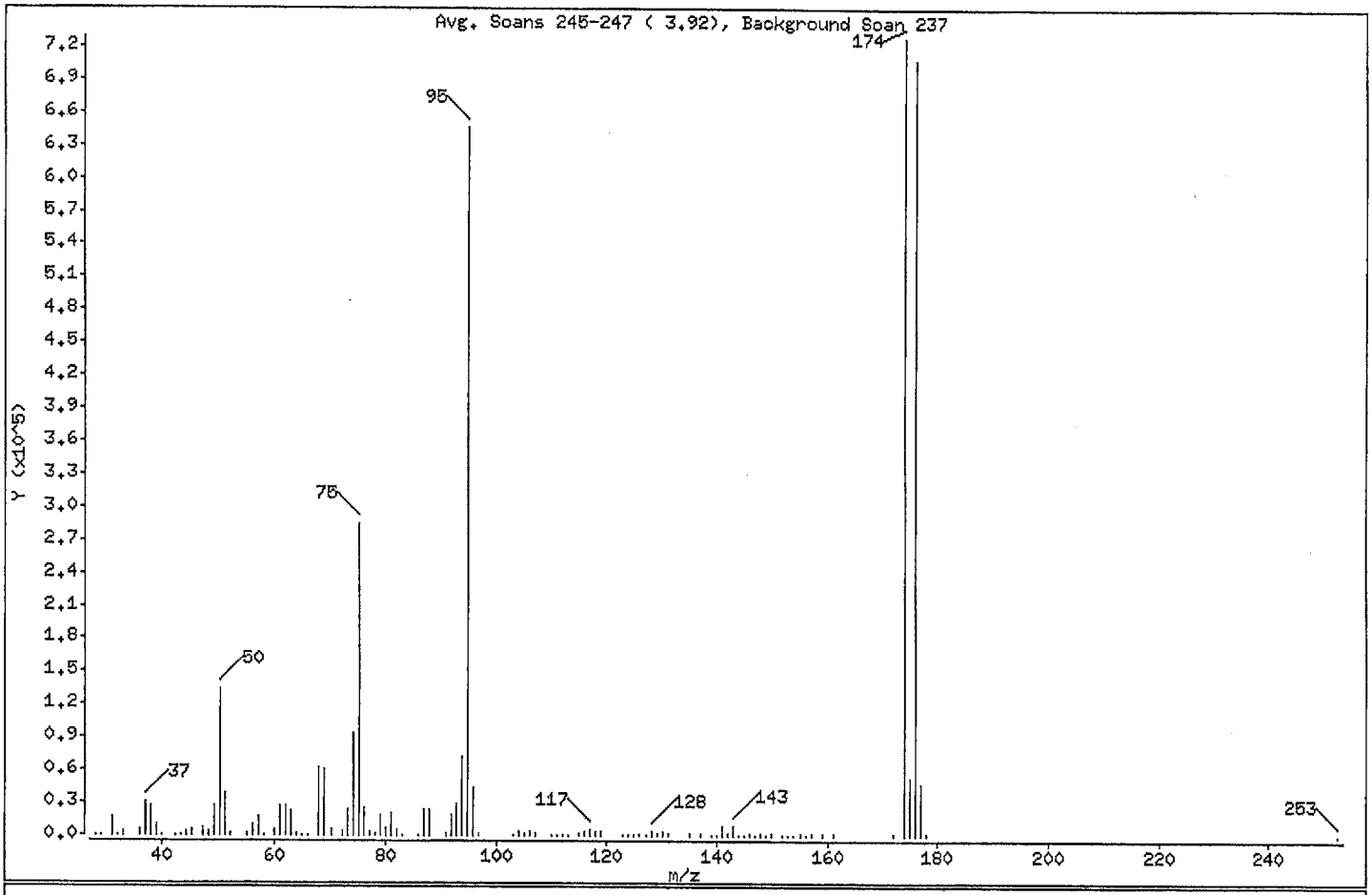
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.63
75	30.00 - 60.00% of mass 95	44.19
96	5.00 - 9.00% of mass 95	6.80
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	112.74
175	5.00 - 9.00% of mass 174	8.01 (7.11)
176	95.00 - 101.00% of mass 174	109.68 (97.28)
177	5.00 - 9.00% of mass 176	7.38 (6.73)

Report Date:02/27/2012

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/mj.i/J022412I.b/jicb241.d
STD 2 = /var/chem/gcms/mj.i/J022412I.b/jicb242.d
STD 3 = /var/chem/gcms/mj.i/J022412I.b/jicb243.d
STD 4 = /var/chem/gcms/mj.i/J022412I.b/jicb244.d
STD 5 = /var/chem/gcms/mj.i/J022412I.b/jicb245.d
STD 6 = /var/chem/gcms/mj.i/J022412I.b/jicb246.d
STD 7 = /var/chem/gcms/mj.i/J022412I.b/jicb247.d
STD 8 = /var/chem/gcms/mj.i/J022412I.b/jicb248.d
STD 9 = /var/chem/gcms/mj.i/J022412I.b/jicb249.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
Chlorobenzene-d5	15.978	15.975	15.978	15.976	15.972	15.971	15.974	15.973	15.972	15.974
1,4-Difluorobenzene	11.272	11.268	11.271	11.269	11.265	11.258	11.262	11.261	11.265	11.266
Bromochloromethane	9.093	9.095	9.097	9.091	9.092	9.080	9.083	9.082	9.081	9.088
4-Bromofluorobenzene	1.102	1.102	1.102	1.102	1.102	1.102	1.102	1.102	1.102	1.102
~ 2-nitropropane	1.058	1.059	1.058	1.058	1.058	1.059	1.058	1.058	1.059	1.058
~ 2-Methylnaphthalene	NA	NA	1.397	1.397	1.397	1.397	1.397	1.397	1.397	1.397
Chlorodifluoromethane	NA	0.426	0.427	0.426	0.425	0.424	0.424	0.425	0.425	0.425
Propene	NA	NA	0.428	0.427	0.426	0.426	0.426	0.426	0.426	0.426
Dichlorodifluoromethane	0.433	0.433	0.434	0.433	0.432	0.432	0.431	0.432	0.432	0.432
Chloromethane	NA	0.453	0.455	0.454	0.453	0.452	0.452	0.452	0.452	0.453
1,2-Dichlorotetrafluoroethan	0.455	0.454	0.455	0.454	0.454	0.453	0.453	0.453	0.453	0.454
Methanol	NA	NA	NA	NA	0.469	0.466	0.466	0.466	0.467	0.467
~ acetaldehyde	NA	NA	0.471	0.471	0.470	0.469	0.469	0.469	0.469	0.470
Vinyl Chloride	0.473	0.473	0.474	0.473	0.473	0.472	0.471	0.472	0.472	0.472
n-Butane	NA	NA	0.484	0.483	0.483	0.482	0.482	0.482	0.482	0.482
1,3-Butadiene	0.483	0.483	0.484	0.483	0.482	0.482	0.481	0.482	0.482	0.482
Bromomethane	NA	0.518	0.520	0.519	0.519	0.518	0.518	0.518	0.518	0.518
Chloroethane	NA	0.535	0.536	0.535	0.535	0.534	0.534	0.534	0.534	0.535
~ ethanol	NA	NA	0.546	0.546	0.545	0.543	0.543	0.544	0.544	0.544
Vinyl Bromide	0.570	0.570	0.571	0.570	0.569	0.569	0.568	0.569	0.569	0.569
2-methyl butane	0.576	0.576	0.577	0.576	0.576	0.575	0.574	0.575	0.575	0.576
Trichlorofluoromethane	0.601	0.601	0.601	0.600	0.600	0.599	0.599	0.600	0.600	0.600
Acrolein	NA	NA	0.601	0.600	0.600	0.599	0.598	0.599	0.599	0.599
Acetonitrile	NA	NA	NA	0.607	0.606	0.605	0.606	0.606	0.606	0.606
Acetone	NA	NA	NA	NA	0.613	0.612	0.611	0.612	0.612	0.612
Isopropyl alcohol	NA	NA	0.623	0.622	0.621	0.620	0.620	0.620	0.621	0.621
Pentane	NA	0.626	0.626	0.626	0.625	0.625	0.624	0.625	0.624	0.625
Ethyl Ether	0.646	0.644	0.645	0.644	0.643	0.642	0.642	0.642	0.642	0.643
1,1-Dichloroethene	0.680	0.679	0.680	0.680	0.679	0.679	0.678	0.679	0.679	0.679
tert-butanol	NA	0.690	0.690	0.689	0.688	0.686	0.686	0.687	0.687	0.688
Acrylonitrile	0.689	0.689	0.690	0.689	0.689	0.688	0.688	0.688	0.688	0.689
1,1,2-Trichlorotrifluoroetha	0.700	0.700	0.701	0.700	0.699	0.699	0.698	0.699	0.699	0.699
Methylene Chloride	NA	NA	0.718	0.718	0.717	0.717	0.717	0.717	0.717	0.717
3-Chloropropene	NA	0.720	0.721	0.720	0.720	0.719	0.719	0.719	0.719	0.720
Carbon Disulfide	0.737	0.737	0.737	0.737	0.737	0.736	0.736	0.736	0.736	0.736
trans-1,2-Dichloroethene	0.809	0.808	0.809	0.809	0.808	0.808	0.808	0.808	0.808	0.808
~ 2-Methyl Pentane	0.812	0.811	0.812	0.812	0.812	0.811	0.810	0.811	0.811	0.811

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

Report Date:02/27/2012

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/mj.i/J022412I.b/jicb241.d
STD 2 = /var/chem/gcms/mj.i/J022412I.b/jicb242.d
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STD 8 = /var/chem/gcms/mj.i/J022412I.b/jicb248.d
STD 9 = /var/chem/gcms/mj.i/J022412I.b/jicb249.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
Methyl-t-Butyl Ether	0.825	0.824	0.824	0.822	0.822	0.822	0.821	0.821	0.821	0.822
1,1-Dichloroethane	0.855	0.854	0.855	0.855	0.854	0.854	0.854	0.854	0.854	0.854
Vinyl Acetate	0.866	0.865	0.866	0.866	0.865	0.865	0.864	0.865	0.865	0.865
2-Butanone	NA	NA	0.915	0.914	0.914	0.914	0.914	0.914	0.914	0.914
Hexane	0.921	0.921	0.921	0.921	0.921	0.921	0.920	0.920	0.921	0.921
cis 1,2-Dichloroethene	0.964	0.963	0.963	0.964	0.963	0.964	0.963	0.963	0.964	0.963
Ethyl acetate	0.985	0.983	0.983	0.983	0.982	0.983	0.983	0.982	0.983	0.983
Chloroform	1.002	1.001	1.001	1.002	1.001	1.002	1.001	1.002	1.002	1.002
Tetrahydrofuran	NA	NA	1.047	1.047	1.046	1.046	1.045	1.045	1.045	1.046
1,1,1-Trichloroethane	1.116	1.116	1.116	1.116	1.116	1.116	1.116	1.116	1.117	1.116
1,2-Dichloroethane	0.909	0.909	0.909	0.909	0.909	0.909	0.909	0.909	0.909	0.909
1-Butanol	NA	NA	0.948	0.947	0.946	0.946	0.946	0.946	0.946	0.946
Benzene	0.953	0.953	0.953	0.953	0.953	0.953	0.953	0.953	0.953	0.953
Cyclohexane	0.955	0.955	0.955	0.954	0.954	0.954	0.954	0.954	0.954	0.954
Carbon Tetrachloride	0.956	0.956	0.956	0.956	0.956	0.956	0.956	0.956	0.955	0.956
~ 2,3-dimethylpentane	0.965	0.965	0.965	0.965	0.965	0.965	0.964	0.965	0.964	0.965
~ Thiophene	0.977	0.977	0.977	0.977	0.977	0.976	0.976	0.976	0.976	0.976
2,2,4-trimethylpentane	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.020	1.021
Heptane	1.053	1.054	1.053	1.053	1.054	1.054	1.053	1.054	1.053	1.053
1,2-Dichloropropane	1.060	1.059	1.059	1.060	1.060	1.060	1.059	1.060	1.059	1.060
Trichloroethene	1.063	1.063	1.063	1.063	1.064	1.064	1.063	1.063	1.063	1.063
Dibromomethane	1.069	1.070	1.070	1.069	1.070	1.070	1.070	1.070	1.070	1.070
Bromodichloromethane	1.082	1.082	1.082	1.082	1.083	1.083	1.083	1.083	1.083	1.082
1,4-dioxane	NA	1.084	1.084	1.084	1.084	1.084	1.083	1.083	1.083	1.084
~ 1-Methylnaphthalene	NA	NA	1.406	1.406	1.406	1.406	1.406	1.406	1.406	1.406
Methyl Methacrylate	1.091	1.091	1.091	1.090	1.091	1.091	1.090	1.090	1.090	1.090
~ methyl cyclohexane	1.132	1.132	1.132	1.132	1.132	1.132	1.132	1.132	1.132	1.132
4-Methyl-2-pentanone	1.166	1.166	1.165	1.165	1.165	1.165	1.165	1.165	1.165	1.165
cis-1,3-Dichloropropene	1.170	1.171	1.171	1.170	1.171	1.171	1.171	1.171	1.171	1.171
trans-1,3-Dichloropropene	0.868	0.869	0.869	0.869	0.869	0.869	0.869	0.869	0.869	0.869
Toluene	0.877	0.877	0.877	0.877	0.877	0.877	0.877	0.877	0.877	0.877
1,1,2-Trichloroethane	0.881	0.881	0.881	0.881	0.881	0.881	0.881	0.881	0.881	0.881
~ 2-methyl thiophene	0.886	0.886	0.886	0.886	0.887	0.886	0.886	0.886	0.887	0.886
~ 3-methyl thiophene	0.899	0.899	0.899	0.899	0.899	0.899	0.899	0.899	0.899	0.899
2-Hexanone	0.905	0.905	0.905	0.905	0.905	0.905	0.905	0.905	0.905	0.905
Octane	0.921	0.920	0.920	0.920	0.920	0.920	0.920	0.920	0.921	0.920
Dibromochloromethane	0.925	0.926	0.925	0.925	0.926	0.925	0.925	0.925	0.926	0.925

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/mj.i/J022412I.b/jicb241.d
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STD 9 = /var/chem/gcms/mj.i/J022412I.b/jicb249.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
1,2-Dibromoethane	0.943	0.944	0.943	0.943	0.943	0.943	0.943	0.943	0.944	0.943
Tetrachloroethene	0.949	0.949	0.948	0.948	0.949	0.949	0.948	0.949	0.949	0.949
Chlorobenzene	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
~ 2,3-dimethylheptane	1.004	1.005	1.004	1.004	1.005	1.005	1.004	1.004	1.005	1.004
Ethylbenzene	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021
~ 2-ethyl thiophene	1.027	1.027	1.027	1.027	1.028	1.028	1.027	1.027	1.028	1.027
m&p-Xylene	1.031	1.031	1.031	1.031	1.031	1.031	1.031	1.031	1.031	1.031
Nonane	1.057	1.058	1.057	1.057	1.058	1.058	1.057	1.058	1.058	1.058
Bromoform	NA	1.058	1.059	1.058	1.059	1.059	1.058	1.059	1.059	1.059
Styrene	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
o-Xylene	1.064	1.064	1.064	1.064	1.064	1.064	1.064	1.064	1.064	1.064
1,1,2,2-Tetrachloroethane	1.083	1.084	1.083	1.084	1.084	1.084	1.084	1.084	1.084	1.084
1,2,3-Trichloropropane	1.093	1.094	1.093	1.093	1.094	1.094	1.093	1.094	1.094	1.094
Cumene	1.101	1.101	1.100	1.100	1.101	1.101	1.100	1.101	1.101	1.101
n-Propylbenzene	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134
2-chlorotoluene	1.136	1.136	1.136	1.136	1.137	1.137	1.136	1.136	1.137	1.136
4-Ethyltoluene	1.143	1.143	1.143	1.143	1.143	1.143	1.143	1.143	1.143	1.143
1,3,5-Trimethylbenzene	1.147	1.147	1.147	1.147	1.148	1.148	1.147	1.148	1.148	1.147
Alpha-Methylstyrene	1.161	1.161	1.161	1.161	1.162	1.162	1.162	1.162	1.162	1.162
Decane	1.165	1.165	1.165	1.165	1.165	1.165	1.165	1.165	1.166	1.165
tert-butylbenzene	1.173	1.174	1.173	1.173	1.174	1.174	1.174	1.174	1.174	1.174
1,2,4-Trimethylbenzene	1.174	1.174	1.174	1.174	1.174	1.175	1.174	1.174	1.175	1.174
sec-butylbenzene	1.190	1.190	1.190	1.190	1.191	1.191	1.190	1.190	1.191	1.190
1,3-Dichlorobenzene	1.191	1.191	1.191	1.191	1.191	1.191	1.191	1.191	1.191	1.191
Benzyl Chloride	1.195	1.196	1.195	1.195	1.196	1.196	1.195	1.196	1.196	1.196
1,4-Dichlorobenzene	1.196	1.197	1.196	1.196	1.197	1.197	1.196	1.197	1.197	1.196
p-Cymene	1.200	1.200	1.200	1.200	1.200	1.200	1.200	1.200	1.201	1.200
~ 1,2,3- Trimethylbenzene	1.203	1.203	1.203	1.203	1.204	1.204	1.203	1.204	1.204	1.203
~ n-butylcyclohexane	1.207	1.207	1.207	1.207	1.207	1.207	1.207	1.207	1.207	1.207
~ Indane	1.218	1.219	1.218	1.219	1.219	1.219	1.219	1.219	1.219	1.219
1,2-Dichlorobenzene	1.218	1.219	1.218	1.218	1.219	1.219	1.219	1.219	1.219	1.219
n-butylbenzene	1.227	1.227	1.227	1.227	1.227	1.227	1.227	1.227	1.227	1.227
~ Indene	1.226	1.227	1.226	1.227	1.227	1.227	1.227	1.227	1.227	1.227
Undecane	1.246	1.246	1.246	1.246	1.246	1.246	1.246	1.246	1.246	1.246
~ 1,2-dimethyl-4-ethylenzene	1.250	1.250	1.250	1.250	1.250	1.250	1.250	1.250	1.250	1.250
~ 1,2,4,5-tetramethylbenzene	1.274	1.274	1.274	1.274	1.274	1.274	1.274	1.274	1.274	1.274
~ 1,2,3,5-tetramethylbenzene	1.277	1.277	1.277	1.277	1.278	1.278	1.277	1.278	1.278	1.277

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

Report Date:02/27/2012

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/mj.i/J022412I.b/jicb241.d
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STD 9 = /var/chem/gcms/mj.i/J022412I.b/jicb249.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
~ 1,2,3,4-tetramethylbenzene	1.303	1.303	1.303	1.303	1.303	1.303	1.303	1.303	1.303	1.303
Dodecane	NA	NA	1.313	1.313	1.314	1.314	1.313	1.313	1.314	1.313
1,2,4-Trichlorobenzene	1.326	1.326	1.326	1.326	1.326	1.326	1.326	1.326	1.326	1.326
Napthalene	1.335	1.335	1.335	1.335	1.335	1.335	1.335	1.335	1.335	1.335
~ benzo(b) thiophene	1.342	1.342	1.342	1.342	1.342	1.342	1.342	1.342	1.342	1.342
Hexachlorobutadiene	1.349	1.349	1.349	1.349	1.349	1.350	1.349	1.349	1.349	1.349
1,2,3-trichlorobenzene	1.353	1.354	1.353	1.353	1.354	1.354	1.354	1.354	1.354	1.354

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

614

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Calibration File Names:
Level 1: /var/chem/gcms/mj.i/J022412I.b/jicb241.d
Level 2: /var/chem/gcms/mj.i/J022412I.b/jicb242.d
Level 3: /var/chem/gcms/mj.i/J022412I.b/jicb243.d
Level 4: /var/chem/gcms/mj.i/J022412I.b/jicb244.d
Level 5: /var/chem/gcms/mj.i/J022412I.b/jicb245.d
Level 6: /var/chem/gcms/mj.i/J022412I.b/jicb246.d
Level 7: /var/chem/gcms/mj.i/J022412I.b/jicb247.d
Level 8: /var/chem/gcms/mj.i/J022412I.b/jicb248.d
Level 9: /var/chem/gcms/mj.i/J022412I.b/jicb249.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
5 Chlorodifluoromethane	+++++	0.49172	0.54130	0.45303	0.46380	0.39994					
	0.43285	0.42942	0.41529				AVRG		0.45342		10.07605
6 Propene	+++++	+++++	1.66930	1.38699	1.44925	1.19872					
	1.27470	1.19883	1.09478				AVRG		1.32465		14.62600
7 Dichlorodifluoromethane	4.25361	4.45237	5.25552	4.50389	4.78518	4.02026					
	4.31974	4.14826	3.77803				AVRG		4.39076		9.91220

615

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
8 Chloromethane	+++++	0.56562	0.53084	0.45297	0.43322	0.30746					
	0.32328	0.31659	0.29445				AVRG		0.40306		26.67746
9 1,2-Dichlorotetrafluoroethane	3.47913	3.33484	4.07171	3.48255	3.62297	2.86596					
	3.10138	3.00853	2.80653				AVRG		3.30818		12.28879
10 Methanol	+++++	+++++	+++++	+++++	0.31373	0.22908					
	0.21558	0.20479	0.15312				AVRG		0.22326		26.05776
11 - acetaldehyde	+++++	+++++	57069	124796	92790	183719					
	357604	742680	1319839				QUAD	0.000e+00	7.37380	0.92357	0.99544
12 Vinyl Chloride	1.38915	1.31603	1.53947	1.25688	1.28167	0.98716					
	1.06677	1.05730	1.04808				AVRG		1.21583		15.34919
13 n-Butane	+++++	+++++	2.59775	2.06406	2.01262	1.45446					
	1.59762	1.60243	1.48603				AVRG		1.83071		22.77122
14 1,3-Butadiene	0.97780	1.05225	1.18451	0.92176	0.95290	0.73073					
	0.80167	0.81047	0.78291				AVRG		0.91278		16.06524

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Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
15 Bromomethane	+++++	1.24636	1.56620	1.20030	1.27602	1.01825	AVRG		1.21493		13.38361
	1.13471	1.14278	1.13478								
16 Chloroethane	+++++	0.60275	0.69521	0.52583	0.52606	0.41793	AVRG		0.52204		17.08219
	0.46759	0.47303	0.46792								
17 ~ ethanol	+++++	+++++	0.62538	0.57262	0.50742	0.36745	AVRG		0.46393		23.06485
	0.41793	0.41610	0.34058								
18 Vinyl Bromide	1.40005	1.44249	1.78912	1.43414	1.52716	1.21058	AVRG		1.40412		12.75460
	1.22126	1.32531	1.28698								
19 2-methyl butane	2.26421	2.27764	2.66309	2.19823	2.25291	1.73751	AVRG		2.05391		17.64042
	1.54915	1.84090	1.70159								
20 Trichlorofluoromethane	4.54687	4.59736	5.68445	4.70392	5.02213	4.06894	AVRG		4.62094		10.57026
	4.22439	4.45967	4.28075								
21 Acrolein	+++++	+++++	0.50435	0.48876	0.28282	0.28562	AVRG		0.36578		26.61529
	0.27038	0.35626	0.37224								

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
22 Acetonitrile	+++++	+++++	+++++	0.68766	0.43717	0.37429					
	0.39792	0.49914	0.50168				AVRG		0.48298		23.36132
23 Acetone	+++++	+++++	+++++	+++++	0.54163	0.40181					
	0.38764	0.48512	0.42300				AVRG		0.44784		14.36112
24 Isopropyl alcohol	+++++	+++++	2.00490	1.85208	1.88013	1.26029					
	1.38088	1.61098	1.39553				AVRG		1.62640		17.86297
25 Pentane	+++++	0.20331	0.23013	0.20814	0.21444	0.14076					
	0.14791	0.18234	0.17142				AVRG		0.18731		17.18904
26 Ethyl Ether	1.52554	1.71302	1.60662	1.96532	1.31278	1.09342					
	1.26765	1.57225	1.52379				AVRG		1.50893		17.11131
27 1,1-Dichloroethene	1.16604	1.03637	1.25377	1.22302	1.23950	0.91555					
	0.98007	1.13154	1.07013				AVRG		1.11289		10.79404
28 tert-butanol	+++++	2.00266	1.99815	1.97389	2.10238	1.56311					
	1.75378	1.91252	1.68488				AVRG		1.87392		9.93164

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Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
29 Acrylonitrile	0.86026	0.78947	0.78231	1.02047	0.56929	0.57365					
	0.64817	0.81659	0.78698				AVRG		0.76080		18.97880
30 1,1,2-Trichlorotrifluoroethan	2.66034	2.45488	3.05640	2.83943	2.62254	2.20416					
	2.35700	2.62043	2.35648				AVRG		2.57463		10.28081
31 Methylene Chloride	+++++	+++++	1.30930	1.19931	0.95160	0.79588					
	0.83154	0.95961	0.80502				AVRG		0.97889		20.61403
32 3-Chloropropene	+++++	1.38131	1.62338	1.53538	1.29021	1.20682					
	1.35002	1.51483	1.30148				AVRG		1.40043		10.21812
33 Carbon Disulfide	4.63103	3.94183	3.77799	3.71051	3.29551	2.72547					
	2.89644	3.39404	2.83886				AVRG		3.46796		17.77860
34 trans-1,2-Dichloroethene	1.48326	1.20830	1.52190	1.42151	1.29243	1.10564					
	1.15494	1.29706	1.16163				AVRG		1.29408		11.71028
35 - 2-Methyl Pentane	4.04437	3.53636	4.09988	3.94681	3.27418	2.89108					
	2.99495	3.42888	2.74643				AVRG		3.44033		14.80309

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Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
36 Methyl-t-Butyl Ether	2.02724	2.36109	2.43800	2.87213	1.93559	1.85539					
	2.07165	2.34643	2.17972				AVRG		2.23192		14.00842
37 1,1-Dichloroethane	2.46888	2.15426	2.70228	2.32353	1.95539	1.87631					
	1.92131	2.18808	1.91699				AVRG		2.16745		13.20072
38 Vinyl Acetate	2.66263	2.89238	2.77346	3.17228	1.83990	2.14332					
	2.39004	2.91918	2.65791				AVRG		2.60568		15.95290
39 2-Butanone	+++++	+++++	0.35090	0.38322	0.30600	0.26607					
	0.28377	0.33804	0.28497				AVRG		0.31614		13.43078
40 Hexane	1.37636	1.13606	1.33387	1.08476	1.03252	0.93208					
	0.96308	1.11090	0.95109				AVRG		1.10230		14.56966
41 cis 1,2-Dichloroethene	1.34687	1.14345	1.47606	1.20372	1.09258	1.02877					
	1.07598	1.19505	1.08993				AVRG		1.18360		12.20505
42 Ethyl acetate	1.97526	2.37158	2.18666	2.49223	2.03955	1.83169					
	1.96241	2.30701	2.00588				AVRG		2.13025		10.34766

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
43 Chloroform	2.96384	2.70028	3.38661	2.74611	2.43221	2.27919					
	2.36123	2.54899	2.41328				AVRG		2.64797		13.26735
44 Tetrahydrofuran	+++++	+++++	1.18756	1.23190	0.94315	0.88870					
	0.98217	1.00829	1.03270				AVRG		1.03921		12.12530
45 1,1,1-Trichloroethane	3.28187	3.09045	3.91874	3.24602	2.89996	2.80930					
	2.96916	2.92613	2.93433				AVRG		3.11955		10.87484
46 1,2-Dichloroethane	0.48675	0.45436	0.55703	0.46971	0.44243	0.40319					
	0.46263	0.56258	0.48110				AVRG		0.47997		10.71930
47 1-Butanol	+++++	+++++	0.11087	0.09308	0.12516	0.09351					
	0.11382	0.13207	0.10243				AVRG		0.11014		13.60766
48 Benzene	0.89191	0.75777	0.87171	0.68762	0.61693	0.55614					
	0.61483	0.73998	0.64220				AVRG		0.70879		16.46069
49 Cyclohexane	0.12775	0.11317	0.14415	0.11017	0.13101	0.10512					
	0.11015	0.13038	0.11218				AVRG		0.12046		10.95488

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Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.81632	0.81825	0.88397	0.72980	0.86389	0.74172	AVRG		0.86368		12.35610
	0.90259	1.07989	0.93671								
51 - 2,3-dimethylpentane	0.15004	0.13849	0.17845	0.14459	0.14823	0.12733	AVRG		0.14782		10.58203
	0.13418	0.16505	0.14402								
52 - Thiophene	0.45778	0.42216	0.50932	0.40577	0.39304	0.35531	AVRG		0.42227		11.37693
	0.37971	0.46753	0.40985								
53 2,2,4-trimethylpentane	1.48798	1.33706	1.66668	1.32562	1.37741	1.15101	AVRG		1.36370		11.76873
	1.20552	1.47546	1.24658								
54 Heptane	0.27173	0.25940	0.28338	0.23042	0.24443	0.19986	AVRG		0.24296		11.76410
	0.20765	0.26120	0.22859								
55 1,2-Dichloropropane	0.26848	0.25540	0.28944	0.26281	0.23272	0.20412	AVRG		0.25097		10.42774
	0.23041	0.27337	0.24201								
56 Trichloroethene	0.49714	0.47048	0.60173	0.46733	0.53097	0.42598	AVRG		0.50173		11.11940
	0.45893	0.56701	0.49602								

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Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
180 ~ 2-nitropropane	0.31623	0.47841	0.42469	0.53315	0.45447	0.41860					
	0.49794	0.65907	0.56253				AVRG		0.48279		20.22257
57 Dibromomethane	0.39915	0.36207	0.45482	0.36311	0.39086	0.33030					
	0.35189	0.43540	0.38484				AVRG		0.38583		10.34122
58 Bromodichloromethane	0.65151	0.64184	0.77774	0.69104	0.70164	0.58895					
	0.65545	0.82384	0.72605				AVRG		0.69534		10.42002
59 1,4-dioxane	+++++	0.06027	0.07087	0.07568	0.09460	0.07264					
	0.08016	0.09414	0.07968				AVRG		0.07850		14.76842
60 Methyl Methacrylate	0.22848	0.32505	0.28850	0.33269	0.31107	0.27121					
	0.30614	0.39818	0.35221				AVRG		0.31261		15.53386
61 ~ methyl cyclohexane	0.46309	0.41812	0.52503	0.42773	0.45811	0.38396					
	0.40386	0.49294	0.42413				AVRG		0.44411		10.09161
62 4-Methyl-2-pentanone	0.43173	0.50829	0.47804	0.49783	0.62926	0.48751					
	0.53995	0.67346	0.55753				AVRG		0.53374		14.33485

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
63 cis-1,3-Dichloropropene	0.33834	0.34744	0.41171	0.39088	0.35514	0.31549					
	0.36007	0.44825	0.40165				AVRG		0.37433		11.14967
64 trans-1,3-Dichloropropene	0.37303	0.38904	0.44367	0.42839	0.39362	0.37043					
	0.44291	0.50005	0.45092				AVRG		0.42134		10.21522
65 Toluene	0.90830	0.91480	1.00066	0.94386	0.75057	0.72598					
	0.83864	0.93682	0.83516				AVRG		0.87276		10.53259
66 1,1,2-Trichloroethane	0.26523	0.26642	0.32223	0.28037	0.25953	0.22325					
	0.25823	0.28524	0.25809				AVRG		0.26873		9.90180
67 ~ 2-methyl thiophene	0.80312	0.78184	0.90172	0.84880	0.68896	0.66345					
	0.75723	0.84661	0.76307				AVRG		0.78387		9.78516
68 ~ 3-methyl thiophene	0.77394	0.79984	0.92506	0.83755	0.70887	0.66337					
	0.76097	0.85108	0.76352				AVRG		0.78713		9.90958
69 2-Hexanone	0.21080	0.25373	0.21134	0.23176	0.29538	0.22171					
	0.25531	0.28358	0.23621				AVRG		0.24442		12.36200

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Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
70 Octane	0.31488	0.31119	0.33448	0.30066	0.30314	0.24672					
	0.28038	0.31004	0.27335				AVRG		0.29721		8.83025
71 Dibromochloromethane	0.71603	0.73561	0.86813	0.81415	0.83229	0.72362					
	0.87427	1.00378	0.89541				AVRG		0.82926		11.38903
72 1,2-Dibromoethane	0.59707	0.59943	0.66343	0.64305	0.57593	0.52340					
	0.59543	0.66121	0.60556				AVRG		0.60717		7.28880
73 Tetrachloroethene	0.54410	0.52167	0.62414	0.51136	0.52058	0.42825					
	0.45707	0.52295	0.48491				AVRG		0.51278		10.82594
74 Chlorobenzene	0.81478	0.83431	0.95953	0.84079	0.77255	0.67379					
	0.76198	0.84460	0.77539				AVRG		0.80864		9.63481
75 ~ 2,3-dimethylheptane	1.05065	1.13997	1.26359	1.11183	1.05981	0.86925					
	1.02144	1.07425	0.84151				AVRG		1.04803		12.40157
76 Ethylbenzene	0.97108	1.11273	1.14523	1.15512	0.93219	0.88744					
	1.05557	1.17509	1.04554				AVRG		1.05333		9.85399

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
77 ~ 2-ethyl thiophene	0.79638	0.92747	1.01024	0.98339	0.82945	0.78348					
	0.92758	1.03419	0.93347				AVRG		0.91396		10.03458
78 m&p-Xylene	0.72594	0.87293	0.89724	0.90591	0.76203	0.68959					
	0.81996	0.91339	0.79666				AVRG		0.82041		10.07228
79 Nonane	0.56617	0.63265	0.67111	0.64368	0.60097	0.50011					
	0.60688	0.64962	0.54404				AVRG		0.60169		9.24807
80 Bromoform	+++++	0.53683	0.62069	0.61211	0.65977	0.58920					
	0.73153	0.85554	0.80483				AVRG		0.67631		16.41011
81 Styrene	0.47998	0.54135	0.60168	0.64834	0.59992	0.54761					
	0.65340	0.74922	0.69516				AVRG		0.61296		13.59954
82 o-Xylene	0.78230	0.91228	0.93412	0.95326	0.80235	0.70069					
	0.85291	0.96543	0.84812				AVRG		0.86127		10.30000
M 83 Xylene (total)	0.74474	0.88605	0.90953	0.92169	0.77547	0.69329					
	0.83094	0.93074	0.81381				AVRG		0.83403		10.12698

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Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
84 1,1,2,2-Tetrachloroethane	0.44960	0.55035	0.57765	0.60960	0.60527	0.48142					
	0.57483	0.63514	0.54679				AVRG		0.55896		10.82859
85 1,2,3-Trichloropropane	0.14994	0.18847	0.19921	0.21021	0.20240	0.16106					
	0.19303	0.21999	0.19799				AVRG		0.19137		11.75368
86 Cumene	1.14910	1.30660	1.29613	1.35501	1.17715	1.00568					
	1.21899	1.36615	1.18240				AVRG		1.22858		9.38827
87 n-Propylbenzene	0.28102	0.34829	0.34367	0.37515	0.35463	0.29176					
	0.35029	0.40431	0.37193				AVRG		0.34678		11.25411
88 2-chlorotoluene	0.32887	0.37732	0.42022	0.40958	0.38190	0.32659					
	0.38727	0.43014	0.39633				AVRG		0.38425		9.49147
89 4-Ethyltoluene	0.90823	1.19723	1.10911	1.26462	1.22732	0.97228					
	1.16124	1.30162	1.13360				AVRG		1.14169		11.41265
90 1,3,5-Trimethylbenzene	0.42171	0.58856	0.55825	0.64428	0.61417	0.48712					
	0.58430	0.67106	0.61409				AVRG		0.57595		13.56806

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Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
91 Alpha-Methylstyrene	0.29654 / 0.51441	0.43107 / 0.58434	0.39270 / 0.53416	0.47798	0.51059	0.41893	AVRG		0.46230		18.81514
92 Decane	0.52689 / 0.68181	0.70900 / 0.73177	0.57650 / 0.61792	0.70590	0.62891	0.55225	AVRG		0.63677		11.68848
93 tert-butylbenzene	0.86936 / 1.11139	1.14998 / 1.27172	1.08095 / 1.11949	1.21191	1.15739	0.91117	AVRG		1.09815		11.93825
94 1,2,4-Trimethylbenzene	0.63808 / 0.92318	0.92324 / 1.03647	0.84904 / 0.91723	1.01139	1.00035	0.77334	AVRG		0.89692		14.19243
95 sec-butylbenzene	0.97360 / 1.28661	1.36922 / 1.43076	1.25868 / 1.22185	1.43084	1.35564	1.07118	AVRG		1.26649		12.44968
96 1,3-Dichlorobenzene	0.67627 / 0.79322	0.72915 / 0.90216	0.78339 / 0.82636	0.77768	0.80006	0.66126	AVRG		0.77217		9.66536
97 Benzyl Chloride	0.48915 / 0.81550	0.62813 / 0.92981	0.62071 / 0.81892	0.74151	0.86711	0.69165	AVRG		0.73361		19.02026

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
98 1,4-Dichlorobenzene	0.65766	0.70552	0.73260	0.74080	0.79783	0.65030					
	0.77499	0.87612	0.80973				AVRG		0.74951		9.80630
99 p-Cymene	0.79933	1.17192	1.04379	1.27055	1.28021	0.99214					
	1.18987	1.34755	1.16305				AVRG		1.13982		14.90785
100 ~ 1,2,3- Trimethylbenzene	0.54045	0.76856	0.71967	0.83043	0.83053	0.64108					
	0.75095	0.84230	0.73922				AVRG		0.74035		13.31933
101 ~ n-butylcyclohexane	0.60967	0.69912	0.76981	0.71216	0.66845	0.56629					
	0.68259	0.73915	0.63152				AVRG		0.67542		9.52966
102 ~ Indane	0.67704	0.89234	0.85193	0.92207	0.92199	0.72159					
	0.84618	0.94488	0.83640				AVRG		0.84605		10.86802
103 1,2-Dichlorobenzene	0.60308	0.68419	0.68586	0.71405	0.72968	0.59410					
	0.70585	0.79774	0.72474				AVRG		0.69325		9.11253
104 n-butylbenzene	0.63620	0.91028	0.80962	0.98252	1.03514	0.79397					
	0.91481	1.02198	0.87937				AVRG		0.88710		14.27038

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
105 ~ Indene	0.42494	0.56255	0.54502	0.64294	0.69331	0.54723					
	0.64501	0.72413	0.65523				AVRG		0.60448		15.33155
106 Undecane	0.44671	0.46749	0.46166	0.46632	0.69625	0.47869					
	0.55199	0.65701	0.56930				AVRG		0.53283		17.29415
107 ~ 1,2-dimethyl-4-ethylenzene	0.64022	0.85704	0.78669	0.93851	1.06542	0.81921					
	0.95512	1.07230	0.89848				AVRG		0.89255		15.32988
108 ~ 1,2,4,5-tetramethylbenzene	0.62989	0.69269	0.69324	0.81188	1.04509	0.80324					
	0.92397	1.04306	0.82660				AVRG		0.82996		18.03023
109 ~ 1,2,3,5-tetramethylbenzene	0.50194	0.51758	0.53429	0.61625	0.55088	0.61155					
	0.70445	0.79706	0.63641				AVRG		0.60782		15.82905
110 ~ 1,2,3,4-tetramethylbenzene	0.56262	0.53269	0.53922	0.58098	0.82452	0.65244					
	0.75051	0.85255	0.60535				AVRG		0.65565		18.81371
111 Dodecane	+++++	+++++	0.36318	0.36712	0.59208	0.47866					
	0.51089	0.57134	0.35131				AVRG		0.46208		22.09855

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
112 1,2,4-Trichlorobenzene	0.32830	0.27710	0.26331	0.26825	0.37597	0.33780					
	0.40005	0.44971	0.26855				AVRG		0.32989		20.40503
113 Napthalene	0.62721	0.54774	0.50673	0.54036	0.83392	0.76723					
	0.88639	0.94167	0.57039				AVRG		0.69129		24.15351
114 - benzo(b) thiophene	0.36915	0.34044	0.28736	0.30096	0.46056	0.45550					
	0.53555	0.57109	0.33863				AVRG		0.40658		25.31728
115 Hexachlorobutadiene	0.32090	0.32809	0.28699	0.35046	0.36684	0.32158					
	0.39442	0.46258	0.30611				AVRG		0.34866		15.36074
116 1,2,3-trichlorobenzene	0.21298	0.20298	0.18389	0.17443	0.26068	0.24867					
	0.28713	0.31449	0.18612				AVRG		0.23015		21.64384
117 - 2-Methylnaphthalene	+++++	+++++	7243	26806	111260	420444					
	721089	1506333	3116939				LINR	0.000e+00	0.05582		0.99329
118 - 1-Methylnaphthalene	+++++	+++++	5432	22831	91352	343836					
	562994	1212752	2590476				LINR	0.000e+00	0.04591		0.99480

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Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.65779	0.66228	0.65642	0.66845	0.71574	0.67488					
	0.70337	0.75601	0.71024				AVRG		0.68946		4.92703

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	2/28/12	CCAL Batch/ Scan Name:	J022812	Instrument:	MJ	ICAL Batch/ Scan Name:	J022412I	Scanned

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		☐ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓			✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		☐ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				NA
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		☐ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits ☐ [lcs5] LCS outside marginal exceedences high, but analytes were not detected CCl4 137 OK J022712	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?					NA
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.					✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 2/28/12	2nd Level Reviewer :	Date: 2/29/12
Comments:		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR OW N4 Inst: MJ

Analyst: [illegible] Qtims Batch: 2059106 MQSCW 2059107 MQSCX

Date: 2/28/12 ICAL Batch: J022412I Target Batch: J022812 IS #1 Area: 490099

Surr/IS ID & Vol.: 4DMCV425 System Date/Time ok (y/n): y 7M

Preventive Maintenance Performed ☐Daily 2060038 MQSM3

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0847	✓	7449	JBFBB28	-	16	100	1	
0917	✓	CCV	CCV	CX2322	15	↓	↓	
0917	✓	LCS	LCS	↓	↓	↓		CCl4 137 OK J022712
1111	✓	Blk	Blk	-	16	500		
1204	✓	10+✓	9749	6369	1	500		use as daily
1325	✓	H2B270410	MQ4E31AA	04729	1	500	1	nyslec.
1419	✓		4E4	1578	2			E ethanol
1517	✓		4E5	05357	3			
1615	✓IS	matrix	4E6	62276	4			IS matrix RR 200M
1713	✓		4E7	6604	5			@ethanol
1807	✓		4E8	0133	6			
1902	✓	H2B270412	4FE	12641	7			
1958	✓		4FF	5C494	8			@ethanol
2055	✓		4FG	11156	9	↓	↓	
2149	✓	H2B270409	4EV	6392 log*	10	200	1	btex can 6597
2246	✓		4EW	7782	11			
2341	✓		4EX	6597 log*	12			can 6392
0038	✓		4E0	1525	13			
0134	✓		4E1	04397	14	↓	↓	
0230	dup		4E1D	↓	14			
0323	✓	H2B230465	MQ20J1AA	LA7060	15	50	1	tetra
0419	✓		20K	L5152	1	50		
0513	NRR 4/10		20L	LA7148	2	25	↓	
0607	✓		20M	L5183	3	20	3.03	75.75
not Run			20N	L5178	4	50	1	
0759	✓		20P	L5190	5	50	1	
0903	✓	H2B270410	4E6R	62276	4	200	1	
0945	20x lot ✓		9750	1410	7	500		
not Run			9751	6637	8	↓	↓	

ntech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

* Client ID has correct can # in it

Analyst: [signature] Date: 2/29/12

Test America - Knoxville

Entech Autosampler Log

Position	Volume	Date	Time
16	100	2/28/2012	8:47
15	100	2/28/2012	9:17
16	500	2/28/2012	11:11
1	500	2/28/2012	12:04
1	500	2/28/2012	13:25
2	500	2/28/2012	14:19
3	500	2/28/2012	15:17
4	500	2/28/2012	16:15
5	500	2/28/2012	17:13
6	501	2/28/2012	18:07
7	500	2/28/2012	19:02
8	501	2/28/2012	19:58
9	500	2/28/2012	20:55
10	200	2/28/2012	21:49
11	200	2/28/2012	22:46
12	200	2/28/2012	23:41
13	200	2/29/2012	0:38
14	201	2/29/2012	1:34
14	201	2/29/2012	2:30
15	50	2/29/2012	3:23
1	50	2/29/2012	4:19
2	25	2/29/2012	5:13
3	20	2/29/2012	6:07
4	202	2/29/2012	7:03
5	50	2/29/2012	7:59
7	501	2/29/2012	8:45

Data File: /chem/goms/mj.i/J022812.b/jbfbb28.d

Date : 28-FEB-2012 08:47

Client ID: BFB

Instrument: mj.i

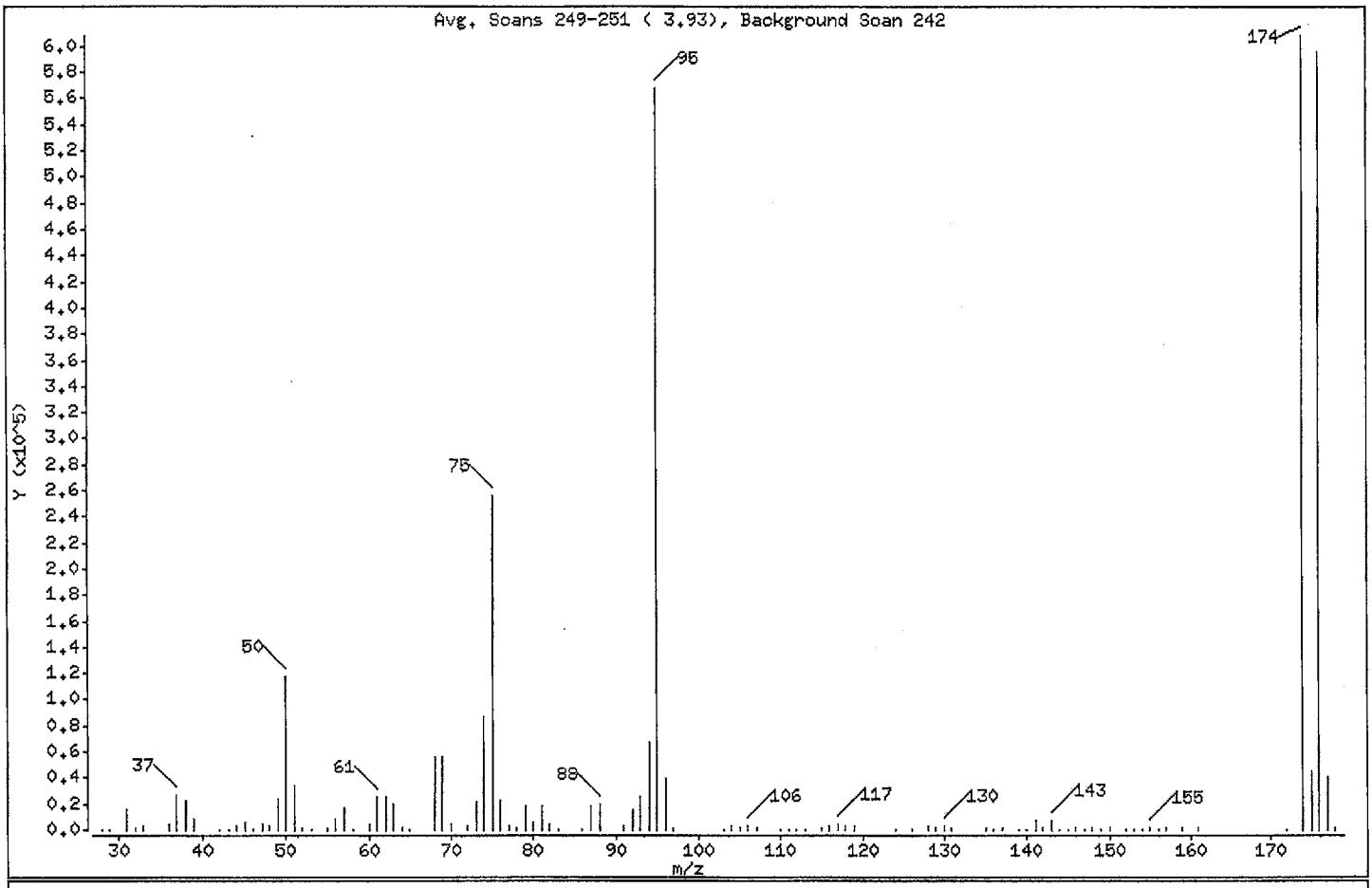
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.70
75	30.00 - 60.00% of mass 95	45.01
96	5.00 - 9.00% of mass 95	7.00
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	107.17
175	5.00 - 9.00% of mass 174	7.88 (7.36)
176	95.00 - 101.00% of mass 174	104.85 (97.84)
177	5.00 - 9.00% of mass 176	7.07 (6.75)

Data File: /var/chem/gcms/mj.i/J022812.b/jccvb28.d
Report Date: 28-Feb-2012 13:11

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvb28.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J022812.b/TO15.m

Injection Date: 28-FEB-2012 09:17
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.68946	0.78417	0.78417	0.000	-13.73555	30.00000	Averaged
5 Chlorodifluoromethane	0.45342	0.52905	0.52905	0.000	-16.67917	30.00000	Averaged
6 Propene	1.32465	1.45647	1.45647	0.000	-9.95105	30.00000	Averaged
7 Dichlorodifluoromethane	4.39076	5.22597	5.22597	0.000	-19.02190	30.00000	Averaged
8 Chloromethane	0.40306	0.35959	0.35959	0.000	10.78287	30.00000	Averaged
9 1,2-Dichlorotetrafluoroetha	3.30818	3.56810	3.56810	0.000	-7.85691	30.00000	Averaged
10 Methanol	0.22326	0.20899	0.20899	0.000	6.39273	30.00000	Averaged
11 ~ acetaldehyde	8.10330	10.12000	0.10509	0.000	19.92783	30.00000	Quadratic
12 Vinyl Chloride	1.21583	1.17226	1.17226	0.000	3.58337	30.00000	Averaged
13 n-Butane	1.83071	1.77195	1.77195	0.000	3.20978	30.00000	Averaged
14 1,3-Butadiene	0.91278	0.87169	0.87169	0.000	4.50104	30.00000	Averaged
15 Bromomethane	1.21493	1.27700	1.27700	0.000	-5.10881	30.00000	Averaged
16 Chloroethane	0.52204	0.50914	0.50914	0.000	2.47133	30.00000	Averaged
17 ~ ethanol	0.46393	0.34182	0.34182	0.000	26.32115	30.00000	Averaged
18 Vinyl Bromide	1.40412	1.32532	1.32532	0.000	5.61215	30.00000	Averaged
19 2-methyl butane	2.05391	1.77804	1.77804	0.000	13.43157	30.00000	Averaged
20 Trichlorofluoromethane	4.62094	5.23719	5.23719	0.000	-13.33586	30.00000	Averaged
21 Acrolein	0.36578	0.27588	0.27588	0.000	24.57644	30.00000	Averaged
22 Acetonitrile	0.48298	0.37253	0.37253	0.000	22.86750	30.00000	Averaged
23 Acetone	0.44784	0.32568	0.32568	0.000	27.27727	30.00000	Averaged
24 Isopropyl alcohol	1.62640	1.38524	1.38524	0.000	14.82754	30.00000	Averaged
25 Pentane	0.18731	0.17123	0.17123	0.000	8.58256	30.00000	Averaged
26 Ethyl Ether	1.50893	1.20708	1.20708	0.000	20.00411	30.00000	Averaged
27 1,1-Dichloroethene	1.11289	1.11913	1.11913	0.000	-0.56102	30.00000	Averaged
28 tert-butanol	1.87392	1.80151	1.80151	0.000	3.86415	30.00000	Averaged
29 Acrylonitrile	0.76080	0.61480	0.61480	0.000	19.18958	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.57463	2.80781	2.80781	0.000	-9.05702	30.00000	Averaged
31 Methylene Chloride	0.97889	0.94663	0.94663	0.000	3.29594	30.00000	Averaged
32 3-Chloropropene	1.40043	1.51919	1.51919	0.000	-8.48017	30.00000	Averaged
33 Carbon Disulfide	3.46796	3.24348	3.24348	0.000	6.47299	30.00000	Averaged
34 trans-1,2-Dichloroethene	1.29408	1.29156	1.29156	0.000	0.19453	30.00000	Averaged
35 ~ 2-Methyl Pentane	3.44033	3.36576	3.36576	0.000	2.16755	30.00000	Averaged
36 Methyl-t-Butyl Ether	2.23192	2.01464	2.01464	0.000	9.73481	30.00000	Averaged
37 1,1-Dichloroethane	2.16745	2.15991	2.15991	0.000	0.34788	30.00000	Averaged
38 Vinyl Acetate	2.60568	2.15506	2.15506	0.000	17.29367	30.00000	Averaged

Data File: /var/chem/gcms/mj.i/J022812.b/jccvb28.d
Report Date: 28-Feb-2012 13:11

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvb28.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J022812.b/TO15.m

Injection Date: 28-FEB-2012 09:17
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 2-Butanone	0.31614	0.26689	0.26689	0.000	15.57969	30.00000	Averaged
40 Hexane	1.10230	1.05444	1.05444	0.000	4.34219	30.00000	Averaged
41 cis 1,2-Dichloroethene	1.18360	1.16358	1.16358	0.000	1.69108	30.00000	Averaged
42 Ethyl acetate	2.13025	1.94840	1.94840	0.000	8.53684	30.00000	Averaged
43 Chloroform	2.64797	2.67148	2.67148	0.000	-0.88781	30.00000	Averaged
44 Tetrahydrofuran	1.03921	0.92113	0.92113	0.000	11.36289	30.00000	Averaged
45 1,1,1-Trichloroethane	3.11955	3.41071	3.41071	0.000	-9.33342	30.00000	Averaged
46 1,2-Dichloroethane	0.47997	0.52273	0.52273	0.000	-8.90846	30.00000	Averaged
47 1-Butanol	0.11014	0.10972	0.10972	0.000	0.37398	30.00000	Averaged
48 Benzene	0.70879	0.64411	0.64411	0.000	9.12551	30.00000	Averaged
49 Cyclohexane	0.12046	0.13148	0.13148	0.000	-9.15380	30.00000	Averaged
50 Carbon Tetrachloride	0.86368	1.17141	1.17141	0.000	-35.62951	30.00000	Averaged
51 ~ 2,3-dimethylpentane	0.14782	0.15261	0.15261	0.000	-3.23950	30.00000	Averaged
52 ~ Thiophene	0.42227	0.42519	0.42519	0.000	-0.69066	30.00000	Averaged
53 2,2,4-trimethylpentane	1.36370	1.39530	1.39530	0.000	-2.31726	30.00000	Averaged
54 Heptane	0.24296	0.23208	0.23208	0.000	4.47671	30.00000	Averaged
55 1,2-Dichloropropane	0.25097	0.23588	0.23588	0.000	6.01600	30.00000	Averaged
56 Trichloroethene	0.50173	0.56525	0.56525	0.000	-12.66017	30.00000	Averaged
180 ~ 2-nitropropane	0.48279	0.54402	0.54402	0.000	-12.68337	30.00000	Averaged
57 Dibromomethane	0.38583	0.41860	0.41860	0.000	-8.49297	30.00000	Averaged
58 Bromodichloromethane	0.69534	0.78276	0.78276	0.000	-12.57204	30.00000	Averaged
59 1,4-dioxane	0.07850	0.07939	0.07939	0.000	-1.13219	30.00000	Averaged
60 Methyl Methacrylate	0.31261	0.32342	0.32342	0.000	-3.45731	30.00000	Averaged
61 ~ methyl cyclohexane	0.44411	0.47454	0.47454	0.000	-6.85192	30.00000	Averaged
62 4-Methyl-2-pentanone	0.53374	0.58366	0.58366	0.000	-9.35400	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.37433	0.38072	0.38072	0.000	-1.70799	30.00000	Averaged
64 trans-1,3-Dichloropropene	0.42134	0.42186	0.42186	0.000	-0.12406	30.00000	Averaged
65 Toluene	0.87276	0.77866	0.77866	0.000	10.78143	30.00000	Averaged
66 1,1,2-Trichloroethane	0.26873	0.24624	0.24624	0.000	8.37025	30.00000	Averaged
67 ~ 2-methyl thiophene	0.78387	0.72488	0.72488	0.000	7.52472	30.00000	Averaged
68 ~ 3-methyl thiophene	0.78713	0.72852	0.72852	0.000	7.44688	30.00000	Averaged
69 2-Hexanone	0.24442	0.24165	0.24165	0.000	1.13617	30.00000	Averaged
70 Octane	0.29721	0.27716	0.27716	0.000	6.74556	30.00000	Averaged
71 Dibromochloromethane	0.82926	0.83860	0.83860	0.000	-1.12649	30.00000	Averaged
72 1,2-Dibromoethane	0.60717	0.57758	0.57758	0.000	4.87361	30.00000	Averaged

<-70-130
Ok J022712

Data File: /var/chem/gcms/mj.i/J022812.b/jccvb28.d
Report Date: 28-Feb-2012 13:11

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvb28.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J022812.b/TO15.m

Injection Date: 28-FEB-2012 09:17
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 Tetrachloroethene	0.51278	0.50167	0.50167	0.000	2.16619	30.00000	Averaged
74 Chlorobenzene	0.80864	0.73879	0.73879	0.000	8.63794	30.00000	Averaged
75 ~ 2,3-dimethylheptane	1.04803	1.00403	1.00403	0.000	4.19895	30.00000	Averaged
76 Ethylbenzene	1.05333	0.95287	0.95287	0.000	9.53765	30.00000	Averaged
77 ~ 2-ethyl thiophene	0.91396	0.86068	0.86068	0.000	5.83011	30.00000	Averaged
78 m&p-Xylene	0.82041	0.75453	0.75453	0.000	8.03011	30.00000	Averaged
79 Nonane	0.60169	0.56068	0.56068	0.000	6.81687	30.00000	Averaged
80 Bromoform	0.67631	0.64888	0.64888	0.000	4.05561	30.00000	Averaged
81 Styrene	0.61296	0.56838	0.56838	0.000	7.27226	30.00000	Averaged
82 o-Xylene	0.86127	0.77920	0.77920	0.000	9.52941	30.00000	Averaged
M 83 Xylene (total)	0.83403	0.76275	0.76275	0.000	8.54636	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.55896	0.51758	0.51758	0.000	7.40264	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19137	0.18391	0.18391	0.000	3.89609	30.00000	Averaged
86 Cumene	1.22858	1.11556	1.11556	0.000	9.19949	30.00000	Averaged
87 n-Propylbenzene	0.34678	0.32075	0.32075	0.000	7.50804	30.00000	Averaged
88 2-chlorotoluene	0.38425	0.35864	0.35864	0.000	6.66322	30.00000	Averaged
89 4-Ethyltoluene	1.14169	1.08340	1.08340	0.000	5.10603	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57595	0.53612	0.53612	0.000	6.91565	30.00000	Averaged
91 Alpha-Methylstyrene	0.46230	0.43958	0.43958	0.000	4.91487	30.00000	Averaged
92 Decane	0.63677	0.59039	0.59039	0.000	7.28425	30.00000	Averaged
93 tert-butylbenzene	1.09815	1.04929	1.04929	0.000	4.44944	30.00000	Averaged
94 1,2,4-Trimethylbenzene	0.89692	0.86827	0.86827	0.000	3.19448	30.00000	Averaged
95 sec-butylbenzene	1.26649	1.20435	1.20435	0.000	4.90587	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77217	0.70724	0.70724	0.000	8.40935	30.00000	Averaged
97 Benzyl Chloride	0.73361	0.75106	0.75106	0.000	-2.37829	30.00000	Averaged
98 1,4-Dichlorobenzene	0.74951	0.68823	0.68823	0.000	8.17517	30.00000	Averaged
99 p-Cymene	1.13982	1.14320	1.14320	0.000	-0.29588	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.74035	0.71237	0.71237	0.000	3.77960	30.00000	Averaged
101 ~ n-butylcyclohexane	0.67542	0.63119	0.63119	0.000	6.54816	30.00000	Averaged
102 ~ Indane	0.84605	0.78512	0.78512	0.000	7.20173	30.00000	Averaged
103 1,2-Dichlorobenzene	0.69325	0.63592	0.63592	0.000	8.27079	30.00000	Averaged
104 n-butylbenzene	0.88710	0.89238	0.89238	0.000	-0.59561	30.00000	Averaged
105 ~ Indene	0.60448	0.58197	0.58197	0.000	3.72339	30.00000	Averaged
106 Undecane	0.53283	0.55024	0.55024	0.000	-3.26861	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.89255	0.94211	0.94211	0.000	-5.55186	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.82996	0.92354	0.92354	0.000	-11.27493	30.00000	Averaged

Data File: /var/chem/gcms/mj.i/J022812.b/jccvb28.d
Report Date: 28-Feb-2012 13:11

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvb28.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J022812.b/TO15.m

Injection Date: 28-FEB-2012 09:17
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
109 ~ 1,2,3,5-tetramethylbenzen	0.60782	0.71073	0.71073	0.000	-16.93038	30.00000	Averaged
110 ~ 1,2,3,4-tetramethylbenzen	0.65565	0.77408	0.77408	0.000	-18.06223	30.00000	Averaged
111 Dodecane	0.46208	0.56783	0.56783	0.000	-22.88547	30.00000	Averaged
112 1,2,4-Trichlorobenzene	0.32989	0.38012	0.38012	0.000	-15.22367	30.00000	Averaged
113 Napthalene	0.69129	0.84660	0.84660	0.000	-22.46608	30.00000	Averaged
114 ~ benzo(b) thiophene	0.40658	0.50206	0.50206	0.000	-23.48320	30.00000	Averaged
115 Hexachlorobutadiene	0.34866	0.35292	0.35292	0.000	-1.22127	30.00000	Averaged
116 1,2,3-trichlorobenzene	0.23015	0.28785	0.28785	0.000	-25.06920	30.00000	Averaged
117 ~ 2-Methylnaphthalene	12.36558	12.50000	0.05522	0.000	1.07538	50.00000	Linear
118 ~ 1-Methylnaphthalene	12.53526	12.50000	0.04604	0.000	-0.28208	50.00000	Linear

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2B290000 - 038B **Work Order #** MQ5M31AA **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	02/28/2012	**Analysis Time...:**	02/28/2012
Prep Batch #.....:	2060038	**Analysis Time...:**	11:11
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.034 J**	**0.20**	**0.018**	**0.12 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.067 J**	**0.20**	**0.036**	**0.35 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	**0.039 J**	**0.40**	**0.039**	**0.29 J**	**3.0**	**0.29**
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2B290000 - 038C **Work Order #** MQ5M31AC **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	02/28/2012	**Analysis Time...:**	02/28/2012
Prep Batch #.....:	2060038	**Analysis Time...:**	09:17
Dilution Factor.:	1	**Method.....:**	TO-15

Instr. MJ

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.54	16.0	14.5	91	70 - 130
Carbon tetrachloride	5.00	6.78	31.5	42.7 a ME	136 a ME	70 - 130
Chlorodifluoromethane	5.00	5.83	17.7	20.6	117	60 - 140
Chloroform	5.00	5.04	24.4	24.6	101	70 - 130
Dichlorodifluoromethane	5.00	5.95	24.7	29.4	119	60 - 140
1,1-Dichloroethane	5.00	4.98	20.2	20.2	100	70 - 130
1,2-Dichloroethane	5.00	5.44	20.2	22.0	109	70 - 130
cis-1,2-Dichloroethene	5.00	4.92	19.8	19.5	98	70 - 130
trans-1,2-Dichloroethene	5.00	4.99	19.8	19.8	100	70 - 130
1,1-Dichloroethene	5.00	5.03	19.8	19.9	101	70 - 130
Ethylbenzene	5.00	4.52	21.7	19.6	90	70 - 130
Methylene chloride	5.00	4.84	17.4	16.8	97	70 - 130
Methyl tert-butyl ether	5.00	4.51	18.0	16.3	90	60 - 140
Naphthalene	5.00	6.12	26.2	32.1	122	40 - 140
Tetrachloroethene	5.00	4.89	33.9	33.2	98	70 - 130
Toluene	5.00	4.46	18.8	16.8	89	70 - 130
1,2,4-Trichlorobenzene	5.00	5.76	37.1	42.8	115	60 - 140
1,1,1-Trichloroethane	5.00	5.47	27.3	29.8	109	70 - 130
1,1,2-Trichloroethane	5.00	4.58	27.3	25.0	92	70 - 130
Trichloroethene	5.00	5.63	26.9	30.3	113	70 - 130
1,2,3-Trimethylbenzene	5.00	5.00	24.6	24.6	100	20 - 180
1,2,4-Trimethylbenzene	5.00	4.84	24.6	23.8	97	70 - 130
1,3,5-Trimethylbenzene	5.00	4.65	24.6	22.9	93	70 - 130
Vinyl chloride	5.00	4.82	12.8	12.3	96	70 - 130
Xylenes (total)	15.0	13.7	65.1	59.6	91	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	114	60 - 140

Qualifiers

a	Spiked analyte recovery is outside stated control limits.
ME	The percent recovery of the analyte is outside the control limits but within marginal exceedance limits.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/1/12	Instrument::	ME	ICAL Batch/Scan Name:	ED30112J	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad		✓			✓
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓		Acetone = 39%, Dodecane = 33%	✓
11. If curves were used, is correlation coefficient ≥0.990?		✓			✓
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.		✓			✓
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).		✓			✓
14. Is the "Y" intercept less than the RL for each curve?		✓			✓
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?		✓		3/6/12	✓
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			✓
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)			✓	Acetone, 123TCLB6	✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 3/2/12	2nd Level Reviewer:	Date: 3/5/12
Comments: CH2Cl2: Upper limit is 9ppb further following concentrations OK for the lower R.L. 03/5/12		Comments:	

Invalid for Acetone, 123TCLB6

120301

TA-Knoxville
TO-14 Autosampler Log

Sample	Position/Volume	Date	Time
BFB	16 - 100 mL	3/1/2012	12:13:15 PM
blk	16 - 501 mL	3/1/2012	12:52:21 PM
MDL	1 - 51 mL	3/1/2012	1:51:59 PM
ICAL1	1 - 101 mL	3/1/2012	2:55:30 PM
ICAL02	1 - 201 mL	3/1/2012	3:50:07 PM
ICAL03	2 - 201 mL	3/1/2012	4:45:20 PM
ICAL04	3 - 201 mL	3/1/2012	5:40:10 PM
ICAL05	4 - 202 mL	3/1/2012	6:34:42 PM
ICAL06	5 - 200 mL	3/1/2012	7:29:12 PM
ICAL07	6 - 200 mL	3/1/2012	8:26:02 PM
ICAL08	7 - 201 mL	3/1/2012	9:23:17 PM
ICAL09	8 - 201 mL	3/1/2012	10:23:22 PM
BLK	16 - 200 mL	3/1/2012	11:20:35 PM
ICV	9 - 100 mL	3/2/2012	12:18:48 AM
LCS	9 - 201 mL	3/2/2012	1:20:23 AM
BLK	16 - 500 mL	3/2/2012	7:36:06 AM
blk10	10 - 501 mL	3/2/2012	8:40:45 AM

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: [illegible] Qtims Batch: ICAL

Date: 3/1/12 ICAL Batch: ED30112I Target Batch: NA IS #1 Area: 232168

Surr/IS ID & Vol.: V4254 40mL System Date/Time ok (y/n): Y

Preventive Maintenance Performed @ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1213	Y	Tune	EB5IBC01	—	16	100	1	
1252	N	BLK	BLK1	—	16	500		
1352	N	MOLCHK	MOLCHK	CX-2331	1	50		
1458	Y	ICAL1 3/1/12 3/3/12	~~EICC01~~ EICC011		1	100		
1550		2	EICC012		1	200		
1645		3	3	~~CX-2330~~ CX-2330	2			3/1/12
1740		4	4	CX-2329	3			
1834		5	5	CX-2328	4			
1929		6	6	CX-2327	5			
2026		7	7	CX-2326	6			
2123		8	8	CX-2325	7			
2223		9	9	CX-2324	8			
2320	N	BLK2	BLK2	—	16	200		
0018	N	ICV	EICVC01	CX-2321	9	100		
0120	N	LCS	ELCSC01	↓	9	200		
0736	N	BLK3	BLK3	—	16	500		
0840	N	Lot 9754	9754	6683	10			
Abort	N	Lot 9750	6508	→	11			STD can 3/2/12
		Lot 9747	6520	→	12			
			9202I	→	13			
			7489	→	14			
			12521	→	15			
		Lot 9751	1369	→	STD 3/1/12			STD CAN (POS1)
		Lot 9752	6383	→	2			
				3/2/12				

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/2/12

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: [signature] Qtims Batch: _____

Date: 3/2/12 ICAL Batch: E030212 Target Batch: _____ IS #1 Area: 327389

Surr/IS ID & Vol.: V425 40mL System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☐ Daily _____

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1004	Y	Tune	E030212B02	—	16	100	1	
1057	Y	CCV	E030212C02	CX-2321	15	100	1	2nd Source

3/2/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/2/12

Data File: /chem/gcms/me.i/E030112I.b/ebfbo01.d

Date : 01-MAR-2012 12:13

Client ID: BFB

Instrument: me.i

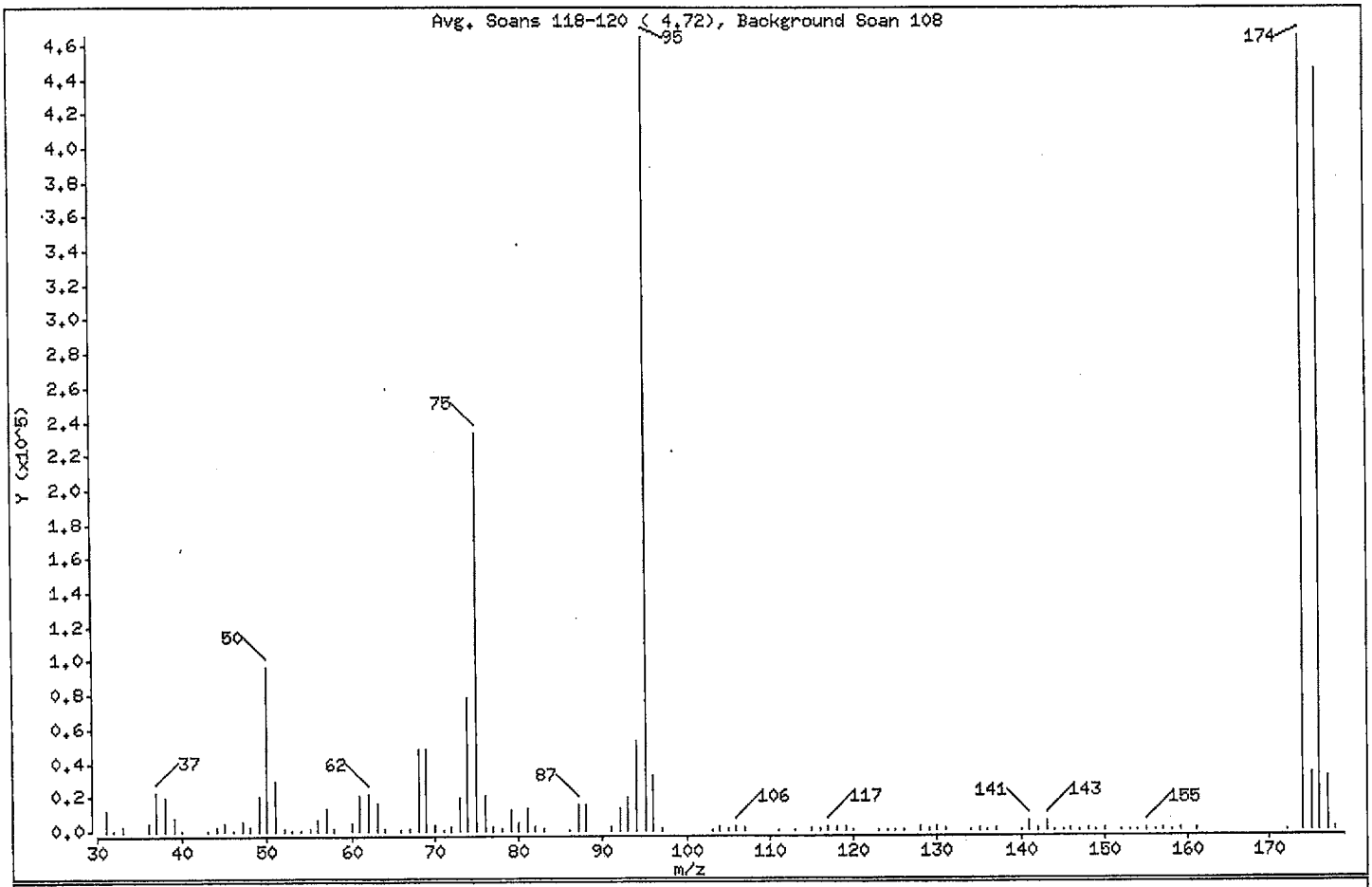
Sample Info: BFB,,3,,,BFB

Operator: 22980

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.65
75	30.00 - 60.00% of mass 95	50.21
96	5.00 - 9.00% of mass 95	6.82
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	100.00
175	5.00 - 9.00% of mass 174	7.23 (7.23)
176	95.00 - 101.00% of mass 174	95.79 (95.79)
177	5.00 - 9.00% of mass 176	6.58 (6.87)

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Calibration File Names:
Level 1: /var/chem/gcms/me.i/E030112I.b/eicc011.d
Level 2: /var/chem/gcms/me.i/E030112I.b/eicc012.d
Level 3: /var/chem/gcms/me.i/E030112I.b/eicc013.d
Level 4: /var/chem/gcms/me.i/E030112I.b/eicc014.d
Level 5: /var/chem/gcms/me.i/E030112I.b/eicc015.d
Level 6: /var/chem/gcms/me.i/E030112I.b/eicc016.d
Level 7: /var/chem/gcms/me.i/E030112I.b/eicc017.d
Level 8: /var/chem/gcms/me.i/E030112I.b/eicc018.d
Level 9: /var/chem/gcms/me.i/E030112I.b/eicc019.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
M 5 Xylene (total)	0.89170	1.09383	1.16276	1.03808	1.11300	0.97030					
	0.94635	0.96846	0.92931				AVRG		1.01264		9.20807
6 Chlorodifluoromethane	+++++	0.87357	0.64955	0.54868	0.51653	0.52863					
	0.47805	0.46565	0.41830				AVRG		0.55987		25.71091
7 Propene	+++++	+++++	1.71047	1.48694	1.60516	1.58241					
	1.34117	1.24527	1.08331				AVRG		1.43639		15.50870

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
10 Dichlorodifluoromethane	5.01574	5.81111	5.31139	4.71907	4.93224	5.20906					
	4.43004	4.18993	3.81244				AVRG		4.82567		12.69028
9 Chloromethane	+++++	0.62756	0.63992	0.52123	0.52161	0.54915					
	0.46243	0.43814	0.38750				AVRG		0.51844		16.99711
11 1,2-Dichlorotetrafluoroethane	3.24301	3.53067	2.74501	2.64147	2.69905	2.76148					
	2.43265	2.23109	2.31643				AVRG		2.73343		15.42683
8 ~ acetaldehyde	+++++	+++++	+++++	52994	122254	110369					
	208810	454487	786257				QUAD	0.000e+00	4.05775	1.68267	0.99140
12 Methanol	+++++	+++++	+++++	0.49468	0.31095	0.31593					
	0.23149	0.19587	+++++				AVRG		0.30978		37.27321 <- ✓ NT
13 Vinyl Chloride	1.62055	1.76455	1.73335	1.51868	1.63996	1.73980					
	1.47718	1.44502	1.31719				AVRG		1.58403		9.72451
14 n-Butane	+++++	+++++	3.32048	2.46995	2.50382	2.62897					
	2.15745	2.13803	1.90110				AVRG		2.44569		18.86435

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
15 1,3-Butadiene	1.27522	1.36639	1.24382	1.13583	1.17033	1.21436					
	1.06497	1.05261	0.96294				AVRG		1.16516		10.75810
16 Bromomethane	1.83976	1.93665	1.78367	1.51919	1.48156	1.56504					
	1.40593	1.35812	1.26275				AVRG		1.57252		14.73361
18 Chloroethane	0.61696	0.79320	0.73103	0.68032	0.67210	0.70241					
	0.60615	0.63356	0.60139				AVRG		0.67079		9.57211
17 ~ ethanol	+++++	+++++	26299	40235	110475	215202					
	404097	755742	1152858				QUAD	0.000e+00	1.50978	1.14482	0.99266
19 Vinyl Bromide	1.33304	1.60967	1.53467	1.40196	1.40185	1.46058					
	1.29880	1.26736	1.20446				AVRG		1.39027		9.36019
20 2-methyl butane	+++++	2.41225	2.29033	1.83910	1.71099	1.72755					
	1.56071	1.54230	1.42972				AVRG		1.81412		19.64602
21 Trichlorofluoromethane	+++++	5.52148	5.22135	4.74926	4.70967	4.82927					
	4.33895	4.16130	3.91574				AVRG		4.68088		11.41515

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
22 Acrolein	+++++	+++++	0.46772	0.41383	0.41999	0.37112					
	0.35477	0.38647	0.34083				AVRG		0.39353		11.09982
23 Acetonitrile	+++++	+++++	0.40766	0.42482	0.43711	0.39449					
	0.39959	0.40031	0.37174				AVRG		0.40510		5.23526
24 Acetone	+++++	+++++	1.22270	1.13227	1.09730	0.57920					
	0.47367	+++++	+++++				AVRG		0.90103		38.51292
25 Pentane	+++++	+++++	0.25240	0.20276	0.20426	0.20794					
	0.18566	0.18586	0.17681				AVRG		0.20224		12.35066
26 Isopropyl alcohol	+++++	+++++	1.71855	1.19942	1.45401	1.53924					
	1.07275	1.08655	0.94172				AVRG		1.28746		22.21312
27 Ethyl Ether	+++++	+++++	1.28548	1.17391	1.19946	1.11737					
	1.09903	1.12473	1.05731				AVRG		1.15104		6.56469
28 1,1-Dichloroethene	1.25965	1.42486	1.28227	1.17416	1.18285	1.18625					
	1.05807	1.03955	0.96390				AVRG		1.17462		11.95949

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
29 Acrylonitrile	+++++	+++++	1.01964	0.97588	0.97514	0.85492					
	0.88770	0.89997	0.80638				AVRG		0.91709		8.28294
30 1,1,2-Trichlorotrifluoroethan	2.50342	3.06484	2.93375	2.61820	2.65385	2.64879					
	2.33387	2.32592	2.15620				AVRG		2.58209		11.31124
31 tert-butanol	+++++	+++++	2.47722	2.01674	2.28323	2.58907					
	1.69723	1.77687	1.73935				AVRG		2.08282		17.71274
32 Methylene Chloride	+++++	+++++	1.97027	1.23869	1.15509	1.12692					
	0.96630	0.96466	+++++				AVRG		1.23699		30.33376
33 3-Chloropropene	+++++	1.62590	1.67747	1.34428	1.52440	1.37681					
	1.33223	1.33518	1.18205				AVRG		1.42479		11.81956
34 Carbon Disulfide	+++++	+++++	4.84971	4.35517	4.53532	4.62214					
	4.03375	3.81538	3.32309				AVRG		4.21922		12.53691
35 trans-1,2-Dichloroethene	1.39690	1.62844	1.58130	1.39356	1.46551	1.45412					
	1.26697	1.27855	1.16992				AVRG		1.40392		10.61208

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
36 ~ 2-Methyl Pentane	4.04837	4.57066	4.53802	4.01267	4.01393	4.00220					
	3.51287	3.43894	3.00970				AVRG		3.90526		13.02483
37 Methyl-t-Butyl Ether	+++++	3.45753	3.48100	3.33509	3.38823	3.24169					
	3.10006	3.09439	2.90747				AVRG		3.25068		6.22749
38 1,1-Dichloroethane	2.69086	3.07403	3.08842	2.77819	2.89303	2.85449					
	2.55637	2.54623	2.32120				AVRG		2.75587		9.23130
39 Vinyl Acetate	+++++	+++++	3.53210	3.61162	3.66887	3.21008					
	3.45950	3.46223	3.12515				AVRG		3.43851		5.85474
40 Hexane	+++++	+++++	1.61216	1.35902	1.35141	1.33195					
	1.16486	1.14824	1.02909				AVRG		1.28525		14.82233
41 2-Butanone	+++++	+++++	0.62454	0.53762	0.58390	0.51744					
	0.46507	0.46365	0.41693				AVRG		0.51559		14.16587
42 cis 1,2-Dichloroethene	1.30858	1.57564	1.50547	1.37184	1.44706	1.41302					
	1.25475	1.25352	1.13162				AVRG		1.36239		10.22876

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
43 Ethyl acetate	+++++	+++++	3.09417	2.94489	3.02182	2.90839					
	2.78243	2.79484	2.53942				AVRG		2.86942		6.41004
44 Chloroform	3.30115	3.66619	3.69125	3.30439	3.44731	3.38367					
	3.04011	3.04701	2.76100				AVRG		3.29356		9.21930
45 Tetrahydrofuran	+++++	+++++	1.83526	1.47815	1.53747	1.42766					
	1.40120	1.38975	1.29615				AVRG		1.48081		11.70992
46 1,1,1-Trichloroethane	+++++	4.14238	4.05949	3.66487	3.82780	3.77855					
	3.38559	3.37396	3.06540				AVRG		3.66226		10.03352
47 1,2-Dichloroethane	0.40749	0.56000	0.54072	0.47303	0.50580	0.49943					
	0.43540	0.44427	0.41299				AVRG		0.47546		11.52169
48 Cyclohexane	+++++	0.22784	0.19167	0.15190	0.15605	0.15658					
	0.12509	0.12665	0.11654				AVRG		0.15654		23.92950
49 Benzene	0.89962	1.00542	0.98285	0.81323	0.86000	0.82412					
	0.71002	0.73050	0.67183				AVRG		0.83307		14.03901

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.72507	0.92693	0.91648	0.60875	0.84519	0.65455					
	0.70267	0.71459	0.66871				AVRG		0.75144		15.45145
51 1-Butanol	+++++	+++++	+++++	0.09425	0.10580	0.11815					
	0.07197	0.07370	0.06757				AVRG		0.08857		23.36764
52 ~ 2,3-dimethylpentane	0.18149	0.23286	0.22066	0.17979	0.19370	0.19546					
	0.15639	0.16221	0.14861				AVRG		0.18569		15.28481
53 ~ Thiophene	0.51089	0.57679	0.55308	0.46419	0.49523	0.47881					
	0.41166	0.42894	0.39037				AVRG		0.47889		13.09207
54 2,2,4-trimethylpentane	1.49669	1.87249	1.84026	1.50989	1.63555	1.61972					
	1.33141	1.36727	1.22693				AVRG		1.54447		14.29854
55 Heptane	0.33876	0.39508	0.36133	0.29696	0.32101	0.31862					
	0.26016	0.27097	0.24781				AVRG		0.31230		15.56112
56 1,2-Dichloropropane	0.29696	0.36552	0.37921	0.32666	0.34896	0.33072					
	0.28643	0.29043	0.26220				AVRG		0.32079		12.29447

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
57 Trichloroethene	0.37442	0.47737	0.47657	0.38841	0.42763	0.42647					
	0.33914	0.35208	0.32864				AVRG		0.39897		14.06319
180 2-Nitropropene	0.30860	0.50263	0.52451	0.47324	0.56252	0.52357					
	0.50892	0.53458	0.45055				AVRG		0.48768		15.34043
58 Dibromomethane	0.36879	0.43441	0.45861	0.37809	0.41584	0.40989					
	0.34443	0.35588	0.32738				AVRG		0.38815		11.32785
59 Bromodichloromethane	0.65448	0.84584	0.84404	0.71498	0.80477	0.78739					
	0.67865	0.70229	0.64171				AVRG		0.74157		10.79102
60 1,4-dioxane	+++++	+++++	0.08687	0.06435	0.08797	0.11175					
	0.07641	0.06932	0.04975				AVRG		0.07806		25.51089
61 Methyl Methacrylate	+++++	0.38717	0.38692	0.36385	0.39476	0.38460					
	0.34148	0.36270	0.33623				AVRG		0.36971		6.00693
62 ~ methyl cyclohexane	0.51488	0.62531	0.60703	0.49879	0.54564	0.53948					
	0.43957	0.45119	0.41479				AVRG		0.51519		14.10472

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
63 cis-1,3-Dichloropropene	0.42253	0.54464	0.54153	0.47687	0.51931	0.50617					
	0.44091	0.45995	0.42525				AVRG		0.48191		9.95258
64 4-Methyl-2-pentanone	+++++	0.78797	0.71797	0.61062	0.67852	0.69752					
	0.55720	0.58083	0.50989				AVRG		0.64256		14.51142
65 trans-1,3-Dichloropropene	0.44553	0.55744	0.57300	0.51465	0.57189	0.53688					
	0.51042	0.53980	0.52297				AVRG		0.53029		7.39500
66 Toluene	+++++	1.25615	1.27108	1.07841	1.11783	1.03532					
	0.95370	0.97944	0.94196				AVRG		1.07924		11.93228
67 1,1,2-Trichloroethane	0.30487	0.37537	0.37089	0.33401	0.34887	0.32639					
	0.29504	0.30172	0.29121				AVRG		0.32760		9.78576
68 ~ 2-methyl thiophene	0.83981	1.02268	1.01081	0.89359	0.96108	0.89187					
	0.80929	0.83384	0.79966				AVRG		0.89585		9.44784
70 ~ 3-methyl thiophene	0.82653	1.03875	0.99737	0.90272	0.96761	0.90523					
	0.81771	0.84132	0.80994				AVRG		0.90080		9.37502

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
69 2-Hexanone	+++++	+++++	0.33587	0.29382	0.33488	0.32036					
	0.28117	0.29136	0.27264				AVRG		0.30430		8.48995
71 Octane	0.38634	0.46715	0.40952	0.35519	0.38244	0.36601					
	0.30976	0.31894	0.30741				AVRG		0.36697		14.20171
72 Dibromochloromethane	0.66080	0.79145	0.78898	0.68752	0.80854	0.77162					
	0.71032	0.75147	0.73358				AVRG		0.74492		6.81309
73 1,2-Dibromoethane	0.51321	0.65144	0.64660	0.57204	0.63979	0.59865					
	0.54484	0.56980	0.54721				AVRG		0.58706		8.50682
74 Tetrachloroethene	0.45911	0.52512	0.51534	0.44528	0.47354	0.45646					
	0.38629	0.40542	0.39680				AVRG		0.45149		10.92713
75 Chlorobenzene	0.75125	0.93113	0.91758	0.80914	0.87529	0.82815					
	0.75030	0.77766	0.75499				AVRG		0.82172		8.67917
76 ~ 2,3-dimethylheptane	1.20012	1.46261	1.42793	1.20541	1.29775	1.22575					
	1.03849	1.03011	0.92317				AVRG		1.20126		15.08611

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
77 Ethylbenzene	1.14728	1.43196	1.46785	1.31891	1.41172	1.25301					
	1.20530	1.23499	1.18222				AVRG		1.29481		9.08833
79 ~ 2-ethyl thiophene	0.95114	1.15827	1.19497	1.06486	1.16109	1.05607					
	0.99591	1.02150	0.98407				AVRG		1.06532		8.20218
78 m&p-Xylene	0.87498	1.08061	1.14597	1.02302	1.10462	0.96477					
	0.93835	0.96368	0.92747				AVRG		1.00261		9.09166
80 Nonane	+++++	0.97116	0.89565	0.77039	0.84127	0.79379					
	0.67943	0.68585	0.62849				AVRG		0.78325		14.93580
81 Bromoform	+++++	0.75387	0.73961	0.67205	0.85216	0.81217					
	0.79856	0.87144	0.89548				AVRG		0.79942		9.36501
82 Styrene	0.57827	0.69391	0.73078	0.68016	0.74819	0.66392					
	0.65988	0.69057	0.70119				AVRG		0.68299		7.11936
83 o-Xylene	0.92515	1.12027	1.19635	1.06820	1.12976	0.98136					
	0.96234	0.97803	0.93298				AVRG		1.03272		9.51308

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
84 1,1,2,2-Tetrachloroethane	0.60366	0.74975	0.80384	0.69922	0.77893	0.69995					
	0.65124	0.66475	0.63886				AVRG		0.69891		9.61365
85 1,2,3-Trichloropropane	0.15325	0.21524	0.20487	0.19642	0.21623	0.19102					
	0.18488	0.19055	0.18342				AVRG		0.19288		9.92972
86 Cumene	1.26510	1.55679	1.60028	1.43539	1.53207	1.35017					
	1.30880	1.34281	1.32101				AVRG		1.41249		8.68871
87 n-Propylbenzene	0.28146	0.36717	0.38280	0.34527	0.38218	0.33995					
	0.33493	0.34690	0.35022				AVRG		0.34788		8.75619
88 2-chlorotoluene	0.31668	0.38516	0.40106	0.36043	0.38914	0.36115					
	0.33030	0.33727	0.33178				AVRG		0.35700		8.38006
89 4-Ethyltoluene	1.17840	1.48531	1.42399	1.28957	1.43491	1.27611					
	1.24452	1.28490	1.26537				AVRG		1.32034		7.76827
90 1,3,5-Trimethylbenzene	0.47559	0.62275	0.63963	0.58669	0.62993	0.56044					
	0.53878	0.56031	0.56934				AVRG		0.57594		8.95029

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
91 Alpha-Methylstyrene	+++++	+++++	0.51507	0.48356	0.54644	0.49253					
	0.49853	0.51506	0.52097				AVRG		0.51031		4.10642
92 Decane	+++++	0.90317	0.80722	0.83654	0.93283	0.81936					
	0.78703	0.78372	0.73306				AVRG		0.82537		7.90718
93 tert-butylbenzene	0.97105	1.21980	1.27300	1.13588	1.21890	1.09740					
	1.04635	1.08895	1.10973				AVRG		1.12901		8.39496
94 1,2,4-Trimethylbenzene	+++++	1.12276	1.13465	1.03455	1.12712	1.01812					
	0.98344	1.01909	1.01428				AVRG		1.05675		5.76271
95 sec-butylbenzene	1.29905	1.67340	1.68622	1.52122	1.64219	1.46902					
	1.41635	1.46970	1.48148				AVRG		1.51762		8.47107
96 1,3-Dichlorobenzene	+++++	0.78415	0.78928	0.69443	0.81096	0.74220					
	0.72671	0.77969	0.83545				AVRG		0.77036		6.00555
97 Benzyl Chloride	+++++	0.78007	0.82650	0.71788	0.87276	0.83977					
	0.84251	0.88263	0.86854				AVRG		0.82883		6.67126

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
98 1,4-Dichlorobenzene	+++++ / 0.68378	0.72029 / 0.71983	0.72534 / 0.74568	0.64288	0.74603	0.69011	AVRG		0.70924		4.93987
99 p-Cymene	+++++ / 1.16056	1.35877 / 1.19156	1.37219 / 1.17869	1.22671	1.34239	1.24114	AVRG		1.25900		6.83054
100 ~ 1,2,3- Trimethylbenzene	0.75615 / 0.81491	0.95241 / 0.83231	0.96132 / 0.79247	0.87801	0.94972	0.85939	AVRG		0.86630		8.65439
101 ~ n-butylcyclohexane	0.76377 / 0.77066	0.97856 / 0.76881	1.02685 / 0.74032	0.88726	0.95903	0.87826	AVRG		0.86372		12.45188
102 1,2-Dichlorobenzene	+++++ / 0.65297	0.70374 / 0.68041	0.72373 / 0.71167	0.65523	0.74512	0.67182	AVRG		0.69309		4.80408
103 ~ Indane	0.74379 / 0.83544	0.92725 / 0.86126	0.98988 / 0.88331	0.88062	0.95984	0.85555	AVRG		0.88188		8.23048
105 ~ Indene	+++++ / 0.60342	0.61304 / 0.60052	0.63449 / 0.59270	0.58573	0.67662	0.61778	AVRG		0.61554		4.71036

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2	
	4 Level 7	8 Level 8	16 Level 9									
104 n-butylbenzene	+++++ 1.05813	1.18481 1.06807	1.14863 1.02511	1.06696	1.22229	1.13443	AVRG		1.11355		6.23108	
106 Undecane	0.58230 0.69721	0.81520 0.75418	0.77268 0.72222	0.54871	0.64061	0.70239	AVRG		0.69283		12.68609	
107 ~ 1,2-dimethyl-4-ethylenzene	+++++ 0.92098	1.00258 0.93076	0.98765 0.91019	0.92575	1.05655	1.00406	AVRG		0.96732		5.44845	
108 ~ 1,2,4,5-tetramethylbenzene	+++++ 0.90496	1.07704 0.90762	0.94751 0.87674	0.76886	0.94198	0.95357	AVRG		0.92229		9.35219	
109 ~ 1,2,3,5-tetramethylbenzene	+++++ 0.67586	0.81415 0.66964	0.73482 0.64421	0.58272	0.71295	0.71817	AVRG		0.69406		9.86694	
110 ~ 1,2,3,4-tetramethylbenzene	+++++ 0.71684	0.91097 0.68259	0.83330 0.63253	0.64209	0.74005	0.77639	AVRG		0.74184		12.90956	
111 Dodecane	+++++ 0.36577	+++++ 0.32733	+++++ 0.33380	0.46376	0.56754	0.71115	AVRG		0.46156		33.14844	<-

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
112 1,2,4-Trichlorobenzene	+++++	0.38811	0.36751	0.26074	0.36222	0.40109					
	0.32774	0.28376	0.27119				AVRG		0.33280		16.54063
113 Napthalene	+++++	+++++	0.64582	0.48239	0.65188	0.72008					
	0.56635	0.48589	0.44275				AVRG		0.57074		18.36662
114 ~ benzo(b) thiophene	+++++	0.36708	0.35495	0.25107	0.34542	0.41376					
	0.28610	0.23993	0.22563				AVRG		0.31049		22.23667
115 Hexachlorobutadiene	+++++	0.76072	0.72019	0.65254	0.70432	0.67746					
	0.59916	0.53483	0.50683				AVRG		0.64451		14.00099
116 1,2,3-trichlorobenzene	+++++	0.34786	0.36486	0.22566	0.29399	0.37796					
	0.20029	0.16978	+++++				AVRG		0.28291		29.92058
117 ~ 2-Methylnaphthalene	0.03655	0.05365	0.04241	0.03641	0.05240	0.07341					
	0.03290	0.02784	0.02523				AVRG		0.04231		35.99208
118 ~ 1-Methylnaphthalene	0.03621	0.05874	0.04753	0.03898	0.05101	0.06910					
	0.02955	0.02384	0.02015				AVRG		0.04168		39.15138

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.70541	0.72092	0.72681	0.71745	0.73292	0.74739					
	0.73599	0.72693	0.73365				AVRG		0.72750		1.66087

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

Report Date:03/05/2012

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/me.i/E030112I.b/eicc011.d
STD 2 = /var/chem/gcms/me.i/E030112I.b/eicc012.d
STD 3 = /var/chem/gcms/me.i/E030112I.b/eicc013.d
STD 4 = /var/chem/gcms/me.i/E030112I.b/eicc014.d
STD 5 = /var/chem/gcms/me.i/E030112I.b/eicc015.d
STD 6 = /var/chem/gcms/me.i/E030112I.b/eicc016.d
STD 7 = /var/chem/gcms/me.i/E030112I.b/eicc017.d
STD 8 = /var/chem/gcms/me.i/E030112I.b/eicc018.d
STD 9 = /var/chem/gcms/me.i/E030112I.b/eicc019.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
Chlorobenzene-d5	15.176	15.176	15.176	15.176	15.176	15.176	15.176	15.182	15.182	15.177
1,4-Difluorobenzene	10.329	10.324	10.324	10.329	10.329	10.329	10.334	10.340	10.345	10.331
Bromochloromethane	8.177	8.177	8.177	8.177	8.177	8.177	8.183	8.188	8.199	8.181
4-Bromofluorobenzene	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110
2-Nitropropene	1.066	1.067	1.067	1.066	1.066	1.067	1.067	1.066	1.067	1.066
~ 2-Methylnaphthalene	1.438	1.438	1.438	1.438	1.438	1.438	1.438	1.438	1.438	1.438
Chlorodifluoromethane	NA	0.444	0.444	0.445	0.444	0.444	0.444	0.444	0.444	0.444
Propene	NA	NA	0.445	0.445	0.445	0.445	0.445	0.445	0.445	0.445
Dichlorodifluoromethane	0.451	0.451	0.451	0.451	0.451	0.451	0.450	0.450	0.450	0.451
Chloromethane	NA	0.470	0.469	0.470	0.469	0.469	0.469	0.468	0.468	0.469
1,2-Dichlorotetrafluoroethan	0.471	0.470	0.470	0.471	0.470	0.470	0.470	0.470	0.470	0.470
~ acetaldehyde	NA	NA	NA	0.486	0.485	0.485	0.484	0.485	0.484	0.485
Methanol	NA	NA	NA	0.485	0.484	0.484	0.483	0.484	NA	0.484
Vinyl Chloride	0.488	0.488	0.487	0.487	0.487	0.487	0.486	0.486	0.486	0.487
n-Butane	NA	NA	0.496	0.497	0.496	0.496	0.496	0.496	0.495	0.496
1,3-Butadiene	0.497	0.496	0.496	0.497	0.496	0.496	0.496	0.495	0.495	0.496
Bromomethane	0.529	0.529	0.529	0.530	0.529	0.529	0.529	0.529	0.529	0.529
Chloroethane	0.545	0.544	0.543	0.544	0.543	0.543	0.543	0.543	0.543	0.543
~ ethanol	NA	NA	0.554	0.555	0.554	0.555	0.555	0.555	0.556	0.555
Vinyl Bromide	0.575	0.575	0.575	0.575	0.575	0.574	0.575	0.575	0.575	0.575
2-methyl butane	NA	0.582	0.580	0.581	0.581	0.580	0.580	0.580	0.580	0.580
Trichlorofluoromethane	NA	0.603	0.603	0.603	0.603	0.603	0.603	0.603	0.603	0.603
Acrolein	NA	NA	0.604	0.604	0.603	0.603	0.604	0.604	0.604	0.604
Acetonitrile	NA	NA	0.610	0.610	0.610	0.610	0.610	0.611	0.611	0.610
Acetone	NA	NA	0.617	0.616	0.616	0.616	0.616	NA	NA	0.616
Pentane	NA	NA	0.628	0.627	0.627	0.627	0.626	0.627	0.627	0.627
Isopropyl alcohol	NA	NA	0.626	0.626	0.626	0.626	0.626	0.627	0.628	0.626
Ethyl Ether	NA	NA	0.646	0.645	0.645	0.644	0.644	0.644	0.644	0.644
1,1-Dichloroethene	0.680	0.679	0.679	0.678	0.678	0.678	0.678	0.678	0.678	0.678
Acrylonitrile	NA	NA	0.688	0.689	0.688	0.689	0.688	0.689	0.690	0.689
1,1,2-Trichlorotrifluoroetha	0.699	0.699	0.698	0.699	0.698	0.698	0.698	0.698	0.698	0.698
tert-butanol	NA	NA	0.690	0.690	0.689	0.690	0.690	0.690	0.691	0.690
Methylene Chloride	NA	NA	0.715	0.715	0.715	0.715	0.715	0.716	NA	0.715
3-Chloropropene	NA	0.718	0.717	0.717	0.717	0.717	0.717	0.717	0.717	0.717
Carbon Disulfide	NA	NA	0.733	0.733	0.732	0.732	0.732	0.733	0.732	0.732
trans-1,2-Dichloroethene	0.805	0.805	0.805	0.805	0.805	0.805	0.805	0.805	0.804	0.805
~ 2-Methyl Pentane	0.809	0.808	0.808	0.808	0.808	0.808	0.808	0.808	0.808	0.808

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/me.i/E030112I.b/eicc011.d
STD 2 = /var/chem/gcms/me.i/E030112I.b/eicc012.d
STD 3 = /var/chem/gcms/me.i/E030112I.b/eicc013.d
STD 4 = /var/chem/gcms/me.i/E030112I.b/eicc014.d
STD 5 = /var/chem/gcms/me.i/E030112I.b/eicc015.d
STD 6 = /var/chem/gcms/me.i/E030112I.b/eicc016.d
STD 7 = /var/chem/gcms/me.i/E030112I.b/eicc017.d
STD 8 = /var/chem/gcms/me.i/E030112I.b/eicc018.d
STD 9 = /var/chem/gcms/me.i/E030112I.b/eicc019.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
Methyl-t-Butyl Ether	NA	0.821	0.821	0.821	0.820	0.820	0.820	0.820	0.820	0.820
1,1-Dichloroethane	0.851	0.851	0.851	0.851	0.851	0.851	0.851	0.852	0.851	0.851
Vinyl Acetate	NA	NA	0.864	0.864	0.864	0.864	0.864	0.864	0.864	0.864
Hexane	NA	NA	0.918	0.919	0.918	0.918	0.918	0.918	0.918	0.918
2-Butanone	NA	NA	0.915	0.914	0.914	0.914	0.914	0.914	0.914	0.914
cis 1,2-Dichloroethene	0.963	0.962	0.962	0.962	0.962	0.962	0.962	0.962	0.963	0.962
Ethyl acetate	NA	NA	0.986	0.986	0.986	0.986	0.986	0.986	0.986	0.986
Chloroform	1.003	1.002	1.002	1.003	1.003	1.003	1.003	1.003	1.003	1.003
Tetrahydrofuran	NA	NA	1.051	1.051	1.050	1.049	1.049	1.049	1.048	1.050
1,1,1-Trichloroethane	NA	1.121	1.121	1.122	1.122	1.122	1.122	1.121	1.121	1.122
1,2-Dichloroethane	0.897	0.897	0.897	0.897	0.897	0.897	0.897	0.898	0.898	0.897
Cyclohexane	NA	0.945	0.946	0.945	0.945	0.945	0.945	0.945	0.945	0.945
Benzene	0.944	0.945	0.944	0.945	0.944	0.945	0.944	0.944	0.945	0.944
Carbon Tetrachloride	0.947	0.947	0.947	0.947	0.947	0.947	0.947	0.947	0.947	0.947
1-Butanol	NA	NA	NA	0.944	0.944	0.943	0.943	0.943	0.943	0.943
~ 2,3-dimethylpentane	0.958	0.959	0.959	0.959	0.959	0.958	0.958	0.958	0.958	0.958
~ Thiophene	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971
2,2,4-trimethylpentane	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023
Heptane	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061
1,2-Dichloropropane	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066
Trichloroethene	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070
Dibromomethane	1.076	1.078	1.077	1.076	1.076	1.077	1.077	1.077	1.077	1.077
Bromodichloromethane	1.092	1.093	1.093	1.092	1.092	1.093	1.093	1.092	1.092	1.092
~ 1-Methylnaphthalene	1.453	1.453	1.453	1.453	1.453	1.453	1.453	1.452	1.452	1.453
1,4-dioxane	NA	NA	1.096	1.096	1.095	1.095	1.095	1.094	1.095	1.095
Methyl Methacrylate	NA	1.105	1.105	1.105	1.105	1.105	1.105	1.104	1.104	1.105
~ methyl cyclohexane	1.147	1.148	1.147	1.147	1.147	1.147	1.147	1.147	1.147	1.147
cis-1,3-Dichloropropene	1.193	1.194	1.193	1.193	1.193	1.193	1.192	1.192	1.192	1.193
4-Methyl-2-pentanone	NA	1.190	1.190	1.189	1.188	1.188	1.188	1.188	1.188	1.189
trans-1,3-Dichloropropene	0.859	0.859	0.859	0.859	0.860	0.860	0.860	0.860	0.860	0.860
Toluene	NA	0.867	0.867	0.867	0.867	0.867	0.868	0.867	0.868	0.867
1,1,2-Trichloroethane	0.872	0.872	0.872	0.872	0.872	0.872	0.873	0.872	0.873	0.872
~ 2-methyl thiophene	0.877	0.877	0.877	0.877	0.877	0.877	0.878	0.878	0.878	0.877
~ 3-methyl thiophene	0.891	0.891	0.891	0.891	0.891	0.891	0.892	0.891	0.892	0.891
2-Hexanone	NA	NA	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900
Octane	0.917	0.917	0.917	0.917	0.917	0.917	0.917	0.917	0.917	0.917
Dibromochloromethane	0.919	0.919	0.919	0.919	0.919	0.919	0.920	0.919	0.920	0.919

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/me.i/E030112I.b/eicc011.d
STD 2 = /var/chem/gcms/me.i/E030112I.b/eicc012.d
STD 3 = /var/chem/gcms/me.i/E030112I.b/eicc013.d
STD 4 = /var/chem/gcms/me.i/E030112I.b/eicc014.d
STD 5 = /var/chem/gcms/me.i/E030112I.b/eicc015.d
STD 6 = /var/chem/gcms/me.i/E030112I.b/eicc016.d
STD 7 = /var/chem/gcms/me.i/E030112I.b/eicc017.d
STD 8 = /var/chem/gcms/me.i/E030112I.b/eicc018.d
STD 9 = /var/chem/gcms/me.i/E030112I.b/eicc019.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
1,2-Dibromoethane	0.938	0.938	0.938	0.938	0.938	0.938	0.939	0.938	0.939	0.938
Tetrachloroethene	0.945	0.944	0.944	0.944	0.944	0.944	0.945	0.944	0.945	0.944
Chlorobenzene	1.003	1.003	1.003	1.003	1.003	1.003	1.004	1.003	1.003	1.003
~ 2,3-dimethylheptane	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007
Ethylbenzene	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023
~ 2-ethyl thiophene	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
m&p-Xylene	1.034	1.034	1.034	1.034	1.034	1.034	1.034	1.034	1.035	1.034
Nonane	NA	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065
Bromoform	NA	1.063	1.062	1.063	1.062	1.063	1.063	1.062	1.063	1.063
Styrene	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065
o-Xylene	1.069	1.069	1.069	1.069	1.069	1.069	1.069	1.069	1.069	1.069
1,1,2,2-Tetrachloroethane	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091
1,2,3-Trichloropropane	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101
Cumene	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109
n-Propylbenzene	1.145	1.145	1.145	1.145	1.145	1.145	1.146	1.145	1.145	1.145
2-chlorotoluene	1.148	1.147	1.147	1.147	1.147	1.147	1.148	1.147	1.147	1.147
4-Ethyltoluene	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156
1,3,5-Trimethylbenzene	1.161	1.162	1.161	1.161	1.161	1.161	1.162	1.161	1.162	1.161
Alpha-Methylstyrene	NA	NA	1.177	1.177	1.177	1.177	1.177	1.177	1.177	1.177
Decane	NA	1.183	1.184	1.184	1.184	1.184	1.184	1.183	1.184	1.184
tert-butylbenzene	1.190	1.190	1.190	1.190	1.190	1.190	1.191	1.190	1.191	1.190
1,2,4-Trimethylbenzene	NA	1.191	1.191	1.191	1.191	1.191	1.191	1.191	1.191	1.191
sec-butylbenzene	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209
1,3-Dichlorobenzene	NA	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209
Benzyl Chloride	NA	1.214	1.214	1.214	1.214	1.214	1.214	1.214	1.214	1.214
1,4-Dichlorobenzene	NA	1.215	1.215	1.215	1.215	1.215	1.215	1.215	1.215	1.215
p-Cymene	NA	1.220	1.220	1.220	1.220	1.220	1.221	1.220	1.220	1.220
~ 1,2,3- Trimethylbenzene	1.223	1.223	1.223	1.223	1.223	1.223	1.224	1.223	1.223	1.223
~ n-butylcyclohexane	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228
1,2-Dichlorobenzene	NA	1.239	1.240	1.240	1.240	1.240	1.240	1.239	1.240	1.240
~ Indane	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240
~ Indene	NA	1.248	1.248	1.248	1.248	1.248	1.248	1.248	1.248	1.248
n-butylbenzene	NA	1.250	1.250	1.250	1.250	1.250	1.250	1.250	1.250	1.250
Undecane	1.273	1.273	1.273	1.273	1.273	1.274	1.274	1.273	1.273	1.273
~ 1,2-dimethyl-4-ethylenzene	NA	1.276	1.275	1.275	1.275	1.275	1.276	1.275	1.275	1.275
~ 1,2,4,5-tetramethylbenzene	NA	1.302	1.302	1.302	1.302	1.302	1.302	1.301	1.301	1.302
~ 1,2,3,5-tetramethylbenzene	NA	1.305	1.305	1.305	1.305	1.305	1.305	1.305	1.305	1.305

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/me.i/E030112I.b/eicc011.d
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STD 6 = /var/chem/gcms/me.i/E030112I.b/eicc016.d
STD 7 = /var/chem/gcms/me.i/E030112I.b/eicc017.d
STD 8 = /var/chem/gcms/me.i/E030112I.b/eicc018.d
STD 9 = /var/chem/gcms/me.i/E030112I.b/eicc019.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
~ 1,2,3,4-tetramethylbenzene	NA	1.331	1.331	1.331	1.331	1.331	1.331	1.331	1.331	1.331
Dodecane	NA	NA	NA	1.344	1.344	1.344	1.344	1.344	1.344	1.344
1,2,4-Trichlorobenzene	NA	1.354	1.354	1.354	1.354	1.354	1.354	1.353	1.353	1.354
Napthalene	NA	NA	1.362	1.363	1.363	1.363	1.363	1.362	1.362	1.362
~ benzo(b) thiophene	NA	1.369	1.369	1.369	1.369	1.369	1.369	1.368	1.369	1.369
Hexachlorobutadiene	NA	1.378	1.378	1.378	1.378	1.378	1.378	1.377	1.377	1.378
1,2,3-trichlorobenzene	NA	1.381	1.381	1.381	1.381	1.381	1.381	1.381	NA	1.381

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/5/12	CCAL Batch/ Scan Name:	E030512	Instrument:	ME	ICAL Batch/ Scan Name:	E030112 I	Scanned:

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓			✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		□ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	✓
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				✓
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 3/5/12	2nd Level Reviewer :	Date: 3/6/12
Comments:		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Inst: ME

Analyst: [signature] Qtims Batch: 2065117 MQ8MN

Date: 3/5/12 ICAL Batch: E030102S Target Batch: E030512 IS #1 Area: 329820

Surr/IS ID & Vol. 40mL V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0900	✓	tune	EBFBC05	-	16	~~500~~ 100 3/5/12	1	
0932	✓	CCV	CCV	CX2322	15	100		
0932	✓	LCS	LCS					
1038	✓	BK	Flush	-	16	500		
1127	✓		EBMC05	-				
1325	✓	H2B230466	MQ21W1AA	SL1229	1	50	1	tetra.
1413	✓		212	L5129	2	11		10mL
1506	✓		213	L8181	3	50		
1557	✓		214	L8196	4	50		
1648	✓ (E)		215	L5163	5	11	3.79	(E) vinyl chloride needs x2
1738	✓		216	L5195	6	~~500~~ 50 3/5/12	1	no c/o ✓
1828	✓ RR ory	fs 3/5/12 ok elev5	217	SL1232	7	~~425~~ 26mL		(Ok) as elev5
1919	✓		218	L5132	8	50		
2008	✓ IS2		219	L5142	9	50		
2058	✓		22A	L5117	10	11		10mL
2147	✓		22C	L5184	11	11		10mL
2237	✓		22D	SL1233	12	50		
2327	✓		22E	L5120	13			
~~000~~ 0017 3/4/12	✓		22F	L5156	14			00:17
0108	✓ IS		22G	L8177	15			RR
0157	dup		22GD		15			
0247	✓		22H1AA	L8189	1	50	1	
0338	✓		21Q2AA	04402	2	50	499.47	tce
0430	✓	H2B230465	MQ20L1AA	LA7168	3		1	
0518	✓		0Q	L5128	4			
0608	N	H2B230466	MQ2152AA	L5163	5	11	41.21	10 Needs IX1 RR 10mL
0700	✓	H2B230465	20R1AA	L5107	6	50	1	
Not Needed		H2B230466	217R	SL1232	7			
Not Run		Lot 9761	1006 →		8	500		std can

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

0752 ✓ H2B230466 MQ219R L5142 9 50 1

Analyst: [signature] Date: 3/4/12

MS027r16.DOC, 051210

0843 ✓ H2B230466 MQ22GR L8177 15 50 1

Test America - Knoxville

Entech Autosampler Log

Position	Volume	Date	Time
16	101	3/5/2012	9:00
15	100	3/5/2012	9:32
16	500	3/5/2012	10:37
16	501	3/5/2012	11:27
1	51	3/5/2012	13:25
2	11	3/5/2012	14:13
3	51	3/5/2012	15:06
4	51	3/5/2012	15:57
5	11	3/5/2012	16:48
6	51	3/5/2012	17:38
7	26	3/5/2012	18:28
8	51	3/5/2012	19:19
9	51	3/5/2012	20:08
10	11	3/5/2012	20:58
11	11	3/5/2012	21:47
12	51	3/5/2012	22:37
13	51	3/5/2012	23:27
14	51	3/6/2012	0:17
15	51	3/6/2012	1:08
15	51	3/6/2012	1:57
1	51	3/6/2012	2:47
2	51	3/6/2012	3:38
3	51	3/6/2012	4:30
4	51	3/6/2012	5:18
5	11	3/6/2012	6:08
6	51	3/6/2012	7:00

Position	Volume	Date	Time
9	50	3/6/2012	7:52
15	50	3/6/2012	8:43

Data File: /chem/gcms/me.i/E030512.b/ebfbo05.d

Date : 05-MAR-2012 09:00

Client ID: BFB

Instrument: me.i

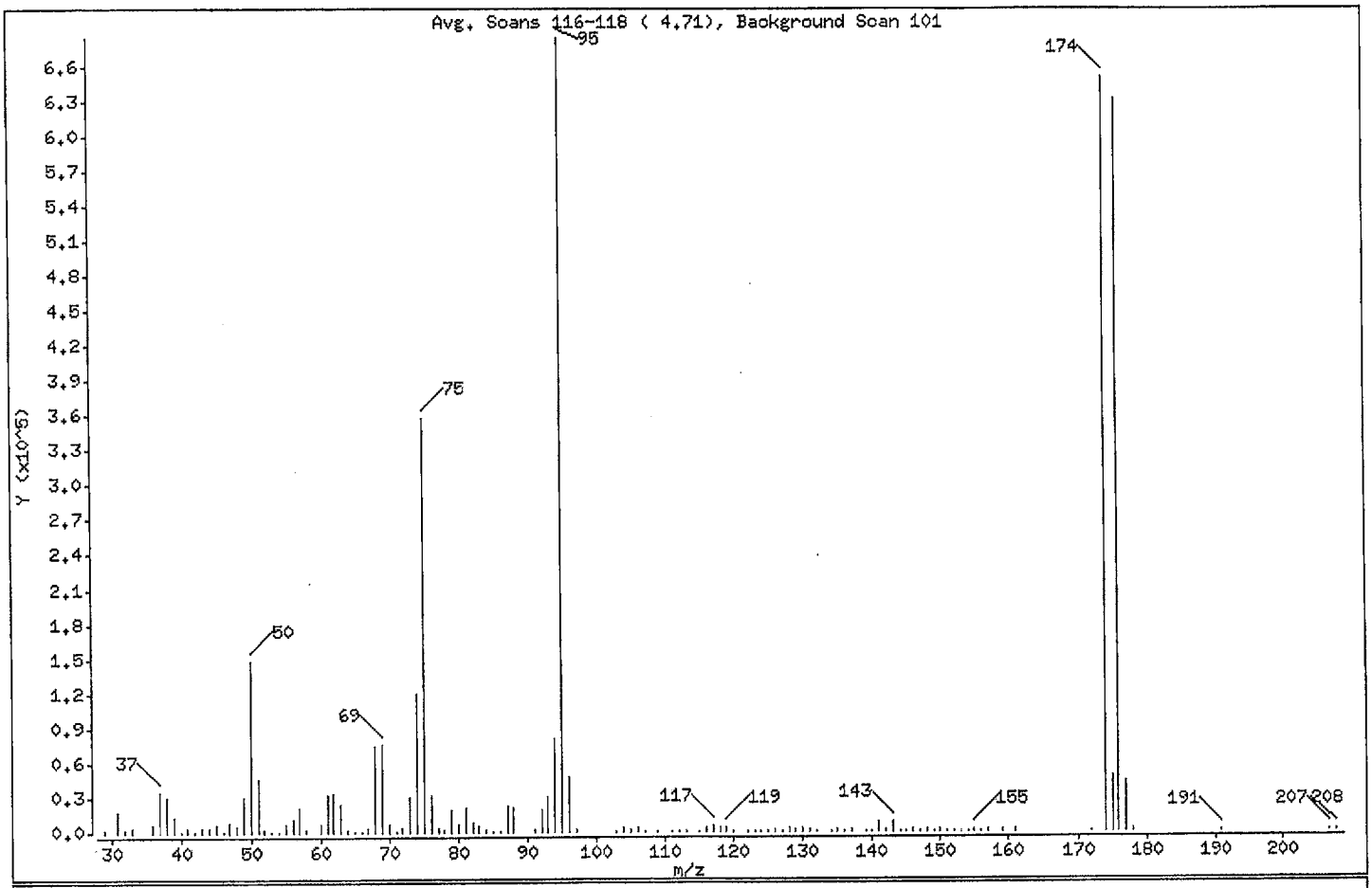
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	21.65
75	30.00 - 60.00% of mass 95	52.28
96	5.00 - 9.00% of mass 95	6.88
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	95.04
175	5.00 - 9.00% of mass 174	6.80 (7.15)
176	95.00 - 101.00% of mass 174	92.28 (97.09)
177	5.00 - 9.00% of mass 176	6.16 (6.68)

Data File: /var/chem/gcms/me.i/E030512.b/eccvc05.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030512.b/TO155.m

Injection Date: 05-MAR-2012 09:32
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.72750	0.70059	0.70059	0.000	3.69816	30.00000	Averaged
M 5 Xylene (total)	1.01264	1.02287	1.02287	0.000	-1.00993	30.00000	Averaged
6 Chlorodifluoromethane	0.55987	0.42013	0.42013	0.000	24.95944	30.00000	Averaged
7 Propene	1.43639	1.35204	1.35204	0.000	5.87238	30.00000	Averaged
10 Dichlorodifluoromethane	4.82567	4.73686	4.73686	0.000	1.84040	30.00000	Averaged
9 Chloromethane	0.51844	0.50010	0.50010	0.000	3.53685	30.00000	Averaged
11 1,2-Dichlorotetrafluoroetha	2.73343	2.58326	2.58326	0.000	5.49392	30.00000	Averaged
8 ~ acetaldehyde	7.52956	10.12000	0.15738	0.000	25.59721	30.00000	Quadratic
12 Methanol	0.30978	0.26605	0.26605	0.000	14.11746	30.00000	Averaged
13 Vinyl Chloride	1.58403	1.52389	1.52389	0.000	3.79639	30.00000	Averaged
14 n-Butane	2.44569	2.20718	2.20718	0.000	9.75231	30.00000	Averaged
15 1,3-Butadiene	1.16516	1.04869	1.04869	0.000	9.99588	30.00000	Averaged
16 Bromomethane	1.57252	1.39462	1.39462	0.000	11.31300	30.00000	Averaged
18 Chloroethane	0.67079	0.65460	0.65460	0.000	2.41399	30.00000	Averaged
17 ~ ethanol	7.68539	10.44000	0.30431	0.000	26.38518	30.00000	Quadratic
19 Vinyl Bromide	1.39027	1.30730	1.30730	0.000	5.96732	30.00000	Averaged
20 2-methyl butane	1.81412	1.55047	1.55047	0.000	14.53326	30.00000	Averaged
21 Trichlorofluoromethane	4.68088	4.37056	4.37056	0.000	6.62945	30.00000	Averaged
22 Acrolein	0.39353	0.39329	0.39329	0.000	0.06157	30.00000	Averaged
23 Acetonitrile	0.40510	0.39602	0.39602	0.000	2.24229	30.00000	Averaged
24 ~~Acetone~~	0.90103	0.44177	0.44177	0.000	~~-50.97053~~	30.00000	Averaged <-NA
25 Pentane	0.20224	0.18517	0.18517	0.000	8.44135	30.00000	Averaged
26 Isopropyl alcohol	1.28746	1.25695	1.25695	0.000	2.36978	30.00000	Averaged
27 Ethyl Ether	1.15104	1.18269	1.18269	0.000	-2.74930	30.00000	Averaged
28 1,1-Dichloroethene	1.17462	1.10345	1.10345	0.000	6.05898	30.00000	Averaged
29 Acrylonitrile	0.91709	0.92557	0.92557	0.000	-0.92471	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.58209	2.52069	2.52069	0.000	2.37819	30.00000	Averaged
31 tert-butanol	2.08282	2.16456	2.16456	0.000	-3.92479	30.00000	Averaged
32 Methylene Chloride	1.23699	1.05579	1.05579	0.000	14.64794	30.00000	Averaged
33 3-Chloropropene	1.42479	1.30945	1.30945	0.000	8.09529	30.00000	Averaged
34 Carbon Disulfide	4.21922	3.85202	3.85202	0.000	8.70317	30.00000	Averaged
35 trans-1,2-Dichloroethene	1.40392	1.34543	1.34543	0.000	4.16601	30.00000	Averaged
36 ~ 2-Methyl Pentane	3.90526	3.57561	3.57561	0.000	8.44120	30.00000	Averaged
37 Methyl-t-Butyl Ether	3.25068	3.27137	3.27137	0.000	-0.63650	30.00000	Averaged
38 1,1-Dichloroethane	2.75587	2.65395	2.65395	0.000	3.69852	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030512.b/eccvc05.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030512.b/TO155.m

Injection Date: 05-MAR-2012 09:32
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 Vinyl Acetate	3.43851	3.40124	3.40124	0.000	1.08392	30.00000	Averaged
40 Hexane	1.28525	1.20260	1.20260	0.000	6.43041	30.00000	Averaged
41 2-Butanone	0.51559	0.46103	0.46103	0.000	10.58247	30.00000	Averaged
42 cis 1,2-Dichloroethene	1.36239	1.32143	1.32143	0.000	3.00630	30.00000	Averaged
43 Ethyl acetate	2.86942	2.73868	2.73868	0.000	4.55623	30.00000	Averaged
44 Chloroform	3.29356	3.14966	3.14966	0.000	4.36921	30.00000	Averaged
45 Tetrahydrofuran	1.48081	1.37783	1.37783	0.000	6.95401	30.00000	Averaged
46 1,1,1-Trichloroethane	3.66226	3.48570	3.48570	0.000	4.82083	30.00000	Averaged
47 1,2-Dichloroethane	0.47546	0.43950	0.43950	0.000	7.56408	30.00000	Averaged
48 Cyclohexane	0.15654	0.13051	0.13051	0.000	16.62715	30.00000	Averaged
49 Benzene	0.83307	0.74414	0.74414	0.000	10.67436	30.00000	Averaged
50 Carbon Tetrachloride	0.75144	0.74314	0.74314	0.000	1.10397	30.00000	Averaged
51 1-Butanol	0.08857	0.08853	0.08853	0.000	0.04833	30.00000	Averaged
52 ~ 2,3-dimethylpentane	0.18569	0.16976	0.16976	0.000	8.57609	30.00000	Averaged
53 ~ Thiophene	0.47889	0.43307	0.43307	0.000	9.56790	30.00000	Averaged
54 2,2,4-trimethylpentane	1.54447	1.38699	1.38699	0.000	10.19598	30.00000	Averaged
55 Heptane	0.31230	0.27502	0.27502	0.000	11.93702	30.00000	Averaged
56 1,2-Dichloropropane	0.32079	0.30204	0.30204	0.000	5.84448	30.00000	Averaged
57 Trichloroethene	0.39897	0.36414	0.36414	0.000	8.73086	30.00000	Averaged
180 2-Nitropropene	0.48768	0.48341	0.48341	0.000	0.87651	25.00000	Averaged
58 Dibromomethane	0.38815	0.35597	0.35597	0.000	8.28914	30.00000	Averaged
59 Bromodichloromethane	0.74157	0.70232	0.70232	0.000	5.29305	30.00000	Averaged
60 1,4-dioxane	0.07806	0.08042	0.08042	0.000	-3.02010	30.00000	Averaged
61 Methyl Methacrylate	0.36971	0.33485	0.33485	0.000	9.42878	30.00000	Averaged
62 ~ methyl cyclohexane	0.51519	0.45994	0.45994	0.000	10.72433	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.48191	0.44836	0.44836	0.000	6.96159	30.00000	Averaged
64 4-Methyl-2-pentanone	0.64256	0.54913	0.54913	0.000	14.54078	30.00000	Averaged
65 trans-1,3-Dichloropropene	0.53029	0.53538	0.53538	0.000	-0.96145	30.00000	Averaged
66 Toluene	1.07924	1.06724	1.06724	0.000	1.11205	30.00000	Averaged
67 1,1,2-Trichloroethane	0.32760	0.32491	0.32491	0.000	0.82038	30.00000	Averaged
68 ~ 2-methyl thiophene	0.89585	0.89384	0.89384	0.000	0.22458	30.00000	Averaged
70 ~ 3-methyl thiophene	0.90080	0.89790	0.89790	0.000	0.32125	30.00000	Averaged
69 2-Hexanone	0.30430	0.28174	0.28174	0.000	7.41473	30.00000	Averaged
71 Octane	0.36697	0.34890	0.34890	0.000	4.92440	30.00000	Averaged
72 Dibromochloromethane	0.74492	0.76425	0.76425	0.000	-2.59441	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030512.b/eccvc05.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030512.b/TO155.m

Injection Date: 05-MAR-2012 09:32
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 1,2-Dibromoethane	0.58706	0.56212	0.56212	0.000	4.24891	30.00000	Averaged
74 Tetrachloroethene	0.45149	0.43113	0.43113	0.000	4.50907	30.00000	Averaged
75 Chlorobenzene	0.82172	0.81299	0.81299	0.000	1.06244	30.00000	Averaged
76 ~ 2,3-dimethylheptane	1.20126	1.14858	1.14858	0.000	4.38505	30.00000	Averaged
77 Ethylbenzene	1.29481	1.31143	1.31143	0.000	-1.28411	30.00000	Averaged
79 ~ 2-ethyl thiophene	1.06532	1.07228	1.07228	0.000	-0.65337	30.00000	Averaged
78 m&p-Xylene	1.00261	1.01671	1.01671	0.000	-1.40613	30.00000	Averaged
80 Nonane	0.78325	0.75344	0.75344	0.000	3.80602	30.00000	Averaged
81 Bromoform	0.79942	0.78952	0.78952	0.000	1.23880	30.00000	Averaged
82 Styrene	0.68299	0.68218	0.68218	0.000	0.11778	30.00000	Averaged
83 o-Xylene	1.03272	1.03520	1.03520	0.000	-0.24063	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.69891	0.67936	0.67936	0.000	2.79814	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19288	0.19053	0.19053	0.000	1.21837	30.00000	Averaged
86 Cumene	1.41249	1.40532	1.40532	0.000	0.50781	30.00000	Averaged
87 n-Propylbenzene	0.34788	0.35290	0.35290	0.000	-1.44348	30.00000	Averaged
88 2-chlorotoluene	0.35700	0.34650	0.34650	0.000	2.94095	30.00000	Averaged
89 4-Ethyltoluene	1.32034	1.29428	1.29428	0.000	1.97388	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57594	0.56504	0.56504	0.000	1.89244	30.00000	Averaged
91 Alpha-Methylstyrene	0.51031	0.48412	0.48412	0.000	5.13144	30.00000	Averaged
92 Decane	0.82537	0.83931	0.83931	0.000	-1.68902	30.00000	Averaged
93 tert-butylbenzene	1.12901	1.09527	1.09527	0.000	2.98783	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.05675	1.00483	1.00483	0.000	4.91345	30.00000	Averaged
95 sec-butylbenzene	1.51762	1.46081	1.46081	0.000	3.74375	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77036	0.69364	0.69364	0.000	9.95806	30.00000	Averaged
97 Benzyl Chloride	0.82883	0.77200	0.77200	0.000	6.85737	30.00000	Averaged
98 1,4-Dichlorobenzene	0.70924	0.64007	0.64007	0.000	9.75254	30.00000	Averaged
99 p-Cymene	1.25900	1.18029	1.18029	0.000	6.25141	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.86630	0.82812	0.82812	0.000	4.40691	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86372	0.82395	0.82395	0.000	4.60469	30.00000	Averaged
102 1,2-Dichlorobenzene	0.69309	0.61737	0.61737	0.000	10.92549	30.00000	Averaged
103 ~ Indane	0.88188	0.81459	0.81459	0.000	7.63092	30.00000	Averaged
105 ~ Indene	0.61554	0.55482	0.55482	0.000	9.86444	30.00000	Averaged
104 n-butylbenzene	1.11355	1.03272	1.03272	0.000	7.25937	30.00000	Averaged
106 Undecane	0.69283	0.57270	0.57270	0.000	17.33981	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96732	0.86454	0.86454	0.000	10.62487	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.92229	0.80485	0.80485	0.000	12.73336	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030512.b/eccvc05.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030512.b/TO155.m

Injection Date: 05-MAR-2012 09:32
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.69406	0.59992	0.59992	0.000	13.56352	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.74184	0.58545	0.58545	0.000	21.08190	30.00000	Averaged	
111 Dodecane	0.46156	0.50358	0.50358	0.000	-9.10416	30.00000	Averaged	
112 1,2,4-Trichlorobenzene	0.33280	0.25087	0.25087	0.000	24.61639	30.00000	Averaged	
113 Napthalene	0.57074	0.40575	0.40575	0.000	28.90774	30.00000	Averaged	
114 ~ benzo(b) thiophene	0.31049	0.21086	0.21086	0.000	32.00001	30.00000	Averaged	<- OL
115 Hexachlorobutadiene	0.64451	0.51023	0.51023	0.000	20.83413	30.00000	Averaged	
116 1,2,3-trichlorobenzene	0.28291	0.20368	0.20368	0.000	28.00638	30.00000	Averaged	
117 ~ 2-Methylnaphthalene	0.04231	0.02152	0.02152	0.000	49.13668	50.00000	Averaged	
118 ~ 1-Methylnaphthalene	0.04168	0.01929	0.01929	0.000	53.72854	50.00000	Averaged	<- OL

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C050000 - 117B **Work Order #** MQ8MN1AA **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Time...:**	03/05/2012
Prep Batch #.....:	2065117	**Analysis Time...:**	11:27
Dilution Factor.:	1	**Method.....:**	TO-15

Inst: MC

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.050 J**	**0.20**	**0.018**	**0.17 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C050000 - 117C **Work Order #** MQ8MN1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/~~23~~/2012
Prep Date.....:	03/05/2012	**Analysis Time...:**	03/05/2012
Prep Batch #.....:	2065117	**Analysis Time...:**	09:32
Dilution Factor.:	1	**Method.....:**	TO-15

Insts ME

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.47	16.0	14.3	89	70 - 130
Carbon tetrachloride	5.00	4.94	31.5	31.1	99	70 - 130
Chlorodifluoromethane	5.00	3.75	17.7	13.3	75	60 - 140
Chloroform	5.00	4.78	24.4	23.3	96	70 - 130
Dichlorodifluoromethane	5.00	4.91	24.7	24.3	98	60 - 140
1,1-Dichloroethane	5.00	4.82	20.2	19.5	96	70 - 130
1,2-Dichloroethane	5.00	4.62	20.2	18.7	92	70 - 130
cis-1,2-Dichloroethene	5.00	4.85	19.8	19.2	97	70 - 130
trans-1,2-Dichloroethene	5.00	4.79	19.8	19.0	96	70 - 130
1,1-Dichloroethene	5.00	4.70	19.8	18.6	94	70 - 130
Ethylbenzene	5.00	5.06	21.7	22.0	101	70 - 130
Methylene chloride	5.00	4.27	17.4	14.8	85	70 - 130
Methyl tert-butyl ether	5.00	5.03	18.0	18.1	101	60 - 140
Naphthalene	5.00	3.56	26.2	18.6	71	40 - 140
Tetrachloroethene	5.00	4.77	33.9	32.4	95	70 - 130
Toluene	5.00	4.94	18.8	18.6	99	70 - 130
1,2,4-Trichlorobenzene	5.00	3.77	37.1	28.0	75	60 - 140
1,1,1-Trichloroethane	5.00	4.76	27.3	26.0	95	70 - 130
1,1,2-Trichloroethane	5.00	4.96	27.3	27.1	99	70 - 130
Trichloroethene	5.00	4.56	26.9	24.5	91	70 - 130
1,2,3-Trimethylbenzene	5.10	4.97	25.1	24.4	97	20 - 180
1,2,4-Trimethylbenzene	5.00	4.75	24.6	23.4	95	70 - 130
1,3,5-Trimethylbenzene	5.00	4.90	24.6	24.1	98	70 - 130
Vinyl chloride	5.00	4.81	12.8	12.3	96	70 - 130
Xylenes (total)	15.0	15.2	65.1	65.8	101	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/6/12	CCAL Batch/ Scan Name:	ED30612	Instrument:	ME	ICAL Batch/ Scan Name:	ED30112S	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓		#11 +35	✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		□ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				NA
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 3/6/12	2nd Level Reviewer :	Date: 3/7/12
Comments:		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Inst: ME

Analyst: THR Qtims Batch: 2066141 (MQ9GW)

Date: 3/6/12 ICAL Batch: E030112I Target Batch: E03062 IS #1 Area: 267101

Surr/IS ID & Vol.: 40MCV425 System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☑Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0958	✓	THP	EBFBC06	—	16	100	1	
1033	✓	CCV	CCV	CV2323	15			#11 35+
1033	✓	LCS	LCS					
1234	OK	Blk	Flush	—	16	500		
1332	✓		EBlkC06	—				
1425	✓	H2B230465	MQ20N1AA	LS178	1	50	1	
1517	✓		20X	LS122	2	86	1.72	1
1609	✓		200	LS169	3	50	1	
1659	✓		201	L8182	4	50	1	3/6/12 LR
1750	✓		208	LS104	5	20	3.07	76.75
1841	✓	H2B230466	MQ2152AA	LS163	6	11	150.0	10mL VCL
1936	✓	H2B230469	MQ23N1AA	1362N	7	500	1	
2029	E		23P	11370	8			E chlorodifluoro RR 200m
2123	E		23R	12298	9			" " RR 200m
2215	✓		23V	04307	10			
2311	✓		230	02306	11			
0001	✓		234	93245	12	250		
0057	✓		237	93239	13	500		
0151	✓		239	1287N	14			
0242	✓		24C	03841	15			
0334	THP		24CD	03841	15			
0423	✓	H2B230465	MQ2041AA	LA2072	1	218.	4.36	MQ2031AA
0517	✓	H2B230469	MQ24E1AA 3/6/12 LR	93244	2	500	1	
0611	✓		4F	S1489	3			
0704	✓		4J	1316N	4			
0757	✓		4L	A281	5			
0847	✓	lot 9763	B003 →		6			STD can
	MS	9761	1006 →		7			
		9759	5506 →		16			

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 3/7/12

Test America - Knoxville

Entech Autosampler Log

Position	Volume	Date	Time
16	101	3/6/2012	9:58
15	101	3/6/2012	10:33
16	501	3/6/2012	12:33
16	500	3/6/2012	13:32
1	51	3/6/2012	14:25
2	86	3/6/2012	15:17
3	51	3/6/2012	16:09
4	51	3/6/2012	16:58
5	21	3/6/2012	17:50
6	11	3/6/2012	18:41
7	501	3/6/2012	19:36
8	501	3/6/2012	20:29
9	501	3/6/2012	21:23
10	501	3/6/2012	22:15
11	501	3/6/2012	23:11
12	251	3/7/2012	0:01
13	501	3/7/2012	0:57
14	501	3/7/2012	1:51
15	501	3/7/2012	2:42
15	501	3/7/2012	3:34
1	218	3/7/2012	4:23
2	501	3/7/2012	5:17
3	501	3/7/2012	6:11
4	501	3/7/2012	7:04
5	501	3/7/2012	7:56
6	501	3/7/2012	8:47

Data File: /chem/gcms/me.i/E030612.b/ebfbc06.d

Date : 06-MAR-2012 09:58

Client ID: BFB

Instrument: me.i

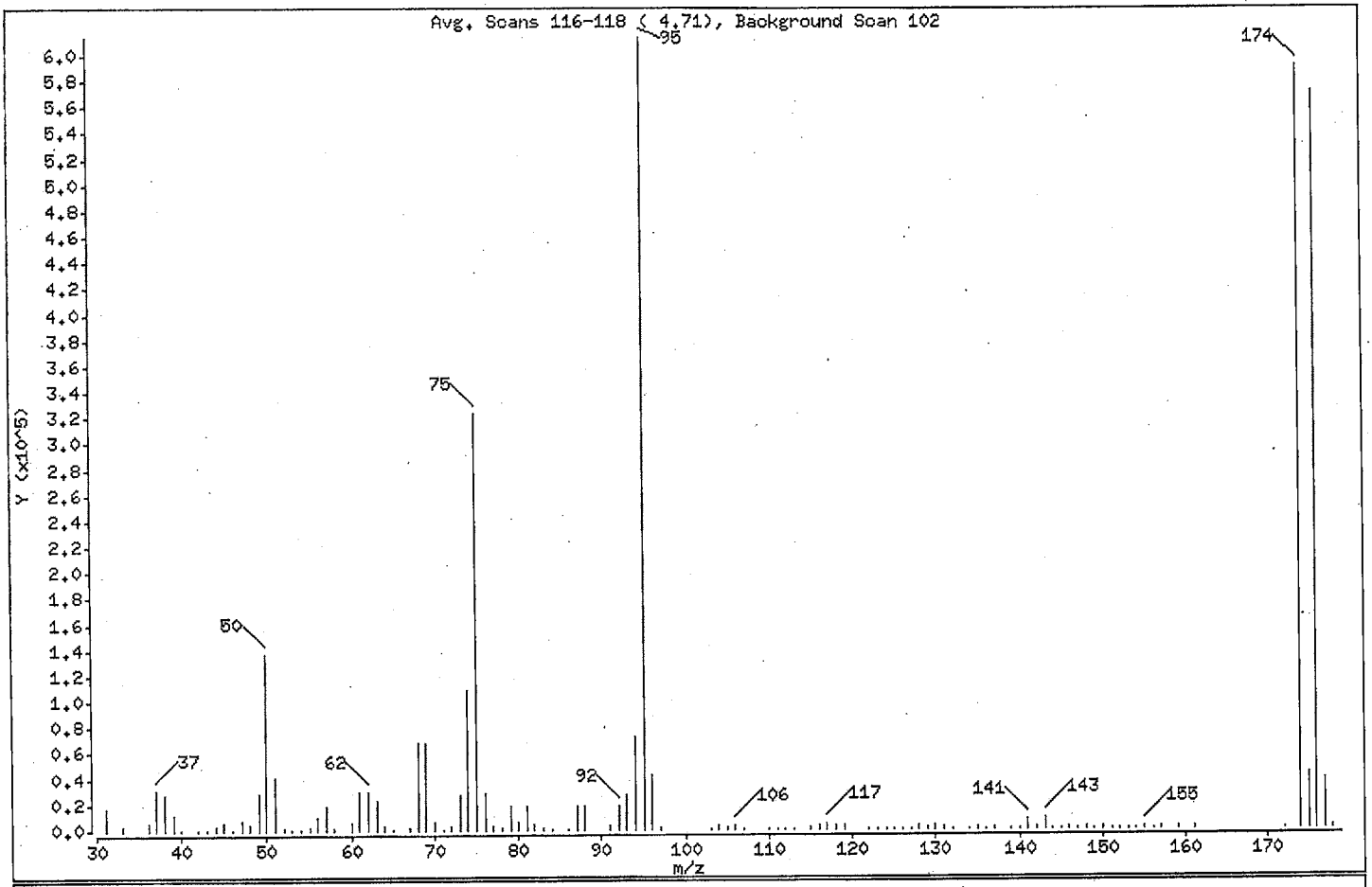
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.40
75	30.00 - 60.00% of mass 95	52.61
96	5.00 - 9.00% of mass 95	6.79
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	96.41
175	5.00 - 9.00% of mass 174	6.80 (7.06)
176	95.00 - 101.00% of mass 174	93.21 (96.69)
177	5.00 - 9.00% of mass 176	6.15 (6.60)

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.72750	0.72384	0.72384	0.000	0.50231	30.00000	Averaged
M 5 Xylene (total)	1.01264	1.07079	1.07079	0.000	-5.74173	30.00000	Averaged
6 Chlorodifluoromethane	0.55987	0.59602	0.59602	0.000	-6.45619	30.00000	Averaged
7 Propene	1.43639	1.60311	1.60311	0.000	-11.60652	30.00000	Averaged
10 Dichlorodifluoromethane	4.82567	5.63028	5.63028	0.000	-16.67358	30.00000	Averaged
9 Chloromethane	0.51844	0.55971	0.55971	0.000	-7.96142	30.00000	Averaged
11 ~~1,2-Dichlorotetrafluoroetha~~	2.73343	3.69723	3.69723	0.000	~~-35.25980~~	30.00000	Averaged <- 60.140
8 ~ acetaldehyde	8.41568	10.12000	0.17339	0.000	16.84115	30.00000	Quadratic
12 Methanol	0.30978	0.30903	0.30903	0.000	0.24164	30.00000	Averaged
13 Vinyl Chloride	1.58403	1.78929	1.78929	0.000	-12.95824	30.00000	Averaged
14 n-Butane	2.44569	2.69073	2.69073	0.000	-10.01945	30.00000	Averaged
15 1,3-Butadiene	1.16516	1.31950	1.31950	0.000	-13.24591	30.00000	Averaged
16 Bromomethane	1.57252	1.69076	1.69076	0.000	-7.51936	30.00000	Averaged
18 Chloroethane	0.67079	0.76123	0.76123	0.000	-13.48253	30.00000	Averaged
17 ~ ethanol	9.77333	10.44000	0.36147	0.000	6.38573	30.00000	Quadratic
19 Vinyl Bromide	1.39027	1.55220	1.55220	0.000	-11.64788	30.00000	Averaged
20 2-methyl butane	1.81412	1.92324	1.92324	0.000	-6.01490	30.00000	Averaged
21 Trichlorofluoromethane	4.68088	5.40516	5.40516	0.000	-15.47308	30.00000	Averaged
22 Acrolein	0.39353	0.44381	0.44381	0.000	-12.77483	30.00000	Averaged
23 Acetonitrile	0.40510	0.44540	0.44540	0.000	-9.94676	30.00000	Averaged
24 ~~Acetone~~	0.90103	0.57167	0.57167	0.000	~~36.55348~~	30.00000	Averaged <- WP
25 Pentane	0.20224	0.22026	0.22026	0.000	-8.91182	30.00000	Averaged
26 Isopropyl alcohol	1.28746	1.40893	1.40893	0.000	-9.43439	30.00000	Averaged
27 Ethyl Ether	1.15104	1.32695	1.32695	0.000	-15.28269	30.00000	Averaged
28 1,1-Dichloroethene	1.17462	1.26259	1.26259	0.000	-7.48930	30.00000	Averaged
29 Acrylonitrile	0.91709	1.00163	1.00163	0.000	-9.21806	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.58209	2.76235	2.76235	0.000	-6.98082	30.00000	Averaged
31 tert-butanol	2.08282	2.35445	2.35445	0.000	-13.04133	30.00000	Averaged
32 Methylene Chloride	1.23699	1.14230	1.14230	0.000	7.65433	30.00000	Averaged
33 3-Chloropropene	1.42479	1.46341	1.46341	0.000	-2.71033	30.00000	Averaged
34 Carbon Disulfide	4.21922	4.64968	4.64968	0.000	-10.20223	30.00000	Averaged
35 trans-1,2-Dichloroethene	1.40392	1.44393	1.44393	0.000	-2.84997	30.00000	Averaged
36 ~ 2-Methyl Pentane	3.90526	4.02090	4.02090	0.000	-2.96116	30.00000	Averaged
37 Methyl-t-Butyl Ether	3.25068	3.71051	3.71051	0.000	-14.14545	30.00000	Averaged
38 1,1-Dichloroethane	2.75587	2.88294	2.88294	0.000	-4.61068	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 Vinyl Acetate	3.43851	3.87386	3.87386	0.000	-12.66114	30.00000	Averaged
40 Hexane	1.28525	1.29831	1.29831	0.000	-1.01658	30.00000	Averaged
41 2-Butanone	0.51559	0.52405	0.52405	0.000	-1.64031	30.00000	Averaged
42 cis 1,2-Dichloroethene	1.36239	1.36227	1.36227	0.000	0.00887	30.00000	Averaged
43 Ethyl acetate	2.86942	3.27052	3.27052	0.000	-13.97845	30.00000	Averaged
44 Chloroform	3.29356	3.41907	3.41907	0.000	-3.81055	30.00000	Averaged
45 Tetrahydrofuran	1.48081	1.57105	1.57105	0.000	-6.09443	30.00000	Averaged
46 1,1,1-Trichloroethane	3.66226	3.85065	3.85065	0.000	-5.14419	30.00000	Averaged
47 1,2-Dichloroethane	0.47546	0.49858	0.49858	0.000	-4.86237	30.00000	Averaged
48 Cyclohexane	0.15654	0.14031	0.14031	0.000	10.36727	30.00000	Averaged
49 Benzene	0.83307	0.78432	0.78432	0.000	5.85187	30.00000	Averaged
50 Carbon Tetrachloride	0.75144	0.75639	0.75639	0.000	-0.65926	30.00000	Averaged
51 1-Butanol	0.08857	0.09537	0.09537	0.000	-7.67549	30.00000	Averaged
52 ~ 2,3-dimethylpentane	0.18569	0.18047	0.18047	0.000	2.80841	30.00000	Averaged
53 ~ Thiophene	0.47889	0.45254	0.45254	0.000	5.50191	30.00000	Averaged
54 2,2,4-trimethylpentane	1.54447	1.50093	1.50093	0.000	2.81870	30.00000	Averaged
55 Heptane	0.31230	0.29235	0.29235	0.000	6.38976	30.00000	Averaged
56 1,2-Dichloropropane	0.32079	0.32274	0.32274	0.000	-0.60761	30.00000	Averaged
57 Trichloroethene	0.39897	0.37222	0.37222	0.000	6.70444	30.00000	Averaged
180 2-Nitropropene	0.48768	0.61450	0.61450	0.000	-26.00454	25.00000	Averaged <-17
58 Dibromomethane	0.38815	0.37568	0.37568	0.000	3.21112	30.00000	Averaged
59 Bromodichloromethane	0.74157	0.75284	0.75284	0.000	-1.51880	30.00000	Averaged
60 1,4-dioxane	0.07806	0.08179	0.08179	0.000	-4.77753	30.00000	Averaged
61 Methyl Methacrylate	0.36971	0.39646	0.39646	0.000	-7.23523	30.00000	Averaged
62 ~ methyl cyclohexane	0.51519	0.49093	0.49093	0.000	4.70860	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.48191	0.47819	0.47819	0.000	0.77190	30.00000	Averaged
64 4-Methyl-2-pentanone	0.64256	0.58921	0.58921	0.000	8.30375	30.00000	Averaged
65 trans-1,3-Dichloropropene	0.53029	0.57911	0.57911	0.000	-9.20647	30.00000	Averaged
66 Toluene	1.07924	1.10036	1.10036	0.000	-1.95703	30.00000	Averaged
67 1,1,2-Trichloroethane	0.32760	0.34334	0.34334	0.000	-4.80503	30.00000	Averaged
68 ~ 2-methyl thiophene	0.89585	0.92657	0.92657	0.000	-3.42995	30.00000	Averaged
70 ~ 3-methyl thiophene	0.90080	0.93019	0.93019	0.000	-3.26278	30.00000	Averaged
69 2-Hexanone	0.30430	0.30289	0.30289	0.000	0.46370	30.00000	Averaged
71 Octane	0.36697	0.36701	0.36701	0.000	-0.01083	30.00000	Averaged
72 Dibromochloromethane	0.74492	0.78690	0.78690	0.000	-5.63585	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO155.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 1,2-Dibromoethane	0.58706	0.59431	0.59431	0.000	-1.23354	30.00000	Averaged
74 Tetrachloroethene	0.45149	0.46022	0.46022	0.000	-1.93573	30.00000	Averaged
75 Chlorobenzene	0.82172	0.82855	0.82855	0.000	-0.83063	30.00000	Averaged
76 ~ 2,3-dimethylheptane	1.20126	1.24633	1.24633	0.000	-3.75211	30.00000	Averaged
77 Ethylbenzene	1.29481	1.36017	1.36017	0.000	-5.04849	30.00000	Averaged
79 ~ 2-ethyl thiophene	1.06532	1.11173	1.11173	0.000	-4.35662	30.00000	Averaged
78 m&p-Xylene	1.00261	1.06707	1.06707	0.000	-6.42937	30.00000	Averaged
80 Nonane	0.78325	0.80633	0.80633	0.000	-2.94552	30.00000	Averaged
81 Bromoform	0.79942	0.78407	0.78407	0.000	1.92021	30.00000	Averaged
82 Styrene	0.68299	0.68911	0.68911	0.000	-0.89593	30.00000	Averaged
83 o-Xylene	1.03272	1.07822	1.07822	0.000	-4.40654	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.69891	0.70264	0.70264	0.000	-0.53391	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19288	0.19957	0.19957	0.000	-3.46821	30.00000	Averaged
86 Cumene	1.41249	1.45570	1.45570	0.000	-3.05884	30.00000	Averaged
87 n-Propylbenzene	0.34788	0.35637	0.35637	0.000	-2.44060	30.00000	Averaged
88 2-chlorotoluene	0.35700	0.34272	0.34272	0.000	3.99901	30.00000	Averaged
89 4-Ethyltoluene	1.32034	1.34246	1.34246	0.000	-1.67505	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57594	0.57394	0.57394	0.000	0.34781	30.00000	Averaged
91 Alpha-Methylstyrene	0.51031	0.47751	0.47751	0.000	6.42668	30.00000	Averaged
92 Decane	0.82537	0.89856	0.89856	0.000	-8.86869	30.00000	Averaged
93 tert-butylbenzene	1.12901	1.11943	1.11943	0.000	0.84787	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.05675	1.02791	1.02791	0.000	2.72952	30.00000	Averaged
95 sec-butylbenzene	1.51762	1.47207	1.47207	0.000	3.00174	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77036	0.69095	0.69095	0.000	10.30844	30.00000	Averaged
97 Benzyl Chloride	0.82883	0.79915	0.79915	0.000	3.58159	30.00000	Averaged
98 1,4-Dichlorobenzene	0.70924	0.64195	0.64195	0.000	9.48764	30.00000	Averaged
99 p-Cymene	1.25900	1.20177	1.20177	0.000	4.54539	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.86630	0.83069	0.83069	0.000	4.11082	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86372	0.83234	0.83234	0.000	3.63356	30.00000	Averaged
102 1,2-Dichlorobenzene	0.69309	0.60859	0.60859	0.000	12.19172	30.00000	Averaged
103 ~ Indane	0.88188	0.81388	0.81388	0.000	7.71111	30.00000	Averaged
105 ~ Indene	0.61554	0.54406	0.54406	0.000	11.61211	30.00000	Averaged
104 n-butylbenzene	1.11355	1.06436	1.06436	0.000	4.41796	30.00000	Averaged
106 Undecane	0.69283	0.61069	0.61069	0.000	11.85553	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96732	0.87336	0.87336	0.000	9.71320	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.92229	0.82040	0.82040	0.000	11.04757	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.69406	0.62007	0.62007	0.000	10.66071	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.74184	0.63848	0.63848	0.000	13.93391	30.00000	Averaged	
111 Dodecane	0.46156	0.36123	0.36123	0.000	21.73714	30.00000	Averaged	
112 1,2,4-Trichlorobenzene	0.33280	0.25694	0.25694	0.000	22.79337	30.00000	Averaged	
113 Napthalene	0.57074	0.43312	0.43312	0.000	24.11320	30.00000	Averaged	
114 ~ benzo(b) thiophene	0.31049	0.20132	0.20132	0.000	35.16865	30.00000	Averaged	<-OK
115 Hexachlorobutadiene	0.64451	0.55707	0.55707	0.000	13.56574	30.00000	Averaged	
116 1,2,3-trichlorobenzene	0.28291	0.14089	0.14089	0.000	50.19976	30.00000	Averaged	<-NT
117 ~ 2-Methylnaphthalene	0.04231	0.02288	0.02288	0.000	45.91968	50.00000	Averaged	
118 ~ 1-Methylnaphthalene	0.04168	0.02153	0.02153	0.000	48.33553	50.00000	Averaged	

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C060000 - 141B **Work Order #** MQ9GW1AA **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	13:32
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.050 J**	**0.20**	**0.018**	**0.17 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C060000 - 141C **Work Order #** MQ9GW1AC **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time...:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	10:33
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.71	16.0	15.0	94	70 - 130
Carbon tetrachloride	5.00	5.03	31.5	31.7	101	70 - 130
Chlorodifluoromethane	5.00	5.32	17.7	18.8	106	60 - 140
Chloroform	5.00	5.19	24.4	25.3	104	70 - 130
Dichlorodifluoromethane	5.00	5.83	24.7	28.9	117	60 - 140
1,1-Dichloroethane	5.00	5.23	20.2	21.2	105	70 - 130
1,2-Dichloroethane	5.00	5.24	20.2	21.2	105	70 - 130
cis-1,2-Dichloroethene	5.00	5.00	19.8	19.8	100	70 - 130
trans-1,2-Dichloroethene	5.00	5.14	19.8	20.4	103	70 - 130
1,1-Dichloroethene	5.00	5.37	19.8	21.3	107	70 - 130
Ethylbenzene	5.00	5.25	21.7	22.8	105	70 - 130
Methylene chloride	5.00	4.62	17.4	16.0	92	70 - 130
Methyl tert-butyl ether	5.00	5.71	18.0	20.6	114	60 - 140
Naphthalene	5.00	3.79	26.2	19.9	76	40 - 140
Tetrachloroethene	5.00	5.10	33.9	34.6	102	70 - 130
Toluene	5.00	5.10	18.8	19.2	102	70 - 130
1,2,4-Trichlorobenzene	5.00	3.86	37.1	28.6	77	60 - 140
1,1,1-Trichloroethane	5.00	5.26	27.3	28.7	105	70 - 130
1,1,2-Trichloroethane	5.00	5.24	27.3	28.6	105	70 - 130
Trichloroethene	5.00	4.66	26.9	25.1	93	70 - 130
1,2,3-Trimethylbenzene	5.10	4.99	25.1	24.5	98	20 - 180
1,2,4-Trimethylbenzene	5.00	4.86	24.6	23.9	97	70 - 130
1,3,5-Trimethylbenzene	5.00	4.98	24.6	24.5	100	70 - 130
Vinyl chloride	5.00	5.65	12.8	14.4	113	70 - 130
Xylenes (total)	15.0	15.9	65.1	68.9	106	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Data File: /var/chem/gcms/mj.i/J022812.b/mq20k1aa.d
Report Date: 29-Feb-2012 10:39

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ20K1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-001-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/mj.i/J022812.b/TO15.m
Misc Info: J022812,TO15,tetra.sub,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.194	104.85	70-130

Data File: /var/chem/gcms/mg.i/G030512A.b/mq20t1aa.d
Report Date: 06-Mar-2012 13:38

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ20T1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-015-A-12
Operator: 403648
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/mg.i/G030512A.b/TO15.m
Misc Info: G030512A,TO15,tetra.sub,,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.418	110.46	70-130

Data File: /var/chem/gcms/mg.i/G022812.b/mq20h1aa.d
Report Date: 29-Feb-2012 10:09

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ20H1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-018-A-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/mg.i/G022812.b/TO15.m
Misc Info: G022812,TO15,tetra.sub,,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.584	114.61	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq20x1aa.d
Report Date: 06-Mar-2012 19:27

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ20X1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-075-A-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.132	103.31	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq2001aa.d
Report Date: 06-Mar-2012 19:27

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230465
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ2001AA
Client Smp ID: SV-076-A-12
Level: LOW
Operator: 7126
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.948	98.70	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq2011aa.d
Report Date: 06-Mar-2012 19:27

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2011AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-077-A-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.145	103.62	70-130

Data File: /var/chem/gcms/mg.i/G030512A.b/mq2041aa.d
Report Date: 06-Mar-2012 13:37

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2041AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mg.i/G030512A.b/TO15.m
Misc Info: G030512A,TO15,tetra.sub,,,,

Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-079-A-12
Operator: 403648
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.216	105.40	70-130

Data File: /var/chem/gcms/mg.i/G022812.b/mq20g1aa.d
Report Date: 29-Feb-2012 10:09

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ20G1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mg.i/G022812.b/TO15.m
Misc Info: G022812,TO15,tetra.sub,,,,

Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-093-A-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.433	110.82	70-130

Data File: /var/chem/gcms/mj.i/J022812.b/mq20j1aa.d
Report Date: 29-Feb-2012 10:39

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ20J1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-094-A-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J022812.b/TO15.m
Misc Info: J022812,TO15,tetra.sub,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.197	104.93	70-130

Data File: /var/chem/gcms/mg.i/G030512A.b/mq2021aa.d
Report Date: 06-Mar-2012 13:37

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2021AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mg.i/G030512A.b/TO15.m
Misc Info: G030512A,TO15,tetra.sub,,,,

Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-096-A-12
Operator: 403648
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.427	110.67	70-130

Data File: /var/chem/gcms/mg.i/G030512A.b/mq2051aa.d
Report Date: 06-Mar-2012 13:38

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2051AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mg.i/G030512A.b/TO15.m
Misc Info: G030512A,TO15,tetra.sub,,,,

Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-097-A-12
Operator: 403648
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.368	109.20	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq2081aa.d
Report Date: 06-Mar-2012 19:28

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2081AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-102-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.893	97.33	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq20r1aa.d
Report Date: 06-Mar-2012 09:57

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ20R1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-106-A-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.967	99.18	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq2031aa.d
Report Date: 07-Mar-2012 11:22

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2031AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-107-A-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.983	99.57	70-130

Data File: /var/chem/gcms/mg.i/G030512A.b/mq20w1aa.d
Report Date: 06-Mar-2012 13:38

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ20W1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mg.i/G030512A.b/TO15.m
Misc Info: G030512A,TO15,tetra.sub,,,,

Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-108-A-12
Operator: 403648
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.346	108.66	70-130

Data File: /var/chem/gcms/mg.i/G022812.b/mq20f1aa.d
Report Date: 29-Feb-2012 10:08

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ20F1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mg.i/G022812.b/TO15.m
Misc Info: G022812,TO15,tetra.sub,,,,

Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-109-A-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.408	110.21	70-130

Data File: /var/chem/gcms/mg.i/G022812.b/mq20d1aa.d
Report Date: 29-Feb-2012 10:07

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ20D1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-116-A-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/mg.i/G022812.b/TO15.m
Misc Info: G022812,TO15,tetra.sub,,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.616	115.40	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq20q1aa.d
Report Date: 06-Mar-2012 09:57

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ20Q1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-117-A-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.907	97.68	70-130

Data File: /var/chem/gcms/mj.i/J022812.b/mq20m1aa.d
Report Date: 29-Feb-2012 10:39

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ20M1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J022812.b/TO15.m
Misc Info: J022812,TO15,tetra.sub,,,

Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-118-A-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.266	106.66	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq20n1aa.d
Report Date: 06-Mar-2012 19:27

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230465
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ20N1AA
Client Smp ID: SV-119-A-12
Level: LOW
Operator: 7126
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.142	103.56	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2011aa.d
Report Date: 06-Mar-2012 09:56

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230465
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ20L1AA
Client Smp ID: SV-120-A-12
Level: LOW
Operator: 7126
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.830	95.76	70-130

Data File: /var/chem/gcms/mg.i/G030512A.b/mq2071aa.d
Report Date: 06-Mar-2012 13:38

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2071AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mg.i/G030512A.b/TO15.m
Misc Info: G030512A,TO15,tetra.sub,,,,

Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-DUP-3-12
Operator: 403648
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.101	102.52	70-130

Data File: /var/chem/gcms/mg.i/G030512A.b/mq2061aa.d
Report Date: 06-Mar-2012 13:38

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2061AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-DUP-5-12
Operator: 403648
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/mg.i/G030512A.b/TO15.m
Misc Info: G030512A,TO15,tetra.sub,,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.805	95.12	70-130

Data File: /var/chem/gcms/mj.i/J022812.b/mq20p1aa.d
Report Date: 29-Feb-2012 10:40

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ20P1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J022812.b/TO15.m
Misc Info: J022812,TO15,tetra.sub,,,

Client SDG: H2B230465
Fraction: OTHER
Client Smp ID: SV-DUP4-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.268	106.71	70-130

Data File: /var/chem/gcms/mj.i/J022812.b/mq20k1aa.d
Report Date: 29-Feb-2012 10:39

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq20k1aa.d
Lab Smp Id: MQ20K1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J022812.b/TO15.m
Misc Info: J022812,TO15,tetra.sub,,,

Calibration Date: 28-FEB-2012
Calibration Time: 09:17
Client Smp ID: SV-001-C-12
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	490099	291609	688589	511902	4.45
2 1,4-Difluorobenze	1751181	1041953	2460409	2237300	27.76
3 Chlorobenzene-d5	1689726	1005387	2374065	2011061	19.02

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.08	8.75	9.41	9.08	0.03
2 1,4-Difluorobenze	11.26	10.93	11.59	11.26	0.02
3 Chlorobenzene-d5	15.97	15.64	16.30	15.97	0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G030512A.b/mq20t1aa.d
Report Date: 06-Mar-2012 13:38

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mq20t1aa.d
Lab Smp Id: MQ20T1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mg.i/G030512A.b/TO15.m
Misc Info: G030512A,TO15,tetra.sub,,,,

Calibration Date: 05-MAR-2012
Calibration Time: 12:28
Client Smp ID: SV-015-A-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	137917	82061	193773	109463	-20.63
2 1,4-Difluorobenze	672033	399860	944206	579531	-13.76
3 Chlorobenzene-d5	703189	418397	987981	579049	-17.65

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	0.00
2 1,4-Difluorobenze	10.29	9.96	10.62	10.29	0.00
3 Chlorobenzene-d5	15.11	14.78	15.44	15.11	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G022812.b/mq20h1aa.d
Report Date: 29-Feb-2012 10:09

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mq20h1aa.d
Lab Smp Id: MQ20H1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G022812.b/TO15.m
Misc Info: G022812,TO15,tetra.sub,,,,

Calibration Date: 28-FEB-2012
Calibration Time: 09:53
Client Smp ID: SV-018-A-12
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	170304	101331	239277	134880	-20.80
2 1,4-Difluorobenze	923472	549466	1297478	734774	-20.43
3 Chlorobenzene-d5	907511	539969	1275053	703002	-22.54

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.13
2 1,4-Difluorobenze	10.30	9.97	10.63	10.30	-0.05
3 Chlorobenzene-d5	15.12	14.79	15.45	15.11	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq20x1aa.d
Report Date: 06-Mar-2012 19:27

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq20x1aa.d
Lab Smp Id: MQ20X1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: SV-075-A-12
Level: LOW
Sample Type: AIR
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	225057	-15.74
2 1,4-Difluorobenze	1341010	797901	1884119	1134195	-15.42
3 Chlorobenzene-d5	1134838	675229	1594447	1021647	-9.97

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.10
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq2001aa.d
Report Date: 06-Mar-2012 19:27

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2001aa.d
Lab Smp Id: MQ2001AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: SV-076-A-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	240987	-9.78
2 1,4-Difluorobenze	1341010	797901	1884119	1204935	-10.15
3 Chlorobenzene-d5	1134838	675229	1594447	1004083	-11.52

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	0.00
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G030512A.b/mq2041aa.d
Report Date: 06-Mar-2012 13:37

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mq2041aa.d
Lab Smp Id: MQ2041AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mg.i/G030512A.b/TO15.m
Misc Info: G030512A,TO15,tetra.sub,,,,

Calibration Date: 05-MAR-2012
Calibration Time: 12:28
Client Smp ID: SV-079-A-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	137917	82061	193773	158381	14.84
2 1,4-Difluorobenze	672033	399860	944206	807664	20.18
3 Chlorobenzene-d5	703189	418397	987981	767974	9.21

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.06
2 1,4-Difluorobenze	10.29	9.96	10.62	10.29	-0.05
3 Chlorobenzene-d5	15.11	14.78	15.44	15.11	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G022812.b/mq20g1aa.d
Report Date: 29-Feb-2012 10:09

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mq20g1aa.d
Lab Smp Id: MQ20G1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G022812.b/TO15.m
Misc Info: G022812,TO15,tetra.sub,,,,

Calibration Date: 28-FEB-2012
Calibration Time: 09:53
Client Smp ID: SV-093-A-12
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	170304	101331	239277	167112	-1.87
2 1,4-Difluorobenze	923472	549466	1297478	882826	-4.40
3 Chlorobenzene-d5	907511	539969	1275053	839983	-7.44

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.13
2 1,4-Difluorobenze	10.30	9.97	10.63	10.30	-0.05
3 Chlorobenzene-d5	15.12	14.79	15.45	15.11	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq2011aa.d
Report Date: 06-Mar-2012 19:27

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2011aa.d
Lab Smp Id: MQ2011AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: SV-077-A-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	217322	-18.64
2 1,4-Difluorobenze	1341010	797901	1884119	1032380	-23.01
3 Chlorobenzene-d5	1134838	675229	1594447	877107	-22.71

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.13
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J022812.b/mq20j1aa.d
Report Date: 29-Feb-2012 10:39

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq20j1aa.d
Lab Smp Id: MQ20J1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J022812.b/TO15.m
Misc Info: J022812,TO15,tetra.sub,,,

Calibration Date: 28-FEB-2012
Calibration Time: 09:17
Client Smp ID: SV-094-A-12
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	490099	291609	688589	516267	5.34
2 1,4-Difluorobenze	1751181	1041953	2460409	2260015	29.06
3 Chlorobenzene-d5	1689726	1005387	2374065	2017252	19.38

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.08	8.75	9.41	9.08	0.06
2 1,4-Difluorobenze	11.26	10.93	11.59	11.26	0.05
3 Chlorobenzene-d5	15.97	15.64	16.30	15.97	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G030512A.b/mq2021aa.d
Report Date: 06-Mar-2012 13:37

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mq2021aa.d
Lab Smp Id: MQ2021AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mg.i/G030512A.b/TO15.m
Misc Info: G030512A,TO15,tetra.sub,,,,

Calibration Date: 05-MAR-2012
Calibration Time: 12:28
Client Smp ID: SV-096-A-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	137917	82061	193773	103509	-24.95
2 1,4-Difluorobenze	672033	399860	944206	542202	-19.32
3 Chlorobenzene-d5	703189	418397	987981	569645	-18.99

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	0.07
2 1,4-Difluorobenze	10.29	9.96	10.62	10.29	0.00
3 Chlorobenzene-d5	15.11	14.78	15.44	15.11	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G030512A.b/mq2051aa.d
Report Date: 06-Mar-2012 13:38

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mq2051aa.d
Lab Smp Id: MQ2051AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mg.i/G030512A.b/TO15.m
Misc Info: G030512A,TO15,tetra.sub,,,,

Calibration Date: 05-MAR-2012
Calibration Time: 12:28
Client Smp ID: SV-097-A-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	137917	82061	193773	115321	-16.38
2 1,4-Difluorobenze	672033	399860	944206	569335	-15.28
3 Chlorobenzene-d5	703189	418397	987981	585866	-16.68

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.07
2 1,4-Difluorobenze	10.29	9.96	10.62	10.29	-0.05
3 Chlorobenzene-d5	15.11	14.78	15.44	15.11	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq2081aa.d
Report Date: 06-Mar-2012 19:28

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2081aa.d
Lab Smp Id: MQ2081AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: SV-102-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	252045	-5.64
2 1,4-Difluorobenze	1341010	797901	1884119	1325309	-1.17
3 Chlorobenzene-d5	1134838	675229	1594447	1103374	-2.77

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq20r1aa.d
Report Date: 06-Mar-2012 09:57

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq20r1aa.d
Lab Smp Id: MQ20R1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO15S.m
Misc Info: E030512,TO15S,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-106-A-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	227937	-30.89
2 1,4-Difluorobenze	1654479	984415	2324543	1109047	-32.97
3 Chlorobenzene-d5	1398791	832281	1965301	903946	-35.38

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.20
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq2031aa.d
Report Date: 07-Mar-2012 11:22

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2031aa.d
Lab Smp Id: MQ2031AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: SV-107-A-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	231771	-13.23
2 1,4-Difluorobenze	1341010	797901	1884119	1154602	-13.90
3 Chlorobenzene-d5	1134838	675229	1594447	961760	-15.25

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.19	0.06
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G030512A.b/mq20w1aa.d
Report Date: 06-Mar-2012 13:38

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mq20w1aa.d
Lab Smp Id: MQ20W1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mg.i/G030512A.b/TO15.m
Misc Info: G030512A,TO15,tetra.sub,,,,

Calibration Date: 05-MAR-2012
Calibration Time: 12:28
Client Smp ID: SV-108-A-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	137917	82061	193773	109426	-20.66
2 1,4-Difluorobenze	672033	399860	944206	579340	-13.79
3 Chlorobenzene-d5	703189	418397	987981	575642	-18.14

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.07
2 1,4-Difluorobenze	10.29	9.96	10.62	10.29	-0.05
3 Chlorobenzene-d5	15.11	14.78	15.44	15.11	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G022812.b/mq20f1aa.d
Report Date: 29-Feb-2012 10:08

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mq20f1aa.d
Lab Smp Id: MQ20F1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G022812.b/TO15.m
Misc Info: G022812,TO15,tetra.sub,,,,

Calibration Date: 28-FEB-2012
Calibration Time: 09:53
Client Smp ID: SV-109-A-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	170304	101331	239277	180597	6.04
2 1,4-Difluorobenze	923472	549466	1297478	962377	4.21
3 Chlorobenzene-d5	907511	539969	1275053	912846	0.59

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.13
2 1,4-Difluorobenze	10.30	9.97	10.63	10.29	-0.10
3 Chlorobenzene-d5	15.12	14.79	15.45	15.11	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G022812.b/mq20d1aa.d
Report Date: 29-Feb-2012 10:07

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mq20d1aa.d
Lab Smp Id: MQ20D1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G022812.b/TO15.m
Misc Info: G022812,TO15,tetra.sub,,,,

Calibration Date: 28-FEB-2012
Calibration Time: 09:53
Client Smp ID: SV-116-A-12
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	170304	101331	239277	152302	-10.57
2 1,4-Difluorobenze	923472	549466	1297478	836523	-9.42
3 Chlorobenzene-d5	907511	539969	1275053	804612	-11.34

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.13
2 1,4-Difluorobenze	10.30	9.97	10.63	10.30	-0.05
3 Chlorobenzene-d5	15.12	14.79	15.45	15.11	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq20q1aa.d
Report Date: 06-Mar-2012 09:57

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq20q1aa.d
Lab Smp Id: MQ20Q1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-117-A-12
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	264634	-19.76
2 1,4-Difluorobenze	1654479	984415	2324543	1384532	-16.32
3 Chlorobenzene-d5	1398791	832281	1965301	1116324	-20.19

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.33
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.21
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J022812.b/mq20m1aa.d
Report Date: 29-Feb-2012 10:39

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq20m1aa.d
Lab Smp Id: MQ20M1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J022812.b/TO15.m
Misc Info: J022812,TO15,tetra.sub,,,

Calibration Date: 28-FEB-2012
Calibration Time: 09:17
Client Smp ID: SV-118-A-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	490099	291609	688589	527674	7.67
2 1,4-Difluorobenze	1751181	1041953	2460409	2258544	28.97
3 Chlorobenzene-d5	1689726	1005387	2374065	2018300	19.45

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.08	8.75	9.41	9.08	0.03
2 1,4-Difluorobenze	11.26	10.93	11.59	11.26	0.03
3 Chlorobenzene-d5	15.97	15.64	16.30	15.97	0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq20n1aa.d
Report Date: 06-Mar-2012 19:27

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq20n1aa.d
Lab Smp Id: MQ20N1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: SV-119-A-12
Level: LOW
Sample Type: AIR
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	181347	-32.11
2 1,4-Difluorobenze	1341010	797901	1884119	889580	-33.66
3 Chlorobenzene-d5	1134838	675229	1594447	818055	-27.91

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq20l1aa.d
Report Date: 06-Mar-2012 09:56

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq20l1aa.d
Lab Smp Id: MQ20L1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-120-A-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	259160	-21.42
2 1,4-Difluorobenze	1654479	984415	2324543	1351621	-18.31
3 Chlorobenzene-d5	1398791	832281	1965301	1072286	-23.34

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.20
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.15
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G030512A.b/mq2071aa.d
Report Date: 06-Mar-2012 13:38

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mq2071aa.d
Lab Smp Id: MQ2071AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mg.i/G030512A.b/TO15.m
Misc Info: G030512A,TO15,tetra.sub,,,,

Calibration Date: 05-MAR-2012
Calibration Time: 12:28
Client Smp ID: SV-DUP-3-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	137917	82061	193773	119795	-13.14
2 1,4-Difluorobenze	672033	399860	944206	615928	-8.35
3 Chlorobenzene-d5	703189	418397	987981	586770	-16.56

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.07
2 1,4-Difluorobenze	10.29	9.96	10.62	10.29	-0.05
3 Chlorobenzene-d5	15.11	14.78	15.44	15.11	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G030512A.b/mq2061aa.d
Report Date: 06-Mar-2012 13:38

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mq2061aa.d
Lab Smp Id: MQ2061AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mg.i/G030512A.b/TO15.m
Misc Info: G030512A,TO15,tetra.sub,,,,

Calibration Date: 05-MAR-2012
Calibration Time: 12:28
Client Smp ID: SV-DUP-5-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	137917	82061	193773	108775	-21.13
2 1,4-Difluorobenze	672033	399860	944206	550095	-18.14
3 Chlorobenzene-d5	703189	418397	987981	544595	-22.55

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.07
2 1,4-Difluorobenze	10.29	9.96	10.62	10.29	-0.05
3 Chlorobenzene-d5	15.11	14.78	15.44	15.11	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J022812.b/mq20p1aa.d
Report Date: 29-Feb-2012 10:40

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq20p1aa.d
Lab Smp Id: MQ20P1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J022812.b/TO15.m
Misc Info: J022812,TO15,tetra.sub,,,

Calibration Date: 28-FEB-2012
Calibration Time: 09:17
Client Smp ID: SV-DUP4-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	490099	291609	688589	495026	1.01
2 1,4-Difluorobenze	1751181	1041953	2460409	2102931	20.09
3 Chlorobenzene-d5	1689726	1005387	2374065	1876177	11.03

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.08	8.75	9.41	9.08	0.06
2 1,4-Difluorobenze	11.26	10.93	11.59	11.26	0.00
3 Chlorobenzene-d5	15.97	15.64	16.30	15.97	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

LMC-MIDDLE RIVER
AIR DATA
H2B230465

FRACTION	CHEMICAL	SVDUP-3-12	UNITS	SV001-C-12	RPD	D	
OV	1,1-DICHLOROETHENE	0.59 J	UG/M3	ND	200.00	0.59	N/A < 2xR.L.
OV	CHLORODIFLUOROMETHANE	11 B	UG/M3	5.2	71.60	5.80	N/A < 2xR.L.
OV	CHLOROFORM	5.2	UG/M3	5	3.92	0.20	
OV	CIS-1,2-DICHLOROETHENE	100	UG/M3	100	0.00	0.00	
OV	DICHLORODIFLUOROMETHANE	3 J	UG/M3	2.4 J	22.22	0.60	
OV	METHYLENE CHLORIDE	2.7 B	UG/M3	2.6 B	3.77	0.10	
OV	TETRACHLOROETHENE	1.6 J	UG/M3	1.8 J	11.76	0.20	
OV	TOLUENE	1.1 J	UG/M3	1.2 J	8.70	0.10	
OV	TOTAL XYLENES	3.5 J	UG/M3	ND	200.00	3.50	N/A < 2xR.L.
OV	TRANS-1,2-DICHLOROETHENE	19	UG/M3	18	5.41	1.00	
OV	TRICHLOROETHENE	200	UG/M3	160	22.22	40.00	

Current RPD Quality Control Limit: 50 %.
Shaded cells indicate RPDs that exceed the applicable quality control limit.

LMC-MIDDLE RIVER
AIR DATA
H2B230465

FRACTION	CHEMICAL	SVDUP-5-12	UNITS	SV079-A-12	RPD	D
OV	CHLORODIFLUOROMETHANE	ND	UG/M3	26 J B	200.00	26.00 N/A < 2XR.L.
OV	CHLOROFORM	17 J	UG/M3	17 J	0.00	0.00
OV	CIS-1,2-DICHLOROETHENE	2400	UG/M3	3000	22.22	600.00
OV	METHYLENE CHLORIDE	22 B	UG/M3	19 B	14.63	3.00
OV	TETRACHLOROETHENE	22 J	UG/M3	22 J	0.00	0.00
OV	TRANS-1,2-DICHLOROETHENE	500	UG/M3	600	18.18	100.00
OV	TRICHLOROETHENE	7200	UG/M3	7900	9.27	700.00

Current RPD Quality Control Limit: 50 %.
Shaded cells indicate RPDs that exceed the applicable quality control limit.

LMC-MIDDLE RIVER
AIR DATA
H2B230465

FRACTION	CHEMICAL	SVDUP4-12	UNITS	SV015-A-12	RPD	D
OV	1,1,1-TRICHLOROETHANE	100	UG/M3	840	157.45	740.00
OV	1,1-DICHLOROETHANE	10	UG/M3	65	146.67	55.00
OV	1,1-DICHLOROETHENE	99	UG/M3	780	154.95	681.00
OV	BENZENE	1.1 J	UG/M3	ND	200.00	1.10 N/A<2XR.L.
OV	CHLORODIFLUOROMETHANE	4	UG/M3	47 B	168.63	43.00 N/A<2XR.L.
OV	CHLOROFORM	1.4 J	UG/M3	ND	200.00	1.40 N/A<2XR.L.
OV	CIS-1,2-DICHLOROETHENE	160	UG/M3	1100	149.21	940.00
OV	DICHLORODIFLUOROMETHANE	2.3 J	UG/M3	ND	200.00	2.30 N/A<2XR.L.
OV	ETHYLBENZENE	19	UG/M3	ND	200.00	19.00 [illegible]
OV	METHYLENE CHLORIDE	3.6 B	UG/M3	18 B	133.33	14.40 N/A<2XR.L.
OV	TOLUENE	440	UG/M3	47	161.40	393.00
OV	TOTAL XYLENES	120	UG/M3	ND	200.00	120.00
OV	TRANS-1,2-DICHLOROETHENE	5.3	UG/M3	46	158.67	40.70
OV	TRICHLOROETHENE	280	UG/M3	2400	158.21	2120.00

Current RPD Quality Control Limit: 50 %.
Shaded cells indicate RPDs that exceed the applicable quality control limit.

CALCULATION VERIFICATION

SDG H2B230465 / LMC MIDDLE RIVER / PROJECT 03953

INSTRUMENT SAMPLE		Instrument MG SV-079-A-12	
COMPOUND RESPONSE	CHLOROFORM	2423	
COMPOUND RESPONSE	TRICHLOROETHENE	650395	
COMPOUND RESPONSE	TETRACHLOROETHENE	1431	
COMPOUND RRF	CHLOROFORM	2.9024	
COMPOUND RRF	TRICHLOROETHENE	0.3625	
COMPOUND RRF	TETRACHLOROETHENE	0.3743	
INTERNAL STD. AREA FOR BROMOCHLOROMETHANE	CHLOROFORM	158381	
INTERNAL STD. AREA FOR 1,4-DICHLOROBENZENE	TRICHLOROETHENE	807664	
INTERNAL STD. AREA FOR CHLOROBENZENE-D5	TETRACHLOROETHENE	767974	
INTERNAL STANDARD CONCENTRATION (PPBV)	CHLOROFORM	4	
INTERNAL STANDARD CONCENTRATION (PPBV)	TRICHLOROETHENE	4	
INTERNAL STANDARD CONCENTRATION (PPBV)	TETRACHLOROETHENE	4	
SAMPLE DILUTION FACTOR	CHLOROFORM	164.5	
SAMPLE DILUTION FACTOR	TRICHLOROETHENE	164.5	
SAMPLE DILUTION FACTOR	TETRACHLOROETHENE	164.5	
COMPOUND CALCULATED CONCENTRATION PPBV	**CHLOROFORM**	**3.46832**	PPBV
COMPOUND CALCULATED CONCENTRATION PPBV	**TRICHLOROETHENE**	**1461.72054**	PPBV
COMPOUND CALCULATED CONCENTRATION PPBV	**TETRACHLOROETHENE**	**3.27566**	PPBV
COMPOUND CALCULATED CONCENTRATION µg/m^3	**CHLOROFORM**	**16.934**	µg/m3
COMPOUND CALCULATED CONCENTRATION µg/m^3	**TRICHLOROETHENE**	**7855.029**	µg/m3
COMPOUND CALCULATED CONCENTRATION µg/m^3	**TETRACHLOROETHENE**	**22.217**	µg/m3

Data File: /var/chem/gcms/mg.i/G030512A.b/mq2041aa.d
Report Date: 06-Mar-2012 13:37

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/mg.i/G030512A.b/mq2041aa.d
Lab Smp Id: MQ2041AA Client Smp ID: SV-079-A-12
Inj Date : 05-MAR-2012 22:39
Operator : 403648 Inst ID: mg.i
Smp Info : ,164.5,0,,,
Misc Info : G030512A,TO15,tetra.sub,,,,
Comment :
Method : /var/chem/gcms/mg.i/G030512A.b/TO15.m
Meth Date : 06-Mar-2012 13:37 tajh Quant Type: ISTD
Cal Date : 16-DEC-2011 17:10 Cal File: gicl166.d
Als bottle: 8
Dil Factor: 164.50000
Integrator: HP RTE Compound Sublist: tetra.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	164.50000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	500.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	8.173	8.178	(1.000)	158381	4.00000	4.000
* 2 1,4-Difluorobenzene	114	10.287	10.292	(1.000)	807664	4.00000	4.000
* 3 Chlorobenzene-d5	117	15.108	15.113	(1.000)	767974	4.00000	4.000
$ 4 4-Bromofluorobenzene	95	16.779	16.785	(1.111)	586282	4.21594	4.216
5 Chlorodifluoromethane	67	3.676	3.681	(0.450)	729	0.04436	7.298
31 Methylene Chloride	84	5.871	5.876	(0.718)	1446	0.03377	5.556
34 trans-1,2-Dichloroethene	96	6.561	6.571	(0.803)	50293	0.91551	150.6
41 cis 1,2-Dichloroethene	96	7.866	7.871	(0.962)	236123	4.54043	746.9
43 Chloroform	83	8.173	8.189	(1.000)	2423	0.02109	3.469
56 Trichloroethene	130	10.988	10.988	(1.068)	650395	8.88686	1462
73 Tetrachloroethene	129	14.239	14.245	(0.943)	1431	0.01992	3.277

Data File: /var/chem/gcms/mg.i/G030512A.b/gccvc05.d
Report Date: 05-Mar-2012 13:03

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G030512A.b/TO15.m

Injection Date: 05-MAR-2012 12:28
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
38 Vinyl Acetate	3.02039	1.94996	1.94996	0.000	35.44008	30.00000	Averaged	<-60140
39 2-Butanone	0.54195	0.43979	0.43979	0.000	18.85048	30.00000	Averaged	
40 Hexane	1.15813	1.01814	1.01814	0.000	12.08766	30.00000	Averaged	
41 cis 1,2-Dichloroethene	1.31340	1.30921	1.30921	0.000	0.31879	30.00000	Averaged	
42 Ethyl acetate	2.49181	1.83171	1.83171	0.000	26.49054	30.00000	Averaged	
43 Chloroform	2.90238	2.83054	2.83054	0.000	2.47511	30.00000	Averaged	
44 Tetrahydrofuran	1.28959	0.88258	0.88258	0.000	31.56091	30.00000	Averaged	<-60140
45 1,1,1-Trichloroethane	3.19475	3.55096	3.55096	0.000	-11.14996	30.00000	Averaged	
46 1,2-Dichloroethane	0.39537	0.37611	0.37611	0.000	4.87048	30.00000	Averaged	
49 Cyclohexane	0.14256	0.13505	0.13505	0.000	5.26575	30.00000	Averaged	
48 Benzene	0.75191	0.65838	0.65838	0.000	12.43834	30.00000	Averaged	
50 Carbon Tetrachloride	0.64773	0.76480	0.76480	0.000	-18.07456	30.00000	Averaged	
51 ~ 2,3-dimethylpentane	0.18263	0.17004	0.17004	0.000	6.89409	30.00000	Averaged	
47 1-Butanol	0.06608	0.05360	0.05360	0.000	18.88380	30.00000	Averaged	
52 ~ Thiophene	0.43200	0.39963	0.39963	0.000	7.49370	30.00000	Averaged	
53 2,2,4-trimethylpentane	1.25046	1.26616	1.26616	0.000	-1.25507	30.00000	Averaged	
54 Heptane	0.29950	0.28157	0.28157	0.000	5.98646	30.00000	Averaged	
55 1,2-Dichloropropane	0.26917	0.22644	0.22644	0.000	15.87615	30.00000	Averaged	
56 Trichloroethene	0.36246	0.44783	0.44783	0.000	-23.55317	30.00000	Averaged	
180 ~ 2-nitropropane	0.54708	0.40548	0.40548	0.000	25.88313	30.00000	Averaged	
57 Dibromomethane	0.32112	0.34361	0.34361	0.000	-7.00178	30.00000	Averaged	
58 Bromodichloromethane	0.63784	0.67078	0.67078	0.000	-5.16498	30.00000	Averaged	
60 Methyl Methacrylate	0.31111	0.24152	0.24152	0.000	22.36801	30.00000	Averaged	
59 1,4-dioxane	0.09586	0.09459	0.09459	0.000	1.32267	30.00000	Averaged	
61 ~ methyl cyclohexane	0.46959	0.48046	0.48046	0.000	-2.31427	30.00000	Averaged	
63 cis-1,3-Dichloropropene	0.44711	0.39190	0.39190	0.000	12.34768	30.00000	Averaged	
62 4-Methyl-2-pentanone	0.46039	0.42406	0.42406	0.000	7.89172	30.00000	Averaged	
64 trans-1,3-Dichloropropene	0.51129	0.39002	0.39002	0.000	23.71771	30.00000	Averaged	
65 Toluene	0.97446	0.76054	0.76054	0.000	21.95260	30.00000	Averaged	
66 1,1,2-Trichloroethane	0.28655	0.22930	0.22930	0.000	19.97886	30.00000	Averaged	
67 ~ 2-methyl thiophene	0.81652	0.71299	0.71299	0.000	12.67928	30.00000	Averaged	
68 ~ 3-methyl thiophene	0.80596	0.66916	0.66916	0.000	16.97426	30.00000	Averaged	
69 2-Hexanone	0.23986	0.22216	0.22216	0.000	7.38142	30.00000	Averaged	
70 Octane	0.34598	0.32439	0.32439	0.000	6.24124	30.00000	Averaged	
71 Dibromochloromethane	0.63498	0.62791	0.62791	0.000	1.11299	30.00000	Averaged	

Data File: /var/chem/gcms/mg.i/G030512A.b/gccvc05.d
Report Date: 05-Mar-2012 13:03

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G030512A.b/TO15.m

Injection Date: 05-MAR-2012 12:28
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
72 1,2-Dibromoethane	0.53918	0.44589	0.44589	0.000	17.30255	30.00000	Averaged	
73 Tetrachloroethene	0.37431	0.39913	0.39913	0.000	-6.63052	30.00000	Averaged	
75 ~ 2,3-dimethylheptane	0.87446	0.63846	0.63846	0.000	26.98856	30.00000	Averaged	
74 Chlorobenzene	0.77767	0.67937	0.67937	0.000	12.63996	30.00000	Averaged	
76 Ethylbenzene	1.22942	1.00815	1.00815	0.000	17.99772	30.00000	Averaged	
77 ~ 2-ethyl thiophene	0.97844	0.82582	0.82582	0.000	15.59756	30.00000	Averaged	
78 m&p-Xylene	0.95659	0.79613	0.79613	0.000	16.77359	30.00000	Averaged	
79 Nonane	0.60063	0.47959	0.47959	0.000	20.15228	30.00000	Averaged	
80 Bromoform	0.64616	0.59931	0.59931	0.000	7.24961	30.00000	Averaged	
81 Styrene	0.70687	0.56901	0.56901	0.000	19.50307	30.00000	Averaged	
82 o-Xylene	0.99743	0.83181	0.83181	0.000	16.60432	30.00000	Averaged	
84 1,1,2,2-Tetrachloroethane	0.66850	0.55344	0.55344	0.000	17.21132	30.00000	Averaged	
85 1,2,3-Trichloropropane	0.22149	0.20150	0.20150	0.000	9.02132	30.00000	Averaged	
86 Cumene	1.43388	1.20638	1.20638	0.000	15.86589	30.00000	Averaged	
87 n-Propylbenzene	0.37130	0.35187	0.35187	0.000	5.23258	30.00000	Averaged	
88 2-chlorotoluene	0.35693	0.32879	0.32879	0.000	7.88308	30.00000	Averaged	
89 4-Ethyltoluene	1.36553	1.21698	1.21698	0.000	10.87845	30.00000	Averaged	
90 1,3,5-Trimethylbenzene	0.63007	0.60068	0.60068	0.000	4.66590	30.00000	Averaged	
91 Alpha-Methylstyrene	0.54940	0.50096	0.50096	0.000	8.81641	30.00000	Averaged	
92 Decane	0.61912	0.49920	0.49920	0.000	19.36955	30.00000	Averaged	
93 tert-butylbenzene	1.19526	1.13843	1.13843	0.000	4.75508	30.00000	Averaged	
94 1,2,4-Trimethylbenzene	1.11620	0.99330	0.99330	0.000	11.01069	30.00000	Averaged	
95 sec-butylbenzene	1.57647	1.38236	1.38236	0.000	12.31308	30.00000	Averaged	
96 1,3-Dichlorobenzene	0.76180	0.73061	0.73061	0.000	4.09432	30.00000	Averaged	
97 Benzyl Chloride	0.99926	0.93213	0.93213	0.000	6.71787	30.00000	Averaged	
98 1,4-Dichlorobenzene	0.74925	0.71400	0.71400	0.000	4.70428	30.00000	Averaged	
99 p-Cymene	1.31086	1.24753	1.24753	0.000	4.83181	30.00000	Averaged	
100 ~ 1,2,3- Trimethylbenzene	0.92420	0.85364	0.85364	0.000	7.63505	30.00000	Averaged	
101 ~ n-butylcyclohexane	0.81024	0.61173	0.61173	0.000	24.49988	30.00000	Averaged	
102 ~ Indane	0.97611	0.90919	0.90919	0.000	6.85612	30.00000	Averaged	
103 1,2-Dichlorobenzene	0.71330	0.69035	0.69035	0.000	3.21710	30.00000	Averaged	
104 n-butylbenzene	1.09777	1.00651	1.00651	0.000	8.31371	30.00000	Averaged	
105 ~ Indene	0.72719	0.67775	0.67775	0.000	6.79850	30.00000	Averaged	
106 Undecane	0.44514	0.57759	0.57759	0.000	-29.75358	30.00000	Averaged	
107 ~ 1,2-dimethyl-4-ethylenzen	0.96715	1.04590	1.04590	0.000	-8.14255	30.00000	Averaged	
108 ~ 1,2,4,5-tetramethylbenzen	0.82877	1.11862	1.11862	0.000	-34.97378	30.00000	Averaged	<-Ok

Tetra Tech INC **INTERNAL CORRESPONDENCE**

TO:	**R. SAMUELS**	**DATE:**	**APRIL 4, 2012**
FROM:	**JOSEPH KALINYAK**	**COPIES:**	**DV FILE**
SUBJECT:	**ORGANIC DATA VALIDATION – VOC LOCKHEED MIDDLE RIVER SDG H2B230466**		
SAMPLES:	34 / Air / VOC		

SV044-C-12	SV050-C-12	SV057-B-12
SV060-C-12	SV063-B-12	SV088-C-12
SV091-C-12	SV100-B-12	SV101-B-12
SV103-C-12	SV104-C-12	SV105-Z-12
SV111-C-12	SV112-C-12	SV113-C-12
SV114-C-12	SV115-C-12	SV121-B-12
SV122-B-12	SV123-Z-12	SV124-C-12
SV125-C-12	SV126-C-12	SV127-C-12
SV128-C-12	SV129-C-12	SV130-C-12
SV131-C-12	SV132-C-12	SV133-C-12
SV134-C-12	SV135-C-12	SVDUP-1-12
SVDUP-2-12		

Overview

The sample set for Lockheed Middle River SDG H2B230466 consisted of thirty-four (34) air samples. The air samples were analyzed for a select list of volatile organic compounds (VOC). Two (2) field duplicate pairs were associated with this sample delivery group (SDG); SVDUP-1-12 / SV060-C-12 and SVDUP-2-12 / SV063-B-12.

The samples were collected by Tetra Tech on February 21, 2012 and sent to TestAmerica Laboratory. The laboratory analyzed the samples in accordance with EPA Method TO-15 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank/canister blank results, blank spike/blank spike duplicate results, surrogate spike recoveries, internal standard recoveries, field duplicate precision, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Issues

No major issues were identified.

Minor Issues

- The initial calibration percent relative standard deviation (%RSD) was greater than the 30% quality control limit for instrument ME for methylene chloride on 03/01/12.
  Affecting Samples: All samples
  Action: All samples except for sample SV133-C-12 were qualified for method blank

contamination. The sample results qualified non-detected for method blank contamination were not qualified. The sample SV133-C-12 positive methylene chloride result was qualified estimated, (J).

- The following VOC contaminants were detected in the method blanks at the following maximum concentrations as listed below:

Analyte	Maximum Conc. µg/m^3	Action Level µg/m^3
Chlorodifluoromethane [1]	0.18	0.90
Methylene Chloride [1]	0.32	3.2
Methylene Chloride [2]	0.17	1.7

[1] Method blank for 03/02/12 analyses affecting samples SV044-C-12, SV057-B-12, SV060-C-12, SV088-C-12, SV104-C-12, SV111-C-12, SV112-C-12, SV113-C-12, SV114-C-12, SV115-C-12, SV127-C-12, SV129-C-12, SV130-C-12, SV131-C-12, SV133-C-12, SV134-C-12, and SVDUP-1-12.

[2] Method blank for 03/05/12 analyses affecting samples SV050-C-12, SV063-B-12, SV091-C-12, SV100-B-12, SV101-B-12, SV103-C-12, SV105-Z-12, SV121-B-12, SV122-B-12, SV123-Z-12, SV124-C-12, SV125-C-12, SV126-C-12, SV128-C-12, SV132-C-12, SV135-C-12, and SVDUP-2-12.

An action level of ten times for the common laboratory contaminant methylene chloride and five times for the laboratory contaminant chlorodifluoromethane has been used to evaluate sample data for blank contamination. Dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. All positive methylene chloride sample results except for sample SV133-C-12 were qualified due to blank contamination. Positive sample analyte results if less than the action level were qualified non-detected, (B), due to blank contamination. The sample SV133-C-12 positive methylene chloride result was greater than the action level but was suspected due to lab contamination. The sample methylene chloride result was not qualified for blank contamination, but was qualified estimated, (J), due to possible laboratory blank contamination.

- Positive results below the Reporting Limit (RL) and above the detection limit were qualified as estimated, (J), due to uncertainty near the detection limit.

- The RPD was greater than the 50% quality control limit for the analytes 1,1-dichloroethane, chloroform, cis-1,2-dichloroethene, ethylbenzene, naphthalene, and total xylenes for the field duplicate pair samples SVDUP-1-12 and SV060-C-12. The positive results for the aforementioned analytes were qualified estimated, (J), for field duplicate imprecision.

- The RPD was greater than the 50% quality control limit for the analyte naphthalene for the field duplicate pair samples SVDUP-2-12 and SV063-B-12. The positive sample results for naphthalene were qualified estimated, (J), for field duplicate imprecision.

Additional Comments

Samples were analyzed at dilutions as listed below. For samples which were analyzed at multiple dilutions only the analytes which exceeded the highest calibration level at the lower dilution were reported from the higher dilutions sample re-analyses (Sample SV126-C-12 for vinyl chloride and sample SV133-C-12 for trichloroethene).

Samples	Dilution
SV044-C-12	10X
SV050-C-12	10X
SV057-B-12	10X
SV060-C-12	145.45X
SV063-B-12	10X
SV088-C-12	56X
SV091-C-12	10X
SV100-B-12	10X
SV101-B-12	19.23X
SV103-C-12	10X
SV104-C-12	10X
SV105-Z-12	45.45X
SV111-C-12	10X
SV112-C-12	10X
SV113-C-12	81.17X
SV114-C-12	10X
SV115-C-12	10X
SV121-B-12	10X
SV122-B-12	10X
SV123-Z-12	45.45X
SV124-C-12	10X
SV125-C-12	10X
SV126-C-12	172.27X, 6818.2X
SV127-C-12	5439.71X
SV128-C-12	45.45X
SV129-C-12	10X
SV130-C-12	10X
SV131-C-12	10X
SV132-C-12	10X
SV133-C-12	805.6X, 4494.7X
SV134-C-12	10X
SV135-C-12	166X
SVDUP-1-12	103.44X
SVDUP-2-12	10X

The laboratory reported the VOC air result concentrations in units of µg/m3 and also ppbv on the sample forms. The results in the database and the qualified analytical result concentrations are reported as µg/m3 only.

Sample results were reported to the Method Detection Limit (MDL).

The laboratory did not include the surrogate recovery and internal standard forms in the data summary report. The validation chemist manually searched the data package for the information.

EXECUTIVE SUMMARY

Laboratory Performance Issues: The sample SV133-C-12 positive methylene chloride result was qualified for an initial calibration %RSD quality control limit non-compliance and also as a possible lab contaminant.

Other Factors Affecting Data Quality: Positive results below the Reporting Limit (RL) and above the detection limit were qualified as estimated, (J), due to uncertainty near the detection limit. Sample analyte results for field duplicate pair samples were qualified for field duplicate imprecision.

The data for these analyses were reviewed with reference to the USEPA Method TO-15 and the Region III Modifications to the National Functional Guidelines for Organic Data Review (September 1994),

TetraTech
Joseph Kalinyak
Chemist/Data Validator

TetraTech
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:
Appendix A - Qualified Analytical Results
Appendix B - Results as Reported by the Laboratory
Appendix C - Support Documentation

Appendix A

Qualified Analytical Results

Value Qualifier Key (Val Qual)

J – The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

UJ – The result is an estimated non-detected quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

U - Value is a non-detect as reported by the laboratory.

UR – Non-detected result is considered rejected, (UR), as a result of technical non-compliances.

DATA QUALIFICATION CODE (QUAL CODE)

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed

PROJ_NO: 03953 SDG: H2B230466 FRACTION: OV MEDIA: AIR	NSAMPLE	SV044-C-12			SV050-C-12			SV057-B-12			SV060-C-12		
	LAB_ID	H2B230466006			H2B230466030			H2B230466007			H2B230466016		
	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.65	U		9.1			0.65	U		11	J	P
1,1,2-TRICHLOROETHANE		1.1	U		1.1	U		1.1	U		17	U	
1,1-DICHLOROETHANE		0.4	U		0.9	J	P	0.4	U		71	J	G
1,1-DICHLOROETHENE		0.52	U		1	J	P	0.52	U		11	J	P
1,2,3-TRIMETHYLBENZENE		22			12			3.9	U		57	U	
1,2,4-TRICHLOROBENZENE		2.9	U		2.9	U		2.9	U		42	U	
1,2,4-TRIMETHYLBENZENE		34			24			1.2	U		20	J	P
1,2-DICHLOROETHANE		0.77	U		0.84	J	P	0.77	U		11	U	
1,3,5-TRIMETHYLBENZENE		10			9.2			1.3	U		19	U	
BENZENE		0.82	J	P	1.6	J	P	0.73	U		11	U	
CARBON TETRACHLORIDE		0.94	U		0.94	U		0.94	U		14	U	
CHLORODIFLUOROMETHANE		14			9.5			51			18	B	A
CHLOROFORM		3.2	J	P	8			0.73	U		56	J	G
CIS-1,2-DICHLOROETHENE		0.95	U		0.95	U		0.95	U		200	J	G
DICHLORODIFLUOROMETHANE		2.1	J	P	2.3	J	P	2.2	J	P	19	U	
ETHYLBENZENE		6.4			15			1.2	U		190	J	G
METHYL TERT-BUTYL ETHER		2.5	U		2.5	U		2.5	U		36	U	
METHYLENE CHLORIDE		3.2	B	A	4.8	B	A	2.7	B	A	25	B	A
NAPHTHALENE		240			17			9.2	J	P	280	J	G
TETRACHLOROETHENE		1.5	J	P	1.1	U		1.1	U		23	J	P
TOLUENE		7.8			39			5.1			14	J	P
TOTAL XYLENES		43			69			4.1	J	P	1200	J	G
TRANS-1,2-DICHLOROETHENE		0.79	U		1.4	J	P	0.79	U		26	J	P
TRICHLOROETHENE		44			12			0.75	U		3000		
VINYL CHLORIDE		0.74	U		0.74	U		0.74	U		11	U	

PROJ_NO: 03953	NSAMPLE	SV063-B-12			SV088-C-12			SV091-C-12			SV100-B-12		
SDG: H2B230466	LAB_ID	H2B230466022			H2B230466009			H2B230466033			H2B230466026		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.65	U		3.7	U		0.65	U		0.65	U	
1,1,2-TRICHLOROETHANE		1.1	U		6.4	U		1.1	U		1.1	U	
1,1-DICHLOROETHANE		0.4	U		2.3	U		0.4	U		0.4	U	
1,1-DICHLOROETHENE		0.52	U		3.3	J	P	0.52	U		0.52	U	
1,2,3-TRIMETHYLBENZENE		5.8			30			4.9			3.9	U	
1,2,4-TRICHLOROBENZENE		2.9	U		16	U		2.9	U		2.9	U	
1,2,4-TRIMETHYLBENZENE		14			39			13			1.2	U	
1,2-DICHLOROETHANE		0.77	U		4.3	U		0.77	U		0.77	U	
1,3,5-TRIMETHYLBENZENE		3.2	J	P	11	J	P	3.6	J	P	1.3	U	
BENZENE		1.1	J	P	4.1	U		2.8			0.73	U	
CARBON TETRACHLORIDE		1.2	J	P	5.3	U		1.4	J	P	2	J	P
CHLORODIFLUOROMETHANE		21			34	B	A	5.2			3.1		
CHLOROFORM		2.4	J	P	9.7	J	P	37			6.3		
CIS-1,2-DICHLOROETHENE		0.95	U		670			0.95	U		0.95	U	
DICHLORODIFLUOROMETHANE		2.5	J	P	7.5	U		2.5	J	P	2.4	J	P
ETHYLBENZENE		6.4			15	J	P	9.1			1.2	U	
METHYL TERT-BUTYL ETHER		2.5	U		14	U		2.5	U		2.5	U	
METHYLENE CHLORIDE		3.7	B	A	9.4	B	A	8	B	A	2.5	B	A
NAPHTHALENE		99	J	G	540			65			2.7	J	P
TETRACHLOROETHENE		1.1	U		6.1	U		9.1			1.1	J	P
TOLUENE		17			12	J	P	19			1.7	J	P
TOTAL XYLENES		31			150			42			1	U	
TRANS-1,2-DICHLOROETHENE		0.79	U		14	J	P	0.79	U		0.79	U	
TRICHLOROETHENE		0.75	U		3800			15			10		
VINYL CHLORIDE		0.74	U		4.2	U		5.3			0.74	U	

PROJ_NO: 03953	NSAMPLE	SV101-B-12			SV103-C-12			SV104-C-12			SV105-Z-12		
SDG: H2B230466	LAB_ID	H2B230466025			H2B230466031			H2B230466005			H2B230466028		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		21			0.65	U		0.65	U		3	U	
1,1,2-TRICHLOROETHANE		2.2	U		1.1	U		1.1	U		5.2	U	
1,1-DICHLOROETHANE		0.78	U		0.4	U		0.4	U		1.8	U	
1,1-DICHLOROETHENE		0.99	U		0.52	U		0.52	U		2.3	U	
1,2,3-TRIMETHYLBENZENE		7.6	U		3.9	U		3.9	U		18	U	
1,2,4-TRICHLOROBENZENE		5.6	U		2.9	U		2.9	U		13	U	
1,2,4-TRIMETHYLBENZENE		2.4	U		2	J	P	5.9			5.6	U	
1,2-DICHLOROETHANE		1.5	U		0.77	U		0.77	U		3.5	U	
1,3,5-TRIMETHYLBENZENE		2.5	U		1.3	U		1.4	J	P	5.8	U	
BENZENE		1.4	U		0.89	J	P	1.2	J	P	3.3	U	
CARBON TETRACHLORIDE		1.8	U		0.94	U		0.94	U		4.3	U	
CHLORODIFLUOROMETHANE		39			18			3.2	B	A	4.3	J	P
CHLOROFORM		1.4	U		0.73	U		1.7	J	P	3.3	U	
CIS-1,2-DICHLOROETHENE		1.8	U		0.95	U		0.95	U		21		
DICHLORODIFLUOROMETHANE		3.8	J	P	2.3	J	P	2	J	P	6.1	U	
ETHYLBENZENE		2.4	J	P	20			8.1			17		
METHYL TERT-BUTYL ETHER		4.7	U		2.5	U		2.5	U		11	U	
METHYLENE CHLORIDE		5.8	B	A	5.6	B	A	2.3	B	A	9.6	B	A
NAPHTHALENE		19	J	P	70			15			49		
TETRACHLOROETHENE		3.7	J	P	1.1	U		1.1	U		4.9	U	
TOLUENE		120			2.4	J	P	21			810		
TOTAL XYLENES		11	J	P	210			36			100		
TRANS-1,2-DICHLOROETHENE		1.5	U		0.79	U		0.79	U		3.6	U	
TRICHLOROETHENE		7.3			0.75	U		1.1	J	P	59		
VINYL CHLORIDE		1.4	U		0.74	U		0.74	U		3.4	U	

PROJ_NO: 03953	NSAMPLE	SV111-C-12			SV112-C-12			SV113-C-12			SV114-C-12		
SDG: H2B230466	LAB_ID	H2B230466015			H2B230466004			H2B230466010			H2B230466012		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		1.5	J	P	0.71	J	P	5.3	U		260		
1,1,2-TRICHLOROETHANE		1.1	U		1.1	U		9.3	U		1.1	U	
1,1-DICHLOROETHANE		4.8			0.4	U		3.3	U		1.5	J	P
1,1-DICHLOROETHENE		3.3			0.52	U		4.2	U		1.7	J	P
1,2,3-TRIMETHYLBENZENE		3.9	U		3.9	U		32	U		4.1		
1,2,4-TRICHLOROBENZENE		2.9	U		2.9	U		23	U		2.9	U	
1,2,4-TRIMETHYLBENZENE		3.7	J	P	1.6	J	P	10	U		14		
1,2-DICHLOROETHANE		0.77	U		0.77	U		6.2	U		0.77	U	
1,3,5-TRIMETHYLBENZENE		2.3	J	P	1.3	U		10	U		3.5	J	P
BENZENE		1.7	J	P	0.73	U		6	U		0.83	J	P
CARBON TETRACHLORIDE		0.94	U		0.94	U		7.7	U		0.94	U	
CHLORODIFLUOROMETHANE		30			37			13	B	A	16		
CHLOROFORM		39			0.79	J	P	38			21		
CIS-1,2-DICHLOROETHENE		2.1	J	P	0.95	U		500			0.95	U	
DICHLORODIFLUOROMETHANE		2.5	J	P	6.8			11	U		6		
ETHYLBENZENE		16			5			9.5	U		11		
METHYL TERT-BUTYL ETHER		2.5	U		2.5	U		20	U		2.5	U	
METHYLENE CHLORIDE		3	B	A	2.9	B	A	12	B	A	6.4	B	A
NAPHTHALENE		750			200			64	J	P	16		
TETRACHLOROETHENE		1.3	J	P	1.1	U		14	J	P	28		
TOLUENE		5			3.7			15	J	P	4		
TOTAL XYLENES		180			43			8.5	U		84		
TRANS-1,2-DICHLOROETHENE		0.79	U		0.79	U		6.4	U		0.79	U	
TRICHLOROETHENE		370			0.75	U		5700			72		
VINYL CHLORIDE		0.74	U		0.74	U		6	U		0.74	U	

PROJ_NO: 03953	NSAMPLE	SV115-C-12			SV121-B-12			SV122-B-12			SV123-Z-12		
SDG: H2B230466	LAB_ID	H2B230466011			H2B230466024			H2B230466027			H2B230466029		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
1,1,1-TRICHLOROETHANE	1.8	J	P	1.8	J	P	0.65	U		3	U		
1,1,2-TRICHLOROETHANE	1.1	U		1.1	U		1.1	U		5.2	U		
1,1-DICHLOROETHANE	0.4	U		0.58	J	P	0.4	U		1.8	U		
1,1-DICHLOROETHENE	0.52	U		0.52	U		0.52	U		2.3	U		
1,2,3-TRIMETHYLBENZENE	3.9	U		34			29			18	U		
1,2,4-TRICHLOROBENZENE	2.9	U		2.9	U		2.9	U		13	U		
1,2,4-TRIMETHYLBENZENE	1.2	U		55			59			33			
1,2-DICHLOROETHANE	0.77	U		0.77	U		0.77	U		3.5	U		
1,3,5-TRIMETHYLBENZENE	1.3	U		17			18			9.4	J	P	
BENZENE	0.73	U		0.73	U		1.1	J	P	3.3	U		
CARBON TETRACHLORIDE	0.94	U		5.7			0.94	U		4.3	U		
CHLORODIFLUOROMETHANE	4.8	B	A	2.6	J	P	19			4.9	J	P	
CHLOROFORM	0.76	J	P	42			1.3	J	P	3.3	U		
CIS-1,2-DICHLOROETHENE	0.95	U		0.95	U		0.95	U		4.3	U		
DICHLORODIFLUOROMETHANE	2.6	J	P	2.3	J	P	2.5	J	P	6.1	U		
ETHYLBENZENE	1.3	J	P	16			47			30			
METHYL TERT-BUTYL ETHER	2.5	U		2.5	U		2.5	U		11	U		
METHYLENE CHLORIDE	3.4	B	A	2.5	B	A	5.6	B	A	7	B	A	
NAPHTHALENE	3.7	J	P	400			350			260			
TETRACHLOROETHENE	1.1	U		2.4	J	P	7.2			4.9	U		
TOLUENE	2.4	J	P	21			45			1000			
TOTAL XYLENES	13			83			250			170			
TRANS-1,2-DICHLOROETHENE	0.79	U		0.79	U		0.79	U		3.6	U		
TRICHLOROETHENE	5.2			170			5.8			21			
VINYL CHLORIDE	0.74	U		0.74	U		0.74	U		3.4	U		

PROJ_NO: 03953	NSAMPLE	SV124-C-12			SV125-C-12			SV126-C-12			SV127-C-12		
SDG: H2B230466	LAB_ID	H2B230466032			H2B230466034			H2B230466023			H2B230466018		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.65	U		0.65	U		11	U		360	U	
1,1,2-TRICHLOROETHANE		1.1	U		1.1	U		20	U		620	U	
1,1-DICHLOROETHANE		0.4	U		0.4	U		7	U		220	U	
1,1-DICHLOROETHENE		0.54	J	P	0.52	U		360			280	U	
1,2,3-TRIMETHYLBENZENE		9.4			3.9	U		68	U		2200		
1,2,4-TRICHLOROBENZENE		2.9	U		2.9	U		50	U		1600	U	
1,2,4-TRIMETHYLBENZENE		21			1.2	U		29	J	P	4000		
1,2-DICHLOROETHANE		0.77	U		0.77	U		13	U		420	U	
1,3,5-TRIMETHYLBENZENE		6.4			1.3	U		22	U		1000	J	P
BENZENE		6.4			1.8	J	P	86			400	U	
CARBON TETRACHLORIDE		1	J	P	0.94	U		16	U		510	U	
CHLORODIFLUOROMETHANE		7.4			8.2			20	J	P	1100	B	A
CHLOROFORM		38			29			13	U		400	U	
CIS-1,2-DICHLOROETHENE		3.3			0.95	U		350			520	U	
DICHLORODIFLUOROMETHANE		2.6	J	P	2.5	J	P	23	U		730	U	
ETHYLBENZENE		13			1.2	J	P	72			640	U	
METHYL TERT-BUTYL ETHER		2.5	U		2.5	U		42	U		1300	U	
METHYLENE CHLORIDE		2.9	B	A	8.5	B	A	36	B	A	1800	B	A
NAPHTHALENE		130			3.3	J	P	250			4300	J	P
TETRACHLOROETHENE		9			1.1	U		19	U		590	U	
TOLUENE		33			9.2			54			430	U	
TOTAL XYLENES		62			2.6	J	P	350			2900	J	P
TRANS-1,2-DICHLOROETHENE		0.79	U		0.79	U		41	J	P	430	U	
TRICHLOROETHENE		12			2.8			280			240000		
VINYL CHLORIDE		41			0.74	U		82000			400	U	

PROJ_NO: 03953	NSAMPLE	SV128-C-12			SV129-C-12			SV130-C-12			SV131-C-12		
SDG: H2B230466	LAB_ID	H2B230466020			H2B230466003			H2B230466001			H2B230466002		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		3	U		1.4	J	P	790			12		
1,1,2-TRICHLOROETHANE		5.2	U		1.1	U		1.1	U		1.1	U	
1,1-DICHLOROETHANE		2.6	J	P	42			31			4.5		
1,1-DICHLOROETHENE		2.3	U		130			97			5.8		
1,2,3-TRIMETHYLBENZENE		26			14			38			31		
1,2,4-TRICHLOROBENZENE		13	U		2.9	U		2.9	U		2.9	U	
1,2,4-TRIMETHYLBENZENE		67			25			94			99		
1,2-DICHLOROETHANE		3.5	U		0.77	U		0.77	U		1.7	J	P
1,3,5-TRIMETHYLBENZENE		24			7.2			26			34		
BENZENE		20			1.8	J	P	23			6.3		
CARBON TETRACHLORIDE		4.3	U		0.94	U		0.94	U		0.94	U	
CHLORODIFLUOROMETHANE		10	J	P	2.9	B	A	2.3	B	A	6.8	B	A
CHLOROFORM		5.9	J	P	7.1			110			2.1	J	P
CIS-1,2-DICHLOROETHENE		46			8.5			1.3	J	P	0.95	U	
DICHLORODIFLUOROMETHANE		6.1	U		2	J	P	4			2.6	J	P
ETHYLBENZENE		240			8.9			16			140		
METHYL TERT-BUTYL ETHER		11	U		2.5	U		2.5	U		2.5	U	
METHYLENE CHLORIDE		25	B	A	2.2	B	A	17	B	A	19	B	A
NAPHTHALENE		260			86			430			180		
TETRACHLOROETHENE		130			1.1	U		5.6			1.8	J	P
TOLUENE		120			12			47			220		
TOTAL XYLENES		1500			45			91			750		
TRANS-1,2-DICHLOROETHENE		9.8	J	P	0.79	U		1.2	J	P	3.5		
TRICHLOROETHENE		19			270			520			0.92	J	P
VINYL CHLORIDE		4.5	J	P	0.74	U		0.74	U		1.1	J	P

PROJ_NO: 03953	NSAMPLE	SV132-C-12			SV133-C-12			SV134-C-12			SV135-C-12		
SDG: H2B230466	LAB_ID	H2B230466017			H2B230466014			H2B230466013			H2B230466008		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		1.8	J	P	53	U		2.1	J	P	11	U	
1,1,2-TRICHLOROETHANE		1.1	U		92	U		1.1	U		19	U	
1,1-DICHLOROETHANE		0.73	J	P	33	U		2.9	J	P	6.7	U	
1,1-DICHLOROETHENE		1.8	J	P	42	U		0.52	U		8.6	U	
1,2,3-TRIMETHYLBENZENE		40			320	U		34			65	U	
1,2,4-TRICHLOROBENZENE		2.9	U		230	U		2.9	U		48	U	
1,2,4-TRIMETHYLBENZENE		68			99	U		57			81		
1,2-DICHLOROETHANE		0.94	J	P	62	U		0.77	U		13	U	
1,3,5-TRIMETHYLBENZENE		20			100	U		19			27	J	P
BENZENE		3.6			59	U		1.6	J	P	12	U	
CARBON TETRACHLORIDE		0.94	U		76	U		0.94	U		16	U	
CHLORODIFLUOROMETHANE		19			1500			4.6	B	A	8.8	U	
CHLOROFORM		2.9	J	P	83	J	P	16			14	J	P
CIS-1,2-DICHLOROETHENE		0.95	U		77	U		0.95	U		220		
DICHLORODIFLUOROMETHANE		3.2	J	P	130	J	P	2.4	J	P	22	U	
ETHYLBENZENE		24			94	U		18			40	J	P
METHYL TERT-BUTYL ETHER		2.5	U		200	U		2.5	U		41	U	
METHYLENE CHLORIDE		4.2	B	A	2700	J	AC	3.2	B	A	23	B	A
NAPHTHALENE		410			2200			240			510		
TETRACHLOROETHENE		1.9	J	P	2200			5.2	J	P	22	J	P
TOLUENE		30			180	J	P	18			49		
TOTAL XYLENES		130			170	J	P	92			210		
TRANS-1,2-DICHLOROETHENE		2	J	P	64	U		0.79	U		15	J	P
TRICHLOROETHENE		3.5			50000			0.75	U		11000		
VINYL CHLORIDE		0.74	U		60	U		0.74	U		12	U	

PROJ_NO: 03953	NSAMPLE	SVDUP-1-12			SVDUP-2-12		
SDG: H2B230466	LAB_ID	H2B230466019			H2B230466021		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM		
	UNITS	UG/M3			UG/M3		
	PCT_SOLIDS						
	DUP_OF	SV060-C-12			SV063-B-12		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		17	J	P	0.65	U	
1,1,2-TRICHLOROETHANE		12	U		1.1	U	
1,1-DICHLOROETHANE		120	J	G	0.4	U	
1,1-DICHLOROETHENE		12	J	P	0.52	U	
1,2,3-TRIMETHYLBENZENE		41	U		8		
1,2,4-TRICHLOROBENZENE		30	U		2.9	U	
1,2,4-TRIMETHYLBENZENE		64			19		
1,2-DICHLOROETHANE		8	U		0.77	U	
1,3,5-TRIMETHYLBENZENE		19	J	P	4.5		
BENZENE		7.6	U		1.3	J	P
CARBON TETRACHLORIDE		9.8	U		1.5	J	P
CHLORODIFLUOROMETHANE		15	B	A	22		
CHLOROFORM		94	J	G	2.7	J	P
CIS-1,2-DICHLOROETHENE		340	J	G	0.95	U	
DICHLORODIFLUOROMETHANE		14	U		2.9	J	P
ETHYLBENZENE		460	J	G	7.8		
METHYL TERT-BUTYL ETHER		25	U		2.5	U	
METHYLENE CHLORIDE		20	B	A	4.1	B	A
NAPHTHALENE		770	J	G	200	J	G
TETRACHLOROETHENE		40	J	P	1.2	J	P
TOLUENE		29	J	P	18		
TOTAL XYLENES		3100	J	G	40		
TRANS-1,2-DICHLOROETHENE		38			0.79	U	
TRICHLOROETHENE		4900			0.79	J	P
VINYL CHLORIDE		7.7	U		0.74	U	

Appendix B

Results as Reported by the Laboratory

Tetra Tech, Inc

Client Sample ID: SV044-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 006	**Work Order #**	MQ21G1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.26 J**	**0.80**	**0.82 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**3.9 B**	**0.80**	**14 B**	**2.8**
Chloroform	**0.66 J**	**0.80**	**3.2 J**	**3.9**
Dichlorodifluoromethane	**0.43 J**	**0.80**	**2.1 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.5**	**0.80**	**6.4**	**3.5**
Methylene chloride	**0.91 J B**	**2.0**	**3.2 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**46**	**2.0**	**240**	**10**
Tetrachloroethene	**0.22 J**	**0.80**	**1.5 J**	**5.4**
Toluene	**2.1**	**0.80**	**7.8**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**8.3**	**0.40**	**44**	**2.1**
1,2,3-Trimethylbenzene	**4.5**	**0.80**	**22**	**3.9**
1,2,4-Trimethylbenzene	**7.0**	**0.80**	**34**	**3.9**
1,3,5-Trimethylbenzene	**2.0**	**0.80**	**10**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**9.8**	**1.6**	**43**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV044-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 006	**Work Order #**	MQ21G1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV050-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 030	**Work Order #**	MQ22D1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.49 J**	**0.80**	**1.6 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**2.7**	**0.80**	**9.5**	**2.8**
Chloroform	**1.6**	**0.80**	**8.0**	**3.9**
Dichlorodifluoromethane	**0.47 J**	**0.80**	**2.3 J**	**4.0**
1,1-Dichloroethane	**0.22 J**	**0.80**	**0.90 J**	**3.2**
1,2-Dichloroethane	**0.21 J**	**0.80**	**0.84 J**	**3.2**
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	**0.36 J**	**0.80**	**1.4 J**	**3.2**
1,1-Dichloroethene	**0.25 J**	**0.80**	**1.00 J**	**3.2**
Ethylbenzene	**3.4**	**0.80**	**15**	**3.5**
Methylene chloride	**1.4 J B**	**2.0**	**4.8 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**3.2**	**2.0**	**17**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**10**	**0.80**	**39**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**1.7**	**0.80**	**9.1**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**2.2**	**0.40**	**12**	**2.1**
1,2,3-Trimethylbenzene	**2.5**	**0.80**	**12**	**3.9**
1,2,4-Trimethylbenzene	**5.0**	**0.80**	**24**	**3.9**
1,3,5-Trimethylbenzene	**1.9**	**0.80**	**9.2**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**16**	**1.6**	**69**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV050-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 030	**Work Order #**	MQ22D1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV057-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 007	**Work Order #**	MQ21H1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**14 B**	**0.80**	**51 B**	**2.8**
Chloroform	ND	0.80	ND	3.9
Dichlorodifluoromethane	**0.45 J**	**0.80**	**2.2 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	ND	0.80	ND	3.5
Methylene chloride	**0.77 J B**	**2.0**	**2.7 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**1.8 J**	**2.0**	**9.2 J**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**1.4**	**0.80**	**5.1**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	ND	0.80	ND	3.9
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**0.94 J**	**1.6**	**4.1 J**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV057-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 007	**Work Order #**	MQ21H1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV060-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 016	**Work Order #**	MQ21T1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	145.45	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	12	ND	37
Carbon tetrachloride	ND	12	ND	73
Chlorodifluoromethane	**5.1 J B**	**12**	**18 J B**	**41**
Chloroform	**12**	**12**	**56**	**57**
Dichlorodifluoromethane	ND	12	ND	58
1,1-Dichloroethane	**18**	**12**	**71**	**47**
1,2-Dichloroethane	ND	12	ND	47
cis-1,2-Dichloroethene	**50**	**12**	**200**	**46**
trans-1,2-Dichloroethene	**6.6 J**	**12**	**26 J**	**46**
1,1-Dichloroethene	**2.7 J**	**12**	**11 J**	**46**
Ethylbenzene	**43**	**12**	**190**	**51**
Methylene chloride	**7.3 J B**	**29**	**25 J B**	**100**
Methyl tert-butyl ether	ND	58	ND	210
Naphthalene	**53**	**29**	**280**	**150**
Tetrachloroethene	**3.3 J**	**12**	**23 J**	**79**
Toluene	**3.7 J**	**12**	**14 J**	**44**
1,2,4-Trichlorobenzene	ND	58	ND	430
1,1,1-Trichloroethane	**2.0 J**	**12**	**11 J**	**63**
1,1,2-Trichloroethane	ND	12	ND	63
Trichloroethene	**570**	**5.8**	**3000**	**31**
1,2,3-Trimethylbenzene	ND	12	ND	57
1,2,4-Trimethylbenzene	**4.0 J**	**12**	**20 J**	**57**
1,3,5-Trimethylbenzene	ND	12	ND	57
Vinyl chloride	ND	12	ND	30
Xylenes (total)	**290**	**23**	**1200**	**100**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	91	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV060-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 016	Work Order #	MQ21T1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV063-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 022	**Work Order #**	MQ2141AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.36 J**	**0.80**	**1.1 J**	**2.6**
Carbon tetrachloride	**0.20 J**	**0.80**	**1.2 J**	**5.0**
Chlorodifluoromethane	**6.0**	**0.80**	**21**	**2.8**
Chloroform	**0.49 J**	**0.80**	**2.4 J**	**3.9**
Dichlorodifluoromethane	**0.50 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.5**	**0.80**	**6.4**	**3.5**
Methylene chloride	**1.1 J B**	**2.0**	**3.7 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**19**	**2.0**	**99**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**4.5**	**0.80**	**17**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	**1.2**	**0.80**	**5.8**	**3.9**
1,2,4-Trimethylbenzene	**2.8**	**0.80**	**14**	**3.9**
1,3,5-Trimethylbenzene	**0.65 J**	**0.80**	**3.2 J**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**7.2**	**1.6**	**31**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV063-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 022	Work Order #	MQ2141AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV088-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 009	Work Order #	MQ21K1AA	Matrix.....:	AIR
Date Sampled...:	02/21/2012	Date Received..:	02/23/2012		
Prep Date.....:	03/02/2012	Analysis Date...	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	56	Method.....:	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	4.5	ND	14
Carbon tetrachloride	ND	4.5	ND	28
Chlorodifluoromethane	**9.7 B**	**4.5**	**34 B**	**16**
Chloroform	**2.0 J**	**4.5**	**9.7 J**	**22**
Dichlorodifluoromethane	ND	4.5	ND	22
1,1-Dichloroethane	ND	4.5	ND	18
1,2-Dichloroethane	ND	4.5	ND	18
cis-1,2-Dichloroethene	**170**	**4.5**	**670**	**18**
trans-1,2-Dichloroethene	**3.6 J**	**4.5**	**14 J**	**18**
1,1-Dichloroethene	**0.82 J**	**4.5**	**3.3 J**	**18**
Ethylbenzene	**3.6 J**	**4.5**	**15 J**	**19**
Methylene chloride	**2.7 J B**	**11**	**9.4 J B**	**39**
Methyl tert-butyl ether	ND	22	ND	81
Naphthalene	**100**	**11**	**540**	**59**
Tetrachloroethene	ND	4.5	ND	30
Toluene	**3.1 J**	**4.5**	**12 J**	**17**
1,2,4-Trichlorobenzene	ND	22	ND	170
1,1,1-Trichloroethane	ND	4.5	ND	24
1,1,2-Trichloroethane	ND	4.5	ND	24
Trichloroethene	**710**	**2.2**	**3800**	**12**
1,2,3-Trimethylbenzene	**6.0**	**4.5**	**30**	**22**
1,2,4-Trimethylbenzene	**8.0**	**4.5**	**39**	**22**
1,3,5-Trimethylbenzene	**2.3 J**	**4.5**	**11 J**	**22**
Vinyl chloride	ND	4.5	ND	11
Xylenes (total)	**35**	**9.0**	**150**	**39**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV088-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 009	**Work Order #**	MQ21K1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV091-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 033	**Work Order #**	MQ22G1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.88**	**0.80**	**2.8**	**2.6**
Carbon tetrachloride	**0.22 J**	**0.80**	**1.4 J**	**5.0**
Chlorodifluoromethane	**1.5**	**0.80**	**5.2**	**2.8**
Chloroform	**7.5**	**0.80**	**37**	**3.9**
Dichlorodifluoromethane	**0.50 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**2.1**	**0.80**	**9.1**	**3.5**
Methylene chloride	**2.3 B**	**2.0**	**8.0 B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**12**	**2.0**	**65**	**10**
Tetrachloroethene	**1.3**	**0.80**	**9.1**	**5.4**
Toluene	**5.1**	**0.80**	**19**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**2.7**	**0.40**	**15**	**2.1**
1,2,3-Trimethylbenzene	**1.0**	**0.80**	**4.9**	**3.9**
1,2,4-Trimethylbenzene	**2.7**	**0.80**	**13**	**3.9**
1,3,5-Trimethylbenzene	**0.73 J**	**0.80**	**3.6 J**	**3.9**
Vinyl chloride	**2.1**	**0.80**	**5.3**	**2.0**
Xylenes (total)	**9.6**	**1.6**	**42**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV091-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 033	**Work Order #**	MQ22G1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV100-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 026	**Work Order #**	MQ2181AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	**0.31 J**	**0.80**	**2.0 J**	**5.0**
Chlorodifluoromethane	**0.89**	**0.80**	**3.1**	**2.8**
Chloroform	**1.3**	**0.80**	**6.3**	**3.9**
Dichlorodifluoromethane	**0.49 J**	**0.80**	**2.4 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	ND	0.80	ND	3.5
Methylene chloride	**0.72 J B**	**2.0**	**2.5 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**0.52 J**	**2.0**	**2.7 J**	**10**
Tetrachloroethene	**0.16 J**	**0.80**	**1.1 J**	**5.4**
Toluene	**0.46 J**	**0.80**	**1.7 J**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**1.9**	**0.40**	**10**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	ND	0.80	ND	3.9
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	ND	1.6	ND	6.9

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV100-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 026	Work Order #	MQ2181AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV101-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 025	**Work Order #**	MQ2171AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	19.23	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	1.5	ND	4.9
Carbon tetrachloride	ND	1.5	ND	9.7
Chlorodifluoromethane	**11**	**1.5**	**39**	**5.4**
Chloroform	ND	1.5	ND	7.5
Dichlorodifluoromethane	**0.77 J**	**1.5**	**3.8 J**	**7.6**
1,1-Dichloroethane	ND	1.5	ND	6.2
1,2-Dichloroethane	ND	1.5	ND	6.2
cis-1,2-Dichloroethene	ND	1.5	ND	6.1
trans-1,2-Dichloroethene	ND	1.5	ND	6.1
1,1-Dichloroethene	ND	1.5	ND	6.1
Ethylbenzene	**0.55 J**	**1.5**	**2.4 J**	**6.7**
Methylene chloride	**1.7 J B**	**3.8**	**5.8 J B**	**13**
Methyl tert-butyl ether	ND	7.7	ND	28
Naphthalene	**3.6 J**	**3.8**	**19 J**	**20**
Tetrachloroethene	**0.55 J**	**1.5**	**3.7 J**	**10**
Toluene	**31**	**1.5**	**120**	**5.8**
1,2,4-Trichlorobenzene	ND	7.7	ND	57
1,1,1-Trichloroethane	**3.8**	**1.5**	**21**	**8.4**
1,1,2-Trichloroethane	ND	1.5	ND	8.4
Trichloroethene	**1.4**	**0.77**	**7.3**	**4.1**
1,2,3-Trimethylbenzene	ND	1.5	ND	7.6
1,2,4-Trimethylbenzene	ND	1.5	ND	7.6
1,3,5-Trimethylbenzene	ND	1.5	ND	7.6
Vinyl chloride	ND	1.5	ND	3.9
Xylenes (total)	**2.5 J**	**3.1**	**11 J**	**13**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	94	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV101-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 025	**Work Order #**	MQ2171AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV103-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 031	**Work Order #**	MQ22E1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.28 J**	**0.80**	**0.89 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**5.1**	**0.80**	**18**	**2.8**
Chloroform	ND	0.80	ND	3.9
Dichlorodifluoromethane	**0.47 J**	**0.80**	**2.3 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**4.6**	**0.80**	**20**	**3.5**
Methylene chloride	**1.6 J B**	**2.0**	**5.6 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**13**	**2.0**	**70**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**0.64 J**	**0.80**	**2.4 J**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	**0.41 J**	**0.80**	**2.0 J**	**3.9**
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**47**	**1.6**	**210**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV103-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 031	**Work Order #**	MQ22E1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV104-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 005	**Work Order #**	MQ21F1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.37 J**	**0.80**	**1.2 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**0.90 B**	**0.80**	**3.2 B**	**2.8**
Chloroform	**0.34 J**	**0.80**	**1.7 J**	**3.9**
Dichlorodifluoromethane	**0.40 J**	**0.80**	**2.0 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.9**	**0.80**	**8.1**	**3.5**
Methylene chloride	**0.65 J B**	**2.0**	**2.3 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**2.9**	**2.0**	**15**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**5.5**	**0.80**	**21**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.20 J**	**0.40**	**1.1 J**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	**1.2**	**0.80**	**5.9**	**3.9**
1,3,5-Trimethylbenzene	**0.29 J**	**0.80**	**1.4 J**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**8.2**	**1.6**	**36**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV104-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 005	**Work Order #**	MQ21F1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV105-Z-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 028	**Work Order #**	MQ22A1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	45.45	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	3.6	ND	12
Carbon tetrachloride	ND	3.6	ND	23
Chlorodifluoromethane	**1.2 J**	**3.6**	**4.3 J**	**13**
Chloroform	ND	3.6	ND	18
Dichlorodifluoromethane	ND	3.6	ND	18
1,1-Dichloroethane	ND	3.6	ND	15
1,2-Dichloroethane	ND	3.6	ND	15
cis-1,2-Dichloroethene	**5.3**	**3.6**	**21**	**14**
trans-1,2-Dichloroethene	ND	3.6	ND	14
1,1-Dichloroethene	ND	3.6	ND	14
Ethylbenzene	**3.9**	**3.6**	**17**	**16**
Methylene chloride	**2.8 J B**	**9.1**	**9.6 J B**	**32**
Methyl tert-butyl ether	ND	18	ND	66
Naphthalene	**9.4**	**9.1**	**49**	**48**
Tetrachloroethene	ND	3.6	ND	25
Toluene	**220**	**3.6**	**810**	**14**
1,2,4-Trichlorobenzene	ND	18	ND	130
1,1,1-Trichloroethane	ND	3.6	ND	20
1,1,2-Trichloroethane	ND	3.6	ND	20
Trichloroethene	**11**	**1.8**	**59**	**9.8**
1,2,3-Trimethylbenzene	ND	3.6	ND	18
1,2,4-Trimethylbenzene	ND	3.6	ND	18
1,3,5-Trimethylbenzene	ND	3.6	ND	18
Vinyl chloride	ND	3.6	ND	9.3
Xylenes (total)	**24**	**7.3**	**100**	**32**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	94	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV105-Z-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 028	**Work Order #**	MQ22A1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV111-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 015	**Work Order #**	MQ21R1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.53 J**	**0.80**	**1.7 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**8.5 B**	**0.80**	**30 B**	**2.8**
Chloroform	**8.0**	**0.80**	**39**	**3.9**
Dichlorodifluoromethane	**0.51 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	**1.2**	**0.80**	**4.8**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	**0.52 J**	**0.80**	**2.1 J**	**3.2**
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	**0.84**	**0.80**	**3.3**	**3.2**
Ethylbenzene	**3.7**	**0.80**	**16**	**3.5**
Methylene chloride	**0.86 J B**	**2.0**	**3.0 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**140**	**2.0**	**750**	**10**
Tetrachloroethene	**0.19 J**	**0.80**	**1.3 J**	**5.4**
Toluene	**1.3**	**0.80**	**5.0**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.27 J**	**0.80**	**1.5 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**68**	**0.40**	**370**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	**0.75 J**	**0.80**	**3.7 J**	**3.9**
1,3,5-Trimethylbenzene	**0.47 J**	**0.80**	**2.3 J**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**42**	**1.6**	**180**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV111-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 015	**Work Order #**	MQ21R1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV112-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 004	**Work Order #**	MQ21E1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**10 B**	**0.80**	**37 B**	**2.8**
Chloroform	**0.16 J**	**0.80**	**0.79 J**	**3.9**
Dichlorodifluoromethane	**1.4**	**0.80**	**6.8**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.1**	**0.80**	**5.0**	**3.5**
Methylene chloride	**0.82 J B**	**2.0**	**2.9 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**38**	**2.0**	**200**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**0.99**	**0.80**	**3.7**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.13 J**	**0.80**	**0.71 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	**0.34 J**	**0.80**	**1.6 J**	**3.9**
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**9.9**	**1.6**	**43**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV112-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 004	**Work Order #**	MQ21E1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV113-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 010	**Work Order #**	MQ21L1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	81.17	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	6.5	ND	21
Carbon tetrachloride	ND	6.5	ND	41
Chlorodifluoromethane	**3.6 J B**	**6.5**	**13 J B**	**23**
Chloroform	**7.8**	**6.5**	**38**	**32**
Dichlorodifluoromethane	ND	6.5	ND	32
1,1-Dichloroethane	ND	6.5	ND	26
1,2-Dichloroethane	ND	6.5	ND	26
cis-1,2-Dichloroethene	**130**	**6.5**	**500**	**26**
trans-1,2-Dichloroethene	ND	6.5	ND	26
1,1-Dichloroethene	ND	6.5	ND	26
Ethylbenzene	ND	6.5	ND	28
Methylene chloride	**3.5 J B**	**16**	**12 J B**	**56**
Methyl tert-butyl ether	ND	32	ND	120
Naphthalene	**12 J**	**16**	**64 J**	**85**
Tetrachloroethene	**2.0 J**	**6.5**	**14 J**	**44**
Toluene	**4.0 J**	**6.5**	**15 J**	**24**
1,2,4-Trichlorobenzene	ND	32	ND	240
1,1,1-Trichloroethane	ND	6.5	ND	35
1,1,2-Trichloroethane	ND	6.5	ND	35
Trichloroethene	**1100**	**3.2**	**5700**	**17**
1,2,3-Trimethylbenzene	ND	6.5	ND	32
1,2,4-Trimethylbenzene	ND	6.5	ND	32
1,3,5-Trimethylbenzene	ND	6.5	ND	32
Vinyl chloride	ND	6.5	ND	17
Xylenes (total)	ND	13	ND	56

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV113-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 010	**Work Order #**	MQ21L1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV114-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 012	**Work Order #**	MQ21N1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.26 J**	**0.80**	**0.83 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**4.6 B**	**0.80**	**16 B**	**2.8**
Chloroform	**4.3**	**0.80**	**21**	**3.9**
Dichlorodifluoromethane	**1.2**	**0.80**	**6.0**	**4.0**
1,1-Dichloroethane	**0.36 J**	**0.80**	**1.5 J**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	**0.44 J**	**0.80**	**1.7 J**	**3.2**
Ethylbenzene	**2.6**	**0.80**	**11**	**3.5**
Methylene chloride	**1.8 J B**	**2.0**	**6.4 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**3.1**	**2.0**	**16**	**10**
Tetrachloroethene	**4.2**	**0.80**	**28**	**5.4**
Toluene	**1.1**	**0.80**	**4.0**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**48**	**0.80**	**260**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**13**	**0.40**	**72**	**2.1**
1,2,3-Trimethylbenzene	**0.83**	**0.80**	**4.1**	**3.9**
1,2,4-Trimethylbenzene	**2.9**	**0.80**	**14**	**3.9**
1,3,5-Trimethylbenzene	**0.70 J**	**0.80**	**3.5 J**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**19**	**1.6**	**84**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV114-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 012	**Work Order #**	MQ21N1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV115-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 011	**Work Order #**	MQ21M1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**1.4 B**	**0.80**	**4.8 B**	**2.8**
Chloroform	**0.15 J**	**0.80**	**0.76 J**	**3.9**
Dichlorodifluoromethane	**0.53 J**	**0.80**	**2.6 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**0.30 J**	**0.80**	**1.3 J**	**3.5**
Methylene chloride	**0.99 J B**	**2.0**	**3.4 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**0.70 J**	**2.0**	**3.7 J**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**0.63 J**	**0.80**	**2.4 J**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.33 J**	**0.80**	**1.8 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.96**	**0.40**	**5.2**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	ND	0.80	ND	3.9
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**2.9**	**1.6**	**13**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV115-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 011	**Work Order #**	MQ21M1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV121-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 024	**Work Order #**	MQ2161AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	**0.90**	**0.80**	**5.7**	**5.0**
Chlorodifluoromethane	**0.75 J**	**0.80**	**2.6 J**	**2.8**
Chloroform	**8.6**	**0.80**	**42**	**3.9**
Dichlorodifluoromethane	**0.46 J**	**0.80**	**2.3 J**	**4.0**
1,1-Dichloroethane	**0.14 J**	**0.80**	**0.58 J**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**3.6**	**0.80**	**16**	**3.5**
Methylene chloride	**0.72 J B**	**2.0**	**2.5 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**76**	**2.0**	**400**	**10**
Tetrachloroethene	**0.35 J**	**0.80**	**2.4 J**	**5.4**
Toluene	**5.6**	**0.80**	**21**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.33 J**	**0.80**	**1.8 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**31**	**0.40**	**170**	**2.1**
1,2,3-Trimethylbenzene	**6.9**	**0.80**	**34**	**3.9**
1,2,4-Trimethylbenzene	**11**	**0.80**	**55**	**3.9**
1,3,5-Trimethylbenzene	**3.4**	**0.80**	**17**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**19**	**1.6**	**83**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV121-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 024	**Work Order #**	MQ2161AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV122-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 027	**Work Order #**	MQ2191AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.35 J**	**0.80**	**1.1 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**5.5**	**0.80**	**19**	**2.8**
Chloroform	**0.26 J**	**0.80**	**1.3 J**	**3.9**
Dichlorodifluoromethane	**0.51 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**11**	**0.80**	**47**	**3.5**
Methylene chloride	**1.6 J B**	**2.0**	**5.6 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**66**	**2.0**	**350**	**10**
Tetrachloroethene	**1.1**	**0.80**	**7.2**	**5.4**
Toluene	**12**	**0.80**	**45**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**1.1**	**0.40**	**5.8**	**2.1**
1,2,3-Trimethylbenzene	**6.0**	**0.80**	**29**	**3.9**
1,2,4-Trimethylbenzene	**12**	**0.80**	**59**	**3.9**
1,3,5-Trimethylbenzene	**3.7**	**0.80**	**18**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**58**	**1.6**	**250**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV122-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 027	**Work Order #**	MQ2191AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV123-Z-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 029	**Work Order #**	MQ22C1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	45.45	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	3.6	ND	12
Carbon tetrachloride	ND	3.6	ND	23
Chlorodifluoromethane	**1.4 J**	**3.6**	**4.9 J**	**13**
Chloroform	ND	3.6	ND	18
Dichlorodifluoromethane	ND	3.6	ND	18
1,1-Dichloroethane	ND	3.6	ND	15
1,2-Dichloroethane	ND	3.6	ND	15
cis-1,2-Dichloroethene	ND	3.6	ND	14
trans-1,2-Dichloroethene	ND	3.6	ND	14
1,1-Dichloroethene	ND	3.6	ND	14
Ethylbenzene	**7.0**	**3.6**	**30**	**16**
Methylene chloride	**2.0 J B**	**9.1**	**7.0 J B**	**32**
Methyl tert-butyl ether	ND	18	ND	66
Naphthalene	**49**	**9.1**	**260**	**48**
Tetrachloroethene	ND	3.6	ND	25
Toluene	**270**	**3.6**	**1000**	**14**
1,2,4-Trichlorobenzene	ND	18	ND	130
1,1,1-Trichloroethane	ND	3.6	ND	20
1,1,2-Trichloroethane	ND	3.6	ND	20
Trichloroethene	**3.8**	**1.8**	**21**	**9.8**
1,2,3-Trimethylbenzene	ND	3.6	ND	18
1,2,4-Trimethylbenzene	**6.6**	**3.6**	**33**	**18**
1,3,5-Trimethylbenzene	**1.9 J**	**3.6**	**9.4 J**	**18**
Vinyl chloride	ND	3.6	ND	9.3
Xylenes (total)	**39**	**7.3**	**170**	**32**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV123-Z-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 029	Work Order #	MQ22C1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV124-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 032	**Work Order #**	MQ22F1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**2.0**	**0.80**	**6.4**	**2.6**
Carbon tetrachloride	**0.16 J**	**0.80**	**1.0 J**	**5.0**
Chlorodifluoromethane	**2.1**	**0.80**	**7.4**	**2.8**
Chloroform	**7.9**	**0.80**	**38**	**3.9**
Dichlorodifluoromethane	**0.53 J**	**0.80**	**2.6 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	**0.83**	**0.80**	**3.3**	**3.2**
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	**0.14 J**	**0.80**	**0.54 J**	**3.2**
Ethylbenzene	**3.0**	**0.80**	**13**	**3.5**
Methylene chloride	**0.84 J B**	**2.0**	**2.9 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**25**	**2.0**	**130**	**10**
Tetrachloroethene	**1.3**	**0.80**	**9.0**	**5.4**
Toluene	**8.9**	**0.80**	**33**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**2.3**	**0.40**	**12**	**2.1**
1,2,3-Trimethylbenzene	**1.9**	**0.80**	**9.4**	**3.9**
1,2,4-Trimethylbenzene	**4.4**	**0.80**	**21**	**3.9**
1,3,5-Trimethylbenzene	**1.3**	**0.80**	**6.4**	**3.9**
Vinyl chloride	**16**	**0.80**	**41**	**2.0**
Xylenes (total)	**14**	**1.6**	**62**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV124-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 032	**Work Order #**	MQ22F1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV125-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 034	**Work Order #**	MQ22H1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.57 J**	**0.80**	**1.8 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**2.3**	**0.80**	**8.2**	**2.8**
Chloroform	**5.9**	**0.80**	**29**	**3.9**
Dichlorodifluoromethane	**0.50 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**0.28 J**	**0.80**	**1.2 J**	**3.5**
Methylene chloride	**2.5 B**	**2.0**	**8.5 B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**0.62 J**	**2.0**	**3.3 J**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**2.4**	**0.80**	**9.2**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.52**	**0.40**	**2.8**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	ND	0.80	ND	3.9
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**0.59 J**	1.6	**2.6 J**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV125-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 034	**Work Order #**	MQ22H1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV126-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 023	**Work Order #**	MQ2151AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	172.27	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**27**	**14**	**86**	**44**
Carbon tetrachloride	ND	14	ND	87
Chlorodifluoromethane	**5.6 J**	**14**	**20 J**	**49**
Chloroform	ND	14	ND	67
Dichlorodifluoromethane	ND	14	ND	68
1,1-Dichloroethane	ND	14	ND	56
1,2-Dichloroethane	ND	14	ND	56
cis-1,2-Dichloroethene	**88**	**14**	**350**	**55**
trans-1,2-Dichloroethene	**10 J**	**14**	**41 J**	**55**
1,1-Dichloroethene	**92**	**14**	**360**	**55**
Ethylbenzene	**17**	**14**	**72**	**60**
Methylene chloride	**10 J B**	**34**	**36 J B**	**120**
Methyl tert-butyl ether	ND	69	ND	250
Naphthalene	**47**	**34**	**250**	**180**
Tetrachloroethene	ND	14	ND	93
Toluene	**14**	**14**	**54**	**52**
1,2,4-Trichlorobenzene	ND	69	ND	510
1,1,1-Trichloroethane	ND	14	ND	75
1,1,2-Trichloroethane	ND	14	ND	75
Trichloroethene	**51**	**6.9**	**280**	**37**
1,2,3-Trimethylbenzene	ND	14	ND	68
1,2,4-Trimethylbenzene	**5.8 J**	**14**	**29 J**	**68**
1,3,5-Trimethylbenzene	ND	14	ND	68
Vinyl chloride	**27000 E**	**14**	**68000 E**	**35**
Xylenes (total)	**81**	**28**	**350**	**120**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
E	Estimated result. Result concentration exceeds the calibration range.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV126-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 023	**Work Order #**	MQ2151AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV126-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 023	**Work Order #**	MQ2152AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/06/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2066141				
Dilution Factor.:	6818.2	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Vinyl chloride	**32000 D**	**550**	**82000 D**	**1400**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

D	Result was obtained from the analysis of a dilution.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV127-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 018	**Work Order #**	MQ2101AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	5439.71	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	440	ND	1400
Carbon tetrachloride	ND	440	ND	2700
Chlorodifluoromethane	**320 J B**	**440**	**1100 J B**	**1500**
Chloroform	ND	440	ND	2100
Dichlorodifluoromethane	ND	440	ND	2200
1,1-Dichloroethane	ND	440	ND	1800
1,2-Dichloroethane	ND	440	ND	1800
cis-1,2-Dichloroethene	ND	440	ND	1700
trans-1,2-Dichloroethene	ND	440	ND	1700
1,1-Dichloroethene	ND	440	ND	1700
Ethylbenzene	ND	440	ND	1900
Methylene chloride	**510 J B**	**1100**	**1800 J B**	**3800**
Methyl tert-butyl ether	ND	2200	ND	7800
Naphthalene	**830 J**	**1100**	**4300 J**	**5700**
Tetrachloroethene	ND	440	ND	3000
Toluene	ND	440	ND	1600
1,2,4-Trichlorobenzene	ND	2200	ND	16000
1,1,1-Trichloroethane	ND	440	ND	2400
1,1,2-Trichloroethane	ND	440	ND	2400
Trichloroethene	**46000**	**220**	**240000**	**1200**
1,2,3-Trimethylbenzene	**440**	**440**	**2200**	**2100**
1,2,4-Trimethylbenzene	**820**	**440**	**4000**	**2100**
1,3,5-Trimethylbenzene	**210 J**	**440**	**1000 J**	**2100**
Vinyl chloride	ND	440	ND	1100
Xylenes (total)	**680 J**	**870**	**2900 J**	**3800**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	93	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV127-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 018	**Work Order #**	MQ2101AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV128-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 020	**Work Order #**	MQ2121AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	45.45	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**6.2**	**3.6**	**20**	**12**
Carbon tetrachloride	ND	3.6	ND	23
Chlorodifluoromethane	**2.9 J**	**3.6**	**10 J**	**13**
Chloroform	**1.2 J**	**3.6**	**5.9 J**	**18**
Dichlorodifluoromethane	ND	3.6	ND	18
1,1-Dichloroethane	**0.64 J**	**3.6**	**2.6 J**	**15**
1,2-Dichloroethane	ND	3.6	ND	15
cis-1,2-Dichloroethene	**12**	**3.6**	**46**	**14**
trans-1,2-Dichloroethene	**2.5 J**	**3.6**	**9.8 J**	**14**
1,1-Dichloroethene	ND	3.6	ND	14
Ethylbenzene	**54**	**3.6**	**240**	**16**
Methylene chloride	**7.1 J B**	**9.1**	**25 J B**	**32**
Methyl tert-butyl ether	ND	18	ND	66
Naphthalene	**49**	**9.1**	**260**	**48**
Tetrachloroethene	**19**	**3.6**	**130**	**25**
Toluene	**33**	**3.6**	**120**	**14**
1,2,4-Trichlorobenzene	ND	18	ND	130
1,1,1-Trichloroethane	ND	3.6	ND	20
1,1,2-Trichloroethane	ND	3.6	ND	20
Trichloroethene	**3.5**	**1.8**	**19**	**9.8**
1,2,3-Trimethylbenzene	**5.3**	**3.6**	**26**	**18**
1,2,4-Trimethylbenzene	**14**	**3.6**	**67**	**18**
1,3,5-Trimethylbenzene	**4.8**	**3.6**	**24**	**18**
Vinyl chloride	**1.8 J**	**3.6**	**4.5 J**	**9.3**
Xylenes (total)	**360**	**7.3**	**1500**	**32**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	94	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV128-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 020	**Work Order #**	MQ2121AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV129-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 003	**Work Order #**	MQ21D1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.57 J**	**0.80**	**1.8 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**0.82 B**	**0.80**	**2.9 B**	**2.8**
Chloroform	**1.5**	**0.80**	**7.1**	**3.9**
Dichlorodifluoromethane	**0.41 J**	**0.80**	**2.0 J**	**4.0**
1,1-Dichloroethane	**10**	**0.80**	**42**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	**2.1**	**0.80**	**8.5**	**3.2**
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	**34**	**0.80**	**130**	**3.2**
Ethylbenzene	**2.1**	**0.80**	**8.9**	**3.5**
Methylene chloride	**0.63 J B**	**2.0**	**2.2 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**16**	**2.0**	**86**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**3.2**	**0.80**	**12**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.26 J**	**0.80**	**1.4 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**50**	**0.40**	**270**	**2.1**
1,2,3-Trimethylbenzene	**2.8**	**0.80**	**14**	**3.9**
1,2,4-Trimethylbenzene	**5.2**	**0.80**	**25**	**3.9**
1,3,5-Trimethylbenzene	**1.5**	**0.80**	**7.2**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**10**	**1.6**	**45**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV129-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 003	**Work Order #**	MQ21D1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV130-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 001	**Work Order #**	MQ21A1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**7.0**	**0.80**	**23**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**0.65 J B**	**0.80**	**2.3 J B**	**2.8**
Chloroform	**24**	**0.80**	**110**	**3.9**
Dichlorodifluoromethane	**0.80**	**0.80**	**4.0**	**4.0**
1,1-Dichloroethane	**7.8**	**0.80**	**31**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	**0.32 J**	**0.80**	**1.3 J**	**3.2**
trans-1,2-Dichloroethene	**0.30 J**	**0.80**	**1.2 J**	**3.2**
1,1-Dichloroethene	**24**	**0.80**	**97**	**3.2**
Ethylbenzene	**3.8**	**0.80**	**16**	**3.5**
Methylene chloride	**4.9 B**	**2.0**	**17 B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**82**	**2.0**	**430**	**10**
Tetrachloroethene	**0.83**	**0.80**	**5.6**	**5.4**
Toluene	**13**	**0.80**	**47**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**140**	**0.80**	**790**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**97**	**0.40**	**520**	**2.1**
1,2,3-Trimethylbenzene	**7.6**	**0.80**	**38**	**3.9**
1,2,4-Trimethylbenzene	**19**	**0.80**	**94**	**3.9**
1,3,5-Trimethylbenzene	**5.2**	**0.80**	**26**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**21**	**1.6**	**91**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV130-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 001	**Work Order #**	MQ21A1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV131-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 002	**Work Order #**	MQ21C1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**2.0**	**0.80**	**6.3**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**1.9 B**	**0.80**	**6.8 B**	**2.8**
Chloroform	**0.44 J**	**0.80**	**2.1 J**	**3.9**
Dichlorodifluoromethane	**0.52 J**	**0.80**	**2.6 J**	**4.0**
1,1-Dichloroethane	**1.1**	**0.80**	**4.5**	**3.2**
1,2-Dichloroethane	**0.43 J**	**0.80**	**1.7 J**	**3.2**
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	**0.89**	**0.80**	**3.5**	**3.2**
1,1-Dichloroethene	**1.5**	**0.80**	**5.8**	**3.2**
Ethylbenzene	**32**	**0.80**	**140**	**3.5**
Methylene chloride	**5.5 B**	**2.0**	**19 B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**34**	**2.0**	**180**	**10**
Tetrachloroethene	**0.26 J**	**0.80**	**1.8 J**	**5.4**
Toluene	**59**	**0.80**	**220**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**2.2**	**0.80**	**12**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.17 J**	**0.40**	**0.92 J**	**2.1**
1,2,3-Trimethylbenzene	**6.3**	**0.80**	**31**	**3.9**
1,2,4-Trimethylbenzene	**20**	**0.80**	**99**	**3.9**
1,3,5-Trimethylbenzene	**7.0**	**0.80**	**34**	**3.9**
Vinyl chloride	**0.41 J**	**0.80**	**1.1 J**	**2.0**
Xylenes (total)	**170**	**1.6**	**750**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV131-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 002	**Work Order #**	MQ21C1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV132-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 017	**Work Order #**	MQ21W1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**1.1**	**0.80**	**3.6**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**5.3**	**0.80**	**19**	**2.8**
Chloroform	**0.59 J**	**0.80**	**2.9 J**	**3.9**
Dichlorodifluoromethane	**0.65 J**	**0.80**	**3.2 J**	**4.0**
1,1-Dichloroethane	**0.18 J**	**0.80**	**0.73 J**	**3.2**
1,2-Dichloroethane	**0.23 J**	**0.80**	**0.94 J**	**3.2**
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	**0.51 J**	**0.80**	**2.0 J**	**3.2**
1,1-Dichloroethene	**0.46 J**	**0.80**	**1.8 J**	**3.2**
Ethylbenzene	**5.5**	**0.80**	**24**	**3.5**
Methylene chloride	**1.2 J B**	**2.0**	**4.2 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**77**	**2.0**	**410**	**10**
Tetrachloroethene	**0.29 J**	**0.80**	**1.9 J**	**5.4**
Toluene	**8.0**	**0.80**	**30**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.34 J**	**0.80**	**1.8 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.66**	**0.40**	**3.5**	**2.1**
1,2,3-Trimethylbenzene	**8.2**	**0.80**	**40**	**3.9**
1,2,4-Trimethylbenzene	**14**	**0.80**	**68**	**3.9**
1,3,5-Trimethylbenzene	**4.1**	**0.80**	**20**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**30**	**1.6**	**130**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV132-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 017	**Work Order #**	MQ21W1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV133-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 014	**Work Order #**	MQ21Q1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	805.6	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	64	ND	210
Carbon tetrachloride	ND	64	ND	410
Chlorodifluoromethane	**420 B**	**64**	**1500 B**	**230**
Chloroform	**17 J**	**64**	**83 J**	**310**
Dichlorodifluoromethane	**26 J**	**64**	**130 J**	**320**
1,1-Dichloroethane	ND	64	ND	260
1,2-Dichloroethane	ND	64	ND	260
cis-1,2-Dichloroethene	ND	64	ND	260
trans-1,2-Dichloroethene	ND	64	ND	260
1,1-Dichloroethene	ND	64	ND	260
Ethylbenzene	ND	64	ND	280
Methylene chloride	**770 B**	**160**	**2700 B**	**560**
Methyl tert-butyl ether	ND	320	ND	1200
Naphthalene	**420**	**160**	**2200**	**840**
Tetrachloroethene	**330**	**64**	**2200**	**440**
Toluene	**49 J**	**64**	**180 J**	**240**
1,2,4-Trichlorobenzene	ND	320	ND	2400
1,1,1-Trichloroethane	ND	64	ND	350
1,1,2-Trichloroethane	ND	64	ND	350
Trichloroethene	**18000 E**	**32**	**99000 E**	**170**
1,2,3-Trimethylbenzene	ND	64	ND	320
1,2,4-Trimethylbenzene	ND	64	ND	320
1,3,5-Trimethylbenzene	ND	64	ND	320
Vinyl chloride	ND	64	ND	160
Xylenes (total)	**40 J**	**130**	**170 J**	**560**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
E	Estimated result. Result concentration exceeds the calibration range.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV133-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 014	Work Order #	MQ21Q1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV133-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 014	**Work Order #**	MQ21Q2AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	4494.7	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Trichloroethene	**9300 D**	**180**	**50000 D**	**970**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

D Result was obtained from the analysis of a dilution.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV134-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 013	Work Order #	MQ21P1AA	Matrix.....:	AIR
Date Sampled...:	02/21/2012	Date Received..:	02/23/2012		
Prep Date.....:	03/02/2012	Analysis Date...	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	Method.....:	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.52 J**	**0.80**	**1.6 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**1.3 B**	**0.80**	**4.6 B**	**2.8**
Chloroform	**3.3**	**0.80**	**16**	**3.9**
Dichlorodifluoromethane	**0.49 J**	**0.80**	**2.4 J**	**4.0**
1,1-Dichloroethane	**0.72 J**	**0.80**	**2.9 J**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**4.1**	**0.80**	**18**	**3.5**
Methylene chloride	**0.92 J B**	**2.0**	**3.2 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**46**	**2.0**	**240**	**10**
Tetrachloroethene	**0.76 J**	**0.80**	**5.2 J**	**5.4**
Toluene	**4.8**	**0.80**	**18**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.39 J**	**0.80**	**2.1 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	**6.8**	**0.80**	**34**	**3.9**
1,2,4-Trimethylbenzene	**12**	**0.80**	**57**	**3.9**
1,3,5-Trimethylbenzene	**4.0**	**0.80**	**19**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**21**	**1.6**	**92**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV134-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 013	Work Order #	MQ21P1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV135-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 008	**Work Order #**	MQ21J1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	166	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	13	ND	42
Carbon tetrachloride	ND	13	ND	84
Chlorodifluoromethane	ND	13	ND	47
Chloroform	**2.8 J**	**13**	**14 J**	**65**
Dichlorodifluoromethane	ND	13	ND	66
1,1-Dichloroethane	ND	13	ND	54
1,2-Dichloroethane	ND	13	ND	54
cis-1,2-Dichloroethene	**55**	**13**	**220**	**53**
trans-1,2-Dichloroethene	**3.7 J**	**13**	**15 J**	**53**
1,1-Dichloroethene	ND	13	ND	53
Ethylbenzene	**9.2 J**	**13**	**40 J**	**58**
Methylene chloride	**6.7 J B**	**33**	**23 J B**	**120**
Methyl tert-butyl ether	ND	66	ND	240
Naphthalene	**98**	**33**	**510**	**170**
Tetrachloroethene	**3.2 J**	**13**	**22 J**	**90**
Toluene	**13**	**13**	**49**	**50**
1,2,4-Trichlorobenzene	ND	66	ND	490
1,1,1-Trichloroethane	ND	13	ND	72
1,1,2-Trichloroethane	ND	13	ND	72
Trichloroethene	**2000**	**6.6**	**11000**	**36**
1,2,3-Trimethylbenzene	ND	13	ND	65
1,2,4-Trimethylbenzene	**17**	**13**	**81**	**65**
1,3,5-Trimethylbenzene	**5.5 J**	**13**	**27 J**	**65**
Vinyl chloride	ND	13	ND	34
Xylenes (total)	**49**	**27**	**210**	**120**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV135-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 008	Work Order #	MQ21J1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ng/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SVDUP-1-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 019	**Work Order #**	MQ2111AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	103.44	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	8.3	ND	26
Carbon tetrachloride	ND	8.3	ND	52
Chlorodifluoromethane	**4.3 J B**	**8.3**	**15 J B**	**29**
Chloroform	**19**	**8.3**	**94**	**40**
Dichlorodifluoromethane	ND	8.3	ND	41
1,1-Dichloroethane	**31**	**8.3**	**120**	**33**
1,2-Dichloroethane	ND	8.3	ND	33
cis-1,2-Dichloroethene	**85**	**8.3**	**340**	**33**
trans-1,2-Dichloroethene	**9.5**	**8.3**	**38**	**33**
1,1-Dichloroethene	**3.1 J**	**8.3**	**12 J**	**33**
Ethylbenzene	**100**	**8.3**	**460**	**36**
Methylene chloride	**5.9 J B**	**21**	**20 J B**	**72**
Methyl tert-butyl ether	ND	41	ND	150
Naphthalene	**150**	**21**	**770**	**110**
Tetrachloroethene	**5.8 J**	**8.3**	**40 J**	**56**
Toluene	**7.8 J**	**8.3**	**29 J**	**31**
1,2,4-Trichlorobenzene	ND	41	ND	310
1,1,1-Trichloroethane	**3.2 J**	**8.3**	**17 J**	**45**
1,1,2-Trichloroethane	ND	8.3	ND	45
Trichloroethene	**910**	**4.1**	**4900**	**22**
1,2,3-Trimethylbenzene	ND	8.3	ND	41
1,2,4-Trimethylbenzene	**13**	**8.3**	**64**	**41**
1,3,5-Trimethylbenzene	**3.9 J**	**8.3**	**19 J**	**41**
Vinyl chloride	ND	8.3	ND	21
Xylenes (total)	**710**	**17**	**3100**	**72**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	94	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SVDUP-1-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 019	**Work Order #**	MQ2111AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SVDUP-2-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 021	**Work Order #**	MQ2131AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.42 J**	**0.80**	**1.3 J**	**2.6**
Carbon tetrachloride	**0.24 J**	**0.80**	**1.5 J**	**5.0**
Chlorodifluoromethane	**6.1**	**0.80**	**22**	**2.8**
Chloroform	**0.56 J**	**0.80**	**2.7 J**	**3.9**
Dichlorodifluoromethane	**0.58 J**	**0.80**	**2.9 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.8**	**0.80**	**7.8**	**3.5**
Methylene chloride	**1.2 J B**	**2.0**	**4.1 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**38**	**2.0**	**200**	**10**
Tetrachloroethene	**0.18 J**	**0.80**	**1.2 J**	**5.4**
Toluene	**4.8**	**0.80**	**18**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.15 J**	**0.40**	**0.79 J**	**2.1**
1,2,3-Trimethylbenzene	**1.6**	**0.80**	**8.0**	**3.9**
1,2,4-Trimethylbenzene	**3.9**	**0.80**	**19**	**3.9**
1,3,5-Trimethylbenzene	**0.92**	**0.80**	**4.5**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**9.2**	**1.6**	**40**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SVDUP-2-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 021	Work Order #	MQ2131AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Appendix C

Support Documentation

HOLDTIME

SDG H2B230466

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	SV100-B-12	H2B230466026	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV044-C-12	H2B230466006	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10
OV	UG/M3	SV113-C-12	H2B230466010	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10
OV	UG/M3	SV112-C-12	H2B230466004	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10
OV	UG/M3	SV111-C-12	H2B230466015	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV105-Z-12	H2B230466028	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV104-C-12	H2B230466005	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10
OV	UG/M3	SV115-C-12	H2B230466011	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV101-B-12	H2B230466025	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV121-B-12	H2B230466024	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV091-C-12	H2B230466033	NM	2/21/2012	3/5/2012	3/6/2012	13	1	14
OV	UG/M3	SV088-C-12	H2B230466009	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10
OV	UG/M3	SV063-B-12	H2B230466022	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV060-C-12	H2B230466016	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV057-B-12	H2B230466007	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	SV050-C-12	H2B230466030	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV103-C-12	H2B230466031	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV127-C-12	H2B230466018	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV134-C-12	H2B230466013	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV133-C-12	H2B230466014	NM	2/21/2012	3/5/2012	3/6/2012	13	1	14
OV	UG/M3	SV133-C-12	H2B230466014	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV132-C-12	H2B230466017	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV131-C-12	H2B230466002	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV130-C-12	H2B230466001	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10
OV	UG/M3	SV114-C-12	H2B230466012	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV128-C-12	H2B230466020	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV135-C-12	H2B230466008	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10
OV	UG/M3	SV126-C-12	H2B230466023	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14
OV	UG/M3	SV126-C-12	H2B230466023	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV125-C-12	H2B230466034	NM	2/21/2012	3/5/2012	3/6/2012	13	1	14
OV	UG/M3	SV124-C-12	H2B230466032	NM	2/21/2012	3/5/2012	3/6/2012	13	1	14
OV	UG/M3	SV123-Z-12	H2B230466029	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV122-B-12	H2B230466027	NM	2/21/2012	3/5/2012	3/6/2012	13	1	14

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	SV129-C-12	H2B230466003	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H28230466

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770-413-0965		
Address: 2171 W Park Ct Ste E	Site Contact:		
City/State/Zip Stone MTN, GA 30087	TAL Contact: 770 596-0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name:	**Analysis Turnaround Time**		
Site/location: MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-130-C-12	2/21/12	1031	1236	-28.9	0	K508	LA7118	X											
SV-131-C-12		1035	1237	-28.9	1	K441	L-5161	X											
SV-129-C-12		1041	1238	-28.9	1	8964	L-5170	X											
SV-112-C-12		1137	1520	-28.9	0	K262	L-5159	X											
SV-104-C-12		1054	1246	-28.9	0	K346	L-A7166	X											
SV-044-C-12	↓	1104	1248	-28.8	0	K505	L-5108	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

NO CUSTODY SEALS
RECEIVED AT AMBIENT TEMP 21°C
DKD 2-23-12
10 BOXES FEDEX # 7932-5888-2503

36 CANS / 30 FLOWS

Special Instructions/QC Requirements & Comments:

Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2-23-12 09:40
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H26239464

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770-413-0965		
Address: 2171 W Park Ct Ste E	Site Contact:		
City/State/Zip Stone MTN, GA 30087	TAL Contact: 770 596 0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name:	**Analysis Turnaround Time**		
Site/location:	Standard (Specify)		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-057-B-12	2/2/12	1107	1249	-28.9	0	K325	L-A7117	X											
SV-B5-C-12		1111	1250	-28.9	0	K384	L-A7119	X											
SV-088-C-12		1113	1251	-28.9	0	K447	L-5179	X											
SV-113-C-12		1118	1252	-28.9	0	K226	L-A7115	X											
SV-115-C-12		1130	1253	-28.9	1	K376	L-9176	X											
SV-114-C-12	↓	1229	1454	-28.7	0	K511	8195	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:

Contracted Analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by:	2-23-12 09:40
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H26230466

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770-413 0965		
Address: 2171 W Park Ct Ste E	Site Contact:		
City/State/Zip Stone Mtn GA 30087	TAL Contact: 770 596 0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name: MDC IA-SV 2012	**Analysis Turnaround Time**		
Site/location: Middle River, MD	Standard (Specify)		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Matrix	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-134-C-12	2/2/12	1158	1458	-28.9	0	K58	L-5187	X											
SV-133-C-12		1151	1459	-28.7	0	K479	L-A713	X											
SV-111-C-12		1153	1500	-28.9	0	K507	L-3831	X											
SV-060-C-12		1205	1503	-28.9	0	K498	L-5175	X											
SV-132-C-12		1209	1507	-30	0	K341	SL-1209	X											
SV-127-C-12		1218	1511	-28.8	0	K271	L-5140	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2-23-12 09:40
Relinquished by:	Date/Time:	Received by:

Lab Use Only: Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B230166

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Seeds	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770 413 0965		
Address: 2171 W Park Ct Ste E	Site Contact:		
City/State/Zip Stone Mountain, GA 30087	TAL Contact: 770 596-0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name: 2012 MTRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River, MD	Standard (Specify)___		
PO #	Rush (Specify)___		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-DUP-1-12	2/21/12	—	—	-28.9	0	L-5165	K452	X											
SV-128-C-12		1214	1512	-28.8	0	K263	L-5129												
SV-DUP-2-12		—	—	-30	0	K187	L-8181												
SV-063-B-12		1150	1500	-30	0	K338	L-8196												
SV-126-C-12		1201	1520	-30	0	K181	L-5163												
SV-121-B-12		1445	1600	-30	0	K382	L-5195												

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2-23-12 09:40
Relinquished by:	Date/Time:	Received by:

Lab use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H26230466

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Saucedo	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770 413 0965		
Address: 2171 W Park Ct Ste E	Site Contact:		
City/State/Zip Stone Mountain GA 30087	TAL Contact: 770 596 0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name: 2012 MBC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River, MD	Standard (Specify) ✓		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-101-B-12	2/21/12	1040	1223	-30	0	K403	SL-1232	X											
SV-100-B-12		1045	1230	-30	0	K495	L-5132												
SV-122-B-12		1050	1234	-30	0	K477	L-5142												
~~SV-105-Z-12~~		~~1100~~	~~1238~~	~~-30~~	~~0~~	~~L-5112~~	~~error~~												
SV-105-Z-12		1100	1238	-30	0	K469	L-5112												
SV-123-Z-12		1101	1240	-30	0	K479	L-5184												

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2-23-12 09:41
Relinquished by:	Date/Time:	Received by:

Lab use only — Shipper Name: — Opened by: — Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

L-128238466

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770 413 0965		
Address: 2171 W Park Ct Ste E	Site Contact: 770 596 0959		
City/State/Zip: Stone Mtn, GA 30087	TAL Contact:		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River, MD	Standard (Specify) ✓		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-050-C-12	2/21/12	1107	1525	-30	0	K296	SL-1235	X											
SV-103-C-12		1125	1508	-30	0	K432	L-5120												
SV-124-C-12		1135	1511	-30	0	K183	L-5156												
SV-091C-12		1140	1513	-30	0	K418	L-8177												
SV-125-C-12		1200	1519	-30	0	K379	L-8189												
~~SV-063B-12~~																			

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:
Contracted analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1600	Received by: 2-23-12 09:46
Relinquished by:	Date/Time:	Received by:

Lab Use Only: Shipper Name: Opened by: Condition:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: 1-12B230466

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)		✓		☑ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	4A 1A, SV-130-C-12, SV-131-C-12, SV-129-C-12, SV-112-C-12, SV-104-C-12, SV-044-C-12, SV-057-B-12, SV-85-C-12, SV-088-C-12, SV-113-C-12, SV-115-C-12, SV-114-C-12, SV-134-C-12, SV-133-C-12, SV-111-C-12, SV-060-C-12, SV-132-C-12, SV-127-C-12, SV-DUP-1-12, SV-128-C-12 ALL SAMPLES LISTED ABOVE ARE MISSING THE -12 AT THE END OF IDS ON LABELS
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)			✓	☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?		✓		☑ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?		✓		☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary?		✓		☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?	✓				

Quote #: 83292 PM Instructions: _____

Sample Receiving Associate: _____ Date: 2-23-12

QA026R22.doc, 012811

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2B230466*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (- in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
2/26/12	NA	29.11	MQ21A	LA7118 ✓	+0.4	–												9706B
			MQ21C	L5161 ✓	+0.4	–												9695
			MQ21D	L5170 ✓	+0.4	–												9700B
			MQ21E	L5159 ✓	+0.3	–												9697B
			MQ21F	LA7166 ✓	+0.7	–												9706B
			MQ21G	L5108 ✓	+0.2	–												9699B
			MQ21H	LA7117 ✓	+0.2	–												9706B
			MQ21J	LA7119 ✓	+0.1	–	2/27/12	X2	29.17	-0.5	+33.7	+27.5						9697B
			MQ21K	L5179 ✓	+0.2	–	↓	X1	↓	-0.7	+32.6							9695
			MQ21L	LA7115 ✓	+0.1	–	↓	X2	↓	-0.8	+31.5	+28.1						9697
			MQ21M	L8176 ✓	+0.2	–												9706B
			MQ21N	L8195 ✓	+0.2	–												9699B
			MQ21P	L5187 ✓	+0.2	–			29.17	2/27/12								↓
			MQ21Q	LA7113 ✓	+0.2	–	2/27/12	S	-0.6	+0.6	+6.3				04402	20	+1.9	9695
			MQ21R	L3831 ✓	+0.2	–												9699B
			MQ21T	L5175 ✓	+0.3	–	2/27/12	X1	29.17	-0.4	+30.9							
			MQ21W	SL1229 ✓	+0.2	–												
			MQ210	L5140 ✓	+0.3	–	2/27/12	S	29.17	-0.4	+6.3				12624	5	+0.8	
			MQ211	L5165 ✓	+0.3	–	2/27/12	X1	29.17	-0.4	+32.5							
			MQ212	L5129 ✓	+0.2	–												↓
↓	↓	↓	MQ213	L8181 ✓	+0.3	–												9695

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2B230466*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
KB 2/26/12	NA	29.11	MQ214	L8196 ✓	+0.3	–												9695
			MQ215	L5163 ✓	+0.5	–	KB 2/27/12	I	29.17	0	+40.0	⊛ +28.9	⊛ +37.5					9700B
			MQ216	L5195 ✓	-0.2	–	HLC 3/6/12	I	29.31	-2.9	+33.7	MQ215AA	can		L5163			9695
			MQ217	SL1232 ✓	+0.1	–												
			MQ218	L5132 ✓	+0.2	–												
			MQ219	L5142 ✓	+0.3	–												
			MQ22A	L5112 ✓	+0.4	–												
			MQ22C	L5184 ✓	+0.2	–												9697B
			MQ22D	SL1233 ✓	+0.3	–												9695
			MQ22E	L5120 ✓	+0.4	–												9700B
			MQ22F	L5156 ✓	+0.5	–												
			MQ22G	L8177 ✓	+0.5	–												9695
			MQ22H	L8189 ✓	+0.5	–												9706B

⊛ $d_p = 29.26$
KB 3/5/12

PROJECT NARRATIVE
H2B230466

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

The container labels for the samples listed on pages 1-3 of the chain of custodies and Samples SV-Dup-1-12 and SV-128-C-12 did not match the associated chain of custody documentation. The -12 at the end of the sample ID was missing from the sample container labels.

Custody seals were not present.

All sample IDs were revised to remove the dash (-) after SV, per client request.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

The concentration of trichloroethene in sample SV-133-C-12 and the concentration of vinyl chloride in sample SV-126-C-12 exceeded the calibration level of the instrument. The samples were analyzed at a dilution to bring the concentrations of the compounds into the instrument calibration range. The results for both analyses are reported in order to provide the lowest possible reporting limits.

Sample SV-101-B-12 was reported with elevated reporting limits for all analytes due to the presence of non-target compounds. A dilution was necessary prior to analysis, and the reporting limits were adjusted accordingly.

Quantitation for 1,2,3-trimethylbenzene was previously based on a one-point calibration standard at the reporting limit.

The quantitation for 1,2,3-trimethylbenzene was based on a minimum 5-point calibration curve. The following interim criteria are being used until the method performance for this additional analyte is fully established:

- The initial calibration acceptance criteria is set at 40% RSD. Any compound greater than 40% RSD was changed to a linear or quadratic model with an r2 ≥ 0.990 acceptance criteria.

PROJECT NARRATIVE
H2B230466

- There are no criteria for second source standard verification % D. The second source standard was independently prepared from the same parent mixture (as the primary source).
- The continuing calibration verification criteria are set at 50% D. Any compound greater than 50% D must pass the LCS criteria.
- The LCS recovery criteria are set at 20% to 180%.
- A method detection limit study has not been performed. The detection of the analyte is demonstrated by detection of the calibration standard at the reporting limit. No estimated results are reported below the reporting limit.

SAMPLE SUMMARY

H2B230466

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MQ21A	001	SV130-C-12	02/21/12	12:36
MQ21C	002	SV131-C-12	02/21/12	12:37
MQ21D	003	SV129-C-12	02/21/12	12:38
MQ21E	004	SV112-C-12	02/21/12	15:20
MQ21F	005	SV104-C-12	02/21/12	12:46
MQ21G	006	SV044-C-12	02/21/12	12:48
MQ21H	007	SV057-B-12	02/21/12	12:49
MQ21J	008	SV135-C-12	02/21/12	12:50
MQ21K	009	SV088-C-12	02/21/12	12:51
MQ21L	010	SV113-C-12	02/21/12	12:52
MQ21M	011	SV115-C-12	02/21/12	12:53
MQ21N	012	SV114-C-12	02/21/12	14:54
MQ21P	013	SV134-C-12	02/21/12	14:58
MQ21Q	014	SV133-C-12	02/21/12	14:59
MQ21R	015	SV111-C-12	02/21/12	15:00
MQ21T	016	SV060-C-12	02/21/12	15:03
MQ21W	017	SV132-C-12	02/21/12	15:07
MQ210	018	SV127-C-12	02/21/12	15:11
MQ211	019	SVDUP-1-12	02/21/12	
MQ212	020	SV128-C-12	02/21/12	15:12
MQ213	021	SVDUP-2-12	02/21/12	
MQ214	022	SV063-B-12	02/21/12	15:00
MQ215	023	SV126-C-12	02/21/12	15:20
MQ216	024	SV121-B-12	02/21/12	16:00
MQ217	025	SV101-B-12	02/21/12	12:23
MQ218	026	SV100-B-12	02/21/12	12:30
MQ219	027	SV122-B-12	02/21/12	12:34
MQ22A	028	SV105-Z-12	02/21/12	12:38
MQ22C	029	SV123-Z-12	02/21/12	12:40
MQ22D	030	SV050-C-12	02/21/12	15:25
MQ22E	031	SV103-C-12	02/21/12	15:08
MQ22F	032	SV124-C-12	02/21/12	15:11
MQ22G	033	SV091-C-12	02/21/12	15:13
MQ22H	034	SV125-C-12	02/21/12	15:19

(Continued on next page)

SAMPLE SUMMARY

H2B230466

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/1/12	Instrument::	ME	ICAL Batch/Scan Name:	ED301121	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad		✓			✓
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓		Acetone = 39%, Dodecane = 33%	✓
11. If curves were used, is correlation coefficient ≥0.990?		✓			✓
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.		✓			✓
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).		✓			✓
14. Is the "Y" intercept less than the RL for each curve?		✓			✓
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?		✓		3/6/12	NA
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			✓
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3-, 1,4-, and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)			✓	Acetone, 123TCLB6	✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 3/2/12	2nd Level Reviewer :	Date: 3/5/12
Comments: ~~[illegible]~~ Upper limit is good for the following compounds: CH_2Cl_2, O.K. for new lower R.L. NYstate.		Comments:	

3/2/12

Invalid for Acetone, 123TCLB6

120301

TA-Knoxville
TO-14 Autosampler Log

Sample	Position/Volume	Date	Time
BFB	16 - 100 mL	3/1/2012	12:13:15 PM
blk	16 - 501 mL	3/1/2012	12:52:21 PM
MDL	1 - 51 mL	3/1/2012	1:51:59 PM
ICAL1	1 - 101 mL	3/1/2012	2:55:30 PM
ICAL02	1 - 201 mL	3/1/2012	3:50:07 PM
ICAL03	2 - 201 mL	3/1/2012	4:45:20 PM
ICAL04	3 - 201 mL	3/1/2012	5:40:10 PM
ICAL05	4 - 202 mL	3/1/2012	6:34:42 PM
ICAL06	5 - 200 mL	3/1/2012	7:29:12 PM
ICAL07	6 - 200 mL	3/1/2012	8:26:02 PM
ICAL08	7 - 201 mL	3/1/2012	9:23:17 PM
ICAL09	8 - 201 mL	3/1/2012	10:23:22 PM
BLK	16 - 200 mL	3/1/2012	11:20:35 PM
ICV	9 - 100 mL	3/2/2012	12:18:48 AM
LCS	9 - 201 mL	3/2/2012	1:20:23 AM
BLK	16 - 500 mL	3/2/2012	7:36:06 AM
blk10	10 - 501 mL	3/2/2012	8:40:45 AM

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: [illegible] Qtims Batch: ICAL

Date: 3/1/12 ICAL Batch: ED30112I Target Batch: NA IS #1 Area: 232168

Surr/IS ID & Vol.: V4254 40mL System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☒ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1213	Y	Tune	EB5BC01	—	16	100	1	
1252	N	BLK	BLK1	—	16	500		
1352	N	MOLV	MOLCHK	CX-2331	1	50		
1435	Y	ICAL1 3/1/12 3/3/12	~~EICC01~~ EICC011		1	100		
1550		2	EICC012		1	200		
1645		3	3	~~CX-2330~~ CX-2330	2			3/1/12
1740		4	4	CX-2329	3			
1834		5	5	CX-2328	4			
1929		6	6	CX-2327	5			
2026		7	7	CX-2326	6			
2123		8	8	CX-2325	7			
2223		9	9	CX-2324	8			
2320	N	BLK2	BLK2	—	16	200		
0018	N	ICV	EICVC01	CX-2321	9	100		
0120	N	LCS	ELCSC01		9	200		
0736	N	BLK	BLK3	—	16	500		
0840	N	Lot 9754	9754	6683	10			
Aborted	N	Lot 9750	6508	→	11			STD can 3/2/12
		Lot 9747	6520	→	12			
			9202	→	13			
			7489	→	14			
			12521	→	15			
		Lot 9751	1369	→	STD 3/3/12			STD CAN (POS1)
		Lot 9752	6383	→	2			

3/2/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [illegible] Date: 3/2/12

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: [signature] Qtims Batch: _____

Date: 3/2/12 ICAL Batch: E030212 Target Batch: _____ IS #1 Area: 327381

Surr/IS ID & Vol.: V425 40mL System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☐ Daily _____

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1004	Y	Tune	E030212B02	—	16	100	1	
1057	Y	CCV	E030212CV02	CX-2321	15	100	1	2nd Source

3/2/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/2/12

Data File: /chem/gcms/me.i/E030112I.b/ebfbo01.d

Date : 01-MAR-2012 12:13

Client ID: BFB

Instrument: me.i

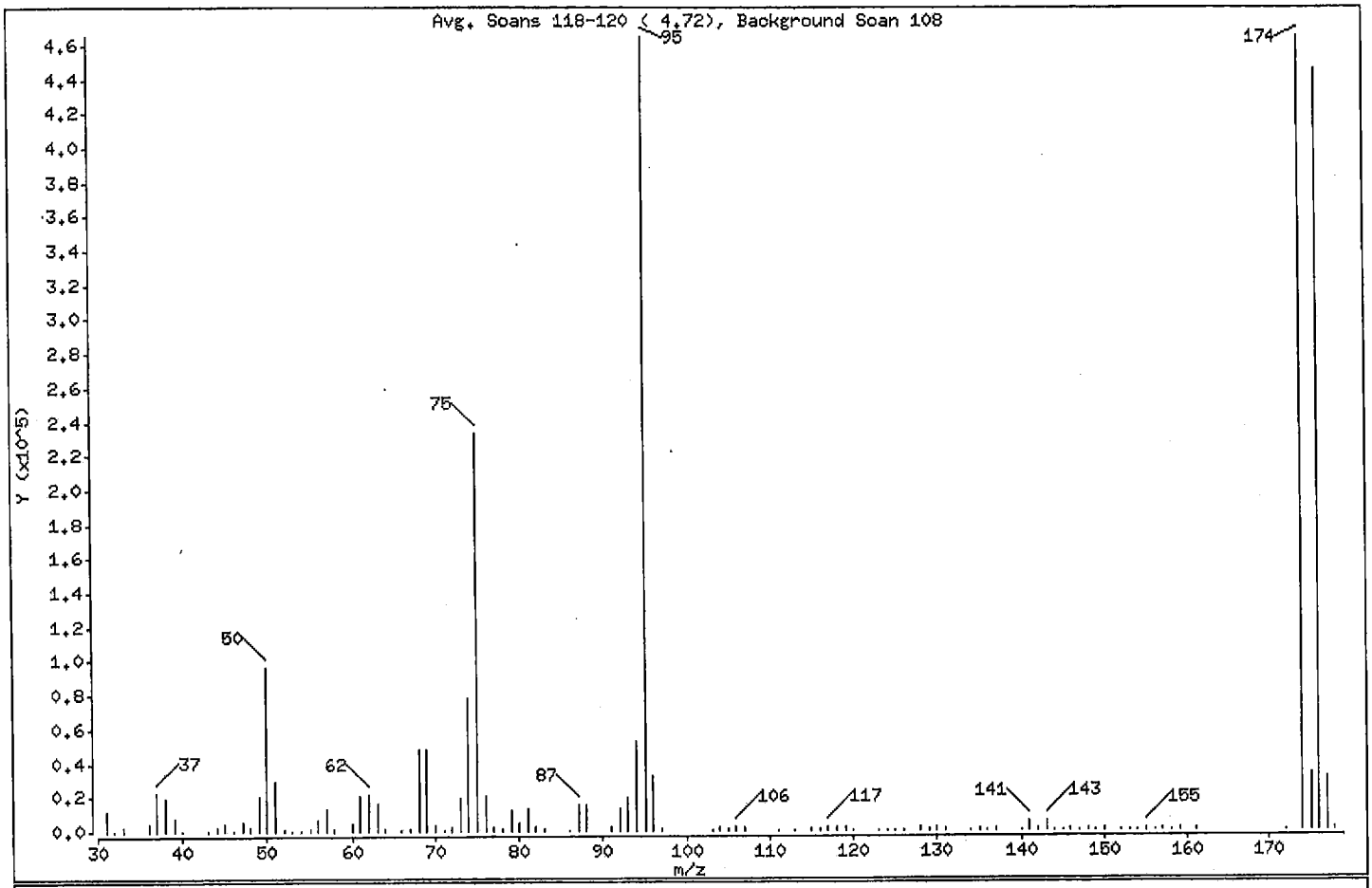
Sample Info: BFB,,3,,,BFB

Operator: 22980

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.65
75	30.00 - 60.00% of mass 95	50.21
96	5.00 - 9.00% of mass 95	6.82
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	100.00
175	5.00 - 9.00% of mass 174	7.23 (7.23)
176	95.00 - 101.00% of mass 174	95.79 (95.79)
177	5.00 - 9.00% of mass 176	6.58 (6.87)

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Calibration File Names:
Level 1: /var/chem/gcms/me.i/E030112I.b/eicc011.d
Level 2: /var/chem/gcms/me.i/E030112I.b/eicc012.d
Level 3: /var/chem/gcms/me.i/E030112I.b/eicc013.d
Level 4: /var/chem/gcms/me.i/E030112I.b/eicc014.d
Level 5: /var/chem/gcms/me.i/E030112I.b/eicc015.d
Level 6: /var/chem/gcms/me.i/E030112I.b/eicc016.d
Level 7: /var/chem/gcms/me.i/E030112I.b/eicc017.d
Level 8: /var/chem/gcms/me.i/E030112I.b/eicc018.d
Level 9: /var/chem/gcms/me.i/E030112I.b/eicc019.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
M 5 Xylene (total)	0.89170	1.09383	1.16276	1.03808	1.11300	0.97030					
	0.94635	0.96846	0.92931				AVRG		1.01264		9.20807
6 Chlorodifluoromethane	+++++	0.87357	0.64955	0.54868	0.51653	0.52863					
	0.47805	0.46565	0.41830				AVRG		0.55987		25.71091
7 Propene	+++++	+++++	1.71047	1.48694	1.60516	1.58241					
	1.34117	1.24527	1.08331				AVRG		1.43639		15.50870

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
10 Dichlorodifluoromethane	5.01574	5.81111	5.31139	4.71907	4.93224	5.20906					
	4.43004	4.18993	3.81244				AVRG		4.82567		12.69028
9 Chloromethane	+++++	0.62756	0.63992	0.52123	0.52161	0.54915					
	0.46243	0.43814	0.38750				AVRG		0.51844		16.99711
11 1,2-Dichlorotetrafluoroethane	3.24301	3.53067	2.74501	2.64147	2.69905	2.76148					
	2.43265	2.23109	2.31643				AVRG		2.73343		15.42683
8 ~ acetaldehyde	+++++	+++++	+++++	52994	122254	110369					
	208810	454487	786257				QUAD	0.000e+00	4.05775	1.68267	0.99140
~~12 Methanol~~	+++++	+++++	+++++	0.49468	0.31095	0.31593					
	0.23149	0.19587	+++++				AVRG		0.30978		~~37.87321~~ <= ✓ NT
13 Vinyl Chloride	1.62055	1.76455	1.73335	1.51868	1.63996	1.73980					
	1.47718	1.44502	1.31719				AVRG		1.58403		9.72451
14 n-Butane	+++++	+++++	3.32048	2.46995	2.50382	2.62897					
	2.15745	2.13803	1.90110				AVRG		2.44569		18.86435

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
15 1,3-Butadiene	1.27522	1.36639	1.24382	1.13583	1.17033	1.21436					
	1.06497	1.05261	0.96294				AVRG		1.16516		10.75810
16 Bromomethane	1.83976	1.93665	1.78367	1.51919	1.48156	1.56504					
	1.40593	1.35812	1.26275				AVRG		1.57252		14.73361
18 Chloroethane	0.61696	0.79320	0.73103	0.68032	0.67210	0.70241					
	0.60615	0.63356	0.60139				AVRG		0.67079		9.57211
17 ~ ethanol	+++++	+++++	26299	40235	110475	215202					
	404097	755742	1152858				QUAD	0.000e+00	1.50978	1.14482	0.99266
19 Vinyl Bromide	1.33304	1.60967	1.53467	1.40196	1.40185	1.46058					
	1.29880	1.26736	1.20446				AVRG		1.39027		9.36019
20 2-methyl butane	+++++	2.41225	2.29033	1.83910	1.71099	1.72755					
	1.56071	1.54230	1.42972				AVRG		1.81412		19.64602
21 Trichlorofluoromethane	+++++	5.52148	5.22135	4.74926	4.70967	4.82927					
	4.33895	4.16130	3.91574				AVRG		4.68088		11.41515

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
22 Acrolein	+++++	+++++	0.46772	0.41383	0.41999	0.37112					
	0.35477	0.38647	0.34083				AVRG		0.39353		11.09982
23 Acetonitrile	+++++	+++++	0.40766	0.42482	0.43711	0.39449					
	0.39959	0.40031	0.37174				AVRG		0.40510		5.23526
~~24 Acetone~~	+++++	+++++	1.22270	1.13227	1.09730	0.57920					
	0.47367	+++++	+++++				AVRG		0.90103		~~38.51292~~ <-AA
25 Pentane	+++++	+++++	0.25240	0.20276	0.20426	0.20794					
	0.18566	0.18586	0.17681				AVRG		0.20224		12.35066
26 Isopropyl alcohol	+++++	+++++	1.71855	1.19942	1.45401	1.53924					
	1.07275	1.08655	0.94172				AVRG		1.28746		22.21312
27 Ethyl Ether	+++++	+++++	1.28548	1.17391	1.19946	1.11737					
	1.09903	1.12473	1.05731				AVRG		1.15104		6.56469
28 1,1-Dichloroethene	1.25965	1.42486	1.28227	1.17416	1.18285	1.18625					
	1.05807	1.03955	0.96390				AVRG		1.17462		11.95949

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 4 Level 7	0.0800 Level 2 8 Level 8	0.1600 Level 3 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
29 Acrylonitrile	+++++	+++++	1.01964	0.97588	0.97514	0.85492					
	0.88770	0.89997	0.80638				AVRG		0.91709		8.28294
30 1,1,2-Trichlorotrifluoroethan	2.50342	3.06484	2.93375	2.61820	2.65385	2.64879					
	2.33387	2.32592	2.15620				AVRG		2.58209		11.31124
31 tert-butanol	+++++	+++++	2.47722	2.01674	2.28323	2.58907					
	1.69723	1.77687	1.73935				AVRG		2.08282		17.71274
32 Methylene Chloride	+++++	+++++	1.97027	1.23869	1.15509	1.12692					
	0.96630	0.96466	+++++				AVRG		1.23699		30.33376
33 3-Chloropropene	+++++	1.62590	1.67747	1.34428	1.52440	1.37681					
	1.33223	1.33518	1.18205				AVRG		1.42479		11.81956
34 Carbon Disulfide	+++++	+++++	4.84971	4.35517	4.53532	4.62214					
	4.03375	3.81538	3.32309				AVRG		4.21922		12.53691
35 trans-1,2-Dichloroethene	1.39690	1.62844	1.58130	1.39356	1.46551	1.45412					
	1.26697	1.27855	1.16992				AVRG		1.40392		10.61208

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
36 ~ 2-Methyl Pentane	4.04837	4.57066	4.53802	4.01267	4.01393	4.00220					
	3.51287	3.43894	3.00970				AVRG		3.90526		13.02483
37 Methyl-t-Butyl Ether	+++++	3.45753	3.48100	3.33509	3.38823	3.24169					
	3.10006	3.09439	2.90747				AVRG		3.25068		6.22749
38 1,1-Dichloroethane	2.69086	3.07403	3.08842	2.77819	2.89303	2.85449					
	2.55637	2.54623	2.32120				AVRG		2.75587		9.23130
39 Vinyl Acetate	+++++	+++++	3.53210	3.61162	3.66887	3.21008					
	3.45950	3.46223	3.12515				AVRG		3.43851		5.85474
40 Hexane	+++++	+++++	1.61216	1.35902	1.35141	1.33195					
	1.16486	1.14824	1.02909				AVRG		1.28525		14.82233
41 2-Butanone	+++++	+++++	0.62454	0.53762	0.58390	0.51744					
	0.46507	0.46365	0.41693				AVRG		0.51559		14.16587
42 cis 1,2-Dichloroethene	1.30858	1.57564	1.50547	1.37184	1.44706	1.41302					
	1.25475	1.25352	1.13162				AVRG		1.36239		10.22876

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
43 Ethyl acetate	+++++	+++++	3.09417	2.94489	3.02182	2.90839					
	2.78243	2.79484	2.53942				AVRG		2.86942		6.41004
44 Chloroform	3.30115	3.66619	3.69125	3.30439	3.44731	3.38367					
	3.04011	3.04701	2.76100				AVRG		3.29356		9.21930
45 Tetrahydrofuran	+++++	+++++	1.83526	1.47815	1.53747	1.42766					
	1.40120	1.38975	1.29615				AVRG		1.48081		11.70992
46 1,1,1-Trichloroethane	+++++	4.14238	4.05949	3.66487	3.82780	3.77855					
	3.38559	3.37396	3.06540				AVRG		3.66226		10.03352
47 1,2-Dichloroethane	0.40749	0.56000	0.54072	0.47303	0.50580	0.49943					
	0.43540	0.44427	0.41299				AVRG		0.47546		11.52169
48 Cyclohexane	+++++	0.22784	0.19167	0.15190	0.15605	0.15658					
	0.12509	0.12665	0.11654				AVRG		0.15654		23.92950
49 Benzene	0.89962	1.00542	0.98285	0.81323	0.86000	0.82412					
	0.71002	0.73050	0.67183				AVRG		0.83307		14.03901

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.72507	0.92693	0.91648	0.60875	0.84519	0.65455					
	0.70267	0.71459	0.66871				AVRG		0.75144		15.45145
51 1-Butanol	+++++	+++++	+++++	0.09425	0.10580	0.11815					
	0.07197	0.07370	0.06757				AVRG		0.08857		23.36764
52 ~ 2,3-dimethylpentane	0.18149	0.23286	0.22066	0.17979	0.19370	0.19546					
	0.15639	0.16221	0.14861				AVRG		0.18569		15.28481
53 ~ Thiophene	0.51089	0.57679	0.55308	0.46419	0.49523	0.47881					
	0.41166	0.42894	0.39037				AVRG		0.47889		13.09207
54 2,2,4-trimethylpentane	1.49669	1.87249	1.84026	1.50989	1.63555	1.61972					
	1.33141	1.36727	1.22693				AVRG		1.54447		14.29854
55 Heptane	0.33876	0.39508	0.36133	0.29696	0.32101	0.31862					
	0.26016	0.27097	0.24781				AVRG		0.31230		15.56112
56 1,2-Dichloropropane	0.29696	0.36552	0.37921	0.32666	0.34896	0.33072					
	0.28643	0.29043	0.26220				AVRG		0.32079		12.29447

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
57 Trichloroethene	0.37442	0.47737	0.47657	0.38841	0.42763	0.42647					
	0.33914	0.35208	0.32864				AVRG		0.39897		14.06319
180 2-Nitropropene	0.30860	0.50263	0.52451	0.47324	0.56252	0.52357					
	0.50892	0.53458	0.45055				AVRG		0.48768		15.34043
58 Dibromomethane	0.36879	0.43441	0.45861	0.37809	0.41584	0.40989					
	0.34443	0.35588	0.32738				AVRG		0.38815		11.32785
59 Bromodichloromethane	0.65448	0.84584	0.84404	0.71498	0.80477	0.78739					
	0.67865	0.70229	0.64171				AVRG		0.74157		10.79102
60 1,4-dioxane	+++++	+++++	0.08687	0.06435	0.08797	0.11175					
	0.07641	0.06932	0.04975				AVRG		0.07806		25.51089
61 Methyl Methacrylate	+++++	0.38717	0.38692	0.36385	0.39476	0.38460					
	0.34148	0.36270	0.33623				AVRG		0.36971		6.00693
62 ~ methyl cyclohexane	0.51488	0.62531	0.60703	0.49879	0.54564	0.53948					
	0.43957	0.45119	0.41479				AVRG		0.51519		14.10472

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
63 cis-1,3-Dichloropropene	0.42253	0.54464	0.54153	0.47687	0.51931	0.50617					
	0.44091	0.45995	0.42525				AVRG		0.48191		9.95258
64 4-Methyl-2-pentanone	+++++	0.78797	0.71797	0.61062	0.67852	0.69752					
	0.55720	0.58083	0.50989				AVRG		0.64256		14.51142
65 trans-1,3-Dichloropropene	0.44553	0.55744	0.57300	0.51465	0.57189	0.53688					
	0.51042	0.53980	0.52297				AVRG		0.53029		7.39500
66 Toluene	+++++	1.25615	1.27108	1.07841	1.11783	1.03532					
	0.95370	0.97944	0.94196				AVRG		1.07924		11.93228
67 1,1,2-Trichloroethane	0.30487	0.37537	0.37089	0.33401	0.34887	0.32639					
	0.29504	0.30172	0.29121				AVRG		0.32760		9.78576
68 ~ 2-methyl thiophene	0.83981	1.02268	1.01081	0.89359	0.96108	0.89187					
	0.80929	0.83384	0.79966				AVRG		0.89585		9.44784
70 ~ 3-methyl thiophene	0.82653	1.03875	0.99737	0.90272	0.96761	0.90523					
	0.81771	0.84132	0.80994				AVRG		0.90080		9.37502

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
69 2-Hexanone	+++++	+++++	0.33587	0.29382	0.33488	0.32036					
	0.28117	0.29136	0.27264				AVRG		0.30430		8.48995
71 Octane	0.38634	0.46715	0.40952	0.35519	0.38244	0.36601					
	0.30976	0.31894	0.30741				AVRG		0.36697		14.20171
72 Dibromochloromethane	0.66080	0.79145	0.78898	0.68752	0.80854	0.77162					
	0.71032	0.75147	0.73358				AVRG		0.74492		6.81309
73 1,2-Dibromoethane	0.51321	0.65144	0.64660	0.57204	0.63979	0.59865					
	0.54484	0.56980	0.54721				AVRG		0.58706		8.50682
74 Tetrachloroethene	0.45911	0.52512	0.51534	0.44528	0.47354	0.45646					
	0.38629	0.40542	0.39680				AVRG		0.45149		10.92713
75 Chlorobenzene	0.75125	0.93113	0.91758	0.80914	0.87529	0.82815					
	0.75030	0.77766	0.75499				AVRG		0.82172		8.67917
76 ~ 2,3-dimethylheptane	1.20012	1.46261	1.42793	1.20541	1.29775	1.22575					
	1.03849	1.03011	0.92317				AVRG		1.20126		15.08611

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
77 Ethylbenzene	1.14728 / 1.20530	1.43196 / 1.23499	1.46785 / 1.18222	1.31891	1.41172	1.25301	AVRG		1.29481		9.08833
79 ~ 2-ethyl thiophene	0.95114 / 0.99591	1.15827 / 1.02150	1.19497 / 0.98407	1.06486	1.16109	1.05607	AVRG		1.06532		8.20218
78 m&p-Xylene	0.87498 / 0.93835	1.08061 / 0.96368	1.14597 / 0.92747	1.02302	1.10462	0.96477	AVRG		1.00261		9.09166
80 Nonane	+++++ / 0.67943	0.97116 / 0.68585	0.89565 / 0.62849	0.77039	0.84127	0.79379	AVRG		0.78325		14.93580
81 Bromoform	+++++ / 0.79856	0.75387 / 0.87144	0.73961 / 0.89548	0.67205	0.85216	0.81217	AVRG		0.79942		9.36501
82 Styrene	0.57827 / 0.65988	0.69391 / 0.69057	0.73078 / 0.70119	0.68016	0.74819	0.66392	AVRG		0.68299		7.11936
83 o-Xylene	0.92515 / 0.96234	1.12027 / 0.97803	1.19635 / 0.93298	1.06820	1.12976	0.98136	AVRG		1.03272		9.51308

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
84 1,1,2,2-Tetrachloroethane	0.60366	0.74975	0.80384	0.69922	0.77893	0.69995					
	0.65124	0.66475	0.63886				AVRG		0.69891		9.61365
85 1,2,3-Trichloropropane	0.15325	0.21524	0.20487	0.19642	0.21623	0.19102					
	0.18488	0.19055	0.18342				AVRG		0.19288		9.92972
86 Cumene	1.26510	1.55679	1.60028	1.43539	1.53207	1.35017					
	1.30880	1.34281	1.32101				AVRG		1.41249		8.68871
87 n-Propylbenzene	0.28146	0.36717	0.38280	0.34527	0.38218	0.33995					
	0.33493	0.34690	0.35022				AVRG		0.34788		8.75619
88 2-chlorotoluene	0.31668	0.38516	0.40106	0.36043	0.38914	0.36115					
	0.33030	0.33727	0.33178				AVRG		0.35700		8.38006
89 4-Ethyltoluene	1.17840	1.48531	1.42399	1.28957	1.43491	1.27611					
	1.24452	1.28490	1.26537				AVRG		1.32034		7.76827
90 1,3,5-Trimethylbenzene	0.47559	0.62275	0.63963	0.58669	0.62993	0.56044					
	0.53878	0.56031	0.56934				AVRG		0.57594		8.95029

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
91 Alpha-Methylstyrene	+++++	+++++	0.51507	0.48356	0.54644	0.49253					
	0.49853	0.51506	0.52097				AVRG		0.51031		4.10642
92 Decane	+++++	0.90317	0.80722	0.83654	0.93283	0.81936					
	0.78703	0.78372	0.73306				AVRG		0.82537		7.90718
93 tert-butylbenzene	0.97105	1.21980	1.27300	1.13588	1.21890	1.09740					
	1.04635	1.08895	1.10973				AVRG		1.12901		8.39496
94 1,2,4-Trimethylbenzene	+++++	1.12276	1.13465	1.03455	1.12712	1.01812					
	0.98344	1.01909	1.01428				AVRG		1.05675		5.76271
95 sec-butylbenzene	1.29905	1.67340	1.68622	1.52122	1.64219	1.46902					
	1.41635	1.46970	1.48148				AVRG		1.51762		8.47107
96 1,3-Dichlorobenzene	+++++	0.78415	0.78928	0.69443	0.81096	0.74220					
	0.72671	0.77969	0.83545				AVRG		0.77036		6.00555
97 Benzyl Chloride	+++++	0.78007	0.82650	0.71788	0.87276	0.83977					
	0.84251	0.88263	0.86854				AVRG		0.82883		6.67126

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TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
98 1,4-Dichlorobenzene	+++++	0.72029	0.72534	0.64288	0.74603	0.69011					
	0.68378	0.71983	0.74568				AVRG		0.70924		4.93987
99 p-Cymene	+++++	1.35877	1.37219	1.22671	1.34239	1.24114					
	1.16056	1.19156	1.17869				AVRG		1.25900		6.83054
100 ~ 1,2,3- Trimethylbenzene	0.75615	0.95241	0.96132	0.87801	0.94972	0.85939					
	0.81491	0.83231	0.79247				AVRG		0.86630		8.65439
101 ~ n-butylcyclohexane	0.76377	0.97856	1.02685	0.88726	0.95903	0.87826					
	0.77066	0.76881	0.74032				AVRG		0.86372		12.45188
102 1,2-Dichlorobenzene	+++++	0.70374	0.72373	0.65523	0.74512	0.67182					
	0.65297	0.68041	0.71167				AVRG		0.69309		4.80408
103 ~ Indane	0.74379	0.92725	0.98988	0.88062	0.95984	0.85555					
	0.83544	0.86126	0.88331				AVRG		0.88188		8.23048
105 ~ Indene	+++++	0.61304	0.63449	0.58573	0.67662	0.61778					
	0.60342	0.60052	0.59270				AVRG		0.61554		4.71036

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
104 n-butylbenzene	+++++ 1.05813	1.18481 1.06807	1.14863 1.02511	1.06696	1.22229	1.13443	AVRG		1.11355		6.23108
106 Undecane	0.58230 0.69721	0.81520 0.75418	0.77268 0.72222	0.54871	0.64061	0.70239	AVRG		0.69283		12.68609
107 ~ 1,2-dimethyl-4-ethylenzene	+++++ 0.92098	1.00258 0.93076	0.98765 0.91019	0.92575	1.05655	1.00406	AVRG		0.96732		5.44845
108 ~ 1,2,4,5-tetramethylbenzene	+++++ 0.90496	1.07704 0.90762	0.94751 0.87674	0.76886	0.94198	0.95357	AVRG		0.92229		9.35219
109 ~ 1,2,3,5-tetramethylbenzene	+++++ 0.67586	0.81415 0.66964	0.73482 0.64421	0.58272	0.71295	0.71817	AVRG		0.69406		9.86694
110 ~ 1,2,3,4-tetramethylbenzene	+++++ 0.71684	0.91097 0.68259	0.83330 0.63253	0.64209	0.74005	0.77639	AVRG		0.74184		12.90956
111 Dodecane	+++++ 0.36577	+++++ 0.32733	+++++ 0.33380	0.46376	0.56754	0.71115	AVRG		0.46156		33.14844

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Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
112 1,2,4-Trichlorobenzene	+++++	0.38811	0.36751	0.26074	0.36222	0.40109					
	0.32774	0.28376	0.27119				AVRG		0.33280		16.54063
113 Napthalene	+++++	+++++	0.64582	0.48239	0.65188	0.72008					
	0.56635	0.48589	0.44275				AVRG		0.57074		18.36662
114 ~ benzo(b) thiophene	+++++	0.36708	0.35495	0.25107	0.34542	0.41376					
	0.28610	0.23993	0.22563				AVRG		0.31049		22.23667
115 Hexachlorobutadiene	+++++	0.76072	0.72019	0.65254	0.70432	0.67746					
	0.59916	0.53483	0.50683				AVRG		0.64451		14.00099
116 1,2,3-trichlorobenzene	+++++	0.34786	0.36486	0.22566	0.29399	0.37796					
	0.20029	0.16978	+++++				AVRG		0.28291		29.92058
117 ~ 2-Methylnaphthalene	0.03655	0.05365	0.04241	0.03641	0.05240	0.07341					
	0.03290	0.02784	0.02523				AVRG		0.04231		35.99208
118 ~ 1-Methylnaphthalene	0.03621	0.05874	0.04753	0.03898	0.05101	0.06910					
	0.02955	0.02384	0.02015				AVRG		0.04168		39.15138

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.70541	0.72092	0.72681	0.71745	0.73292	0.74739					
	0.73599	0.72693	0.73365				AVRG		0.72750		1.66087

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

Report Date:03/05/2012 Page 1

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/me.i/E030112I.b/eicc011.d
STD 2 = /var/chem/gcms/me.i/E030112I.b/eicc012.d
STD 3 = /var/chem/gcms/me.i/E030112I.b/eicc013.d
STD 4 = /var/chem/gcms/me.i/E030112I.b/eicc014.d
STD 5 = /var/chem/gcms/me.i/E030112I.b/eicc015.d
STD 6 = /var/chem/gcms/me.i/E030112I.b/eicc016.d
STD 7 = /var/chem/gcms/me.i/E030112I.b/eicc017.d
STD 8 = /var/chem/gcms/me.i/E030112I.b/eicc018.d
STD 9 = /var/chem/gcms/me.i/E030112I.b/eicc019.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
Chlorobenzene-d5	15.176	15.176	15.176	15.176	15.176	15.176	15.176	15.182	15.182	15.177
1,4-Difluorobenzene	10.329	10.324	10.324	10.329	10.329	10.329	10.334	10.340	10.345	10.331
Bromochloromethane	8.177	8.177	8.177	8.177	8.177	8.177	8.183	8.188	8.199	8.181
4-Bromofluorobenzene	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110
2-Nitropropene	1.066	1.067	1.067	1.066	1.066	1.067	1.067	1.066	1.067	1.066
~ 2-Methylnaphthalene	1.438	1.438	1.438	1.438	1.438	1.438	1.438	1.438	1.438	1.438
Chlorodifluoromethane	NA	0.444	0.444	0.445	0.444	0.444	0.444	0.444	0.444	0.444
Propene	NA	NA	0.445	0.445	0.445	0.445	0.445	0.445	0.445	0.445
Dichlorodifluoromethane	0.451	0.451	0.451	0.451	0.451	0.451	0.450	0.450	0.450	0.451
Chloromethane	NA	0.470	0.469	0.470	0.469	0.469	0.469	0.468	0.468	0.469
1,2-Dichlorotetrafluoroethan	0.471	0.470	0.470	0.471	0.470	0.470	0.470	0.470	0.470	0.470
~ acetaldehyde	NA	NA	NA	0.486	0.485	0.485	0.484	0.485	0.484	0.485
Methanol	NA	NA	NA	0.485	0.484	0.484	0.483	0.484	NA	0.484
Vinyl Chloride	0.488	0.488	0.487	0.487	0.487	0.487	0.486	0.486	0.486	0.487
n-Butane	NA	NA	0.496	0.497	0.496	0.496	0.496	0.496	0.495	0.496
1,3-Butadiene	0.497	0.496	0.496	0.497	0.496	0.496	0.496	0.495	0.495	0.496
Bromomethane	0.529	0.529	0.529	0.530	0.529	0.529	0.529	0.529	0.529	0.529
Chloroethane	0.545	0.544	0.543	0.544	0.543	0.543	0.543	0.543	0.543	0.543
~ ethanol	NA	NA	0.554	0.555	0.554	0.555	0.555	0.555	0.556	0.555
Vinyl Bromide	0.575	0.575	0.575	0.575	0.575	0.574	0.575	0.575	0.575	0.575
2-methyl butane	NA	0.582	0.580	0.581	0.581	0.580	0.580	0.580	0.580	0.580
Trichlorofluoromethane	NA	0.603	0.603	0.603	0.603	0.603	0.603	0.603	0.603	0.603
Acrolein	NA	NA	0.604	0.604	0.603	0.603	0.604	0.604	0.604	0.604
Acetonitrile	NA	NA	0.610	0.610	0.610	0.610	0.610	0.611	0.611	0.610
Acetone	NA	NA	0.617	0.616	0.616	0.616	0.616	NA	NA	0.616
Pentane	NA	NA	0.628	0.627	0.627	0.627	0.626	0.627	0.627	0.627
Isopropyl alcohol	NA	NA	0.626	0.626	0.626	0.626	0.626	0.627	0.628	0.626
Ethyl Ether	NA	NA	0.646	0.645	0.645	0.644	0.644	0.644	0.644	0.644
1,1-Dichloroethene	0.680	0.679	0.679	0.678	0.678	0.678	0.678	0.678	0.678	0.678
Acrylonitrile	NA	NA	0.688	0.689	0.688	0.689	0.688	0.689	0.690	0.689
1,1,2-Trichlorotrifluoroetha	0.699	0.699	0.698	0.699	0.698	0.698	0.698	0.698	0.698	0.698
tert-butanol	NA	NA	0.690	0.690	0.689	0.690	0.690	0.690	0.691	0.690
Methylene Chloride	NA	NA	0.715	0.715	0.715	0.715	0.715	0.716	NA	0.715
3-Chloropropene	NA	0.718	0.717	0.717	0.717	0.717	0.717	0.717	0.717	0.717
Carbon Disulfide	NA	NA	0.733	0.733	0.732	0.732	0.732	0.733	0.732	0.732
trans-1,2-Dichloroethene	0.805	0.805	0.805	0.805	0.805	0.805	0.805	0.805	0.804	0.805
~ 2-Methyl Pentane	0.809	0.808	0.808	0.808	0.808	0.808	0.808	0.808	0.808	0.808

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/me.i/E030112I.b/eicc011.d
STD 2 = /var/chem/gcms/me.i/E030112I.b/eicc012.d
STD 3 = /var/chem/gcms/me.i/E030112I.b/eicc013.d
STD 4 = /var/chem/gcms/me.i/E030112I.b/eicc014.d
STD 5 = /var/chem/gcms/me.i/E030112I.b/eicc015.d
STD 6 = /var/chem/gcms/me.i/E030112I.b/eicc016.d
STD 7 = /var/chem/gcms/me.i/E030112I.b/eicc017.d
STD 8 = /var/chem/gcms/me.i/E030112I.b/eicc018.d
STD 9 = /var/chem/gcms/me.i/E030112I.b/eicc019.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
Methyl-t-Butyl Ether	NA	0.821	0.821	0.821	0.820	0.820	0.820	0.820	0.820	0.820
1,1-Dichloroethane	0.851	0.851	0.851	0.851	0.851	0.851	0.851	0.852	0.851	0.851
Vinyl Acetate	NA	NA	0.864	0.864	0.864	0.864	0.864	0.864	0.864	0.864
Hexane	NA	NA	0.918	0.919	0.918	0.918	0.918	0.918	0.918	0.918
2-Butanone	NA	NA	0.915	0.914	0.914	0.914	0.914	0.914	0.914	0.914
cis 1,2-Dichloroethene	0.963	0.962	0.962	0.962	0.962	0.962	0.962	0.962	0.963	0.962
Ethyl acetate	NA	NA	0.986	0.986	0.986	0.986	0.986	0.986	0.986	0.986
Chloroform	1.003	1.002	1.002	1.003	1.003	1.003	1.003	1.003	1.003	1.003
Tetrahydrofuran	NA	NA	1.051	1.051	1.050	1.049	1.049	1.049	1.048	1.050
1,1,1-Trichloroethane	NA	1.121	1.121	1.122	1.122	1.122	1.122	1.121	1.121	1.122
1,2-Dichloroethane	0.897	0.897	0.897	0.897	0.897	0.897	0.897	0.898	0.898	0.897
Cyclohexane	NA	0.945	0.946	0.945	0.945	0.945	0.945	0.945	0.945	0.945
Benzene	0.944	0.945	0.944	0.945	0.944	0.945	0.944	0.944	0.945	0.944
Carbon Tetrachloride	0.947	0.947	0.947	0.947	0.947	0.947	0.947	0.947	0.947	0.947
1-Butanol	NA	NA	NA	0.944	0.944	0.943	0.943	0.943	0.943	0.943
~ 2,3-dimethylpentane	0.958	0.959	0.959	0.959	0.959	0.958	0.958	0.958	0.958	0.958
~ Thiophene	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971
2,2,4-trimethylpentane	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023
Heptane	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061
1,2-Dichloropropane	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066
Trichloroethene	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070
Dibromomethane	1.076	1.078	1.077	1.076	1.076	1.077	1.077	1.077	1.077	1.077
Bromodichloromethane	1.092	1.093	1.093	1.092	1.092	1.093	1.093	1.092	1.092	1.092
~ 1-Methylnaphthalene	1.453	1.453	1.453	1.453	1.453	1.453	1.453	1.452	1.452	1.453
1,4-dioxane	NA	NA	1.096	1.096	1.095	1.095	1.095	1.094	1.095	1.095
Methyl Methacrylate	NA	1.105	1.105	1.105	1.105	1.105	1.105	1.104	1.104	1.105
~ methyl cyclohexane	1.147	1.148	1.147	1.147	1.147	1.147	1.147	1.147	1.147	1.147
cis-1,3-Dichloropropene	1.193	1.194	1.193	1.193	1.193	1.193	1.192	1.192	1.192	1.193
4-Methyl-2-pentanone	NA	1.190	1.190	1.189	1.188	1.188	1.188	1.188	1.188	1.189
trans-1,3-Dichloropropene	0.859	0.859	0.859	0.859	0.860	0.860	0.860	0.860	0.860	0.860
Toluene	NA	0.867	0.867	0.867	0.867	0.867	0.868	0.867	0.868	0.867
1,1,2-Trichloroethane	0.872	0.872	0.872	0.872	0.872	0.872	0.873	0.872	0.873	0.872
~ 2-methyl thiophene	0.877	0.877	0.877	0.877	0.877	0.877	0.878	0.878	0.878	0.877
~ 3-methyl thiophene	0.891	0.891	0.891	0.891	0.891	0.891	0.892	0.891	0.892	0.891
2-Hexanone	NA	NA	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900
Octane	0.917	0.917	0.917	0.917	0.917	0.917	0.917	0.917	0.917	0.917
Dibromochloromethane	0.919	0.919	0.919	0.919	0.919	0.919	0.920	0.919	0.920	0.919

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/me.i/E030112I.b/eicc011.d
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STD 8 = /var/chem/gcms/me.i/E030112I.b/eicc018.d
STD 9 = /var/chem/gcms/me.i/E030112I.b/eicc019.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
1,2-Dibromoethane	0.938	0.938	0.938	0.938	0.938	0.938	0.939	0.938	0.939	0.938
Tetrachloroethene	0.945	0.944	0.944	0.944	0.944	0.944	0.945	0.944	0.945	0.944
Chlorobenzene	1.003	1.003	1.003	1.003	1.003	1.003	1.004	1.003	1.003	1.003
~ 2,3-dimethylheptane	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007
Ethylbenzene	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023
~ 2-ethyl thiophene	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
m&p-Xylene	1.034	1.034	1.034	1.034	1.034	1.034	1.034	1.034	1.035	1.034
Nonane	NA	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065
Bromoform	NA	1.063	1.062	1.063	1.062	1.063	1.063	1.062	1.063	1.063
Styrene	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065
o-Xylene	1.069	1.069	1.069	1.069	1.069	1.069	1.069	1.069	1.069	1.069
1,1,2,2-Tetrachloroethane	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091
1,2,3-Trichloropropane	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101
Cumene	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109
n-Propylbenzene	1.145	1.145	1.145	1.145	1.145	1.145	1.146	1.145	1.145	1.145
2-chlorotoluene	1.148	1.147	1.147	1.147	1.147	1.147	1.148	1.147	1.147	1.147
4-Ethyltoluene	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156
1,3,5-Trimethylbenzene	1.161	1.162	1.161	1.161	1.161	1.161	1.162	1.161	1.162	1.161
Alpha-Methylstyrene	NA	NA	1.177	1.177	1.177	1.177	1.177	1.177	1.177	1.177
Decane	NA	1.183	1.184	1.184	1.184	1.184	1.184	1.183	1.184	1.184
tert-butylbenzene	1.190	1.190	1.190	1.190	1.190	1.190	1.191	1.190	1.191	1.190
1,2,4-Trimethylbenzene	NA	1.191	1.191	1.191	1.191	1.191	1.191	1.191	1.191	1.191
sec-butylbenzene	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209
1,3-Dichlorobenzene	NA	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209
Benzyl Chloride	NA	1.214	1.214	1.214	1.214	1.214	1.214	1.214	1.214	1.214
1,4-Dichlorobenzene	NA	1.215	1.215	1.215	1.215	1.215	1.215	1.215	1.215	1.215
p-Cymene	NA	1.220	1.220	1.220	1.220	1.220	1.221	1.220	1.220	1.220
~ 1,2,3- Trimethylbenzene	1.223	1.223	1.223	1.223	1.223	1.223	1.224	1.223	1.223	1.223
~ n-butylcyclohexane	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228
1,2-Dichlorobenzene	NA	1.239	1.240	1.240	1.240	1.240	1.240	1.239	1.240	1.240
~ Indane	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240
~ Indene	NA	1.248	1.248	1.248	1.248	1.248	1.248	1.248	1.248	1.248
n-butylbenzene	NA	1.250	1.250	1.250	1.250	1.250	1.250	1.250	1.250	1.250
Undecane	1.273	1.273	1.273	1.273	1.273	1.274	1.274	1.273	1.273	1.273
~ 1,2-dimethyl-4-ethylenzene	NA	1.276	1.275	1.275	1.275	1.275	1.276	1.275	1.275	1.275
~ 1,2,4,5-tetramethylbenzene	NA	1.302	1.302	1.302	1.302	1.302	1.302	1.301	1.301	1.302
~ 1,2,3,5-tetramethylbenzene	NA	1.305	1.305	1.305	1.305	1.305	1.305	1.305	1.305	1.305

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
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Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/me.i/E030112I.b/eicc011.d
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STD 8 = /var/chem/gcms/me.i/E030112I.b/eicc018.d
STD 9 = /var/chem/gcms/me.i/E030112I.b/eicc019.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
~ 1,2,3,4-tetramethylbenzene	NA	1.331	1.331	1.331	1.331	1.331	1.331	1.331	1.331	1.331
Dodecane	NA	NA	NA	1.344	1.344	1.344	1.344	1.344	1.344	1.344
1,2,4-Trichlorobenzene	NA	1.354	1.354	1.354	1.354	1.354	1.354	1.353	1.353	1.354
Napthalene	NA	NA	1.362	1.363	1.363	1.363	1.363	1.362	1.362	1.362
~ benzo(b) thiophene	NA	1.369	1.369	1.369	1.369	1.369	1.369	1.368	1.369	1.369
Hexachlorobutadiene	NA	1.378	1.378	1.378	1.378	1.378	1.378	1.377	1.377	1.378
1,2,3-trichlorobenzene	NA	1.381	1.381	1.381	1.381	1.381	1.381	1.381	NA	1.381

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/2/12	CCAL Batch/ Scan Name:	E030212I	Instrument:	ME	ICAL Batch/ Scan Name:	E030112I	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓			✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		NT □ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				✓
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder? JB 3/5/12	HT	✓		NCM # 10870 overwrote BFB	✓
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst: JB	Date: 3/5/12	2nd Level Reviewer :	Date: 3/6/12
Comments:		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Inst: ME

Analyst: [signature] Qtims Batch: 2065033 MQ778

Date: 3/2/12 ICAL Batch: E030212 I Target Batch: E030212 IS #1 Area: 327383

Surr/IS ID & Vol.: V425 40mL System Date/Time ok (y/n): Y 3/5/12

Preventive Maintenance Performed ☐ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1004	Y	Tune	EBFBC02	—	16	100	1	
1037	Y	CCV	ECCVC02	CX-2321	15	100	1	2nd Source
1310	N	BIK	Flush	—	16	500	1	
1420	Y	↓	EBIKC02	—	↓	↓	1	
1513	Y	H2B230466	MQ21A1AA	LA7118	1	50	1	10
1606	~~Y~~ N	RR 1/10 [initials] 3/2/12	~~Q2L~~ MQ21C1AA	~~LX~~ L5116	2	20		25 3/2/12
1658	✓		MQ21D1AA	L5170	3	50		
1749	✓		MQ21E1AA	L5159	4			MQ21E1AA
1842	✓		MQ21F1AA	LA7166	5			
1934	✓ dup		MQ21FD	↓	5	↓		
2028	✓		MQ21G1AA	~~LA~~ L5108	6			3/2/12
2120	✓		MQ21H1AA	LA7117	7	↓	↓	
2213	✓		MQ21J1AA	LA7119	8	30mL	9.96	
2304	✓		MQ21K1AA	L5179	9	30mL	3.36	
2357	✓		MQ21L1AA	LA7115	10	60mL	~~9.9~~ 9.74	3/2/12
0050	✓		MQ21M1AA	L8176	11	50	1	
0143	✓		MQ21N1AA	L8195	12			
0236	✓		MQ21P1AA	L5187	13			
0328	✓		MQ21R1AA	L3831	14	↓	↓	
0419	✓	Etec RR 50mL ↓	MQ21Q1AA	~~LA7113~~	15	310	499.47	Can # 04402 3/2/12
0510	✓		IT ↓	L5175	1	11	3.2	(10)
0601	✓		ICR	L5161	2	50	1	
0653	✓		10 AA	12624	3	170	1849.5	5439.71
0746	✓	↓	↓ 11 ↓	L5165	4	16	3.31	(15)
0843	✓	Lot 9750	6508 →		16	500	1	

[signature] 3/5/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/5/12

Test America - Knoxville

Entech Autosampler Log

Position	Volume	Date	Time
16	102	3/2/2012	10:04
15	101	3/2/2012	10:37
16	501	3/2/2012	13:10
16	501	3/2/2012	14:20
1	51	3/2/2012	15:13
2	21	3/2/2012	16:06
3	51	3/2/2012	16:58
4	51	3/2/2012	17:49
5	51	3/2/2012	18:42
5	51	3/2/2012	19:34
6	51	3/2/2012	20:28
7	51	3/2/2012	21:20
8	31	3/2/2012	22:13
9	31	3/2/2012	23:04
10	61	3/2/2012	23:57
11	51	3/3/2012	0:50
12	51	3/3/2012	1:43
13	51	3/3/2012	2:36
14	51	3/3/2012	3:28
15	311	3/3/2012	4:19
1	11	3/3/2012	5:10
2	51	3/3/2012	6:01
3	171	3/3/2012	6:53
4	16	3/3/2012	7:46
16	501	3/3/2012	8:43

Data File: /ohem/goms/me.i/E030212.b/ebfbo02.d

Date : 02-MAR-2012 10:04

Client ID: BFB

Instrument: me.i

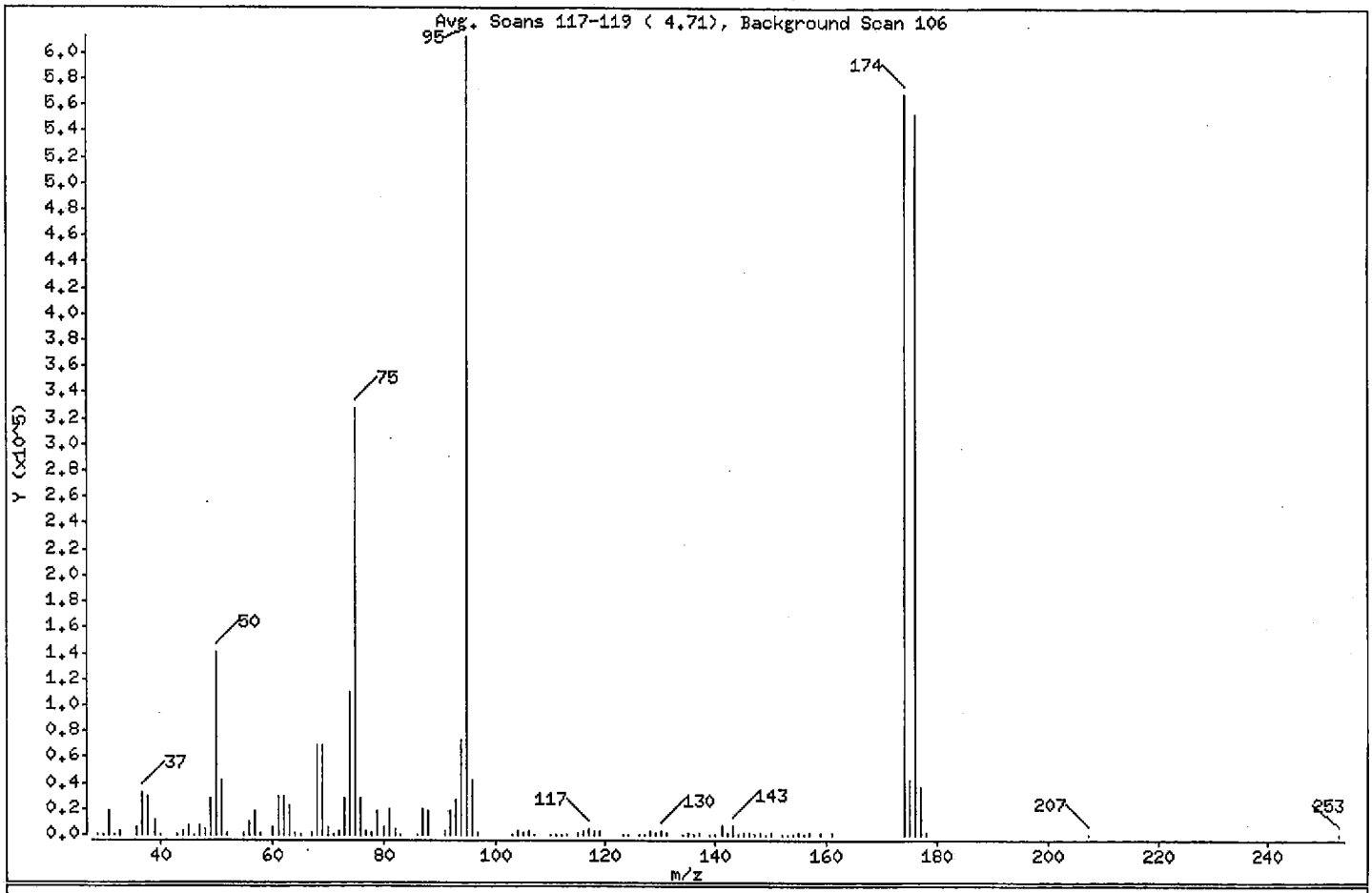
Sample Info: BFB,,3,,,BFB

Operator: 22980

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.90
75	30.00 - 60.00% of mass 95	53.64
96	5.00 - 9.00% of mass 95	6.92
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	92.96
175	5.00 - 9.00% of mass 174	6.89 (7.41)
176	95.00 - 101.00% of mass 174	90.32 (97.16)
177	5.00 - 9.00% of mass 176	6.01 (6.66)

Data File: /var/chem/gcms/me.i/E030212.b/eccvc02.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION ~~COMPOUNDS~~

Instrument ID: me.i
Lab File ID: eccvc02.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030212.b/TO15S.m

Injection Date: 02-MAR-2012 10:37
Init. Cal. Date(s): ~~01-MAR-2012~~ 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.72750	0.70377	0.70377	0.000	3.26100	30.00000	Averaged
M 5 Xylene (total)	1.01264	0.98777	0.98777	0.000	2.45598	30.00000	Averaged
6 Chlorodifluoromethane	0.55987	0.48018	0.48018	0.000	14.23320	30.00000	Averaged
7 Propene	1.43639	1.27355	1.27355	0.000	11.33696	30.00000	Averaged
10 Dichlorodifluoromethane	4.82567	4.38806	4.38806	0.000	9.06838	30.00000	Averaged
9 Chloromethane	0.51844	0.45758	0.45758	0.000	11.73863	30.00000	Averaged
11 1,2-Dichlorotetrafluoroetha	2.73343	2.64087	2.64087	0.000	3.38604	30.00000	Averaged
8 ~~acetaldehyde~~	22.94247	10.12000	0.39500	0.000	~~-127~~	30.00000	Quadratic <- NT
12 Methanol	0.30978	0.25902	0.25902	0.000	16.38609	30.00000	Averaged
13 Vinyl Chloride	1.58403	1.44740	1.44740	0.000	8.62561	30.00000	Averaged
14 n-Butane	2.44569	2.31546	2.31546	0.000	5.32482	30.00000	Averaged
15 1,3-Butadiene	1.16516	1.12695	1.12695	0.000	3.27942	30.00000	Averaged
16 Bromomethane	1.57252	1.32504	1.32504	0.000	15.73769	30.00000	Averaged
18 Chloroethane	0.67079	0.61862	0.61862	0.000	7.77681	30.00000	Averaged
17 ~ ethanol	9.98223	10.44000	0.36690	0.000	4.38478	30.00000	Quadratic
19 Vinyl Bromide	1.39027	1.35841	1.35841	0.000	2.29122	30.00000	Averaged
20 2-methyl butane	1.81412	1.57470	1.57470	0.000	13.19723	30.00000	Averaged
21 Trichlorofluoromethane	4.68088	4.25107	4.25107	0.000	9.18234	30.00000	Averaged
22 Acrolein	0.39353	0.36063	0.36063	0.000	8.36160	30.00000	Averaged
23 Acetonitrile	0.40510	0.40467	0.40467	0.000	0.10794	30.00000	Averaged
24 ~~Acetone~~	0.90103	0.45599	0.45599	0.000	~~49.39205~~	30.00000	Averaged <- MA
25 Pentane	0.20224	0.18312	0.18312	0.000	9.45552	30.00000	Averaged
26 Isopropyl alcohol	1.28746	1.29202	1.29202	0.000	-0.35418	30.00000	Averaged
27 Ethyl Ether	1.15104	1.40738	1.40738	0.000	-22.27043	30.00000	Averaged
28 1,1-Dichloroethene	1.17462	1.28324	1.28324	0.000	-9.24769	30.00000	Averaged
29 Acrylonitrile	0.91709	0.93870	0.93870	0.000	-2.35622	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.58209	2.77909	2.77909	0.000	-7.62936	30.00000	Averaged
31 tert-butanol	2.08282	2.08948	2.08948	0.000	-0.31991	30.00000	Averaged
32 Methylene Chloride	1.23699	1.14761	1.14761	0.000	7.22558	30.00000	Averaged
33 3-Chloropropene	1.42479	1.28524	1.28524	0.000	9.79479	30.00000	Averaged
34 Carbon Disulfide	4.21922	4.06989	4.06989	0.000	3.53937	30.00000	Averaged
35 trans-1,2-Dichloroethene	1.40392	1.31373	1.31373	0.000	6.42395	30.00000	Averaged
36 ~ 2-Methyl Pentane	3.90526	3.51392	3.51392	0.000	10.02079	30.00000	Averaged
37 Methyl-t-Butyl Ether	3.25068	3.25788	3.25788	0.000	-0.22147	30.00000	Averaged
38 1,1-Dichloroethane	2.75587	2.75679	2.75679	0.000	-0.03333	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030212.b/eccvc02.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc02.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030212.b/TO155.m

Injection Date: 02-MAR-2012 10:37
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 Vinyl Acetate	3.43851	3.52229	3.52229	0.000	-2.43666	30.00000	Averaged
40 Hexane	1.28525	1.18621	1.18621	0.000	7.70593	30.00000	Averaged
41 2-Butanone	0.51559	0.48758	0.48758	0.000	5.43388	30.00000	Averaged
42 cis 1,2-Dichloroethene	1.36239	1.37174	1.37174	0.000	-0.68677	30.00000	Averaged
43 Ethyl acetate	2.86942	2.84285	2.84285	0.000	0.92594	30.00000	Averaged
44 Chloroform	3.29356	3.24214	3.24214	0.000	1.56126	30.00000	Averaged
45 Tetrahydrofuran	1.48081	1.46532	1.46532	0.000	1.04601	30.00000	Averaged
46 1,1,1-Trichloroethane	3.66226	3.57292	3.57292	0.000	2.43945	30.00000	Averaged
47 1,2-Dichloroethane	0.47546	0.44891	0.44891	0.000	5.58376	30.00000	Averaged
48 Cyclohexane	0.15654	0.12903	0.12903	0.000	17.57607	30.00000	Averaged
49 Benzene	0.83307	0.76223	0.76223	0.000	8.50307	30.00000	Averaged
50 Carbon Tetrachloride	0.75144	0.69635	0.69635	0.000	7.33149	30.00000	Averaged
51 1-Butanol	0.08857	0.09652	0.09652	0.000	-8.97652	30.00000	Averaged
52 ~ 2,3-dimethylpentane	0.18569	0.16721	0.16721	0.000	9.95147	30.00000	Averaged
53 ~ Thiophene	0.47889	0.42435	0.42435	0.000	11.38741	30.00000	Averaged
54 2,2,4-trimethylpentane	1.54447	1.35839	1.35839	0.000	12.04809	30.00000	Averaged
55 Heptane	0.31230	0.26794	0.26794	0.000	14.20565	30.00000	Averaged
56 1,2-Dichloropropane	0.32079	0.30188	0.30188	0.000	5.89393	30.00000	Averaged
57 Trichloroethene	0.39897	0.36294	0.36294	0.000	9.03001	30.00000	Averaged
180 2-Nitropropene	0.48768	0.53283	0.53283	0.000	-9.25871	25.00000	Averaged
58 Dibromomethane	0.38815	0.33768	0.33768	0.000	13.00197	30.00000	Averaged
59 Bromodichloromethane	0.74157	0.68733	0.68733	0.000	7.31534	30.00000	Averaged
60 1,4-dioxane	0.07806	0.08147	0.08147	0.000	-4.37143	30.00000	Averaged
61 Methyl Methacrylate	0.36971	0.35592	0.35592	0.000	3.73168	30.00000	Averaged
62 ~ methyl cyclohexane	0.51519	0.46248	0.46248	0.000	10.23131	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.48191	0.45214	0.45214	0.000	6.17638	30.00000	Averaged
64 4-Methyl-2-pentanone	0.64256	0.57008	0.57008	0.000	11.28033	30.00000	Averaged
65 trans-1,3-Dichloropropene	0.53029	0.52084	0.52084	0.000	1.78134	30.00000	Averaged
66 Toluene	1.07924	1.02281	1.02281	0.000	5.22829	30.00000	Averaged
67 1,1,2-Trichloroethane	0.32760	0.30213	0.30213	0.000	7.77339	30.00000	Averaged
68 ~ 2-methyl thiophene	0.89585	0.83158	0.83158	0.000	7.17394	30.00000	Averaged
70 ~ 3-methyl thiophene	0.90080	0.86144	0.86144	0.000	4.36956	30.00000	Averaged
69 2-Hexanone	0.30430	0.28655	0.28655	0.000	5.83403	30.00000	Averaged
71 Octane	0.36697	0.32176	0.32176	0.000	12.32053	30.00000	Averaged
72 Dibromochloromethane	0.74492	0.72676	0.72676	0.000	2.43756	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030212.b/eccvc02.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc02.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030212.b/TO155.m

Injection Date: 02-MAR-2012 10:37
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 1,2-Dibromoethane	0.58706	0.55096	0.55096	0.000	6.14926	30.00000	Averaged
74 Tetrachloroethene	0.45149	0.40930	0.40930	0.000	9.34440	30.00000	Averaged
75 Chlorobenzene	0.82172	0.77501	0.77501	0.000	5.68420	30.00000	Averaged
76 ~ 2,3-dimethylheptane	1.20126	1.12724	1.12724	0.000	6.16221	30.00000	Averaged
77 Ethylbenzene	1.29481	1.28294	1.28294	0.000	0.91641	30.00000	Averaged
79 ~ 2-ethyl thiophene	1.06532	1.02803	1.02803	0.000	3.50051	30.00000	Averaged
78 m&p-Xylene	1.00261	0.98380	0.98380	0.000	1.87547	30.00000	Averaged
80 Nonane	0.78325	0.69546	0.69546	0.000	11.20898	30.00000	Averaged
81 Bromoform	0.79942	0.76557	0.76557	0.000	4.23421	30.00000	Averaged
82 Styrene	0.68299	0.67011	0.67011	0.000	1.88527	30.00000	Averaged
83 o-Xylene	1.03272	0.99571	0.99571	0.000	3.58314	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.69891	0.65813	0.65813	0.000	5.83485	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19288	0.18564	0.18564	0.000	3.75033	30.00000	Averaged
86 Cumene	1.41249	1.33041	1.33041	0.000	5.81087	30.00000	Averaged
87 n-Propylbenzene	0.34788	0.33303	0.33303	0.000	4.26779	30.00000	Averaged
88 2-chlorotoluene	0.35700	0.33138	0.33138	0.000	7.17438	30.00000	Averaged
89 4-Ethyltoluene	1.32034	1.25553	1.25553	0.000	4.90840	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57594	0.56332	0.56332	0.000	2.19110	30.00000	Averaged
91 Alpha-Methylstyrene	0.51031	0.47326	0.47326	0.000	7.26123	30.00000	Averaged
92 Decane	0.82537	0.78673	0.78673	0.000	4.68090	30.00000	Averaged
93 tert-butylbenzene	1.12901	1.05162	1.05162	0.000	6.85469	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.05675	0.98892	0.98892	0.000	6.41853	30.00000	Averaged
95 sec-butylbenzene	1.51762	1.41299	1.41299	0.000	6.89460	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77036	0.67896	0.67896	0.000	11.86447	30.00000	Averaged
97 Benzyl Chloride	0.82883	0.78101	0.78101	0.000	5.76992	30.00000	Averaged
98 1,4-Dichlorobenzene	0.70924	0.62999	0.62999	0.000	11.17424	30.00000	Averaged
99 p-Cymene	1.25900	1.16561	1.16561	0.000	7.41760	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.86630	0.86492	0.86492	0.000	0.15949	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86372	0.80613	0.80613	0.000	6.66828	30.00000	Averaged
102 1,2-Dichlorobenzene	0.69309	0.59930	0.59930	0.000	13.53250	30.00000	Averaged
103 ~ Indane	0.88188	0.86135	0.86135	0.000	2.32812	30.00000	Averaged
105 ~ Indene	0.61554	0.59039	0.59039	0.000	4.08562	30.00000	Averaged
104 n-butylbenzene	1.11355	1.04101	1.04101	0.000	6.51481	30.00000	Averaged
106 Undecane	0.69283	0.55372	0.55372	0.000	20.07870	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96732	0.92886	0.92886	0.000	3.97604	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.92229	0.93512	0.93512	0.000	-1.39114	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030212.b/eccvc02.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc02.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030212.b/TO155.m

Injection Date: 02-MAR-2012 10:37
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.69406	0.67327	0.67327	0.000	2.99597	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.74184	0.68465	0.68465	0.000	7.70963	30.00000	Averaged	NT
~~121 Dodecane~~	0.46156	0.29934	0.29934	0.000	~~35.14610~~	30.00000	Averaged	<- 60-140
112 1,2,4-Trichlorobenzene	0.33280	0.24440	0.24440	0.000	26.56026	30.00000	Averaged	
113 Napthalene	0.57074	0.42031	0.42031	0.000	26.35697	30.00000	Averaged	
114 ~ benzo(b) thiophene	0.31049	0.23911	0.23911	0.000	22.99135	30.00000	Averaged	
115 Hexachlorobutadiene	0.64451	0.52266	0.52266	0.000	18.90604	30.00000	Averaged	NT
~~116 1,2,3-trichlorobenzene~~	0.28291	0.13678	0.13678	0.000	~~51.65328~~	30.00000	Averaged	<- 40-140
~~117 ~ 2-Methylnaphthalene~~	0.04231	0.01442	0.01442	0.000	~~65.91456~~	50.00000	Averaged	<- OL
~~118 ~ 1-Methylnaphthalene~~	0.04168	0.01267	0.01267	0.000	69.59809	50.00000	Averaged	<- OL

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/5/12	CCAL Batch/ Scan Name:	E030512	Instrument:	ME	ICAL Batch/ Scan Name:	E030112 I	Scanned:

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓			✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		□ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	✓
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				✓
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 3/5/12	2nd Level Reviewer :	Date: 3/6/12
Comments:		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: [signature] Qtims Batch: 2065117 MQ8MN

Date: 3/5/12 ICAL Batch: E030102S Target Batch: E030512 IS #1 Area: 329 820

Surr/IS ID & Vol. 40mL V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0900	✓	Tune	EBFBC05	-	16	~~500~~ 100 3/5/12	1	
0932	✓	CCV	CCV	CX2322	15	100		
0932	✓	LCS	LCS					
1038	✓	Blk	Flush	-	16	500		
1127	✓		EBlkC05	-				
1325	✓	H2B230466	MQ21W1AA	SL1229	1	50	1	tetra.
1413	✓		212	L5129	2	11		10mL
1506	✓		213	L8181	3	50		
1557	✓		214	L8196	4	50		
1648	✓ (E)		215	L5163	5	11	3.79	(E) vinyl chloride needs x2
1738	✓		216	L5195	6	~~500~~ 50 3/6/12 3/5/12	1	no c/o ✓
1828	✓ RR	ory ok elev5	217	SL1232	7	~~425~~ 26mL		(Ok) as elev5
1919	✓		218	L5132	8	50		
2008	✓ IS2		219	L5142	9	50		
2058	✓		22A	L5117	10	11		10mL
2147	✓		22C	L5184	11	11		10mL
2237	✓		22D	SL1233	12	50		
2327	✓		22E	L5120	13			
~~000~~ 0017 3/6/12	✓		22F	L5156	14			00:17
0108	✓ IS		22G	L8177	15			RR
0157	dup		22GD		15			
0247	✓		22H1AA	L8189	1	50	1	
0338	✓		21Q2AA	04402	2	50	499.47	tce
0430	✓	H2B230465	MQ20L1AA	LA7168	3		1	
0518	✓		0Q	L5128	4			
0608	N	H2B230466	MQ2152AA	L5163	5	11	41.21	10 Needs IX1 RR 10mL
0700	✓	H2B230465	20R1AA	L5107	6	50	1	
Not Needed		H2B230466	217R	SL1232	7			
Not Run		Lot 9761	1006 →		8	500		std can

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

0752 ✓ H2B230466 MQ219R L5142 9 50 1

Analyst: [signature] Date: 3/6/12 MS027r16.DOC, 051210

0843 ✓ H2B230466 MQ22GR L8177 15 50 1

Test America - Knoxville

Entech Autosampler Log

Position	Volume	Date	Time
16	101	3/5/2012	9:00
15	100	3/5/2012	9:32
16	500	3/5/2012	10:37
16	501	3/5/2012	11:27
1	51	3/5/2012	13:25
2	11	3/5/2012	14:13
3	51	3/5/2012	15:06
4	51	3/5/2012	15:57
5	11	3/5/2012	16:48
6	51	3/5/2012	17:38
7	26	3/5/2012	18:28
8	51	3/5/2012	19:19
9	51	3/5/2012	20:08
10	11	3/5/2012	20:58
11	11	3/5/2012	21:47
12	51	3/5/2012	22:37
13	51	3/5/2012	23:27
14	51	3/6/2012	0:17
15	51	3/6/2012	1:08
15	51	3/6/2012	1:57
1	51	3/6/2012	2:47
2	51	3/6/2012	3:38
3	51	3/6/2012	4:30
4	51	3/6/2012	5:18
5	11	3/6/2012	6:08
6	51	3/6/2012	7:00

Position	Volume	Date	Time
9	50	3/6/2012	7:52
15	50	3/6/2012	8:43

Data File: /chem/gcms.me.i/E030512.b/ebfbo05.d

Date : 05-MAR-2012 09:00

Client ID: BFB

Instrument: me.i

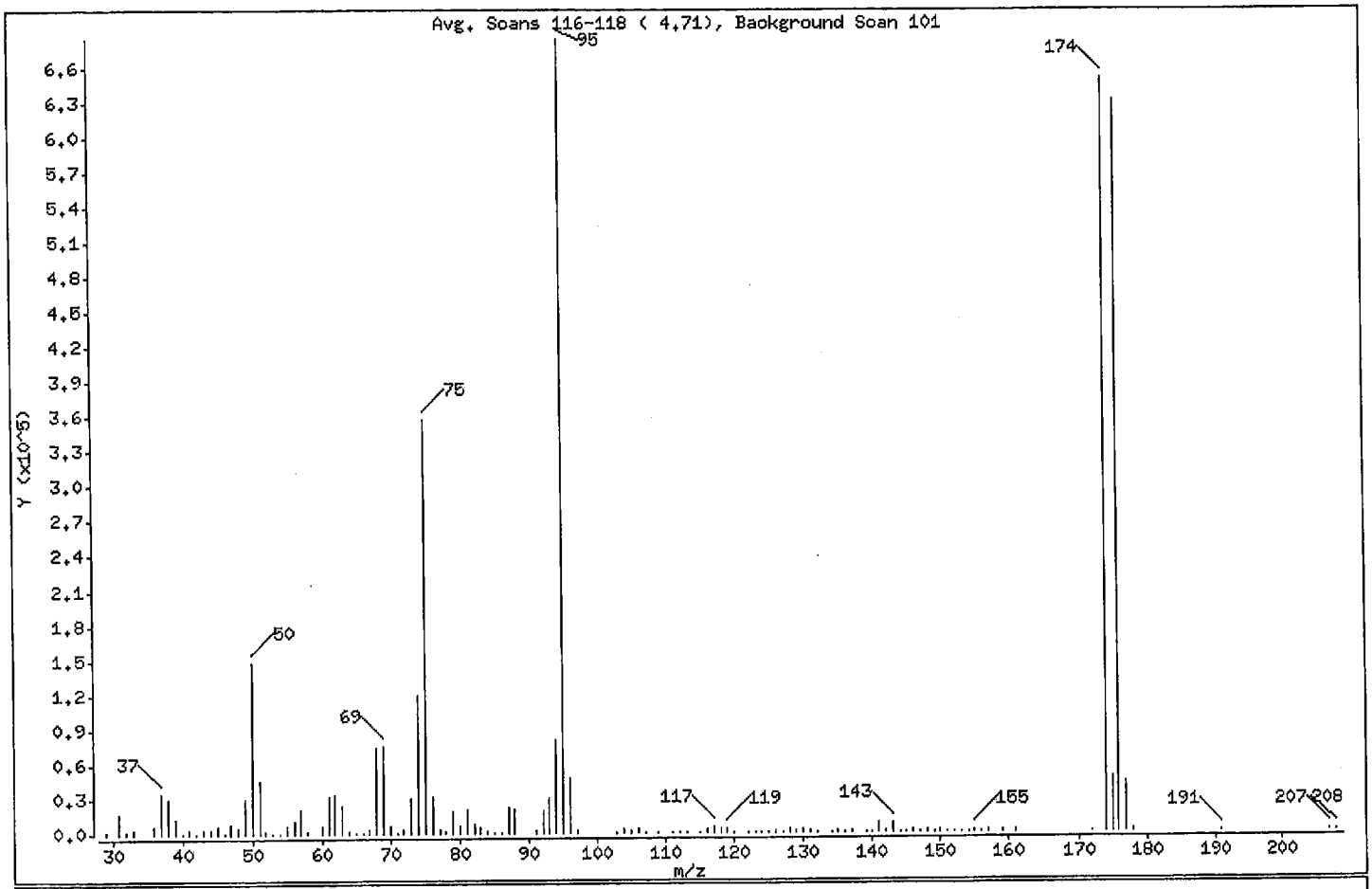
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	21.65
75	30.00 - 60.00% of mass 95	52.28
96	5.00 - 9.00% of mass 95	6.88
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	95.04
175	5.00 - 9.00% of mass 174	6.80 (7.15)
176	95.00 - 101.00% of mass 174	92.28 (97.09)
177	5.00 - 9.00% of mass 176	6.16 (6.68)

Data File: /var/chem/gcms/me.i/E030512.b/eccvc05.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030512.b/TO155.m

Injection Date: 05-MAR-2012 09:32
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 4-Bromofluorobenzene	0.72750	0.70059	0.70059	0.000	3.69816	30.00000	Averaged	
M 5 Xylene (total)	1.01264	1.02287	1.02287	0.000	-1.00993	30.00000	Averaged	
6 Chlorodifluoromethane	0.55987	0.42013	0.42013	0.000	24.95944	30.00000	Averaged	
7 Propene	1.43639	1.35204	1.35204	0.000	5.87238	30.00000	Averaged	
10 Dichlorodifluoromethane	4.82567	4.73686	4.73686	0.000	1.84040	30.00000	Averaged	
9 Chloromethane	0.51844	0.50010	0.50010	0.000	3.53685	30.00000	Averaged	
11 1,2-Dichlorotetrafluoroetha	2.73343	2.58326	2.58326	0.000	5.49392	30.00000	Averaged	
8 ~ acetaldehyde	7.52956	10.12000	0.15738	0.000	25.59721	30.00000	Quadratic	
12 Methanol	0.30978	0.26605	0.26605	0.000	14.11746	30.00000	Averaged	
13 Vinyl Chloride	1.58403	1.52389	1.52389	0.000	3.79639	30.00000	Averaged	
14 n-Butane	2.44569	2.20718	2.20718	0.000	9.75231	30.00000	Averaged	
15 1,3-Butadiene	1.16516	1.04869	1.04869	0.000	9.99588	30.00000	Averaged	
16 Bromomethane	1.57252	1.39462	1.39462	0.000	11.31300	30.00000	Averaged	
18 Chloroethane	0.67079	0.65460	0.65460	0.000	2.41399	30.00000	Averaged	
17 ~ ethanol	7.68539	10.44000	0.30431	0.000	26.38518	30.00000	Quadratic	
19 Vinyl Bromide	1.39027	1.30730	1.30730	0.000	5.96732	30.00000	Averaged	
20 2-methyl butane	1.81412	1.55047	1.55047	0.000	14.53326	30.00000	Averaged	
21 Trichlorofluoromethane	4.68088	4.37056	4.37056	0.000	6.62945	30.00000	Averaged	
22 Acrolein	0.39353	0.39329	0.39329	0.000	0.06157	30.00000	Averaged	
23 Acetonitrile	0.40510	0.39602	0.39602	0.000	2.24229	30.00000	Averaged	
24 Acetone	0.90103	0.44177	0.44177	0.000	~~50.97053~~	30.00000	Averaged	<- NA
25 Pentane	0.20224	0.18517	0.18517	0.000	8.44135	30.00000	Averaged	
26 Isopropyl alcohol	1.28746	1.25695	1.25695	0.000	2.36978	30.00000	Averaged	
27 Ethyl Ether	1.15104	1.18269	1.18269	0.000	-2.74930	30.00000	Averaged	
28 1,1-Dichloroethene	1.17462	1.10345	1.10345	0.000	6.05898	30.00000	Averaged	
29 Acrylonitrile	0.91709	0.92557	0.92557	0.000	-0.92471	30.00000	Averaged	
30 1,1,2-Trichlorotrifluoroeth	2.58209	2.52069	2.52069	0.000	2.37819	30.00000	Averaged	
31 tert-butanol	2.08282	2.16456	2.16456	0.000	-3.92479	30.00000	Averaged	
32 Methylene Chloride	1.23699	1.05579	1.05579	0.000	14.64794	30.00000	Averaged	
33 3-Chloropropene	1.42479	1.30945	1.30945	0.000	8.09529	30.00000	Averaged	
34 Carbon Disulfide	4.21922	3.85202	3.85202	0.000	8.70317	30.00000	Averaged	
35 trans-1,2-Dichloroethene	1.40392	1.34543	1.34543	0.000	4.16601	30.00000	Averaged	
36 ~ 2-Methyl Pentane	3.90526	3.57561	3.57561	0.000	8.44120	30.00000	Averaged	
37 Methyl-t-Butyl Ether	3.25068	3.27137	3.27137	0.000	-0.63650	30.00000	Averaged	
38 1,1-Dichloroethane	2.75587	2.65395	2.65395	0.000	3.69852	30.00000	Averaged	

Data File: /var/chem/gcms/me.i/E030512.b/eccvc05.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030512.b/TO155.m

Injection Date: 05-MAR-2012 09:32
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 Vinyl Acetate	3.43851	3.40124	3.40124	0.000	1.08392	30.00000	Averaged
40 Hexane	1.28525	1.20260	1.20260	0.000	6.43041	30.00000	Averaged
41 2-Butanone	0.51559	0.46103	0.46103	0.000	10.58247	30.00000	Averaged
42 cis 1,2-Dichloroethene	1.36239	1.32143	1.32143	0.000	3.00630	30.00000	Averaged
43 Ethyl acetate	2.86942	2.73868	2.73868	0.000	4.55623	30.00000	Averaged
44 Chloroform	3.29356	3.14966	3.14966	0.000	4.36921	30.00000	Averaged
45 Tetrahydrofuran	1.48081	1.37783	1.37783	0.000	6.95401	30.00000	Averaged
46 1,1,1-Trichloroethane	3.66226	3.48570	3.48570	0.000	4.82083	30.00000	Averaged
47 1,2-Dichloroethane	0.47546	0.43950	0.43950	0.000	7.56408	30.00000	Averaged
48 Cyclohexane	0.15654	0.13051	0.13051	0.000	16.62715	30.00000	Averaged
49 Benzene	0.83307	0.74414	0.74414	0.000	10.67436	30.00000	Averaged
50 Carbon Tetrachloride	0.75144	0.74314	0.74314	0.000	1.10397	30.00000	Averaged
51 1-Butanol	0.08857	0.08853	0.08853	0.000	0.04833	30.00000	Averaged
52 ~ 2,3-dimethylpentane	0.18569	0.16976	0.16976	0.000	8.57609	30.00000	Averaged
53 ~ Thiophene	0.47889	0.43307	0.43307	0.000	9.56790	30.00000	Averaged
54 2,2,4-trimethylpentane	1.54447	1.38699	1.38699	0.000	10.19598	30.00000	Averaged
55 Heptane	0.31230	0.27502	0.27502	0.000	11.93702	30.00000	Averaged
56 1,2-Dichloropropane	0.32079	0.30204	0.30204	0.000	5.84448	30.00000	Averaged
57 Trichloroethene	0.39897	0.36414	0.36414	0.000	8.73086	30.00000	Averaged
180 2-Nitropropene	0.48768	0.48341	0.48341	0.000	0.87651	25.00000	Averaged
58 Dibromomethane	0.38815	0.35597	0.35597	0.000	8.28914	30.00000	Averaged
59 Bromodichloromethane	0.74157	0.70232	0.70232	0.000	5.29305	30.00000	Averaged
60 1,4-dioxane	0.07806	0.08042	0.08042	0.000	-3.02010	30.00000	Averaged
61 Methyl Methacrylate	0.36971	0.33485	0.33485	0.000	9.42878	30.00000	Averaged
62 ~ methyl cyclohexane	0.51519	0.45994	0.45994	0.000	10.72433	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.48191	0.44836	0.44836	0.000	6.96159	30.00000	Averaged
64 4-Methyl-2-pentanone	0.64256	0.54913	0.54913	0.000	14.54078	30.00000	Averaged
65 trans-1,3-Dichloropropene	0.53029	0.53538	0.53538	0.000	-0.96145	30.00000	Averaged
66 Toluene	1.07924	1.06724	1.06724	0.000	1.11205	30.00000	Averaged
67 1,1,2-Trichloroethane	0.32760	0.32491	0.32491	0.000	0.82038	30.00000	Averaged
68 ~ 2-methyl thiophene	0.89585	0.89384	0.89384	0.000	0.22458	30.00000	Averaged
70 ~ 3-methyl thiophene	0.90080	0.89790	0.89790	0.000	0.32125	30.00000	Averaged
69 2-Hexanone	0.30430	0.28174	0.28174	0.000	7.41473	30.00000	Averaged
71 Octane	0.36697	0.34890	0.34890	0.000	4.92440	30.00000	Averaged
72 Dibromochloromethane	0.74492	0.76425	0.76425	0.000	-2.59441	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030512.b/eccvc05.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030512.b/TO155.m

Injection Date: 05-MAR-2012 09:32
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 1,2-Dibromoethane	0.58706	0.56212	0.56212	0.000	4.24891	30.00000	Averaged
74 Tetrachloroethene	0.45149	0.43113	0.43113	0.000	4.50907	30.00000	Averaged
75 Chlorobenzene	0.82172	0.81299	0.81299	0.000	1.06244	30.00000	Averaged
76 ~ 2,3-dimethylheptane	1.20126	1.14858	1.14858	0.000	4.38505	30.00000	Averaged
77 Ethylbenzene	1.29481	1.31143	1.31143	0.000	-1.28411	30.00000	Averaged
79 ~ 2-ethyl thiophene	1.06532	1.07228	1.07228	0.000	-0.65337	30.00000	Averaged
78 m&p-Xylene	1.00261	1.01671	1.01671	0.000	-1.40613	30.00000	Averaged
80 Nonane	0.78325	0.75344	0.75344	0.000	3.80602	30.00000	Averaged
81 Bromoform	0.79942	0.78952	0.78952	0.000	1.23880	30.00000	Averaged
82 Styrene	0.68299	0.68218	0.68218	0.000	0.11778	30.00000	Averaged
83 o-Xylene	1.03272	1.03520	1.03520	0.000	-0.24063	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.69891	0.67936	0.67936	0.000	2.79814	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19288	0.19053	0.19053	0.000	1.21837	30.00000	Averaged
86 Cumene	1.41249	1.40532	1.40532	0.000	0.50781	30.00000	Averaged
87 n-Propylbenzene	0.34788	0.35290	0.35290	0.000	-1.44348	30.00000	Averaged
88 2-chlorotoluene	0.35700	0.34650	0.34650	0.000	2.94095	30.00000	Averaged
89 4-Ethyltoluene	1.32034	1.29428	1.29428	0.000	1.97388	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57594	0.56504	0.56504	0.000	1.89244	30.00000	Averaged
91 Alpha-Methylstyrene	0.51031	0.48412	0.48412	0.000	5.13144	30.00000	Averaged
92 Decane	0.82537	0.83931	0.83931	0.000	-1.68902	30.00000	Averaged
93 tert-butylbenzene	1.12901	1.09527	1.09527	0.000	2.98783	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.05675	1.00483	1.00483	0.000	4.91345	30.00000	Averaged
95 sec-butylbenzene	1.51762	1.46081	1.46081	0.000	3.74375	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77036	0.69364	0.69364	0.000	9.95806	30.00000	Averaged
97 Benzyl Chloride	0.82883	0.77200	0.77200	0.000	6.85737	30.00000	Averaged
98 1,4-Dichlorobenzene	0.70924	0.64007	0.64007	0.000	9.75254	30.00000	Averaged
99 p-Cymene	1.25900	1.18029	1.18029	0.000	6.25141	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.86630	0.82812	0.82812	0.000	4.40691	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86372	0.82395	0.82395	0.000	4.60469	30.00000	Averaged
102 1,2-Dichlorobenzene	0.69309	0.61737	0.61737	0.000	10.92549	30.00000	Averaged
103 ~ Indane	0.88188	0.81459	0.81459	0.000	7.63092	30.00000	Averaged
105 ~ Indene	0.61554	0.55482	0.55482	0.000	9.86444	30.00000	Averaged
104 n-butylbenzene	1.11355	1.03272	1.03272	0.000	7.25937	30.00000	Averaged
106 Undecane	0.69283	0.57270	0.57270	0.000	17.33981	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96732	0.86454	0.86454	0.000	10.62487	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.92229	0.80485	0.80485	0.000	12.73336	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030512.b/eccvc05.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030512.b/TO155.m

Injection Date: 05-MAR-2012 09:32
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.69406	0.59992	0.59992	0.000	13.56352	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.74184	0.58545	0.58545	0.000	21.08190	30.00000	Averaged	
111 Dodecane	0.46156	0.50358	0.50358	0.000	-9.10416	30.00000	Averaged	
112 1,2,4-Trichlorobenzene	0.33280	0.25087	0.25087	0.000	24.61639	30.00000	Averaged	
113 Napthalene	0.57074	0.40575	0.40575	0.000	28.90774	30.00000	Averaged	
114 ~ benzo(b) thiophene	0.31049	0.21086	0.21086	0.000	21.08691	30.00000	Averaged	<-Ok
115 Hexachlorobutadiene	0.64451	0.51023	0.51023	0.000	20.83413	30.00000	Averaged	
116 1,2,3-trichlorobenzene	0.28291	0.20368	0.20368	0.000	28.00638	30.00000	Averaged	
117 ~ 2-Methylnaphthalene	0.04231	0.02152	0.02152	0.000	49.13068	50.00000	Averaged	
118 ~ 1-Methylnaphthalene	0.04168	0.01929	0.01929	0.000	53.72054	50.00000	Averaged	<-Ok

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/6/12	CCAL Batch/ Scan Name:	ED30612	Instrument:	ME	ICAL Batch/ Scan Name:	ED30112S	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓		#11 +35	✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		□ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				NA
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene • 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 3/6/12	2nd Level Reviewer :	Date: 3/7/12
Comments:		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: THR Qtims Batch: 2066141 (MQ9GW)

Date: 3/6/12 ICAL Batch: E030112I Target Batch: E030612 IS #1 Area: 267101

Surr/IS ID & Vol.: 40MCV425 System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☐Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0958	✓	THR	EBFBC06	–	16	100	1	
1033	✓	CCV	CCV	CX2323	15			#11 35+
1033	✓	LCS	LCS					
1034	OK	BLK	Flush	–	16	500		
1332	✓		EBLKC06	–				
1425	✓	H2B230465	MQ20N1AA	LS178	1	50	1	
1517	✓		20X	LS122	2	86	1.72	1
1609	✓		200	LS169	3	50	1	
1659	✓		201	L8182	4	50	1	3/6/12 LL
1750	✓		208	LS104	5	20	3.07	26.75
1841	✓	H2B230466	MQ2152AA	LS163	6	11	150.0	10mL VCL
1936	✓	H2B230469	MQ23N1AA	1362N	7	500	1	
2029	E		23P	11370	8			E chlorodifluoro RR 200m
2123	E		23R	12298	9			" " RR 200m
2215	✓		23V	04307	10			
2311	✓		230	02306	11			
0001	✓		234	93245	12	250		
0057	✓		237	93239	13	500		
0151	✓		239	1287N	14			
0242	✓		24C	03841	15			
0334	THR		24CD	03841	15			
0423	✓	H2B230465	MQ2041AA (3)	LA3072	1	218.	4.36	MQ2031AA
0517	✓	H2B230469	MQ24E1AA 3/6/12 LL	93244	2	500	1	
0611	✓		4F	S1489	3			
0704	✓		4J	1316N	4			
0757	✓		4L	A281	5			
0847	✓	lot 9763	B003 →		6			STD can
	MS	9761	1006 →		7			
		9759	5506 →		16			

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: THR Date: 3/7/12

Test America - Knoxville

Entech Autosampler Log

Position	Volume	Date	Time
16	101	3/6/2012	9:58
15	101	3/6/2012	10:33
16	501	3/6/2012	12:33
16	500	3/6/2012	13:32
1	51	3/6/2012	14:25
2	86	3/6/2012	15:17
3	51	3/6/2012	16:09
4	51	3/6/2012	16:58
5	21	3/6/2012	17:50
6	11	3/6/2012	18:41
7	501	3/6/2012	19:36
8	501	3/6/2012	20:29
9	501	3/6/2012	21:23
10	501	3/6/2012	22:15
11	501	3/6/2012	23:11
12	251	3/7/2012	0:01
13	501	3/7/2012	0:57
14	501	3/7/2012	1:51
15	501	3/7/2012	2:42
15	501	3/7/2012	3:34
1	218	3/7/2012	4:23
2	501	3/7/2012	5:17
3	501	3/7/2012	6:11
4	501	3/7/2012	7:04
5	501	3/7/2012	7:56
6	501	3/7/2012	8:47

Data File: /chem/gcms/me.i/E030612.b/ebfbo06.d

Date : 06-MAR-2012 09:58

Client ID: BFB

Instrument: me.i

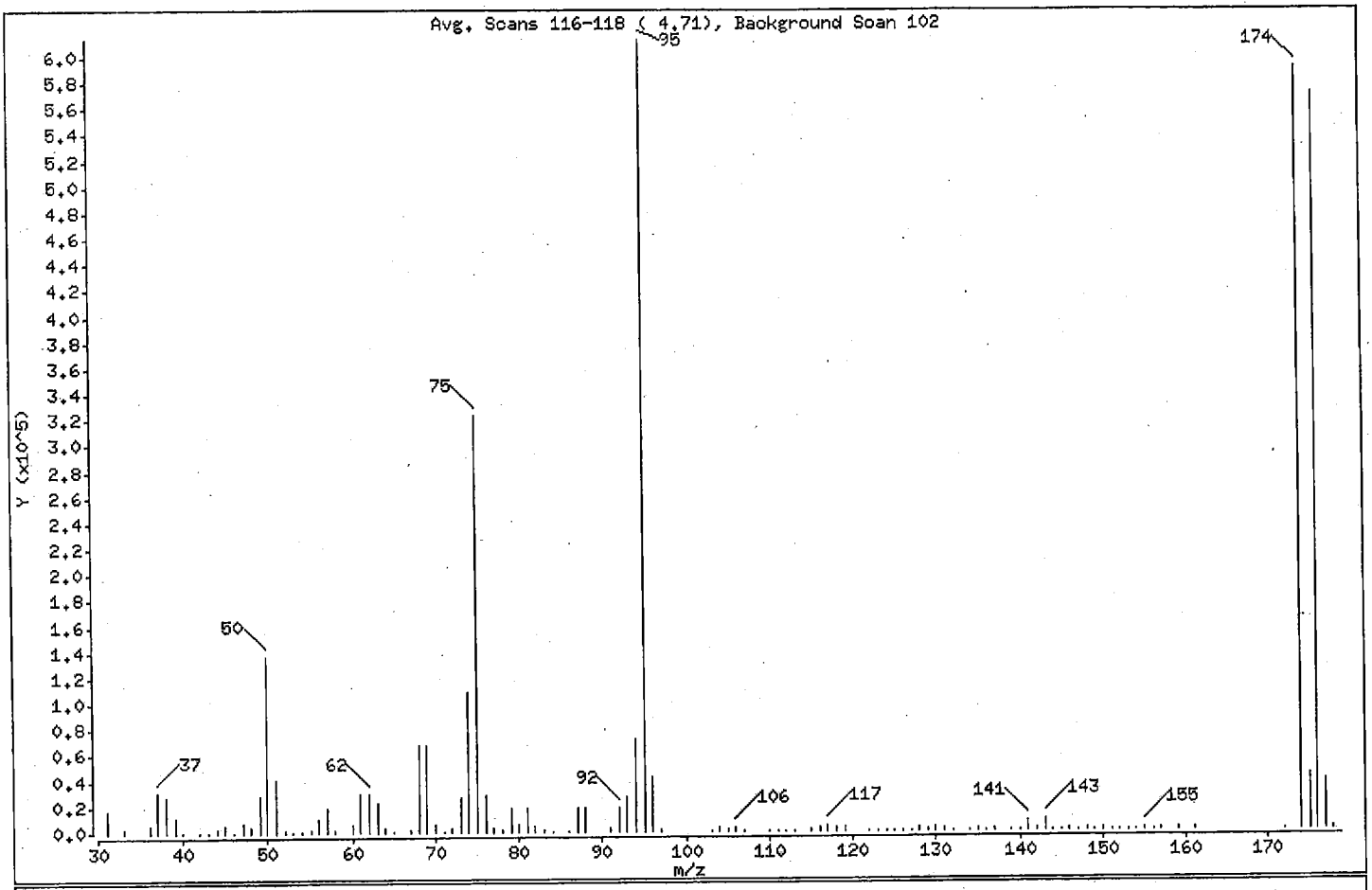
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.40
75	30.00 - 60.00% of mass 95	52.61
96	5.00 - 9.00% of mass 95	6.79
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	96.41
175	5.00 - 9.00% of mass 174	6.80 (7.06)
176	95.00 - 101.00% of mass 174	93.21 (96.69)
177	5.00 - 9.00% of mass 176	6.15 (6.60)

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.72750	0.72384	0.72384	0.000	0.50231	30.00000	Averaged
M 5 Xylene (total)	1.01264	1.07079	1.07079	0.000	-5.74173	30.00000	Averaged
6 Chlorodifluoromethane	0.55987	0.59602	0.59602	0.000	-6.45619	30.00000	Averaged
7 Propene	1.43639	1.60311	1.60311	0.000	-11.60652	30.00000	Averaged
10 Dichlorodifluoromethane	4.82567	5.63028	5.63028	0.000	-16.67358	30.00000	Averaged
9 Chloromethane	0.51844	0.55971	0.55971	0.000	-7.96142	30.00000	Averaged
~~11 1,2-Dichlorotetrafluoroetha~~	2.73343	3.69723	3.69723	0.000	~~-35.25980~~	30.00000	Averaged <- 60.140
8 ~ acetaldehyde	8.41568	10.12000	0.17339	0.000	16.84115	30.00000	Quadratic
12 Methanol	0.30978	0.30903	0.30903	0.000	0.24164	30.00000	Averaged
13 Vinyl Chloride	1.58403	1.78929	1.78929	0.000	-12.95824	30.00000	Averaged
14 n-Butane	2.44569	2.69073	2.69073	0.000	-10.01945	30.00000	Averaged
15 1,3-Butadiene	1.16516	1.31950	1.31950	0.000	-13.24591	30.00000	Averaged
16 Bromomethane	1.57252	1.69076	1.69076	0.000	-7.51936	30.00000	Averaged
18 Chloroethane	0.67079	0.76123	0.76123	0.000	-13.48253	30.00000	Averaged
17 ~ ethanol	9.77333	10.44000	0.36147	0.000	6.38573	30.00000	Quadratic
19 Vinyl Bromide	1.39027	1.55220	1.55220	0.000	-11.64788	30.00000	Averaged
20 2-methyl butane	1.81412	1.92324	1.92324	0.000	-6.01490	30.00000	Averaged
21 Trichlorofluoromethane	4.68088	5.40516	5.40516	0.000	-15.47308	30.00000	Averaged
22 Acrolein	0.39353	0.44381	0.44381	0.000	-12.77483	30.00000	Averaged
23 Acetonitrile	0.40510	0.44540	0.44540	0.000	-9.94676	30.00000	Averaged
~~24 Acetone~~	0.90103	0.57167	0.57167	0.000	~~36.55348~~	30.00000	Averaged <- MP
25 Pentane	0.20224	0.22026	0.22026	0.000	-8.91182	30.00000	Averaged
26 Isopropyl alcohol	1.28746	1.40893	1.40893	0.000	-9.43439	30.00000	Averaged
27 Ethyl Ether	1.15104	1.32695	1.32695	0.000	-15.28269	30.00000	Averaged
28 1,1-Dichloroethene	1.17462	1.26259	1.26259	0.000	-7.48930	30.00000	Averaged
29 Acrylonitrile	0.91709	1.00163	1.00163	0.000	-9.21806	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.58209	2.76235	2.76235	0.000	-6.98082	30.00000	Averaged
31 tert-butanol	2.08282	2.35445	2.35445	0.000	-13.04133	30.00000	Averaged
32 Methylene Chloride	1.23699	1.14230	1.14230	0.000	7.65433	30.00000	Averaged
33 3-Chloropropene	1.42479	1.46341	1.46341	0.000	-2.71033	30.00000	Averaged
34 Carbon Disulfide	4.21922	4.64968	4.64968	0.000	-10.20223	30.00000	Averaged
35 trans-1,2-Dichloroethene	1.40392	1.44393	1.44393	0.000	-2.84997	30.00000	Averaged
36 ~ 2-Methyl Pentane	3.90526	4.02090	4.02090	0.000	-2.96116	30.00000	Averaged
37 Methyl-t-Butyl Ether	3.25068	3.71051	3.71051	0.000	-14.14545	30.00000	Averaged
38 1,1-Dichloroethane	2.75587	2.88294	2.88294	0.000	-4.61068	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 Vinyl Acetate	3.43851	3.87386	3.87386	0.000	-12.66114	30.00000	Averaged
40 Hexane	1.28525	1.29831	1.29831	0.000	-1.01658	30.00000	Averaged
41 2-Butanone	0.51559	0.52405	0.52405	0.000	-1.64031	30.00000	Averaged
42 cis 1,2-Dichloroethene	1.36239	1.36227	1.36227	0.000	0.00887	30.00000	Averaged
43 Ethyl acetate	2.86942	3.27052	3.27052	0.000	-13.97845	30.00000	Averaged
44 Chloroform	3.29356	3.41907	3.41907	0.000	-3.81055	30.00000	Averaged
45 Tetrahydrofuran	1.48081	1.57105	1.57105	0.000	-6.09443	30.00000	Averaged
46 1,1,1-Trichloroethane	3.66226	3.85065	3.85065	0.000	-5.14419	30.00000	Averaged
47 1,2-Dichloroethane	0.47546	0.49858	0.49858	0.000	-4.86237	30.00000	Averaged
48 Cyclohexane	0.15654	0.14031	0.14031	0.000	10.36727	30.00000	Averaged
49 Benzene	0.83307	0.78432	0.78432	0.000	5.85187	30.00000	Averaged
50 Carbon Tetrachloride	0.75144	0.75639	0.75639	0.000	-0.65926	30.00000	Averaged
51 1-Butanol	0.08857	0.09537	0.09537	0.000	-7.67549	30.00000	Averaged
52 ~ 2,3-dimethylpentane	0.18569	0.18047	0.18047	0.000	2.80841	30.00000	Averaged
53 ~ Thiophene	0.47889	0.45254	0.45254	0.000	5.50191	30.00000	Averaged
54 2,2,4-trimethylpentane	1.54447	1.50093	1.50093	0.000	2.81870	30.00000	Averaged
55 Heptane	0.31230	0.29235	0.29235	0.000	6.38976	30.00000	Averaged
56 1,2-Dichloropropane	0.32079	0.32274	0.32274	0.000	-0.60761	30.00000	Averaged
57 Trichloroethene	0.39897	0.37222	0.37222	0.000	6.70444	30.00000	Averaged
180 2-Nitropropene	0.48768	0.61450	0.61450	0.000	-26.00454	25.00000	Averaged
58 Dibromomethane	0.38815	0.37568	0.37568	0.000	3.21112	30.00000	Averaged
59 Bromodichloromethane	0.74157	0.75284	0.75284	0.000	-1.51880	30.00000	Averaged
60 1,4-dioxane	0.07806	0.08179	0.08179	0.000	-4.77753	30.00000	Averaged
61 Methyl Methacrylate	0.36971	0.39646	0.39646	0.000	-7.23523	30.00000	Averaged
62 ~ methyl cyclohexane	0.51519	0.49093	0.49093	0.000	4.70860	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.48191	0.47819	0.47819	0.000	0.77190	30.00000	Averaged
64 4-Methyl-2-pentanone	0.64256	0.58921	0.58921	0.000	8.30375	30.00000	Averaged
65 trans-1,3-Dichloropropene	0.53029	0.57911	0.57911	0.000	-9.20647	30.00000	Averaged
66 Toluene	1.07924	1.10036	1.10036	0.000	-1.95703	30.00000	Averaged
67 1,1,2-Trichloroethane	0.32760	0.34334	0.34334	0.000	-4.80503	30.00000	Averaged
68 ~ 2-methyl thiophene	0.89585	0.92657	0.92657	0.000	-3.42995	30.00000	Averaged
70 ~ 3-methyl thiophene	0.90080	0.93019	0.93019	0.000	-3.26278	30.00000	Averaged
69 2-Hexanone	0.30430	0.30289	0.30289	0.000	0.46370	30.00000	Averaged
71 Octane	0.36697	0.36701	0.36701	0.000	-0.01083	30.00000	Averaged
72 Dibromochloromethane	0.74492	0.78690	0.78690	0.000	-5.63585	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 1,2-Dibromoethane	0.58706	0.59431	0.59431	0.000	-1.23354	30.00000	Averaged
74 Tetrachloroethene	0.45149	0.46022	0.46022	0.000	-1.93573	30.00000	Averaged
75 Chlorobenzene	0.82172	0.82855	0.82855	0.000	-0.83063	30.00000	Averaged
76 ~ 2,3-dimethylheptane	1.20126	1.24633	1.24633	0.000	-3.75211	30.00000	Averaged
77 Ethylbenzene	1.29481	1.36017	1.36017	0.000	-5.04849	30.00000	Averaged
79 ~ 2-ethyl thiophene	1.06532	1.11173	1.11173	0.000	-4.35662	30.00000	Averaged
78 m&p-Xylene	1.00261	1.06707	1.06707	0.000	-6.42937	30.00000	Averaged
80 Nonane	0.78325	0.80633	0.80633	0.000	-2.94552	30.00000	Averaged
81 Bromoform	0.79942	0.78407	0.78407	0.000	1.92021	30.00000	Averaged
82 Styrene	0.68299	0.68911	0.68911	0.000	-0.89593	30.00000	Averaged
83 o-Xylene	1.03272	1.07822	1.07822	0.000	-4.40654	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.69891	0.70264	0.70264	0.000	-0.53391	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19288	0.19957	0.19957	0.000	-3.46821	30.00000	Averaged
86 Cumene	1.41249	1.45570	1.45570	0.000	-3.05884	30.00000	Averaged
87 n-Propylbenzene	0.34788	0.35637	0.35637	0.000	-2.44060	30.00000	Averaged
88 2-chlorotoluene	0.35700	0.34272	0.34272	0.000	3.99901	30.00000	Averaged
89 4-Ethyltoluene	1.32034	1.34246	1.34246	0.000	-1.67505	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57594	0.57394	0.57394	0.000	0.34781	30.00000	Averaged
91 Alpha-Methylstyrene	0.51031	0.47751	0.47751	0.000	6.42668	30.00000	Averaged
92 Decane	0.82537	0.89856	0.89856	0.000	-8.86869	30.00000	Averaged
93 tert-butylbenzene	1.12901	1.11943	1.11943	0.000	0.84787	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.05675	1.02791	1.02791	0.000	2.72952	30.00000	Averaged
95 sec-butylbenzene	1.51762	1.47207	1.47207	0.000	3.00174	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77036	0.69095	0.69095	0.000	10.30844	30.00000	Averaged
97 Benzyl Chloride	0.82883	0.79915	0.79915	0.000	3.58159	30.00000	Averaged
98 1,4-Dichlorobenzene	0.70924	0.64195	0.64195	0.000	9.48764	30.00000	Averaged
99 p-Cymene	1.25900	1.20177	1.20177	0.000	4.54539	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.86630	0.83069	0.83069	0.000	4.11082	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86372	0.83234	0.83234	0.000	3.63356	30.00000	Averaged
102 1,2-Dichlorobenzene	0.69309	0.60859	0.60859	0.000	12.19172	30.00000	Averaged
103 ~ Indane	0.88188	0.81388	0.81388	0.000	7.71111	30.00000	Averaged
105 ~ Indene	0.61554	0.54406	0.54406	0.000	11.61211	30.00000	Averaged
104 n-butylbenzene	1.11355	1.06436	1.06436	0.000	4.41796	30.00000	Averaged
106 Undecane	0.69283	0.61069	0.61069	0.000	11.85553	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96732	0.87336	0.87336	0.000	9.71320	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.92229	0.82040	0.82040	0.000	11.04757	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.69406	0.62007	0.62007	0.000	10.66071	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.74184	0.63848	0.63848	0.000	13.93391	30.00000	Averaged	
111 Dodecane	0.46156	0.36123	0.36123	0.000	21.73714	30.00000	Averaged	
112 1,2,4-Trichlorobenzene	0.33280	0.25694	0.25694	0.000	22.79337	30.00000	Averaged	
113 Napthalene	0.57074	0.43312	0.43312	0.000	24.11320	30.00000	Averaged	
114 ~~benzo(b) thiophene~~	0.31049	0.20132	0.20132	0.000	~~35.16265~~	30.00000	Averaged	<- OK
115 Hexachlorobutadiene	0.64451	0.55707	0.55707	0.000	13.56574	30.00000	Averaged	
116 ~~1,2,3 trichlorobenzene~~	0.28291	0.14089	0.14089	0.000	~~50.19976~~	30.00000	Averaged	<- NT
117 ~~2-Methylnaphthalene~~	0.04231	0.02288	0.02288	0.000	~~45.91868~~	50.00000	Averaged	
118 ~~1-Methylnaphthalene~~	0.04168	0.02153	0.02153	0.000	~~48.33953~~	50.00000	Averaged	

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C050000 - 033B **Work Order #** MQ7781AA **Matrix.....:** AIR

Prep Date.....: 02/21/2012 **Date Received..:** 02/23/2012
Prep Batch #.....: 03/02/2012 **Analysis Date...** 03/02/2012
Dilution Factor.: 206503 **Method.....:** TO-15
1

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.080	ND	0.26
Carbon tetrachloride	ND	0.080	ND	0.50
Chlorodifluoromethane	**0.052 J**	**0.080**	**0.18 J**	**0.28**
Chloroform	ND	0.080	ND	0.39
Dichlorodifluoromethane	ND	0.080	ND	0.40
1,1-Dichloroethane	ND	0.080	ND	0.32
1,2-Dichloroethane	ND	0.080	ND	0.32
cis-1,2-Dichloroethene	ND	0.080	ND	0.32
trans-1,2-Dichloroethene	ND	0.080	ND	0.32
1,1-Dichloroethene	ND	0.080	ND	0.32
Ethylbenzene	ND	0.080	ND	0.35
Methylene chloride	**0.091 J**	**0.20**	**0.32 J**	**0.69**
Methyl tert-butyl ether	ND	0.40	ND	1.4
Naphthalene	ND	0.20	ND	1.0
Tetrachloroethene	ND	0.080	ND	0.54
Toluene	ND	0.080	ND	0.30
1,2,4-Trichlorobenzene	ND	0.40	ND	3.0
1,1,1-Trichloroethane	ND	0.080	ND	0.44
1,1,2-Trichloroethane	ND	0.080	ND	0.44
Trichloroethene	ND	0.040	ND	0.21
1,2,3-Trimethylbenzene	ND	0.080	ND	0.39
1,2,4-Trimethylbenzene	ND	0.080	ND	0.39
1,3,5-Trimethylbenzene	ND	0.080	ND	0.39
Vinyl chloride	ND	0.080	ND	0.20
Xylenes (total)	ND	0.16	ND	0.69

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C050000 - 033C **Work Order #** MQ7781AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012
Prep Batch #.....:	2065033		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.58	16	14.6	92	70 - 130
Carbon tetrachloride	5.00	4.63	31	29.1	93	70 - 130
Chlorodifluoromethane	5.00	4.29	18	15.2	86	60 - 140
Chloroform	5.00	4.92	24	24.0	98	70 - 130
Dichlorodifluoromethane	5.00	4.55	25	22.5	91	60 - 140
1,1-Dichloroethane	5.00	5.00	20	20.2	100	70 - 130
1,2-Dichloroethane	5.00	4.72	20	19.1	94	70 - 130
cis-1,2-Dichloroethene	5.00	5.03	20	20.0	101	70 - 130
trans-1,2-Dichloroethene	5.00	4.68	20	18.6	94	70 - 130
1,1-Dichloroethene	5.00	5.46	20	21.7	109	70 - 130
Ethylbenzene	5.00	4.95	22	21.5	99	70 - 130
Methylene chloride	5.00	4.64	17	16.1	93	70 - 130
Methyl tert-butyl ether	5.00	5.01	18	18.1	100	60 - 140
Naphthalene	5.00	3.68	26	19.3	74	40 - 140
Tetrachloroethene	5.00	4.53	34	30.7	91	70 - 130
Toluene	5.00	4.74	19	17.9	95	70 - 130
1,2,4-Trichlorobenzene	5.00	3.67	37	27.3	73	60 - 140
1,1,1-Trichloroethane	5.00	4.88	27	26.6	98	70 - 130
1,1,2-Trichloroethane	5.00	4.61	27	25.2	92	70 - 130
Trichloroethene	5.00	4.55	27	24.4	91	70 - 130
1,2,3-Trimethylbenzene	5.10	5.19	25	25.5	102	20 - 180
1,2,4-Trimethylbenzene	5.00	4.68	25	23.0	94	70 - 130
1,3,5-Trimethylbenzene	5.00	4.89	25	24.0	98	70 - 130
Vinyl chloride	5.00	4.57	13	11.7	91	70 - 130
Xylenes (total)	15.0	14.6	65	63.5	98	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C050000 - 117B	**Work Order #**	MQ8MN1AA	**Matrix.....:**	AIR
	02/21/2012				
Prep Date.....:	03/05/2012	**Date Received..:**	02/23/2012		
Prep Batch #.....:	2065117	**Analysis Date...**	03/05/2012		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.080	ND	0.26
Carbon tetrachloride	ND	0.080	ND	0.50
Chlorodifluoromethane	ND	0.080	ND	0.28
Chloroform	ND	0.080	ND	0.39
Dichlorodifluoromethane	ND	0.080	ND	0.40
1,1-Dichloroethane	ND	0.080	ND	0.32
1,2-Dichloroethane	ND	0.080	ND	0.32
cis-1,2-Dichloroethene	ND	0.080	ND	0.32
trans-1,2-Dichloroethene	ND	0.080	ND	0.32
1,1-Dichloroethene	ND	0.080	ND	0.32
Ethylbenzene	ND	0.080	ND	0.35
Methylene chloride	**0.050 J**	**0.20**	**0.17 J**	**0.69**
Methyl tert-butyl ether	ND	0.40	ND	1.4
Naphthalene	ND	0.20	ND	1.0
Tetrachloroethene	ND	0.080	ND	0.54
Toluene	ND	0.080	ND	0.30
1,2,4-Trichlorobenzene	ND	0.40	ND	3.0
1,1,1-Trichloroethane	ND	0.080	ND	0.44
1,1,2-Trichloroethane	ND	0.080	ND	0.44
Trichloroethene	ND	0.040	ND	0.21
1,2,3-Trimethylbenzene	ND	0.080	ND	0.39
1,2,4-Trimethylbenzene	ND	0.080	ND	0.39
1,3,5-Trimethylbenzene	ND	0.080	ND	0.39
Vinyl chloride	ND	0.080	ND	0.20
Xylenes (total)	ND	0.16	ND	0.69

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C050000 - 117C **Work Order #** MQ8MN1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012
Prep Batch #.....:	2065117		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.47	16	14.3	89	70 - 130
Carbon tetrachloride	5.00	4.94	31	31.1	99	70 - 130
Chlorodifluoromethane	5.00	3.75	18	13.3	75	60 - 140
Chloroform	5.00	4.78	24	23.3	96	70 - 130
Dichlorodifluoromethane	5.00	4.91	25	24.3	98	60 - 140
1,1-Dichloroethane	5.00	4.82	20	19.5	96	70 - 130
1,2-Dichloroethane	5.00	4.62	20	18.7	92	70 - 130
cis-1,2-Dichloroethene	5.00	4.85	20	19.2	97	70 - 130
trans-1,2-Dichloroethene	5.00	4.79	20	19.0	96	70 - 130
1,1-Dichloroethene	5.00	4.70	20	18.6	94	70 - 130
Ethylbenzene	5.00	5.06	22	22.0	101	70 - 130
Methylene chloride	5.00	4.27	17	14.8	85	70 - 130
Methyl tert-butyl ether	5.00	5.03	18	18.1	101	60 - 140
Naphthalene	5.00	3.56	26	18.6	71	40 - 140
Tetrachloroethene	5.00	4.77	34	32.4	95	70 - 130
Toluene	5.00	4.94	19	18.6	99	70 - 130
1,2,4-Trichlorobenzene	5.00	3.77	37	28.0	75	60 - 140
1,1,1-Trichloroethane	5.00	4.76	27	26.0	95	70 - 130
1,1,2-Trichloroethane	5.00	4.96	27	27.1	99	70 - 130
Trichloroethene	5.00	4.56	27	24.5	91	70 - 130
1,2,3-Trimethylbenzene	5.10	4.97	25	24.4	97	20 - 180
1,2,4-Trimethylbenzene	5.00	4.75	25	23.4	95	70 - 130
1,3,5-Trimethylbenzene	5.00	4.90	25	24.1	98	70 - 130
Vinyl chloride	5.00	4.81	13	12.3	96	70 - 130
Xylenes (total)	15.0	15.2	65	65.8	101	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C060000 - 141B	**Work Order #**	MQ9GW1AA	**Matrix.....:**	AIR
	02/22/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/06/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2066141				
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Vinyl chloride	ND	0.080	ND	0.20

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample #	H2C060000 - 141C	**Work Order #**	MQ9GW1AC
Matrix.....:	AIR		
	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Date...**	03/06/2012
Prep Batch #.....:	2066141		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Vinyl chloride	5.00	5.65	13	14.4	113	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Data File: /var/chem/gcms/me.i/E030212.b/mq21g1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21G1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-044-C-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.008	100.21	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq22d1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22D1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-050-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.948	98.70	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21h1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21H1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-057-B-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.827	95.68	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21t1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21T1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-060-C-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.636	90.89	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2141aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2141AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-063-B-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.893	97.33	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21k1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21K1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-088-C-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.891	97.28	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq22gr.d
Report Date: 06-Mar-2012 10:01

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22G1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-091-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.894	97.34	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2181aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2181AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-100-B-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.939	98.48	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2171aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2171AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-101-B-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.754	93.85	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq22e1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22E1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-103-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.894	97.36	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21f1aa.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21F1AA
Client Smp ID: SV-104-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.865	96.63	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq22a1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22A1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-105-Z-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.744	93.59	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21r1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21R1AA
Client Smp ID: SV-111-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.846	96.16	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21e1aa.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21E1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-112-C-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.019	100.47	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21l1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21L1AA
Client Smp ID: SV-113-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.796	94.90	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21n1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21N1AA
Client Smp ID: SV-114-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.841	96.03	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21m1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21M1AA
Client Smp ID: SV-115-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.814	95.35	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2161aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2161AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-121-B-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.987	99.67	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq219r.d
Report Date: 06-Mar-2012 09:59

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2191AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-122-B-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.934	98.34	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq22c1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22C1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-123-Z-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.833	95.82	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq22f1aa.d
Report Date: 06-Mar-2012 10:01

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22F1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-124-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.919	97.97	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq22h1aa.d
Report Date: 06-Mar-2012 10:02

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22H1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-125-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.862	96.54	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2151aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2151AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-126-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.809	95.22	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq2152aa.d
Report Date: 06-Mar-2012 19:21

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ2152AA
Client Smp ID: SV-126-C-12
Level: LOW
Operator: 7126
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb (v/v)	CONC RECOVERED ppb (v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.828	95.71	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq2101aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ2101AA
Client Smp ID: SV-127-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.720	93.00	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2121aa.d
Report Date: 06-Mar-2012 09:57

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2121AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-128-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.762	94.06	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21d1aa.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21D1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-129-C-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.941	98.52	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21a1aa.d
Report Date: 05-Mar-2012 17:46

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21A1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-130-C-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.236	105.91	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21cr.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21C1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-131-C-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.950	98.75	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq21w1aa.d
Report Date: 06-Mar-2012 10:35

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21W1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-132-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.901	97.53	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21q1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21Q1AA
Client Smp ID: SV-133-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.908	97.71	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq21q2aa.d
Report Date: 06-Mar-2012 10:47

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21Q2AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tce.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-133-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tce.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.816	95.40	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21p1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21P1AA
Client Smp ID: SV-134-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.808	95.21	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq2111aa.d
Report Date: 05-Mar-2012 17:50

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2111AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-DUP-1-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.759	93.98	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2131aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ2131AA
Client Smp ID: SV-DUP-2-12
Level: LOW
Operator: 7126
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.056	101.39	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21g1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21g1aa.d
Lab Smp Id: MQ21G1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-044-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	286070	-12.62
2 1,4-Difluorobenze	1676329	997416	2355242	1487279	-11.28
3 Chlorobenzene-d5	1484276	883144	2085408	1266187	-14.69

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq22d1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq22d1aa.d
Lab Smp Id: MQ22D1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-050-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	270038	-18.13
2 1,4-Difluorobenze	1654479	984415	2324543	1402137	-15.25
3 Chlorobenzene-d5	1398791	832281	1965301	1112822	-20.44

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.20
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21h1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21h1aa.d
Lab Smp Id: MQ21H1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-057-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	280939	-14.19
2 1,4-Difluorobenze	1676329	997416	2355242	1437979	-14.22
3 Chlorobenzene-d5	1484276	883144	2085408	1202119	-19.01

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	0.00
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21t1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21t1aa.d
Lab Smp Id: MQ21T1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-060-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	292997	-10.50
2 1,4-Difluorobenze	1676329	997416	2355242	1524769	-9.04
3 Chlorobenzene-d5	1484276	883144	2085408	1196822	-19.37

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq2141aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2141aa.d
Lab Smp Id: MQ2141AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-063-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	260229	-21.10
2 1,4-Difluorobenze	1654479	984415	2324543	1364391	-17.53
3 Chlorobenzene-d5	1398791	832281	1965301	1106926	-20.87

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.15
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21k1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21k1aa.d
Lab Smp Id: MQ21K1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-088-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	270501	-17.37
2 1,4-Difluorobenze	1676329	997416	2355242	1418450	-15.38
3 Chlorobenzene-d5	1484276	883144	2085408	1222103	-17.66

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq22gr.d
Report Date: 06-Mar-2012 10:01

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq22gr.d
Lab Smp Id: MQ22G1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-091-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	255734	-22.46
2 1,4-Difluorobenze	1654479	984415	2324543	1340831	-18.96
3 Chlorobenzene-d5	1398791	832281	1965301	1074751	-23.17

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.15
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq2181aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2181aa.d
Lab Smp Id: MQ2181AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-100-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	264618	-19.77
2 1,4-Difluorobenze	1654479	984415	2324543	1362206	-17.67
3 Chlorobenzene-d5	1398791	832281	1965301	1115266	-20.27

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.20
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq2171aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2171aa.d
Lab Smp Id: MQ2171AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-101-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	263817	-20.01
2 1,4-Difluorobenze	1654479	984415	2324543	1347919	-18.53
3 Chlorobenzene-d5	1398791	832281	1965301	1108522	-20.75

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.13
2 1,4-Difluorobenze	10.34	10.01	10.67	10.33	-0.10
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq22e1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq22e1aa.d
Lab Smp Id: MQ22E1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-103-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	266285	-19.26
2 1,4-Difluorobenze	1654479	984415	2324543	1367918	-17.32
3 Chlorobenzene-d5	1398791	832281	1965301	1095572	-21.68

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21f1aa.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21f1aa.d
Lab Smp Id: MQ21F1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-104-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	301766	-7.82
2 1,4-Difluorobenze	1676329	997416	2355242	1562795	-6.77
3 Chlorobenzene-d5	1484276	883144	2085408	1327595	-10.56

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.19	0.06
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	0.00
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq22a1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq22a1aa.d
Lab Smp Id: MQ22A1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-105-Z-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	263628	-20.07
2 1,4-Difluorobenze	1654479	984415	2324543	1370148	-17.19
3 Chlorobenzene-d5	1398791	832281	1965301	1110867	-20.58

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.20
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21r1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21r1aa.d
Lab Smp Id: MQ21R1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-111-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	273941	-16.32
2 1,4-Difluorobenze	1676329	997416	2355242	1425541	-14.96
3 Chlorobenzene-d5	1484276	883144	2085408	1156510	-22.08

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21e1aa.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21e1aa.d
Lab Smp Id: MQ21E1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-112-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	226379	-30.85
2 1,4-Difluorobenze	1676329	997416	2355242	1149627	-31.42
3 Chlorobenzene-d5	1484276	883144	2085408	1084797	-26.91

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq2111aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2111aa.d
Lab Smp Id: MQ21L1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-113-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	303928	-7.16
2 1,4-Difluorobenze	1676329	997416	2355242	1573429	-6.14
3 Chlorobenzene-d5	1484276	883144	2085408	1297845	-12.56

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21n1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21n1aa.d
Lab Smp Id: MQ21N1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-114-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	289105	-11.69
2 1,4-Difluorobenze	1676329	997416	2355242	1500083	-10.51
3 Chlorobenzene-d5	1484276	883144	2085408	1206440	-18.72

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21m1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21m1aa.d
Lab Smp Id: MQ21M1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-115-C-12
Level: LOW
Sample Type: AIR
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	229651	-29.85
2 1,4-Difluorobenze	1676329	997416	2355242	1140932	-31.94
3 Chlorobenzene-d5	1484276	883144	2085408	988774	-33.38

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq2161aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2161aa.d
Lab Smp Id: MQ2161AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-121-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	263509	-20.11
2 1,4-Difluorobenze	1654479	984415	2324543	1353131	-18.21
3 Chlorobenzene-d5	1398791	832281	1965301	1120200	-19.92

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.20
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq219r.d
Report Date: 06-Mar-2012 09:59

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq219r.d
Lab Smp Id: MQ2191AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-122-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	261127	-20.83
2 1,4-Difluorobenze	1654479	984415	2324543	1341323	-18.93
3 Chlorobenzene-d5	1398791	832281	1965301	1084448	-22.47

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.21
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq22c1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq22c1aa.d
Lab Smp Id: MQ22C1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-123-Z-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	247593	-24.93
2 1,4-Difluorobenze	1654479	984415	2324543	1281790	-22.53
3 Chlorobenzene-d5	1398791	832281	1965301	1054530	-24.61

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.20
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq22f1aa.d
Report Date: 06-Mar-2012 10:01

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq22f1aa.d
Lab Smp Id: MQ22F1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-124-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	269326	-18.34
2 1,4-Difluorobenze	1654479	984415	2324543	1380844	-16.54
3 Chlorobenzene-d5	1398791	832281	1965301	1100633	-21.32

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq22h1aa.d
Report Date: 06-Mar-2012 10:02

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq22h1aa.d
Lab Smp Id: MQ22H1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-125-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	260335	-21.07
2 1,4-Difluorobenze	1654479	984415	2324543	1367416	-17.35
3 Chlorobenzene-d5	1398791	832281	1965301	1074571	-23.18

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq2151aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2151aa.d
Lab Smp Id: MQ2151AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-126-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	264685	-19.75
2 1,4-Difluorobenze	1654479	984415	2324543	1367242	-17.36
3 Chlorobenzene-d5	1398791	832281	1965301	1104869	-21.01

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.20
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq2152aa.d
Report Date: 06-Mar-2012 19:21

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2152aa.d
Lab Smp Id: MQ2152AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: SV-126-C-12
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	245736	-8.00
2 1,4-Difluorobenze	1341010	797901	1884119	1291005	-3.73
3 Chlorobenzene-d5	1134838	675229	1594447	1063521	-6.28

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.13
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.10
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq2101aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2101aa.d
Lab Smp Id: MQ2101AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-127-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	291335	-11.01
2 1,4-Difluorobenze	1676329	997416	2355242	1489838	-11.12
3 Chlorobenzene-d5	1484276	883144	2085408	1165695	-21.46

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.13
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq2121aa.d
Report Date: 06-Mar-2012 09:57

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2121aa.d
Lab Smp Id: MQ2121AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-128-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	258324	-21.68
2 1,4-Difluorobenze	1654479	984415	2324543	1291604	-21.93
3 Chlorobenzene-d5	1398791	832281	1965301	1057648	-24.39

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21d1aa.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21d1aa.d
Lab Smp Id: MQ21D1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-129-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	299716	-8.45
2 1,4-Difluorobenze	1676329	997416	2355242	1557970	-7.06
3 Chlorobenzene-d5	1484276	883144	2085408	1314966	-11.41

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21a1aa.d
Report Date: 05-Mar-2012 17:46

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21a1aa.d
Lab Smp Id: MQ21A1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-130-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	220273	-32.72
2 1,4-Difluorobenze	1676329	997416	2355242	1159761	-30.82
3 Chlorobenzene-d5	1484276	883144	2085408	1074842	-27.58

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21cr.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21cr.d
Lab Smp Id: MQ21C1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-131-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	236332	-27.81
2 1,4-Difluorobenze	1676329	997416	2355242	1194503	-28.74
3 Chlorobenzene-d5	1484276	883144	2085408	1041996	-29.80

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.10
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq21w1aa.d
Report Date: 06-Mar-2012 10:35

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21w1aa.d
Lab Smp Id: MQ21W1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-132-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	219005	-33.60
2 1,4-Difluorobenze	1654479	984415	2324543	1022688	-38.19
3 Chlorobenzene-d5	1398791	832281	1965301	881670	-36.97

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.21
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21q1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21q1aa.d
Lab Smp Id: MQ21Q1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-133-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	203853	-37.73
2 1,4-Difluorobenze	1676329	997416	2355242	1008636	-39.83
3 Chlorobenzene-d5	1484276	883144	2085408	886964	-40.24

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq21q2aa.d
Report Date: 06-Mar-2012 10:47

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21q2aa.d
Lab Smp Id: MQ21Q2AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tce.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-133-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	261388	-20.75
2 1,4-Difluorobenze	1654479	984415	2324543	1362740	-17.63
3 Chlorobenzene-d5	1398791	832281	1965301	1067155	-23.71

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.21
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21p1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21p1aa.d
Lab Smp Id: MQ21P1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-134-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	284335	-13.15
2 1,4-Difluorobenze	1676329	997416	2355242	1465256	-12.59
3 Chlorobenzene-d5	1484276	883144	2085408	1149475	-22.56

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq2111aa.d
Report Date: 05-Mar-2012 17:50

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2111aa.d
Lab Smp Id: MQ2111AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-DUP-1-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	219321	-33.01
2 1,4-Difluorobenze	1676329	997416	2355242	1143102	-31.81
3 Chlorobenzene-d5	1484276	883144	2085408	908401	-38.80

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.13
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq2131aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2131aa.d
Lab Smp Id: MQ2131AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-DUP-2-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	216347	-34.40
2 1,4-Difluorobenze	1654479	984415	2324543	1014501	-38.68
3 Chlorobenzene-d5	1398791	832281	1965301	878574	-37.19

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

LMC-MIDDLE RIVER
AIR DATA
H2B230466

FRACTION	CHEMICAL	SVDUP-2-12	UNITS	SV063-B-12	RPD	D
OV	1,2,3-TRIMETHYLBENZENE	8	UG/M3	5.8	31.88	2.20
OV	1,2,4-TRIMETHYLBENZENE	19	UG/M3	14	30.30	5.00
OV	1,3,5-TRIMETHYLBENZENE	4.5	UG/M3	3.2 J	33.77	1.30
OV	BENZENE	1.3 J	UG/M3	1.1 J	16.67	0.20
OV	CARBON TETRACHLORIDE	1.5 J	UG/M3	1.2 J	22.22	0.30
OV	CHLORODIFLUOROMETHANE	22	UG/M3	21	4.65	1.00
OV	CHLOROFORM	2.7 J	UG/M3	2.4 J	11.76	0.30
OV	DICHLORODIFLUOROMETHANE	2.9 J	UG/M3	2.5 J	14.81	0.40
OV	ETHYLBENZENE	7.8	UG/M3	6.4	19.72	1.40
OV	METHYLENE CHLORIDE	4.1 B	UG/M3	3.7 B	10.26	0.40
OV	NAPHTHALENE	200	UG/M3	99	67.56	101.00
OV	TETRACHLOROETHENE	1.2 J	UG/M3	ND	200.00	1.20 N/A<2xR.L.
OV	TOLUENE	18	UG/M3	17	5.71	1.00
OV	TOTAL XYLENES	40	UG/M3	31	25.35	9.00
OV	TRICHLOROETHENE	0.79 J	UG/M3	ND	200.00	0.79 N/A<2xR.L.

Current RPD Quality Control Limit: 50 %.
Shaded cells indicate RPDs that exceed the applicable quality control limit.

LMC-MIDDLE RIVER
AIR DATA
H2B230466

FRACTION	CHEMICAL	SVDUP-1-12	UNITS	SV060-C-12	RPD	D
OV	1,1,1-TRICHLOROETHANE	17 J	UG/M3	11 J	42.86	6.00
OV	1,1-DICHLOROETHANE	120	UG/M3	71	51.31	49.00
OV	1,1-DICHLOROETHENE	12 J	UG/M3	11 J	8.70	1.00
OV	1,2,4-TRIMETHYLBENZENE	64	UG/M3	20 J	104.76	44.00 N/A < 2x R.L.
OV	1,3,5-TRIMETHYLBENZENE	19 J	UG/M3	ND	200.00	19.00 N/A < 2XR.L.
OV	CHLORODIFLUOROMETHANE	15 B	UG/M3	18 B	18.18	3.00
OV	CHLOROFORM	94	UG/M3	56	50.67	38.00
OV	CIS-1,2-DICHLOROETHENE	340	UG/M3	200	51.85	140.00
OV	ETHYLBENZENE	460	UG/M3	190	83.08	270.00
OV	METHYLENE CHLORIDE	20 B	UG/M3	25 B	22.22	5.00
OV	NAPHTHALENE	770	UG/M3	280	93.33	490.00
OV	TETRACHLOROETHENE	40 J	UG/M3	23 J	53.97	17.00 N/A < 2XR.L.
OV	TOLUENE	29 J	UG/M3	14 J	69.77	15.00 N/A < 2XR.L.
OV	TOTAL XYLENES	3100	UG/M3	1200	88.37	1900.00
OV	TRANS-1,2-DICHLOROETHENE	38	UG/M3	26 J	37.50	12.00
OV	TRICHLOROETHENE	4900	UG/M3	3000	48.10	1900.00

Current RPD Quality Control Limit: 50 %.
Shaded cells indicate RPDs that exceed the applicable quality control limit.

CALCULATION VERIFICATION

SDG H2B230466 / LMC MIDDLE RIVER / PROJECT 03953

INSTRUMENT SAMPLE		Instrument ME SV130-C-12	
COMPOUND RESPONSE	CHLOROFORM	426973	
COMPOUND RESPONSE	TRICHLOROETHENE	1126442	
COMPOUND RESPONSE	TETRACHLOROETHENE	n/a	
COMPOUND RRF	CHLOROFORM	3.2936	
COMPOUND RRF	TRICHLOROETHENE	0.399	
COMPOUND RRF	TETRACHLOROETHENE	n/a	
INTERNAL STD. AREA FOR BROMOCHLOROMETHANE	CHLOROFORM	220273	
INTERNAL STD. AREA FOR 1,4-DICHLOROBENZENE	TRICHLOROETHENE	1159761	
INTERNAL STD. AREA FOR CHLOROBENZENE-D5	TETRACHLOROETHENE	n/a	
INTERNAL STANDARD CONCENTRATION (PPBV)	CHLOROFORM	4	
INTERNAL STANDARD CONCENTRATION (PPBV)	TRICHLOROETHENE	4	
INTERNAL STANDARD CONCENTRATION (PPBV)	TETRACHLOROETHENE	4	
SAMPLE DILUTION FACTOR	CHLOROFORM	10	
SAMPLE DILUTION FACTOR	TRICHLOROETHENE	10	
SAMPLE DILUTION FACTOR	TETRACHLOROETHENE	n/a	
COMPOUND CALCULATED CONCENTRATION PPBV	**CHLOROFORM**	**23.54118**	PPBV
COMPOUND CALCULATED CONCENTRATION PPBV	**TRICHLOROETHENE**	**97.37051**	PPBV
COMPOUND CALCULATED CONCENTRATION PPBV	**TETRACHLOROETHENE**	**#VALUE!**	PPBV
COMPOUND CALCULATED CONCENTRATION µg/m^3	**CHLOROFORM**	**114.943**	µg/m3
COMPOUND CALCULATED CONCENTRATION µg/m^3	**TRICHLOROETHENE**	**523.252**	µg/m3
COMPOUND CALCULATED CONCENTRATION µg/m^3	**TETRACHLOROETHENE**	**#VALUE!**	µg/m3

Data File: /var/chem/gcms/me.i/E030212.b/mq21a1aa.d
Report Date: 05-Mar-2012 17:46

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/me.i/E030212.b/mq21a1aa.d
Lab Smp Id: MQ21A1AA Client Smp ID: SV-130-C-12
Inj Date : 02-MAR-2012 15:13
Operator : 22980 Inst ID: me.i
Smp Info : ,10,0,,,
Misc Info : E030212,TO155,tetra.sub,,
Comment :
Method : /var/chem/gcms/me.i/E030212.b/TO155.m
Meth Date : 05-Mar-2012 16:59 barlozha Quant Type: ISTD
Cal Date : 01-MAR-2012 22:23 Cal File: eicc019.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: tetra.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	10.00000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	500.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
*	1 Bromochloromethane	128	8.177	8.183	(1.000)	220273	4.00000	4.000
*	2 1,4-Difluorobenzene	114	10.329	10.335	(1.000)	1159761	4.00000	4.000
*	3 Chlorobenzene-d5	117	15.176	15.176	(1.000)	1074842	4.00000	4.000
$	4 4-Bromofluorobenzene	95	16.849	16.849	(1.110)	828190	4.23657	4.236
	6 Chlorodifluoromethane	67	3.626	3.632	(0.443)	2000	0.06487	0.6487
	10 Dichlorodifluoromethane	85	3.685	3.686	(0.451)	21235	0.07991	0.7991
	28 1,1-Dichloroethene	96	5.547	5.547	(0.678)	158361	2.44822	24.48
	32 Methylene Chloride	84	5.853	5.853	(0.716)	33684	0.49449	4.945
	35 trans-1,2-Dichloroethene	96	6.585	6.585	(0.805)	2314	0.02993	0.2993
	38 1,1-Dichloroethane	63	6.962	6.967	(0.851)	118103	0.77822	7.782
	42 cis-1,2-Dichloroethene	96	7.881	7.876	(0.964)	2408	0.03210	0.3210
	44 Chloroform	83	8.199	8.204	(1.003)	426973	2.35414	23.54
	46 1,1,1-Trichloroethane	97	9.172	9.178	(1.122)	2910633	14.4324	144.3
	49 Benzene	78	9.759	9.759	(0.945)	170226	0.70475	7.048
	57 Trichloroethene	130	11.055	11.056	(1.070)	1126442	9.73774	97.38
	66 Toluene	91	13.164	13.170	(0.867)	364989	1.25857	12.58

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
43 Ethyl acetate	+++++	+++++	3.09417	2.94489	3.02182	2.90839					
	2.78243	2.79484	2.53942				AVRG		2.86942		6.41004
44 Chloroform	3.30115	3.66619	3.69125	3.30439	3.44731	3.38367					
	3.04011	3.04701	2.76100				AVRG		3.29356		9.21930
45 Tetrahydrofuran	+++++	+++++	1.83526	1.47815	1.53747	1.42766					
	1.40120	1.38975	1.29615				AVRG		1.48081		11.70992
46 1,1,1-Trichloroethane	+++++	4.14238	4.05949	3.66487	3.82780	3.77855					
	3.38559	3.37396	3.06540				AVRG		3.66226		10.03352
47 1,2-Dichloroethane	0.40749	0.56000	0.54072	0.47303	0.50580	0.49943					
	0.43540	0.44427	0.41299				AVRG		0.47546		11.52169
48 Cyclohexane	+++++	0.22784	0.19167	0.15190	0.15605	0.15658					
	0.12509	0.12665	0.11654				AVRG		0.15654		23.92950
49 Benzene	0.89962	1.00542	0.98285	0.81323	0.86000	0.82412					
	0.71002	0.73050	0.67183				AVRG		0.83307		14.03901

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
57 Trichloroethene	0.37442	0.47737	0.47657	0.38841	0.42763	0.42647					
	0.33914	0.35208	0.32864				AVRG		0.39897		14.06319
180 2-Nitropropene	0.30860	0.50263	0.52451	0.47324	0.56252	0.52357					
	0.50892	0.53458	0.45055				AVRG		0.48768		15.34043
58 Dibromomethane	0.36879	0.43441	0.45861	0.37809	0.41584	0.40989					
	0.34443	0.35588	0.32738				AVRG		0.38815		11.32785
59 Bromodichloromethane	0.65448	0.84584	0.84404	0.71498	0.80477	0.78739					
	0.67865	0.70229	0.64171				AVRG		0.74157		10.79102
60 1,4-dioxane	+++++	+++++	0.08687	0.06435	0.08797	0.11175					
	0.07641	0.06932	0.04975				AVRG		0.07806		25.51089
61 Methyl Methacrylate	+++++	0.38717	0.38692	0.36385	0.39476	0.38460					
	0.34148	0.36270	0.33623				AVRG		0.36971		6.00693
62 ~ methyl cyclohexane	0.51488	0.62531	0.60703	0.49879	0.54564	0.53948					
	0.43957	0.45119	0.41479				AVRG		0.51519		14.10472

Tetra Tech INC **INTERNAL CORRESPONDENCE**

TO: **R. SAMUELS** **DATE:** **APRIL 4, 2012**

FROM: **JOSEPH KALINYAK** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MIDDLE RIVER
SDG H2B230466

SAMPLES: 34 / Air / VOC

SV044-C-12	SV050-C-12	SV057-B-12
SV060-C-12	SV063-B-12	SV088-C-12
SV091-C-12	SV100-B-12	SV101-B-12
SV103-C-12	SV104-C-12	SV105-Z-12
SV111-C-12	SV112-C-12	SV113-C-12
SV114-C-12	SV115-C-12	SV121-B-12
SV122-B-12	SV123-Z-12	SV124-C-12
SV125-C-12	SV126-C-12	SV127-C-12
SV128-C-12	SV129-C-12	SV130-C-12
SV131-C-12	SV132-C-12	SV133-C-12
SV134-C-12	SV135-C-12	SVDUP-1-12
SVDUP-2-12		

Overview

The sample set for Lockheed Middle River SDG H2B230466 consisted of thirty-four (34) air samples. The air samples were analyzed for a select list of volatile organic compounds (VOC). Two (2) field duplicate pairs were associated with this sample delivery group (SDG); SVDUP-1-12 / SV060-C-12 and SVDUP-2-12 / SV063-B-12.

The samples were collected by Tetra Tech on February 21, 2012 and sent to TestAmerica Laboratory. The laboratory analyzed the samples in accordance with EPA Method TO-15 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank/canister blank results, blank spike/blank spike duplicate results, surrogate spike recoveries, internal standard recoveries, field duplicate precision, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Issues

No major issues were identified.

Minor Issues

- The initial calibration percent relative standard deviation (%RSD) was greater than the 30% quality control limit for instrument ME for methylene chloride on 03/01/12.
  Affecting Samples: All samples
  Action: All samples except for sample SV133-C-12 were qualified for method blank

contamination. The sample results qualified non-detected for method blank contamination were not qualified. The sample SV133-C-12 positive methylene chloride result was qualified estimated, (J).

- The following VOC contaminants were detected in the method blanks at the following maximum concentrations as listed below:

Analyte	Maximum Conc. µg/m^3	Action Level µg/m^3
Chlorodifluoromethane [1]	0.18	0.90
Methylene Chloride [1]	0.32	3.2
Methylene Chloride [2]	0.17	1.7

[1] Method blank for 03/02/12 analyses affecting samples SV044-C-12, SV057-B-12, SV060-C-12, SV088-C-12, SV104-C-12, SV111-C-12, SV112-C-12, SV113-C-12, SV114-C-12, SV115-C-12, SV127-C-12, SV129-C-12, SV130-C-12, SV131-C-12, SV133-C-12, SV134-C-12, and SVDUP-1-12.

[2] Method blank for 03/05/12 analyses affecting samples SV050-C-12, SV063-B-12, SV091-C-12, SV100-B-12, SV101-B-12, SV103-C-12, SV105-Z-12, SV121-B-12, SV122-B-12, SV123-Z-12, SV124-C-12, SV125-C-12, SV126-C-12, SV128-C-12, SV132-C-12, SV135-C-12, and SVDUP-2-12.

An action level of ten times for the common laboratory contaminant methylene chloride and five times for the laboratory contaminant chlorodifluoromethane has been used to evaluate sample data for blank contamination. Dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. All positive methylene chloride sample results except for sample SV133-C-12 were qualified due to blank contamination. Positive sample analyte results if less than the action level were qualified non-detected, (B), due to blank contamination. The sample SV133-C-12 positive methylene chloride result was greater than the action level but was suspected due to lab contamination. The sample methylene chloride result was not qualified for blank contamination, but was qualified estimated, (J), due to possible laboratory blank contamination.

- Positive results below the Reporting Limit (RL) and above the detection limit were qualified as estimated, (J), due to uncertainty near the detection limit.

- The RPD was greater than the 50% quality control limit for the analytes 1,1-dichloroethane, chloroform, cis-1,2-dichloroethene, ethylbenzene, naphthalene, and total xylenes for the field duplicate pair samples SVDUP-1-12 and SV060-C-12. The positive results for the aforementioned analytes were qualified estimated, (J), for field duplicate imprecision.

- The RPD was greater than the 50% quality control limit for the analyte naphthalene for the field duplicate pair samples SVDUP-2-12 and SV063-B-12. The positive sample results for naphthalene were qualified estimated, (J), for field duplicate imprecision.

Additional Comments

Samples were analyzed at dilutions as listed below. For samples which were analyzed at multiple dilutions only the analytes which exceeded the highest calibration level at the lower dilution were reported from the higher dilutions sample re-analyses (Sample SV126-C-12 for vinyl chloride and sample SV133-C-12 for trichloroethene).

Samples	Dilution
SV044-C-12	10X
SV050-C-12	10X
SV057-B-12	10X
SV060-C-12	145.45X
SV063-B-12	10X
SV088-C-12	56X
SV091-C-12	10X
SV100-B-12	10X
SV101-B-12	19.23X
SV103-C-12	10X
SV104-C-12	10X
SV105-Z-12	45.45X
SV111-C-12	10X
SV112-C-12	10X
SV113-C-12	81.17X
SV114-C-12	10X
SV115-C-12	10X
SV121-B-12	10X
SV122-B-12	10X
SV123-Z-12	45.45X
SV124-C-12	10X
SV125-C-12	10X
SV126-C-12	172.27X, 6818.2X
SV127-C-12	5439.71X
SV128-C-12	45.45X
SV129-C-12	10X
SV130-C-12	10X
SV131-C-12	10X
SV132-C-12	10X
SV133-C-12	805.6X, 4494.7X
SV134-C-12	10X
SV135-C-12	166X
SVDUP-1-12	103.44X
SVDUP-2-12	10X

The laboratory reported the VOC air result concentrations in units of µg/m3 and also ppbv on the sample forms. The results in the database and the qualified analytical result concentrations are reported as µg/m3 only.

Sample results were reported to the Method Detection Limit (MDL).

The laboratory did not include the surrogate recovery and internal standard forms in the data summary report. The validation chemist manually searched the data package for the information.

EXECUTIVE SUMMARY

Laboratory Performance Issues: The sample SV133-C-12 positive methylene chloride result was qualified for an initial calibration %RSD quality control limit non-compliance and also as a possible lab contaminant.

Other Factors Affecting Data Quality: Positive results below the Reporting Limit (RL) and above the detection limit were qualified as estimated, (J), due to uncertainty near the detection limit. Sample analyte results for field duplicate pair samples were qualified for field duplicate imprecision.

The data for these analyses were reviewed with reference to the USEPA Method TO-15 and the Region III Modifications to the National Functional Guidelines for Organic Data Review (September 1994),

TetraTech
Joseph Kalinyak
Chemist/Data Validator

TetraTech
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:
Appendix A - Qualified Analytical Results
Appendix B - Results as Reported by the Laboratory
Appendix C - Support Documentation

Appendix A

Qualified Analytical Results

Value Qualifier Key (Val Qual)

J – The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

UJ – The result is an estimated non-detected quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

U - Value is a non-detect as reported by the laboratory.

UR – Non-detected result is considered rejected, (UR), as a result of technical non-compliances.

DATA QUALIFICATION CODE (QUAL CODE)

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed

PROJ_NO: 03953	NSAMPLE	SV044-C-12			SV050-C-12			SV057-B-12			SV060-C-12		
SDG: H2B230466	LAB_ID	H2B230466006			H2B230466030			H2B230466007			H2B230466016		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.65	U		9.1			0.65	U		11	J	P
1,1,2-TRICHLOROETHANE		1.1	U		1.1	U		1.1	U		17	U	
1,1-DICHLOROETHANE		0.4	U		0.9	J	P	0.4	U		71	J	G
1,1-DICHLOROETHENE		0.52	U		1	J	P	0.52	U		11	J	P
1,2,3-TRIMETHYLBENZENE		22			12			3.9	U		57	U	
1,2,4-TRICHLOROBENZENE		2.9	U		2.9	U		2.9	U		42	U	
1,2,4-TRIMETHYLBENZENE		34			24			1.2	U		20	J	P
1,2-DICHLOROETHANE		0.77	U		0.84	J	P	0.77	U		11	U	
1,3,5-TRIMETHYLBENZENE		10			9.2			1.3	U		19	U	
BENZENE		0.82	J	P	1.6	J	P	0.73	U		11	U	
CARBON TETRACHLORIDE		0.94	U		0.94	U		0.94	U		14	U	
CHLORODIFLUOROMETHANE		14			9.5			51			18	B	A
CHLOROFORM		3.2	J	P	8			0.73	U		56	J	G
CIS-1,2-DICHLOROETHENE		0.95	U		0.95	U		0.95	U		200	J	G
DICHLORODIFLUOROMETHANE		2.1	J	P	2.3	J	P	2.2	J	P	19	U	
ETHYLBENZENE		6.4			15			1.2	U		190	J	G
METHYL TERT-BUTYL ETHER		2.5	U		2.5	U		2.5	U		36	U	
METHYLENE CHLORIDE		3.2	B	A	4.8	B	A	2.7	B	A	25	B	A
NAPHTHALENE		240			17			9.2	J	P	280	J	G
TETRACHLOROETHENE		1.5	J	P	1.1	U		1.1	U		23	J	P
TOLUENE		7.8			39			5.1			14	J	P
TOTAL XYLENES		43			69			4.1	J	P	1200	J	G
TRANS-1,2-DICHLOROETHENE		0.79	U		1.4	J	P	0.79	U		26	J	P
TRICHLOROETHENE		44			12			0.75	U		3000		
VINYL CHLORIDE		0.74	U		0.74	U		0.74	U		11	U	

PROJ_NO: 03953	NSAMPLE	SV063-B-12			SV088-C-12			SV091-C-12			SV100-B-12		
SDG: H2B230466	LAB_ID	H2B230466022			H2B230466009			H2B230466033			H2B230466026		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.65	U		3.7	U		0.65	U		0.65	U	
1,1,2-TRICHLOROETHANE		1.1	U		6.4	U		1.1	U		1.1	U	
1,1-DICHLOROETHANE		0.4	U		2.3	U		0.4	U		0.4	U	
1,1-DICHLOROETHENE		0.52	U		3.3	J	P	0.52	U		0.52	U	
1,2,3-TRIMETHYLBENZENE		5.8			30			4.9			3.9	U	
1,2,4-TRICHLOROBENZENE		2.9	U		16	U		2.9	U		2.9	U	
1,2,4-TRIMETHYLBENZENE		14			39			13			1.2	U	
1,2-DICHLOROETHANE		0.77	U		4.3	U		0.77	U		0.77	U	
1,3,5-TRIMETHYLBENZENE		3.2	J	P	11	J	P	3.6	J	P	1.3	U	
BENZENE		1.1	J	P	4.1	U		2.8			0.73	U	
CARBON TETRACHLORIDE		1.2	J	P	5.3	U		1.4	J	P	2	J	P
CHLORODIFLUOROMETHANE		21			34	B	A	5.2			3.1		
CHLOROFORM		2.4	J	P	9.7	J	P	37			6.3		
CIS-1,2-DICHLOROETHENE		0.95	U		670			0.95	U		0.95	U	
DICHLORODIFLUOROMETHANE		2.5	J	P	7.5	U		2.5	J	P	2.4	J	P
ETHYLBENZENE		6.4			15	J	P	9.1			1.2	U	
METHYL TERT-BUTYL ETHER		2.5	U		14	U		2.5	U		2.5	U	
METHYLENE CHLORIDE		3.7	B	A	9.4	B	A	8	B	A	2.5	B	A
NAPHTHALENE		99	J	G	540			65			2.7	J	P
TETRACHLOROETHENE		1.1	U		6.1	U		9.1			1.1	J	P
TOLUENE		17			12	J	P	19			1.7	J	P
TOTAL XYLENES		31			150			42			1	U	
TRANS-1,2-DICHLOROETHENE		0.79	U		14	J	P	0.79	U		0.79	U	
TRICHLOROETHENE		0.75	U		3800			15			10		
VINYL CHLORIDE		0.74	U		4.2	U		5.3			0.74	U	

PROJ_NO: 03953	NSAMPLE	SV101-B-12			SV103-C-12			SV104-C-12			SV105-Z-12		
SDG: H2B230466	LAB_ID	H2B230466025			H2B230466031			H2B230466005			H2B230466028		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		21			0.65	U		0.65	U		3	U	
1,1,2-TRICHLOROETHANE		2.2	U		1.1	U		1.1	U		5.2	U	
1,1-DICHLOROETHANE		0.78	U		0.4	U		0.4	U		1.8	U	
1,1-DICHLOROETHENE		0.99	U		0.52	U		0.52	U		2.3	U	
1,2,3-TRIMETHYLBENZENE		7.6	U		3.9	U		3.9	U		18	U	
1,2,4-TRICHLOROBENZENE		5.6	U		2.9	U		2.9	U		13	U	
1,2,4-TRIMETHYLBENZENE		2.4	U		2	J	P	5.9			5.6	U	
1,2-DICHLOROETHANE		1.5	U		0.77	U		0.77	U		3.5	U	
1,3,5-TRIMETHYLBENZENE		2.5	U		1.3	U		1.4	J	P	5.8	U	
BENZENE		1.4	U		0.89	J	P	1.2	J	P	3.3	U	
CARBON TETRACHLORIDE		1.8	U		0.94	U		0.94	U		4.3	U	
CHLORODIFLUOROMETHANE		39			18			3.2	B	A	4.3	J	P
CHLOROFORM		1.4	U		0.73	U		1.7	J	P	3.3	U	
CIS-1,2-DICHLOROETHENE		1.8	U		0.95	U		0.95	U		21		
DICHLORODIFLUOROMETHANE		3.8	J	P	2.3	J	P	2	J	P	6.1	U	
ETHYLBENZENE		2.4	J	P	20			8.1			17		
METHYL TERT-BUTYL ETHER		4.7	U		2.5	U		2.5	U		11	U	
METHYLENE CHLORIDE		5.8	B	A	5.6	B	A	2.3	B	A	9.6	B	A
NAPHTHALENE		19	J	P	70			15			49		
TETRACHLOROETHENE		3.7	J	P	1.1	U		1.1	U		4.9	U	
TOLUENE		120			2.4	J	P	21			810		
TOTAL XYLENES		11	J	P	210			36			100		
TRANS-1,2-DICHLOROETHENE		1.5	U		0.79	U		0.79	U		3.6	U	
TRICHLOROETHENE		7.3			0.75	U		1.1	J	P	59		
VINYL CHLORIDE		1.4	U		0.74	U		0.74	U		3.4	U	

PROJ_NO: 03953	NSAMPLE	SV111-C-12			SV112-C-12			SV113-C-12			SV114-C-12		
SDG: H2B230466	LAB_ID	H2B230466015			H2B230466004			H2B230466010			H2B230466012		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		1.5	J	P	0.71	J	P	5.3	U		260		
1,1,2-TRICHLOROETHANE		1.1	U		1.1	U		9.3	U		1.1	U	
1,1-DICHLOROETHANE		4.8			0.4	U		3.3	U		1.5	J	P
1,1-DICHLOROETHENE		3.3			0.52	U		4.2	U		1.7	J	P
1,2,3-TRIMETHYLBENZENE		3.9	U		3.9	U		32	U		4.1		
1,2,4-TRICHLOROBENZENE		2.9	U		2.9	U		23	U		2.9	U	
1,2,4-TRIMETHYLBENZENE		3.7	J	P	1.6	J	P	10	U		14		
1,2-DICHLOROETHANE		0.77	U		0.77	U		6.2	U		0.77	U	
1,3,5-TRIMETHYLBENZENE		2.3	J	P	1.3	U		10	U		3.5	J	P
BENZENE		1.7	J	P	0.73	U		6	U		0.83	J	P
CARBON TETRACHLORIDE		0.94	U		0.94	U		7.7	U		0.94	U	
CHLORODIFLUOROMETHANE		30			37			13	B	A	16		
CHLOROFORM		39			0.79	J	P	38			21		
CIS-1,2-DICHLOROETHENE		2.1	J	P	0.95	U		500			0.95	U	
DICHLORODIFLUOROMETHANE		2.5	J	P	6.8			11	U		6		
ETHYLBENZENE		16			5			9.5	U		11		
METHYL TERT-BUTYL ETHER		2.5	U		2.5	U		20	U		2.5	U	
METHYLENE CHLORIDE		3	B	A	2.9	B	A	12	B	A	6.4	B	A
NAPHTHALENE		750			200			64	J	P	16		
TETRACHLOROETHENE		1.3	J	P	1.1	U		14	J	P	28		
TOLUENE		5			3.7			15	J	P	4		
TOTAL XYLENES		180			43			8.5	U		84		
TRANS-1,2-DICHLOROETHENE		0.79	U		0.79	U		6.4	U		0.79	U	
TRICHLOROETHENE		370			0.75	U		5700			72		
VINYL CHLORIDE		0.74	U		0.74	U		6	U		0.74	U	

PROJ_NO: 03953	NSAMPLE	SV115-C-12			SV121-B-12			SV122-B-12			SV123-Z-12		
SDG: H2B230466	LAB_ID	H2B230466011			H2B230466024			H2B230466027			H2B230466029		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		1.8	J	P	1.8	J	P	0.65	U		3	U	
1,1,2-TRICHLOROETHANE		1.1	U		1.1	U		1.1	U		5.2	U	
1,1-DICHLOROETHANE		0.4	U		0.58	J	P	0.4	U		1.8	U	
1,1-DICHLOROETHENE		0.52	U		0.52	U		0.52	U		2.3	U	
1,2,3-TRIMETHYLBENZENE		3.9	U		34			29			18	U	
1,2,4-TRICHLOROBENZENE		2.9	U		2.9	U		2.9	U		13	U	
1,2,4-TRIMETHYLBENZENE		1.2	U		55			59			33		
1,2-DICHLOROETHANE		0.77	U		0.77	U		0.77	U		3.5	U	
1,3,5-TRIMETHYLBENZENE		1.3	U		17			18			9.4	J	P
BENZENE		0.73	U		0.73	U		1.1	J	P	3.3	U	
CARBON TETRACHLORIDE		0.94	U		5.7			0.94	U		4.3	U	
CHLORODIFLUOROMETHANE		4.8	B	A	2.6	J	P	19			4.9	J	P
CHLOROFORM		0.76	J	P	42			1.3	J	P	3.3	U	
CIS-1,2-DICHLOROETHENE		0.95	U		0.95	U		0.95	U		4.3	U	
DICHLORODIFLUOROMETHANE		2.6	J	P	2.3	J	P	2.5	J	P	6.1	U	
ETHYLBENZENE		1.3	J	P	16			47			30		
METHYL TERT-BUTYL ETHER		2.5	U		2.5	U		2.5	U		11	U	
METHYLENE CHLORIDE		3.4	B	A	2.5	B	A	5.6	B	A	7	B	A
NAPHTHALENE		3.7	J	P	400			350			260		
TETRACHLOROETHENE		1.1	U		2.4	J	P	7.2			4.9	U	
TOLUENE		2.4	J	P	21			45			1000		
TOTAL XYLENES		13			83			250			170		
TRANS-1,2-DICHLOROETHENE		0.79	U		0.79	U		0.79	U		3.6	U	
TRICHLOROETHENE		5.2			170			5.8			21		
VINYL CHLORIDE		0.74	U		0.74	U		0.74	U		3.4	U	

PROJ_NO: 03953	NSAMPLE	SV124-C-12			SV125-C-12			SV126-C-12			SV127-C-12		
SDG: H2B230466	LAB_ID	H2B230466032			H2B230466034			H2B230466023			H2B230466018		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.65	U		0.65	U		11	U		360	U	
1,1,2-TRICHLOROETHANE		1.1	U		1.1	U		20	U		620	U	
1,1-DICHLOROETHANE		0.4	U		0.4	U		7	U		220	U	
1,1-DICHLOROETHENE		0.54	J	P	0.52	U		360			280	U	
1,2,3-TRIMETHYLBENZENE		9.4			3.9	U		68	U		2200		
1,2,4-TRICHLOROBENZENE		2.9	U		2.9	U		50	U		1600	U	
1,2,4-TRIMETHYLBENZENE		21			1.2	U		29	J	P	4000		
1,2-DICHLOROETHANE		0.77	U		0.77	U		13	U		420	U	
1,3,5-TRIMETHYLBENZENE		6.4			1.3	U		22	U		1000	J	P
BENZENE		6.4			1.8	J	P	86			400	U	
CARBON TETRACHLORIDE		1	J	P	0.94	U		16	U		510	U	
CHLORODIFLUOROMETHANE		7.4			8.2			20	J	P	1100	B	A
CHLOROFORM		38			29			13	U		400	U	
CIS-1,2-DICHLOROETHENE		3.3			0.95	U		350			520	U	
DICHLORODIFLUOROMETHANE		2.6	J	P	2.5	J	P	23	U		730	U	
ETHYLBENZENE		13			1.2	J	P	72			640	U	
METHYL TERT-BUTYL ETHER		2.5	U		2.5	U		42	U		1300	U	
METHYLENE CHLORIDE		2.9	B	A	8.5	B	A	36	B	A	1800	B	A
NAPHTHALENE		130			3.3	J	P	250			4300	J	P
TETRACHLOROETHENE		9			1.1	U		19	U		590	U	
TOLUENE		33			9.2			54			430	U	
TOTAL XYLENES		62			2.6	J	P	350			2900	J	P
TRANS-1,2-DICHLOROETHENE		0.79	U		0.79	U		41	J	P	430	U	
TRICHLOROETHENE		12			2.8			280			240000		
VINYL CHLORIDE		41			0.74	U		82000			400	U	

PROJ_NO: 03953	NSAMPLE	SV128-C-12			SV129-C-12			SV130-C-12			SV131-C-12		
SDG: H2B230466	LAB_ID	H2B230466020			H2B230466003			H2B230466001			H2B230466002		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		3	U		1.4	J	P	790			12		
1,1,2-TRICHLOROETHANE		5.2	U		1.1	U		1.1	U		1.1	U	
1,1-DICHLOROETHANE		2.6	J	P	42			31			4.5		
1,1-DICHLOROETHENE		2.3	U		130			97			5.8		
1,2,3-TRIMETHYLBENZENE		26			14			38			31		
1,2,4-TRICHLOROBENZENE		13	U		2.9	U		2.9	U		2.9	U	
1,2,4-TRIMETHYLBENZENE		67			25			94			99		
1,2-DICHLOROETHANE		3.5	U		0.77	U		0.77	U		1.7	J	P
1,3,5-TRIMETHYLBENZENE		24			7.2			26			34		
BENZENE		20			1.8	J	P	23			6.3		
CARBON TETRACHLORIDE		4.3	U		0.94	U		0.94	U		0.94	U	
CHLORODIFLUOROMETHANE		10	J	P	2.9	B	A	2.3	B	A	6.8	B	A
CHLOROFORM		5.9	J	P	7.1			110			2.1	J	P
CIS-1,2-DICHLOROETHENE		46			8.5			1.3	J	P	0.95	U	
DICHLORODIFLUOROMETHANE		6.1	U		2	J	P	4			2.6	J	P
ETHYLBENZENE		240			8.9			16			140		
METHYL TERT-BUTYL ETHER		11	U		2.5	U		2.5	U		2.5	U	
METHYLENE CHLORIDE		25	B	A	2.2	B	A	17	B	A	19	B	A
NAPHTHALENE		260			86			430			180		
TETRACHLOROETHENE		130			1.1	U		5.6			1.8	J	P
TOLUENE		120			12			47			220		
TOTAL XYLENES		1500			45			91			750		
TRANS-1,2-DICHLOROETHENE		9.8	J	P	0.79	U		1.2	J	P	3.5		
TRICHLOROETHENE		19			270			520			0.92	J	P
VINYL CHLORIDE		4.5	J	P	0.74	U		0.74	U		1.1	J	P

PROJ_NO: 03953	NSAMPLE	SV132-C-12			SV133-C-12			SV134-C-12			SV135-C-12		
SDG: H2B230466	LAB_ID	H2B230466017			H2B230466014			H2B230466013			H2B230466008		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		1.8	J	P	53	U		2.1	J	P	11	U	
1,1,2-TRICHLOROETHANE		1.1	U		92	U		1.1	U		19	U	
1,1-DICHLOROETHANE		0.73	J	P	33	U		2.9	J	P	6.7	U	
1,1-DICHLOROETHENE		1.8	J	P	42	U		0.52	U		8.6	U	
1,2,3-TRIMETHYLBENZENE		40			320	U		34			65	U	
1,2,4-TRICHLOROBENZENE		2.9	U		230	U		2.9	U		48	U	
1,2,4-TRIMETHYLBENZENE		68			99	U		57			81		
1,2-DICHLOROETHANE		0.94	J	P	62	U		0.77	U		13	U	
1,3,5-TRIMETHYLBENZENE		20			100	U		19			27	J	P
BENZENE		3.6			59	U		1.6	J	P	12	U	
CARBON TETRACHLORIDE		0.94	U		76	U		0.94	U		16	U	
CHLORODIFLUOROMETHANE		19			1500			4.6	B	A	8.8	U	
CHLOROFORM		2.9	J	P	83	J	P	16			14	J	P
CIS-1,2-DICHLOROETHENE		0.95	U		77	U		0.95	U		220		
DICHLORODIFLUOROMETHANE		3.2	J	P	130	J	P	2.4	J	P	22	U	
ETHYLBENZENE		24			94	U		18			40	J	P
METHYL TERT-BUTYL ETHER		2.5	U		200	U		2.5	U		41	U	
METHYLENE CHLORIDE		4.2	B	A	2700	J	AC	3.2	B	A	23	B	A
NAPHTHALENE		410			2200			240			510		
TETRACHLOROETHENE		1.9	J	P	2200			5.2	J	P	22	J	P
TOLUENE		30			180	J	P	18			49		
TOTAL XYLENES		130			170	J	P	92			210		
TRANS-1,2-DICHLOROETHENE		2	J	P	64	U		0.79	U		15	J	P
TRICHLOROETHENE		3.5			50000			0.75	U		11000		
VINYL CHLORIDE		0.74	U		60	U		0.74	U		12	U	

PROJ_NO: 03953	NSAMPLE	SVDUP-1-12			SVDUP-2-12		
SDG: H2B230466	LAB_ID	H2B230466019			H2B230466021		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM		
	UNITS	UG/M3			UG/M3		
	PCT_SOLIDS						
	DUP_OF	SV060-C-12			SV063-B-12		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		17	J	P	0.65	U	
1,1,2-TRICHLOROETHANE		12	U		1.1	U	
1,1-DICHLOROETHANE		120	J	G	0.4	U	
1,1-DICHLOROETHENE		12	J	P	0.52	U	
1,2,3-TRIMETHYLBENZENE		41	U		8		
1,2,4-TRICHLOROBENZENE		30	U		2.9	U	
1,2,4-TRIMETHYLBENZENE		64			19		
1,2-DICHLOROETHANE		8	U		0.77	U	
1,3,5-TRIMETHYLBENZENE		19	J	P	4.5		
BENZENE		7.6	U		1.3	J	P
CARBON TETRACHLORIDE		9.8	U		1.5	J	P
CHLORODIFLUOROMETHANE		15	B	A	22		
CHLOROFORM		94	J	G	2.7	J	P
CIS-1,2-DICHLOROETHENE		340	J	G	0.95	U	
DICHLORODIFLUOROMETHANE		14	U		2.9	J	P
ETHYLBENZENE		460	J	G	7.8		
METHYL TERT-BUTYL ETHER		25	U		2.5	U	
METHYLENE CHLORIDE		20	B	A	4.1	B	A
NAPHTHALENE		770	J	G	200	J	G
TETRACHLOROETHENE		40	J	P	1.2	J	P
TOLUENE		29	J	P	18		
TOTAL XYLENES		3100	J	G	40		
TRANS-1,2-DICHLOROETHENE		38			0.79	U	
TRICHLOROETHENE		4900			0.79	J	P
VINYL CHLORIDE		7.7	U		0.74	U	

Appendix B

Results as Reported by the Laboratory

Tetra Tech, Inc

Client Sample ID: SV044-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 006	**Work Order #**	MQ21G1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.26 J**	**0.80**	**0.82 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**3.9 B**	**0.80**	**14 B**	**2.8**
Chloroform	**0.66 J**	**0.80**	**3.2 J**	**3.9**
Dichlorodifluoromethane	**0.43 J**	**0.80**	**2.1 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.5**	**0.80**	**6.4**	**3.5**
Methylene chloride	**0.91 J B**	**2.0**	**3.2 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**46**	**2.0**	**240**	**10**
Tetrachloroethene	**0.22 J**	**0.80**	**1.5 J**	**5.4**
Toluene	**2.1**	**0.80**	**7.8**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**8.3**	**0.40**	**44**	**2.1**
1,2,3-Trimethylbenzene	**4.5**	**0.80**	**22**	**3.9**
1,2,4-Trimethylbenzene	**7.0**	**0.80**	**34**	**3.9**
1,3,5-Trimethylbenzene	**2.0**	**0.80**	**10**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**9.8**	**1.6**	**43**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV044-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 006	Work Order #	MQ21G1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV050-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 030	**Work Order #**	MQ22D1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.49 J**	**0.80**	**1.6 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**2.7**	**0.80**	**9.5**	**2.8**
Chloroform	**1.6**	**0.80**	**8.0**	**3.9**
Dichlorodifluoromethane	**0.47 J**	**0.80**	**2.3 J**	**4.0**
1,1-Dichloroethane	**0.22 J**	**0.80**	**0.90 J**	**3.2**
1,2-Dichloroethane	**0.21 J**	**0.80**	**0.84 J**	**3.2**
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	**0.36 J**	**0.80**	**1.4 J**	**3.2**
1,1-Dichloroethene	**0.25 J**	**0.80**	**1.00 J**	**3.2**
Ethylbenzene	**3.4**	**0.80**	**15**	**3.5**
Methylene chloride	**1.4 J B**	**2.0**	**4.8 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**3.2**	**2.0**	**17**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**10**	**0.80**	**39**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**1.7**	**0.80**	**9.1**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**2.2**	**0.40**	**12**	**2.1**
1,2,3-Trimethylbenzene	**2.5**	**0.80**	**12**	**3.9**
1,2,4-Trimethylbenzene	**5.0**	**0.80**	**24**	**3.9**
1,3,5-Trimethylbenzene	**1.9**	**0.80**	**9.2**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**16**	**1.6**	**69**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV050-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 030	Work Order #	MQ22D1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV057-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 007	**Work Order #**	MQ21H1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**14 B**	**0.80**	**51 B**	**2.8**
Chloroform	ND	0.80	ND	3.9
Dichlorodifluoromethane	**0.45 J**	**0.80**	**2.2 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	ND	0.80	ND	3.5
Methylene chloride	**0.77 J B**	**2.0**	**2.7 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**1.8 J**	**2.0**	**9.2 J**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**1.4**	**0.80**	**5.1**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	ND	0.80	ND	3.9
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**0.94 J**	**1.6**	**4.1 J**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV057-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 007	**Work Order #**	MQ21H1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV060-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 016	**Work Order #**	MQ21T1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	145.45	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	12	ND	37
Carbon tetrachloride	ND	12	ND	73
Chlorodifluoromethane	**5.1 J B**	**12**	**18 J B**	**41**
Chloroform	**12**	**12**	**56**	**57**
Dichlorodifluoromethane	ND	12	ND	58
1,1-Dichloroethane	**18**	**12**	**71**	**47**
1,2-Dichloroethane	ND	12	ND	47
cis-1,2-Dichloroethene	**50**	**12**	**200**	**46**
trans-1,2-Dichloroethene	**6.6 J**	**12**	**26 J**	**46**
1,1-Dichloroethene	**2.7 J**	**12**	**11 J**	**46**
Ethylbenzene	**43**	**12**	**190**	**51**
Methylene chloride	**7.3 J B**	**29**	**25 J B**	**100**
Methyl tert-butyl ether	ND	58	ND	210
Naphthalene	**53**	**29**	**280**	**150**
Tetrachloroethene	**3.3 J**	**12**	**23 J**	**79**
Toluene	**3.7 J**	**12**	**14 J**	**44**
1,2,4-Trichlorobenzene	ND	58	ND	430
1,1,1-Trichloroethane	**2.0 J**	**12**	**11 J**	**63**
1,1,2-Trichloroethane	ND	12	ND	63
Trichloroethene	**570**	**5.8**	**3000**	**31**
1,2,3-Trimethylbenzene	ND	12	ND	57
1,2,4-Trimethylbenzene	**4.0 J**	**12**	**20 J**	**57**
1,3,5-Trimethylbenzene	ND	12	ND	57
Vinyl chloride	ND	12	ND	30
Xylenes (total)	**290**	**23**	**1200**	**100**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	91	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV060-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 016	Work Order #	MQ21T1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV063-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 022	**Work Order #**	MQ2141AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.36 J**	**0.80**	**1.1 J**	**2.6**
Carbon tetrachloride	**0.20 J**	**0.80**	**1.2 J**	**5.0**
Chlorodifluoromethane	**6.0**	**0.80**	**21**	**2.8**
Chloroform	**0.49 J**	**0.80**	**2.4 J**	**3.9**
Dichlorodifluoromethane	**0.50 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.5**	**0.80**	**6.4**	**3.5**
Methylene chloride	**1.1 J B**	**2.0**	**3.7 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**19**	**2.0**	**99**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**4.5**	**0.80**	**17**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	**1.2**	**0.80**	**5.8**	**3.9**
1,2,4-Trimethylbenzene	**2.8**	**0.80**	**14**	**3.9**
1,3,5-Trimethylbenzene	**0.65 J**	**0.80**	**3.2 J**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**7.2**	**1.6**	**31**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV063-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 022	Work Order #	MQ2141AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV088-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 009	**Work Order #**	MQ21K1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	56	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	4.5	ND	14
Carbon tetrachloride	ND	4.5	ND	28
Chlorodifluoromethane	**9.7 B**	**4.5**	**34 B**	**16**
Chloroform	**2.0 J**	**4.5**	**9.7 J**	**22**
Dichlorodifluoromethane	ND	4.5	ND	22
1,1-Dichloroethane	ND	4.5	ND	18
1,2-Dichloroethane	ND	4.5	ND	18
cis-1,2-Dichloroethene	**170**	**4.5**	**670**	**18**
trans-1,2-Dichloroethene	**3.6 J**	**4.5**	**14 J**	**18**
1,1-Dichloroethene	**0.82 J**	**4.5**	**3.3 J**	**18**
Ethylbenzene	**3.6 J**	**4.5**	**15 J**	**19**
Methylene chloride	**2.7 J B**	**11**	**9.4 J B**	**39**
Methyl tert-butyl ether	ND	22	ND	81
Naphthalene	**100**	**11**	**540**	**59**
Tetrachloroethene	ND	4.5	ND	30
Toluene	**3.1 J**	**4.5**	**12 J**	**17**
1,2,4-Trichlorobenzene	ND	22	ND	170
1,1,1-Trichloroethane	ND	4.5	ND	24
1,1,2-Trichloroethane	ND	4.5	ND	24
Trichloroethene	**710**	**2.2**	**3800**	**12**
1,2,3-Trimethylbenzene	**6.0**	**4.5**	**30**	**22**
1,2,4-Trimethylbenzene	**8.0**	**4.5**	**39**	**22**
1,3,5-Trimethylbenzene	**2.3 J**	**4.5**	**11 J**	**22**
Vinyl chloride	ND	4.5	ND	11
Xylenes (total)	**35**	**9.0**	**150**	**39**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV088-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 009	**Work Order #**	MQ21K1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV091-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 033	**Work Order #**	MQ22G1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.88**	**0.80**	**2.8**	**2.6**
Carbon tetrachloride	**0.22 J**	**0.80**	**1.4 J**	**5.0**
Chlorodifluoromethane	**1.5**	**0.80**	**5.2**	**2.8**
Chloroform	**7.5**	**0.80**	**37**	**3.9**
Dichlorodifluoromethane	**0.50 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**2.1**	**0.80**	**9.1**	**3.5**
Methylene chloride	**2.3 B**	**2.0**	**8.0 B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**12**	**2.0**	**65**	**10**
Tetrachloroethene	**1.3**	**0.80**	**9.1**	**5.4**
Toluene	**5.1**	**0.80**	**19**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**2.7**	**0.40**	**15**	**2.1**
1,2,3-Trimethylbenzene	**1.0**	**0.80**	**4.9**	**3.9**
1,2,4-Trimethylbenzene	**2.7**	**0.80**	**13**	**3.9**
1,3,5-Trimethylbenzene	**0.73 J**	**0.80**	**3.6 J**	**3.9**
Vinyl chloride	**2.1**	**0.80**	**5.3**	**2.0**
Xylenes (total)	**9.6**	**1.6**	**42**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV091-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 033	**Work Order #**	MQ22G1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV100-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 026	**Work Order #**	MQ2181AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	**0.31 J**	**0.80**	**2.0 J**	**5.0**
Chlorodifluoromethane	**0.89**	**0.80**	**3.1**	**2.8**
Chloroform	**1.3**	**0.80**	**6.3**	**3.9**
Dichlorodifluoromethane	**0.49 J**	**0.80**	**2.4 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	ND	0.80	ND	3.5
Methylene chloride	**0.72 J B**	**2.0**	**2.5 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**0.52 J**	**2.0**	**2.7 J**	**10**
Tetrachloroethene	**0.16 J**	**0.80**	**1.1 J**	**5.4**
Toluene	**0.46 J**	**0.80**	**1.7 J**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**1.9**	**0.40**	**10**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	ND	0.80	ND	3.9
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	ND	1.6	ND	6.9

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV100-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 026	Work Order #	MQ2181AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV101-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 025	**Work Order #**	MQ2171AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	19.23	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	1.5	ND	4.9
Carbon tetrachloride	ND	1.5	ND	9.7
Chlorodifluoromethane	**11**	**1.5**	**39**	**5.4**
Chloroform	ND	1.5	ND	7.5
Dichlorodifluoromethane	**0.77 J**	**1.5**	**3.8 J**	**7.6**
1,1-Dichloroethane	ND	1.5	ND	6.2
1,2-Dichloroethane	ND	1.5	ND	6.2
cis-1,2-Dichloroethene	ND	1.5	ND	6.1
trans-1,2-Dichloroethene	ND	1.5	ND	6.1
1,1-Dichloroethene	ND	1.5	ND	6.1
Ethylbenzene	**0.55 J**	**1.5**	**2.4 J**	**6.7**
Methylene chloride	**1.7 J B**	**3.8**	**5.8 J B**	**13**
Methyl tert-butyl ether	ND	7.7	ND	28
Naphthalene	**3.6 J**	**3.8**	**19 J**	**20**
Tetrachloroethene	**0.55 J**	**1.5**	**3.7 J**	**10**
Toluene	**31**	**1.5**	**120**	**5.8**
1,2,4-Trichlorobenzene	ND	7.7	ND	57
1,1,1-Trichloroethane	**3.8**	**1.5**	**21**	**8.4**
1,1,2-Trichloroethane	ND	1.5	ND	8.4
Trichloroethene	**1.4**	**0.77**	**7.3**	**4.1**
1,2,3-Trimethylbenzene	ND	1.5	ND	7.6
1,2,4-Trimethylbenzene	ND	1.5	ND	7.6
1,3,5-Trimethylbenzene	ND	1.5	ND	7.6
Vinyl chloride	ND	1.5	ND	3.9
Xylenes (total)	**2.5 J**	**3.1**	**11 J**	**13**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	94	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV101-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 025	**Work Order #**	MQ2171AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV103-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 031	**Work Order #**	MQ22E1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.28 J**	**0.80**	**0.89 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**5.1**	**0.80**	**18**	**2.8**
Chloroform	ND	0.80	ND	3.9
Dichlorodifluoromethane	**0.47 J**	**0.80**	**2.3 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**4.6**	**0.80**	**20**	**3.5**
Methylene chloride	**1.6 J B**	**2.0**	**5.6 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**13**	**2.0**	**70**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**0.64 J**	**0.80**	**2.4 J**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	**0.41 J**	**0.80**	**2.0 J**	**3.9**
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**47**	**1.6**	**210**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV103-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 031	Work Order #	MQ22E1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV104-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 005	**Work Order #**	MQ21F1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.37 J**	**0.80**	**1.2 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**0.90 B**	**0.80**	**3.2 B**	**2.8**
Chloroform	**0.34 J**	**0.80**	**1.7 J**	**3.9**
Dichlorodifluoromethane	**0.40 J**	**0.80**	**2.0 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.9**	**0.80**	**8.1**	**3.5**
Methylene chloride	**0.65 J B**	**2.0**	**2.3 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**2.9**	**2.0**	**15**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**5.5**	**0.80**	**21**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.20 J**	**0.40**	**1.1 J**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	**1.2**	**0.80**	**5.9**	**3.9**
1,3,5-Trimethylbenzene	**0.29 J**	**0.80**	**1.4 J**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**8.2**	**1.6**	**36**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV104-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 005	Work Order #	MQ21F1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV105-Z-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 028	**Work Order #**	MQ22A1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	45.45	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	3.6	ND	12
Carbon tetrachloride	ND	3.6	ND	23
Chlorodifluoromethane	**1.2 J**	**3.6**	**4.3 J**	**13**
Chloroform	ND	3.6	ND	18
Dichlorodifluoromethane	ND	3.6	ND	18
1,1-Dichloroethane	ND	3.6	ND	15
1,2-Dichloroethane	ND	3.6	ND	15
cis-1,2-Dichloroethene	**5.3**	**3.6**	**21**	**14**
trans-1,2-Dichloroethene	ND	3.6	ND	14
1,1-Dichloroethene	ND	3.6	ND	14
Ethylbenzene	**3.9**	**3.6**	**17**	**16**
Methylene chloride	**2.8 J B**	**9.1**	**9.6 J B**	**32**
Methyl tert-butyl ether	ND	18	ND	66
Naphthalene	**9.4**	**9.1**	**49**	**48**
Tetrachloroethene	ND	3.6	ND	25
Toluene	**220**	**3.6**	**810**	**14**
1,2,4-Trichlorobenzene	ND	18	ND	130
1,1,1-Trichloroethane	ND	3.6	ND	20
1,1,2-Trichloroethane	ND	3.6	ND	20
Trichloroethene	**11**	**1.8**	**59**	**9.8**
1,2,3-Trimethylbenzene	ND	3.6	ND	18
1,2,4-Trimethylbenzene	ND	3.6	ND	18
1,3,5-Trimethylbenzene	ND	3.6	ND	18
Vinyl chloride	ND	3.6	ND	9.3
Xylenes (total)	**24**	**7.3**	**100**	**32**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	94	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV105-Z-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 028	**Work Order #**	MQ22A1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV111-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 015	**Work Order #**	MQ21R1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.53 J**	**0.80**	**1.7 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**8.5 B**	**0.80**	**30 B**	**2.8**
Chloroform	**8.0**	**0.80**	**39**	**3.9**
Dichlorodifluoromethane	**0.51 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	**1.2**	**0.80**	**4.8**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	**0.52 J**	**0.80**	**2.1 J**	**3.2**
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	**0.84**	**0.80**	**3.3**	**3.2**
Ethylbenzene	**3.7**	**0.80**	**16**	**3.5**
Methylene chloride	**0.86 J B**	**2.0**	**3.0 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**140**	**2.0**	**750**	**10**
Tetrachloroethene	**0.19 J**	**0.80**	**1.3 J**	**5.4**
Toluene	**1.3**	**0.80**	**5.0**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.27 J**	**0.80**	**1.5 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**68**	**0.40**	**370**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	**0.75 J**	**0.80**	**3.7 J**	**3.9**
1,3,5-Trimethylbenzene	**0.47 J**	**0.80**	**2.3 J**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**42**	**1.6**	**180**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV111-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 015	Work Order #	MQ21R1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV112-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 004	**Work Order #**	MQ21E1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**10 B**	**0.80**	**37 B**	**2.8**
Chloroform	**0.16 J**	**0.80**	**0.79 J**	**3.9**
Dichlorodifluoromethane	**1.4**	**0.80**	**6.8**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.1**	**0.80**	**5.0**	**3.5**
Methylene chloride	**0.82 J B**	**2.0**	**2.9 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**38**	**2.0**	**200**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**0.99**	**0.80**	**3.7**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.13 J**	**0.80**	**0.71 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	**0.34 J**	**0.80**	**1.6 J**	**3.9**
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**9.9**	**1.6**	**43**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV112-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 004	Work Order #	MQ21E1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV113-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 010	**Work Order #**	MQ21L1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	81.17	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	6.5	ND	21
Carbon tetrachloride	ND	6.5	ND	41
Chlorodifluoromethane	**3.6 J B**	**6.5**	**13 J B**	**23**
Chloroform	**7.8**	**6.5**	**38**	**32**
Dichlorodifluoromethane	ND	6.5	ND	32
1,1-Dichloroethane	ND	6.5	ND	26
1,2-Dichloroethane	ND	6.5	ND	26
cis-1,2-Dichloroethene	**130**	**6.5**	**500**	**26**
trans-1,2-Dichloroethene	ND	6.5	ND	26
1,1-Dichloroethene	ND	6.5	ND	26
Ethylbenzene	ND	6.5	ND	28
Methylene chloride	**3.5 J B**	**16**	**12 J B**	**56**
Methyl tert-butyl ether	ND	32	ND	120
Naphthalene	**12 J**	**16**	**64 J**	**85**
Tetrachloroethene	**2.0 J**	**6.5**	**14 J**	**44**
Toluene	**4.0 J**	**6.5**	**15 J**	**24**
1,2,4-Trichlorobenzene	ND	32	ND	240
1,1,1-Trichloroethane	ND	6.5	ND	35
1,1,2-Trichloroethane	ND	6.5	ND	35
Trichloroethene	**1100**	**3.2**	**5700**	**17**
1,2,3-Trimethylbenzene	ND	6.5	ND	32
1,2,4-Trimethylbenzene	ND	6.5	ND	32
1,3,5-Trimethylbenzene	ND	6.5	ND	32
Vinyl chloride	ND	6.5	ND	17
Xylenes (total)	ND	13	ND	56

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV113-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 010	Work Order #	MQ21L1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV114-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 012	**Work Order #**	MQ21N1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.26 J**	**0.80**	**0.83 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**4.6 B**	**0.80**	**16 B**	**2.8**
Chloroform	**4.3**	**0.80**	**21**	**3.9**
Dichlorodifluoromethane	**1.2**	**0.80**	**6.0**	**4.0**
1,1-Dichloroethane	**0.36 J**	**0.80**	**1.5 J**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	**0.44 J**	**0.80**	**1.7 J**	**3.2**
Ethylbenzene	**2.6**	**0.80**	**11**	**3.5**
Methylene chloride	**1.8 J B**	**2.0**	**6.4 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**3.1**	**2.0**	**16**	**10**
Tetrachloroethene	**4.2**	**0.80**	**28**	**5.4**
Toluene	**1.1**	**0.80**	**4.0**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**48**	**0.80**	**260**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**13**	**0.40**	**72**	**2.1**
1,2,3-Trimethylbenzene	**0.83**	**0.80**	**4.1**	**3.9**
1,2,4-Trimethylbenzene	**2.9**	**0.80**	**14**	**3.9**
1,3,5-Trimethylbenzene	**0.70 J**	**0.80**	**3.5 J**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**19**	**1.6**	**84**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV114-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 012	Work Order #	MQ21N1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV115-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 011	**Work Order #**	MQ21M1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**1.4 B**	**0.80**	**4.8 B**	**2.8**
Chloroform	**0.15 J**	**0.80**	**0.76 J**	**3.9**
Dichlorodifluoromethane	**0.53 J**	**0.80**	**2.6 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**0.30 J**	**0.80**	**1.3 J**	**3.5**
Methylene chloride	**0.99 J B**	**2.0**	**3.4 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**0.70 J**	**2.0**	**3.7 J**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**0.63 J**	**0.80**	**2.4 J**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.33 J**	**0.80**	**1.8 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.96**	**0.40**	**5.2**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	ND	0.80	ND	3.9
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**2.9**	**1.6**	**13**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV115-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 011	**Work Order #**	MQ21M1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV121-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 024	**Work Order #**	MQ2161AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.80	ND	2.6
Carbon tetrachloride	**0.90**	**0.80**	**5.7**	**5.0**
Chlorodifluoromethane	**0.75 J**	**0.80**	**2.6 J**	**2.8**
Chloroform	**8.6**	**0.80**	**42**	**3.9**
Dichlorodifluoromethane	**0.46 J**	**0.80**	**2.3 J**	**4.0**
1,1-Dichloroethane	**0.14 J**	**0.80**	**0.58 J**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**3.6**	**0.80**	**16**	**3.5**
Methylene chloride	**0.72 J B**	**2.0**	**2.5 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**76**	**2.0**	**400**	**10**
Tetrachloroethene	**0.35 J**	**0.80**	**2.4 J**	**5.4**
Toluene	**5.6**	**0.80**	**21**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.33 J**	**0.80**	**1.8 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**31**	**0.40**	**170**	**2.1**
1,2,3-Trimethylbenzene	**6.9**	**0.80**	**34**	**3.9**
1,2,4-Trimethylbenzene	**11**	**0.80**	**55**	**3.9**
1,3,5-Trimethylbenzene	**3.4**	**0.80**	**17**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**19**	**1.6**	**83**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV121-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 024	Work Order #	MQ2161AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV122-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 027	**Work Order #**	MQ2191AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.35 J**	**0.80**	**1.1 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**5.5**	**0.80**	**19**	**2.8**
Chloroform	**0.26 J**	**0.80**	**1.3 J**	**3.9**
Dichlorodifluoromethane	**0.51 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**11**	**0.80**	**47**	**3.5**
Methylene chloride	**1.6 J B**	**2.0**	**5.6 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**66**	**2.0**	**350**	**10**
Tetrachloroethene	**1.1**	**0.80**	**7.2**	**5.4**
Toluene	**12**	**0.80**	**45**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**1.1**	**0.40**	**5.8**	**2.1**
1,2,3-Trimethylbenzene	**6.0**	**0.80**	**29**	**3.9**
1,2,4-Trimethylbenzene	**12**	**0.80**	**59**	**3.9**
1,3,5-Trimethylbenzene	**3.7**	**0.80**	**18**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**58**	**1.6**	**250**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV122-B-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 027	Work Order #	MQ2191AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV123-Z-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 029	**Work Order #**	MQ22C1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	45.45	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	3.6	ND	12
Carbon tetrachloride	ND	3.6	ND	23
Chlorodifluoromethane	**1.4 J**	**3.6**	**4.9 J**	**13**
Chloroform	ND	3.6	ND	18
Dichlorodifluoromethane	ND	3.6	ND	18
1,1-Dichloroethane	ND	3.6	ND	15
1,2-Dichloroethane	ND	3.6	ND	15
cis-1,2-Dichloroethene	ND	3.6	ND	14
trans-1,2-Dichloroethene	ND	3.6	ND	14
1,1-Dichloroethene	ND	3.6	ND	14
Ethylbenzene	**7.0**	**3.6**	**30**	**16**
Methylene chloride	**2.0 J B**	**9.1**	**7.0 J B**	**32**
Methyl tert-butyl ether	ND	18	ND	66
Naphthalene	**49**	**9.1**	**260**	**48**
Tetrachloroethene	ND	3.6	ND	25
Toluene	**270**	**3.6**	**1000**	**14**
1,2,4-Trichlorobenzene	ND	18	ND	130
1,1,1-Trichloroethane	ND	3.6	ND	20
1,1,2-Trichloroethane	ND	3.6	ND	20
Trichloroethene	**3.8**	**1.8**	**21**	**9.8**
1,2,3-Trimethylbenzene	ND	3.6	ND	18
1,2,4-Trimethylbenzene	**6.6**	**3.6**	**33**	**18**
1,3,5-Trimethylbenzene	**1.9 J**	**3.6**	**9.4 J**	**18**
Vinyl chloride	ND	3.6	ND	9.3
Xylenes (total)	**39**	**7.3**	**170**	**32**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV123-Z-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 029	Work Order #	MQ22C1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV124-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 032	**Work Order #**	MQ22F1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**2.0**	**0.80**	**6.4**	**2.6**
Carbon tetrachloride	**0.16 J**	**0.80**	**1.0 J**	**5.0**
Chlorodifluoromethane	**2.1**	**0.80**	**7.4**	**2.8**
Chloroform	**7.9**	**0.80**	**38**	**3.9**
Dichlorodifluoromethane	**0.53 J**	**0.80**	**2.6 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	**0.83**	**0.80**	**3.3**	**3.2**
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	**0.14 J**	**0.80**	**0.54 J**	**3.2**
Ethylbenzene	**3.0**	**0.80**	**13**	**3.5**
Methylene chloride	**0.84 J B**	**2.0**	**2.9 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**25**	**2.0**	**130**	**10**
Tetrachloroethene	**1.3**	**0.80**	**9.0**	**5.4**
Toluene	**8.9**	**0.80**	**33**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**2.3**	**0.40**	**12**	**2.1**
1,2,3-Trimethylbenzene	**1.9**	**0.80**	**9.4**	**3.9**
1,2,4-Trimethylbenzene	**4.4**	**0.80**	**21**	**3.9**
1,3,5-Trimethylbenzene	**1.3**	**0.80**	**6.4**	**3.9**
Vinyl chloride	**16**	**0.80**	**41**	**2.0**
Xylenes (total)	**14**	**1.6**	**62**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV124-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 032	Work Order #	MQ22F1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV125-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 034	**Work Order #**	MQ22H1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.57 J**	**0.80**	**1.8 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**2.3**	**0.80**	**8.2**	**2.8**
Chloroform	**5.9**	**0.80**	**29**	**3.9**
Dichlorodifluoromethane	**0.50 J**	**0.80**	**2.5 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**0.28 J**	**0.80**	**1.2 J**	**3.5**
Methylene chloride	**2.5 B**	**2.0**	**8.5 B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**0.62 J**	**2.0**	**3.3 J**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**2.4**	**0.80**	**9.2**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.52**	**0.40**	**2.8**	**2.1**
1,2,3-Trimethylbenzene	ND	0.80	ND	3.9
1,2,4-Trimethylbenzene	ND	0.80	ND	3.9
1,3,5-Trimethylbenzene	ND	0.80	ND	3.9
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**0.59 J**	**1.6**	**2.6 J**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV125-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 034	Work Order #	MQ22H1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV126-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 023	**Work Order #**	MQ2151AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	172.27	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**27**	**14**	**86**	**44**
Carbon tetrachloride	ND	14	ND	87
Chlorodifluoromethane	**5.6 J**	**14**	**20 J**	**49**
Chloroform	ND	14	ND	67
Dichlorodifluoromethane	ND	14	ND	68
1,1-Dichloroethane	ND	14	ND	56
1,2-Dichloroethane	ND	14	ND	56
cis-1,2-Dichloroethene	**88**	**14**	**350**	**55**
trans-1,2-Dichloroethene	**10 J**	**14**	**41 J**	**55**
1,1-Dichloroethene	**92**	**14**	**360**	**55**
Ethylbenzene	**17**	**14**	**72**	**60**
Methylene chloride	**10 J B**	**34**	**36 J B**	**120**
Methyl tert-butyl ether	ND	69	ND	250
Naphthalene	**47**	**34**	**250**	**180**
Tetrachloroethene	ND	14	ND	93
Toluene	**14**	**14**	**54**	**52**
1,2,4-Trichlorobenzene	ND	69	ND	510
1,1,1-Trichloroethane	ND	14	ND	75
1,1,2-Trichloroethane	ND	14	ND	75
Trichloroethene	**51**	**6.9**	**280**	**37**
1,2,3-Trimethylbenzene	ND	14	ND	68
1,2,4-Trimethylbenzene	**5.8 J**	**14**	**29 J**	**68**
1,3,5-Trimethylbenzene	ND	14	ND	68
Vinyl chloride	**27000 E**	**14**	**68000 E**	**35**
Xylenes (total)	**81**	**28**	**350**	**120**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
E	Estimated result. Result concentration exceeds the calibration range.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV126-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 023	Work Order #	MQ2151AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV126-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 023	**Work Order #**	MQ2152AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/06/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2066141				
Dilution Factor.:	6818.2	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Vinyl chloride	**32000 D**	**550**	**82000 D**	**1400**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

D Result was obtained from the analysis of a dilution.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV127-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 018	**Work Order #**	MQ2101AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	5439.71	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	440	ND	1400
Carbon tetrachloride	ND	440	ND	2700
Chlorodifluoromethane	**320 J B**	**440**	**1100 J B**	**1500**
Chloroform	ND	440	ND	2100
Dichlorodifluoromethane	ND	440	ND	2200
1,1-Dichloroethane	ND	440	ND	1800
1,2-Dichloroethane	ND	440	ND	1800
cis-1,2-Dichloroethene	ND	440	ND	1700
trans-1,2-Dichloroethene	ND	440	ND	1700
1,1-Dichloroethene	ND	440	ND	1700
Ethylbenzene	ND	440	ND	1900
Methylene chloride	**510 J B**	**1100**	**1800 J B**	**3800**
Methyl tert-butyl ether	ND	2200	ND	7800
Naphthalene	**830 J**	**1100**	**4300 J**	**5700**
Tetrachloroethene	ND	440	ND	3000
Toluene	ND	440	ND	1600
1,2,4-Trichlorobenzene	ND	2200	ND	16000
1,1,1-Trichloroethane	ND	440	ND	2400
1,1,2-Trichloroethane	ND	440	ND	2400
Trichloroethene	**46000**	**220**	**240000**	**1200**
1,2,3-Trimethylbenzene	**440**	**440**	**2200**	**2100**
1,2,4-Trimethylbenzene	**820**	**440**	**4000**	**2100**
1,3,5-Trimethylbenzene	**210 J**	**440**	**1000 J**	**2100**
Vinyl chloride	ND	440	ND	1100
Xylenes (total)	**680 J**	**870**	**2900 J**	**3800**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	93	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV127-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 018	Work Order #	MQ2101AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV128-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 020	**Work Order #**	MQ2121AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	45.45	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**6.2**	**3.6**	**20**	**12**
Carbon tetrachloride	ND	3.6	ND	23
Chlorodifluoromethane	**2.9 J**	**3.6**	**10 J**	**13**
Chloroform	**1.2 J**	**3.6**	**5.9 J**	**18**
Dichlorodifluoromethane	ND	3.6	ND	18
1,1-Dichloroethane	**0.64 J**	**3.6**	**2.6 J**	**15**
1,2-Dichloroethane	ND	3.6	ND	15
cis-1,2-Dichloroethene	**12**	**3.6**	**46**	**14**
trans-1,2-Dichloroethene	**2.5 J**	**3.6**	**9.8 J**	**14**
1,1-Dichloroethene	ND	3.6	ND	14
Ethylbenzene	**54**	**3.6**	**240**	**16**
Methylene chloride	**7.1 J B**	**9.1**	**25 J B**	**32**
Methyl tert-butyl ether	ND	18	ND	66
Naphthalene	**49**	**9.1**	**260**	**48**
Tetrachloroethene	**19**	**3.6**	**130**	**25**
Toluene	**33**	**3.6**	**120**	**14**
1,2,4-Trichlorobenzene	ND	18	ND	130
1,1,1-Trichloroethane	ND	3.6	ND	20
1,1,2-Trichloroethane	ND	3.6	ND	20
Trichloroethene	**3.5**	**1.8**	**19**	**9.8**
1,2,3-Trimethylbenzene	**5.3**	**3.6**	**26**	**18**
1,2,4-Trimethylbenzene	**14**	**3.6**	**67**	**18**
1,3,5-Trimethylbenzene	**4.8**	**3.6**	**24**	**18**
Vinyl chloride	**1.8 J**	**3.6**	**4.5 J**	**9.3**
Xylenes (total)	**360**	**7.3**	**1500**	**32**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	94	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV128-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 020	Work Order #	MQ2121AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV129-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 003	**Work Order #**	MQ21D1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.57 J**	**0.80**	**1.8 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**0.82 B**	**0.80**	**2.9 B**	**2.8**
Chloroform	**1.5**	**0.80**	**7.1**	**3.9**
Dichlorodifluoromethane	**0.41 J**	**0.80**	**2.0 J**	**4.0**
1,1-Dichloroethane	**10**	**0.80**	**42**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	**2.1**	**0.80**	**8.5**	**3.2**
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	**34**	**0.80**	**130**	**3.2**
Ethylbenzene	**2.1**	**0.80**	**8.9**	**3.5**
Methylene chloride	**0.63 J B**	**2.0**	**2.2 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**16**	**2.0**	**86**	**10**
Tetrachloroethene	ND	0.80	ND	5.4
Toluene	**3.2**	**0.80**	**12**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.26 J**	**0.80**	**1.4 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**50**	**0.40**	**270**	**2.1**
1,2,3-Trimethylbenzene	**2.8**	**0.80**	**14**	**3.9**
1,2,4-Trimethylbenzene	**5.2**	**0.80**	**25**	**3.9**
1,3,5-Trimethylbenzene	**1.5**	**0.80**	**7.2**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**10**	**1.6**	**45**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV129-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 003	Work Order #	MQ21D1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV130-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 001	**Work Order #**	MQ21A1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**7.0**	**0.80**	**23**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**0.65 J B**	**0.80**	**2.3 J B**	**2.8**
Chloroform	**24**	**0.80**	**110**	**3.9**
Dichlorodifluoromethane	**0.80**	**0.80**	**4.0**	**4.0**
1,1-Dichloroethane	**7.8**	**0.80**	**31**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	**0.32 J**	**0.80**	**1.3 J**	**3.2**
trans-1,2-Dichloroethene	**0.30 J**	**0.80**	**1.2 J**	**3.2**
1,1-Dichloroethene	**24**	**0.80**	**97**	**3.2**
Ethylbenzene	**3.8**	**0.80**	**16**	**3.5**
Methylene chloride	**4.9 B**	**2.0**	**17 B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**82**	**2.0**	**430**	**10**
Tetrachloroethene	**0.83**	**0.80**	**5.6**	**5.4**
Toluene	**13**	**0.80**	**47**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**140**	**0.80**	**790**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**97**	**0.40**	**520**	**2.1**
1,2,3-Trimethylbenzene	**7.6**	**0.80**	**38**	**3.9**
1,2,4-Trimethylbenzene	**19**	**0.80**	**94**	**3.9**
1,3,5-Trimethylbenzene	**5.2**	**0.80**	**26**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**21**	**1.6**	**91**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV130-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 001	Work Order #	MQ21A1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV131-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 002	**Work Order #**	MQ21C1AA	**Matrix.....:**	AIR
Date Sampled....:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**2.0**	**0.80**	**6.3**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**1.9 B**	**0.80**	**6.8 B**	**2.8**
Chloroform	**0.44 J**	**0.80**	**2.1 J**	**3.9**
Dichlorodifluoromethane	**0.52 J**	**0.80**	**2.6 J**	**4.0**
1,1-Dichloroethane	**1.1**	**0.80**	**4.5**	**3.2**
1,2-Dichloroethane	**0.43 J**	**0.80**	**1.7 J**	**3.2**
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	**0.89**	**0.80**	**3.5**	**3.2**
1,1-Dichloroethene	**1.5**	**0.80**	**5.8**	**3.2**
Ethylbenzene	**32**	**0.80**	**140**	**3.5**
Methylene chloride	**5.5 B**	**2.0**	**19 B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**34**	**2.0**	**180**	**10**
Tetrachloroethene	**0.26 J**	**0.80**	**1.8 J**	**5.4**
Toluene	**59**	**0.80**	**220**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**2.2**	**0.80**	**12**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.17 J**	**0.40**	**0.92 J**	**2.1**
1,2,3-Trimethylbenzene	**6.3**	**0.80**	**31**	**3.9**
1,2,4-Trimethylbenzene	**20**	**0.80**	**99**	**3.9**
1,3,5-Trimethylbenzene	**7.0**	**0.80**	**34**	**3.9**
Vinyl chloride	**0.41 J**	**0.80**	**1.1 J**	**2.0**
Xylenes (total)	**170**	**1.6**	**750**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV131-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 002	**Work Order #**	MQ21C1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV132-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 017	**Work Order #**	MQ21W1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**1.1**	**0.80**	**3.6**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**5.3**	**0.80**	**19**	**2.8**
Chloroform	**0.59 J**	**0.80**	**2.9 J**	**3.9**
Dichlorodifluoromethane	**0.65 J**	**0.80**	**3.2 J**	**4.0**
1,1-Dichloroethane	**0.18 J**	**0.80**	**0.73 J**	**3.2**
1,2-Dichloroethane	**0.23 J**	**0.80**	**0.94 J**	**3.2**
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	**0.51 J**	**0.80**	**2.0 J**	**3.2**
1,1-Dichloroethene	**0.46 J**	**0.80**	**1.8 J**	**3.2**
Ethylbenzene	**5.5**	**0.80**	**24**	**3.5**
Methylene chloride	**1.2 J B**	**2.0**	**4.2 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**77**	**2.0**	**410**	**10**
Tetrachloroethene	**0.29 J**	**0.80**	**1.9 J**	**5.4**
Toluene	**8.0**	**0.80**	**30**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.34 J**	**0.80**	**1.8 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.66**	**0.40**	**3.5**	**2.1**
1,2,3-Trimethylbenzene	**8.2**	**0.80**	**40**	**3.9**
1,2,4-Trimethylbenzene	**14**	**0.80**	**68**	**3.9**
1,3,5-Trimethylbenzene	**4.1**	**0.80**	**20**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**30**	**1.6**	**130**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV132-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 017	Work Order #	MQ21W1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV133-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 014	**Work Order #**	MQ21Q1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	805.6	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	64	ND	210
Carbon tetrachloride	ND	64	ND	410
Chlorodifluoromethane	**420 B**	**64**	**1500 B**	**230**
Chloroform	**17 J**	**64**	**83 J**	**310**
Dichlorodifluoromethane	**26 J**	**64**	**130 J**	**320**
1,1-Dichloroethane	ND	64	ND	260
1,2-Dichloroethane	ND	64	ND	260
cis-1,2-Dichloroethene	ND	64	ND	260
trans-1,2-Dichloroethene	ND	64	ND	260
1,1-Dichloroethene	ND	64	ND	260
Ethylbenzene	ND	64	ND	280
Methylene chloride	**770 B**	**160**	**2700 B**	**560**
Methyl tert-butyl ether	ND	320	ND	1200
Naphthalene	**420**	**160**	**2200**	**840**
Tetrachloroethene	**330**	**64**	**2200**	**440**
Toluene	**49 J**	**64**	**180 J**	**240**
1,2,4-Trichlorobenzene	ND	320	ND	2400
1,1,1-Trichloroethane	ND	64	ND	350
1,1,2-Trichloroethane	ND	64	ND	350
Trichloroethene	**18000 E**	**32**	**99000 E**	**170**
1,2,3-Trimethylbenzene	ND	64	ND	320
1,2,4-Trimethylbenzene	ND	64	ND	320
1,3,5-Trimethylbenzene	ND	64	ND	320
Vinyl chloride	ND	64	ND	160
Xylenes (total)	**40 J**	**130**	**170 J**	**560**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
E	Estimated result. Result concentration exceeds the calibration range.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV133-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 014	**Work Order #**	MQ2IQ1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV133-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 014	**Work Order #**	MQ21Q2AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	4494.7	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Trichloroethene	**9300 D**	**180**	**50000 D**	**970**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

D	Result was obtained from the analysis of a dilution.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV134-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 013	**Work Order #**	MQ21P1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.52 J**	**0.80**	**1.6 J**	**2.6**
Carbon tetrachloride	ND	0.80	ND	5.0
Chlorodifluoromethane	**1.3 B**	**0.80**	**4.6 B**	**2.8**
Chloroform	**3.3**	**0.80**	**16**	**3.9**
Dichlorodifluoromethane	**0.49 J**	**0.80**	**2.4 J**	**4.0**
1,1-Dichloroethane	**0.72 J**	**0.80**	**2.9 J**	**3.2**
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**4.1**	**0.80**	**18**	**3.5**
Methylene chloride	**0.92 J B**	**2.0**	**3.2 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**46**	**2.0**	**240**	**10**
Tetrachloroethene	**0.76 J**	**0.80**	**5.2 J**	**5.4**
Toluene	**4.8**	**0.80**	**18**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	**0.39 J**	**0.80**	**2.1 J**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	ND	0.40	ND	2.1
1,2,3-Trimethylbenzene	**6.8**	**0.80**	**34**	**3.9**
1,2,4-Trimethylbenzene	**12**	**0.80**	**57**	**3.9**
1,3,5-Trimethylbenzene	**4.0**	**0.80**	**19**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**21**	**1.6**	**92**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV134-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 013	Work Order #	MQ21P1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SV135-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 008	**Work Order #**	MQ21J1AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	166	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	13	ND	42
Carbon tetrachloride	ND	13	ND	84
Chlorodifluoromethane	ND	13	ND	47
Chloroform	**2.8 J**	**13**	**14 J**	**65**
Dichlorodifluoromethane	ND	13	ND	66
1,1-Dichloroethane	ND	13	ND	54
1,2-Dichloroethane	ND	13	ND	54
cis-1,2-Dichloroethene	**55**	**13**	**220**	**53**
trans-1,2-Dichloroethene	**3.7 J**	**13**	**15 J**	**53**
1,1-Dichloroethene	ND	13	ND	53
Ethylbenzene	**9.2 J**	**13**	**40 J**	**58**
Methylene chloride	**6.7 J B**	**33**	**23 J B**	**120**
Methyl tert-butyl ether	ND	66	ND	240
Naphthalene	**98**	**33**	**510**	**170**
Tetrachloroethene	**3.2 J**	**13**	**22 J**	**90**
Toluene	**13**	**13**	**49**	**50**
1,2,4-Trichlorobenzene	ND	66	ND	490
1,1,1-Trichloroethane	ND	13	ND	72
1,1,2-Trichloroethane	ND	13	ND	72
Trichloroethene	**2000**	**6.6**	**11000**	**36**
1,2,3-Trimethylbenzene	ND	13	ND	65
1,2,4-Trimethylbenzene	**17**	**13**	**81**	**65**
1,3,5-Trimethylbenzene	**5.5 J**	**13**	**27 J**	**65**
Vinyl chloride	ND	13	ND	34
Xylenes (total)	**49**	**27**	**210**	**120**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SV135-C-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 008	Work Order #	MQ21J1AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SVDUP-1-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 019	**Work Order #**	MQ2111AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/02/2012	**Analysis Date...**	03/03/2012		
Prep Batch #.....:	2065033				
Dilution Factor.:	103.44	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	8.3	ND	26
Carbon tetrachloride	ND	8.3	ND	52
Chlorodifluoromethane	**4.3 J B**	**8.3**	**15 J B**	**29**
Chloroform	**19**	**8.3**	**94**	**40**
Dichlorodifluoromethane	ND	8.3	ND	41
1,1-Dichloroethane	**31**	**8.3**	**120**	**33**
1,2-Dichloroethane	ND	8.3	ND	33
cis-1,2-Dichloroethene	**85**	**8.3**	**340**	**33**
trans-1,2-Dichloroethene	**9.5**	**8.3**	**38**	**33**
1,1-Dichloroethene	**3.1 J**	**8.3**	**12 J**	**33**
Ethylbenzene	**100**	**8.3**	**460**	**36**
Methylene chloride	**5.9 J B**	**21**	**20 J B**	**72**
Methyl tert-butyl ether	ND	41	ND	150
Naphthalene	**150**	**21**	**770**	**110**
Tetrachloroethene	**5.8 J**	**8.3**	**40 J**	**56**
Toluene	**7.8 J**	**8.3**	**29 J**	**31**
1,2,4-Trichlorobenzene	ND	41	ND	310
1,1,1-Trichloroethane	**3.2 J**	**8.3**	**17 J**	**45**
1,1,2-Trichloroethane	ND	8.3	ND	45
Trichloroethene	**910**	**4.1**	**4900**	**22**
1,2,3-Trimethylbenzene	ND	8.3	ND	41
1,2,4-Trimethylbenzene	**13**	**8.3**	**64**	**41**
1,3,5-Trimethylbenzene	**3.9 J**	**8.3**	**19 J**	**41**
Vinyl chloride	ND	8.3	ND	21
Xylenes (total)	**710**	**17**	**3100**	**72**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	94	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SVDUP-1-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 019	Work Order #	MQ2111AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: SVDUP-2-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 021	**Work Order #**	MQ2131AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.42 J**	**0.80**	**1.3 J**	**2.6**
Carbon tetrachloride	**0.24 J**	**0.80**	**1.5 J**	**5.0**
Chlorodifluoromethane	**6.1**	**0.80**	**22**	**2.8**
Chloroform	**0.56 J**	**0.80**	**2.7 J**	**3.9**
Dichlorodifluoromethane	**0.58 J**	**0.80**	**2.9 J**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.2
1,2-Dichloroethane	ND	0.80	ND	3.2
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
Ethylbenzene	**1.8**	**0.80**	**7.8**	**3.5**
Methylene chloride	**1.2 J B**	**2.0**	**4.1 J B**	**6.9**
Methyl tert-butyl ether	ND	4.0	ND	14
Naphthalene	**38**	**2.0**	**200**	**10**
Tetrachloroethene	**0.18 J**	**0.80**	**1.2 J**	**5.4**
Toluene	**4.8**	**0.80**	**18**	**3.0**
1,2,4-Trichlorobenzene	ND	4.0	ND	30
1,1,1-Trichloroethane	ND	0.80	ND	4.4
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**0.15 J**	**0.40**	**0.79 J**	**2.1**
1,2,3-Trimethylbenzene	**1.6**	**0.80**	**8.0**	**3.9**
1,2,4-Trimethylbenzene	**3.9**	**0.80**	**19**	**3.9**
1,3,5-Trimethylbenzene	**0.92**	**0.80**	**4.5**	**3.9**
Vinyl chloride	ND	0.80	ND	2.0
Xylenes (total)	**9.2**	**1.6**	**40**	**6.9**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: SVDUP-2-12

GC/MS Volatiles

Lot-Sample #	H2B230466 - 021	Work Order #	MQ2131AA	Matrix.....:	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Appendix C

Support Documentation

HOLDTIME

SDG H2B230466

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	SV100-B-12	H2B230466026	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV044-C-12	H2B230466006	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10
OV	UG/M3	SV113-C-12	H2B230466010	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10
OV	UG/M3	SV112-C-12	H2B230466004	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10
OV	UG/M3	SV111-C-12	H2B230466015	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV105-Z-12	H2B230466028	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV104-C-12	H2B230466005	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10
OV	UG/M3	SV115-C-12	H2B230466011	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV101-B-12	H2B230466025	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV121-B-12	H2B230466024	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV091-C-12	H2B230466033	NM	2/21/2012	3/5/2012	3/6/2012	13	1	14
OV	UG/M3	SV088-C-12	H2B230466009	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10
OV	UG/M3	SV063-B-12	H2B230466022	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV060-C-12	H2B230466016	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV057-B-12	H2B230466007	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	SV050-C-12	H2B230466030	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV103-C-12	H2B230466031	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV127-C-12	H2B230466018	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV134-C-12	H2B230466013	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV133-C-12	H2B230466014	NM	2/21/2012	3/5/2012	3/6/2012	13	1	14
OV	UG/M3	SV133-C-12	H2B230466014	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV132-C-12	H2B230466017	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV131-C-12	H2B230466002	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV130-C-12	H2B230466001	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10
OV	UG/M3	SV114-C-12	H2B230466012	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	SV128-C-12	H2B230466020	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV135-C-12	H2B230466008	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10
OV	UG/M3	SV126-C-12	H2B230466023	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14
OV	UG/M3	SV126-C-12	H2B230466023	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV125-C-12	H2B230466034	NM	2/21/2012	3/5/2012	3/6/2012	13	1	14
OV	UG/M3	SV124-C-12	H2B230466032	NM	2/21/2012	3/5/2012	3/6/2012	13	1	14
OV	UG/M3	SV123-Z-12	H2B230466029	NM	2/21/2012	3/5/2012	3/5/2012	13	0	13
OV	UG/M3	SV122-B-12	H2B230466027	NM	2/21/2012	3/5/2012	3/6/2012	13	1	14

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	SV129-C-12	H2B230466003	NM	2/21/2012	3/2/2012	3/2/2012	10	0	10

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H28230466

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	**of** ___ **COCs**
Company: Tetra Tech	**Phone:** 770-413-0965		
Address: 2171 W Park Ct Ste E	**Site Contact:**		
City/State/Zip Stone MTN. GA 30087	**TAL Contact:** 770 596-0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name:	**Analysis Turnaround Time**		
Site/location: MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-130-C-12	2/21/12	1031	1236	-28.9	0	K508	LA7118	X											
SV-131-C-12		1035	1237	-28.9	1	K441	L-5161	X											
SV-129-C-12		1041	1238	-28.9	1	8964	L-5170	X											
SV-112-C-12		1137	1520	-28.9	0	K262	L-5159	X											
SV-104-C-12		1054	1246	-28.9	0	K346	L-A7166	X											
SV-044-C-12	↓	1104	1248	-28.8	0	K505	L-5108	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

NO CUSTODY SEALS
RECEIVED AT AMBIENT TEMP 21°C
DKD 2-23-12
10 BOXES FED EX # 7932-5888-2503

36 CANS / 30 FLOWS

Special Instructions/QC Requirements & Comments:

Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2-23-12 09:40
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H26239466

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770-413-0965		
Address: 2171 W Park Ct Ste E	Site Contact:		
City/State/Zip Stone MTN, GA 30087	TAL Contact: 770 596 0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name:	**Analysis Turnaround Time**		
Site/location:	Standard (Specify)		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-057-B-12	2/2/12	1107	1249	-28.9	0	K325	L-A7117	X											
SV-B5-C-12		1111	1250	-28.9	0	K384	L-A7119	X											
SV-088-C-12		1113	1251	-28.9	0	K147	L-5179	X											
SV-113-C-12		1118	1252	-28.9	0	K226	L-A7115	X											
SV-115-C-12		1130	1253	-28.9	1	K376	L-8176	X											
SV-114-C-12		1229	1454	-28.7	0	K511	8195	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient		
Start				
Stop				

Pressure (inches of Hg)	Interior	Ambient		
Start				
Stop				

Special Instructions/QC Requirements & Comments:

Contracted Analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2-23-12 09:40
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2b2307466

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770-413 0965		
Address: 2171 W Park Ct Ste E	Site Contact:		
City/State/Zip Stone Mtn GA 30087	TAL Contact: 770 596 0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name: MDC IA-SV 2012	**Analysis Turnaround Time**		
Site/location: Middle River, MD	Standard (Specify)		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-134-C-12	2/2/12	1158	1458	-28.9	0	K58	L-5187	X											
SV-133-C-12		1151	1459	-28.7	0	K479	L-A713	X											
SV-111-C-12		1153	1500	-28.9	0	K507	L-3831	X											
SV-060-C-12		1205	1503	-28.9	0	K498	L-5175	X											
SV-132-C-12		1209	1507	-30	0	K341	SL-1209	X											
SV-127-C-12		1218	1511	-28.8	0	K271	L-5140	X											

Sampled by : RS

Temperature (Fahrenheit)

	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)

	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by:	2-23-12 09:40
Relinquished by:	Date/Time:	Received by:	

Lab Use Only: Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B230166

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Seewalds	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770 413 0965		
Address: 2171 W Park Ct Ste E	Site Contact:		
City/State/Zip Stone Mountain, GA 30087	TAL Contact: 770 596-0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name: 2012 MTRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River, MD	Standard (Specify)		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-DUP-1-12	2/21/12	—	—	-28.9	0	L-5165	K452	X											
SV-128-C-12		1214	1512	-28.8	0	K263	L-5129												
SV-DUP-2-12		—	—	-30	0	K187	L-8181												
SV-063-B-12		1150	1500	-30	0	K338	L-8196												
SV-126-C-12		1201	1520	-30	0	K181	L-5163												
SV-121-B-12		1445	1600	-30	0	K382	L-5195												

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2-23-12 09:40
Relinquished by:	Date/Time:	Received by:

Lab use only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H20230466

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Saucedo	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770 413 0965		
Address: 2171 W Park Ct Ste E	Site Contact:		
City/State/Zip Stone Mountain GA 30087	TAL Contact: 770 596 0959		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name: 2012 MBC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River, MD	Standard (Specify) ✓		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-101-B-12	2/21/12	1040	1223	-30	0	K403	L-5132	X											
SV-100-B-12		1045	1230	-30	0	K495	L-5132												
SV-122-B-12		1050	1234	-30	0	K477	L-5142												
~~SV-105-Z-12~~		~~1100~~	~~1238~~	~~-30~~	~~0~~	~~L-5112~~	Error												
SV-105-Z-12		1100	1238	-30	0	K469	L-5112												
SV-123-Z-12		1101	1240	-30	0	K479	L-5184												

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by: Paul Shepherd
Samples Relinquished by: Paul Shepherd	Date/Time: 2/22/12 1620	Received by: Bryan Cannon 2-23-12 09:40
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

L-128238466

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: 770 413 0965		
Address: 2171 W Park Ct Ste E	Site Contact: 770 596 0959		
City/State/Zip: Stone Mtn, GA 30087	TAL Contact:		
Phone: 770 413 0965 ext 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River, MD	Standard (Specify) ✓		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SV-050-C-12	2/21/12	1107	1525	-30	0	K296	SL-1235	X											
SV-103-C-12		1125	1508	-30	0	K432	L-5120												
SV-124-C-12		1135	1511	-30	0	K183	L-5156												
SV-091C-12		1140	1513	-30	0	K418	L-8177												
SV-125-C-12		1200	1519	-30	0	K379	L-8189												
~~SV-063-B-12~~																			

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted analyte list

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1600	Received by: 2-23-12 09:40
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: 1-12B2291466

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)		✓		☑ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	4A 1A, SV-130-C-12, SV-131-C-12, SV-129-C-12, SV-112-C-12, SV-104-C-12, SV-044-C-12, SV-057-B-12, SV-85-C-12, SV-088-C-12, SV-113-C-12, SV-115-C-12, SV-114-C-12, SV-134-C-12, SV-133-C-12, SV-111-C-12, SV-060-C-12, SV-132-C-12, SV-127-C-12, SV-DUP-1-12, SV-128-C-12 ALL SAMPLES LISTED ABOVE ARE MISSING THE -12 AT THE END OF ID'S ON LABEL
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)			✓	☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____ ☐ 2c Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ 3a Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?		✓		☑ 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	✓			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?		✓		☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?		✓		☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	✓			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?	✓				

Quote #: 83292 PM Instructions: _____

Sample Receiving Associate: _____ Date: 2-23-12

QA026R22.doc, 012811

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2B230466*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (- in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
kn 2/26/12	NA	29.11	MQ21A	LA7118 ✓	+0.4	–												9706B
			MQ21C	L5161 ✓	+0.4	–												9695
			MQ21D	L5170 ✓	+0.4	–												9700B
			MQ21E	L5159 ✓	+0.3	–												9697B
			MQ21F	LA7166 ✓	+0.7	–												9706B
			MQ21G	L5108 ✓	+0.2	–												9699B
			MQ21H	LA7117 ✓	+0.2	–												9706B
			MQ21J	LA7119 ✓	+0.1	–	kn 2/27/12	X2	29.17	-0.5	+33.7	+27.5						9697B
			MQ21K	L5179 ✓	+0.2	–	↓	X1	↓	-0.7	+32.6							9695
			MQ21L	LA7115 ✓	+0.1	–	↓	X2	↓	-0.8	+31.5	+28.1						9697
			MQ21M	L8176 ✓	+0.2	–												9706B
			MQ21N	L8195 ✓	+0.2	–												9699B
			MQ21P	L5187 ✓	+0.2	–			29.17	kn 2/27/12								↓
			MQ21Q	LA7113 ✓	+0.2	–	kn 2/27/12	S	-0.6	+0.6	+6.3				04402	20	+1.9	9695
			MQ21R	L3831 ✓	+0.2	–												9699B
			MQ21T	L5175 ✓	+0.3	–	kn 2/27/12	X1	29.17	-0.4	+30.9							
			MQ21W	SL1229 ✓	+0.2	–												
			MQ210	L5140 ✓	+0.3	–	kn 2/27/12	S	29.17	-0.4	+6.3				12624	5	+0.8	
			MQ211	L5165 ✓	+0.3	–	kn 2/27/12	X1	29.17	-0.4	+32.5							
			MQ212	L5129 ✓	+0.2	–												↓
↓	↓	↓	MQ213	L8181 ✓	+0.3	–												9695

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2B230466*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
KM 2/26/12	NA	29.11	MQ214	L8196 ✓	+0.3	–												9695
			MQ215	L5163 ✓	+0.5	–	KM 2/27/12	I	29.17	0	+40.0	⊛ +28.9	⊛ +37.5					9700B
			MQ216	L5195 ✓	-0.2	–	HLee 3/6/12	I	29.31	-2.4	+33.7	MQ215AA	can		L5163			9695
			MQ217	SL1232 ✓	+0.1	–												
			MQ218	L5132 ✓	+0.2	–												
			MQ219	L5142 ✓	+0.3	–												
			MQ22A	L5112 ✓	+0.4	–												
			MQ22C	L5184 ✓	+0.2	–												9697B
			MQ22D	SL1233 ✓	+0.3	–												9695
			MQ22E	L5120 ✓	+0.4	–												9700B
			MQ22F	L5156 ✓	+0.5	–												+
			MQ22G	L8177 ✓	+0.5	–												9695
			MQ22H	L8189 ✓	+0.5	–												9706B

⊛ d_p = 29.26
KM 3/5/12

PROJECT NARRATIVE
H2B230466

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

The container labels for the samples listed on pages 1-3 of the chain of custodies and Samples SV-Dup-1-12 and SV-128-C-12 did not match the associated chain of custody documentation. The -12 at the end of the sample ID was missing from the sample container labels.

Custody seals were not present.

All sample IDs were revised to remove the dash (-) after SV, per client request.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

The concentration of trichloroethene in sample SV-133-C-12 and the concentration of vinyl chloride in sample SV-126-C-12 exceeded the calibration level of the instrument. The samples were analyzed at a dilution to bring the concentrations of the compounds into the instrument calibration range. The results for both analyses are reported in order to provide the lowest possible reporting limits.

Sample SV-101-B-12 was reported with elevated reporting limits for all analytes due to the presence of non-target compounds. A dilution was necessary prior to analysis, and the reporting limits were adjusted accordingly.

Quantitation for 1,2,3-trimethylbenzene was previously based on a one-point calibration standard at the reporting limit.

The quantitation for 1,2,3-trimethylbenzene was based on a minimum 5-point calibration curve. The following interim criteria are being used until the method performance for this additional analyte is fully established:

- The initial calibration acceptance criteria is set at 40% RSD. Any compound greater than 40% RSD was changed to a linear or quadratic model with an r2 ≥ 0.990 acceptance criteria.

PROJECT NARRATIVE
H2B230466

- There are no criteria for second source standard verification % D. The second source standard was independently prepared from the same parent mixture (as the primary source).
- The continuing calibration verification criteria are set at 50% D. Any compound greater than 50% D must pass the LCS criteria.
- The LCS recovery criteria are set at 20% to 180%.
- A method detection limit study has not been performed. The detection of the analyte is demonstrated by detection of the calibration standard at the reporting limit. No estimated results are reported below the reporting limit.

SAMPLE SUMMARY

H2B230466

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MQ21A	001	SV130-C-12	02/21/12	12:36
MQ21C	002	SV131-C-12	02/21/12	12:37
MQ21D	003	SV129-C-12	02/21/12	12:38
MQ21E	004	SV112-C-12	02/21/12	15:20
MQ21F	005	SV104-C-12	02/21/12	12:46
MQ21G	006	SV044-C-12	02/21/12	12:48
MQ21H	007	SV057-B-12	02/21/12	12:49
MQ21J	008	SV135-C-12	02/21/12	12:50
MQ21K	009	SV088-C-12	02/21/12	12:51
MQ21L	010	SV113-C-12	02/21/12	12:52
MQ21M	011	SV115-C-12	02/21/12	12:53
MQ21N	012	SV114-C-12	02/21/12	14:54
MQ21P	013	SV134-C-12	02/21/12	14:58
MQ21Q	014	SV133-C-12	02/21/12	14:59
MQ21R	015	SV111-C-12	02/21/12	15:00
MQ21T	016	SV060-C-12	02/21/12	15:03
MQ21W	017	SV132-C-12	02/21/12	15:07
MQ210	018	SV127-C-12	02/21/12	15:11
MQ211	019	SVDUP-1-12	02/21/12	
MQ212	020	SV128-C-12	02/21/12	15:12
MQ213	021	SVDUP-2-12	02/21/12	
MQ214	022	SV063-B-12	02/21/12	15:00
MQ215	023	SV126-C-12	02/21/12	15:20
MQ216	024	SV121-B-12	02/21/12	16:00
MQ217	025	SV101-B-12	02/21/12	12:23
MQ218	026	SV100-B-12	02/21/12	12:30
MQ219	027	SV122-B-12	02/21/12	12:34
MQ22A	028	SV105-Z-12	02/21/12	12:38
MQ22C	029	SV123-Z-12	02/21/12	12:40
MQ22D	030	SV050-C-12	02/21/12	15:25
MQ22E	031	SV103-C-12	02/21/12	15:08
MQ22F	032	SV124-C-12	02/21/12	15:11
MQ22G	033	SV091-C-12	02/21/12	15:13
MQ22H	034	SV125-C-12	02/21/12	15:19

(Continued on next page)

SAMPLE SUMMARY

H2B230466

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/1/12	Instrument::	ME	ICAL Batch/Scan Name:	E030112I	Scanned ☐

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad		✓			✓
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓		Acetone = 39%, Dodecane = 33%	✓
11. If curves were used, is correlation coefficient ≥0.990?		✓			✓
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.		✓			✓
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).		✓			✓
14. Is the "Y" intercept less than the RL for each curve?		✓			✓
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?		✓		3/6/12	NA
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			✓
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3-, 1,4-, and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)			✓	Acetone, 123TCLB6	✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 3/2/12	2nd Level Reviewer :	Date: 3/5/12
Comments: ~~CH2Cl2~~ Upper limit is good for the following compounds CH2Cl2, O.K for low lower R.L. NYstate.		Comments:	

Invalid for Acetone, 123TCLB6

120301

TA-Knoxville
TO-14 Autosampler Log

Sample	Position/Volume	Date	Time
BFB	16 - 100 mL	3/1/2012	12:13:15 PM
blk	16 - 501 mL	3/1/2012	12:52:21 PM
MDL	1 - 51 mL	3/1/2012	1:51:59 PM
ICAL1	1 - 101 mL	3/1/2012	2:55:30 PM
ICAL02	1 - 201 mL	3/1/2012	3:50:07 PM
ICAL03	2 - 201 mL	3/1/2012	4:45:20 PM
ICAL04	3 - 201 mL	3/1/2012	5:40:10 PM
ICAL05	4 - 202 mL	3/1/2012	6:34:42 PM
ICAL06	5 - 200 mL	3/1/2012	7:29:12 PM
ICAL07	6 - 200 mL	3/1/2012	8:26:02 PM
ICAL08	7 - 201 mL	3/1/2012	9:23:17 PM
ICAL09	8 - 201 mL	3/1/2012	10:23:22 PM
BLK	16 - 200 mL	3/1/2012	11:20:35 PM
ICV	9 - 100 mL	3/2/2012	12:18:48 AM
LCS	9 - 201 mL	3/2/2012	1:20:23 AM
BLK	16 - 500 mL	3/2/2012	7:36:06 AM
blk10	10 - 501 mL	3/2/2012	8:40:45 AM

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: [illegible] Qtims Batch: ICAL

Date: 3/1/12 ICAL Batch: ED301121 Target Batch: NA IS #1 Area: 232168

Surr/IS ID & Vol.: V4254 40mL System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☒ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1213	Y	Tune	EB5BC01	—	16	100	1	
1252	N	BLK	BLK1	—	16	500		
1352	N	MOLV	MOLCHK	CX-2331	1	50		
1455	Y	ICAL1 3/1/12 3/1/12	~~EICC01~~ EICC011		1	100		
1550		2	EICC012		1	200		
1645		3	3	~~CX-2330~~ CX-2330	2			3/1/12
1740		4	4	CX-2329	3			
1834		5	5	CX-2328	4			
1929		6	6	CX-2327	5			
2026		7	7	CX-2326	6			
2123		8	8	CX-2325	7			
2223		9	9	CX-2324	8			
2320	N	BLK2	BLK2	—	16	200		
0018	N	ICV	EICVC01	CX-2321	9	100		
0120	N	LCS	ELCSC01	↓	9	200		
0736	N	BLK	BLK3	—	16	500		
0840	N	Lot 9754	9754	6683	10			
Aborted	N	Lot 9750	6508	→	11			STD can 3/2/12
		Lot 9747	6520	→	12			
			92021	→	13			
			7489	→	14			
			12521	→	15			
		Lot 9751	1369	→	STD			STD CAN (POS1)
		Lot 9752	6383	→	2			

3/1/12

3/2/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [illegible] Date: 3/2/12

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Inst: ME

Analyst: [signature] Qtims Batch: _____

Date: 3/2/12 ICAL Batch: E030212 Target Batch: _____ IS #1 Area: 327389

Surr/IS ID & Vol.: V4254 40mL System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☐ Daily _____

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1004	Y	Tune	E030212B02	—	16	100	1	
1037	Y	CCV	E030212C02	CX-2321	15	100	1	2nd Source

3/2/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/2/12

Data File: /chem/gcms/me.i/E030112I.b/ebfbo01.d

Date : 01-MAR-2012 12:13

Client ID: BFB

Instrument: me.i

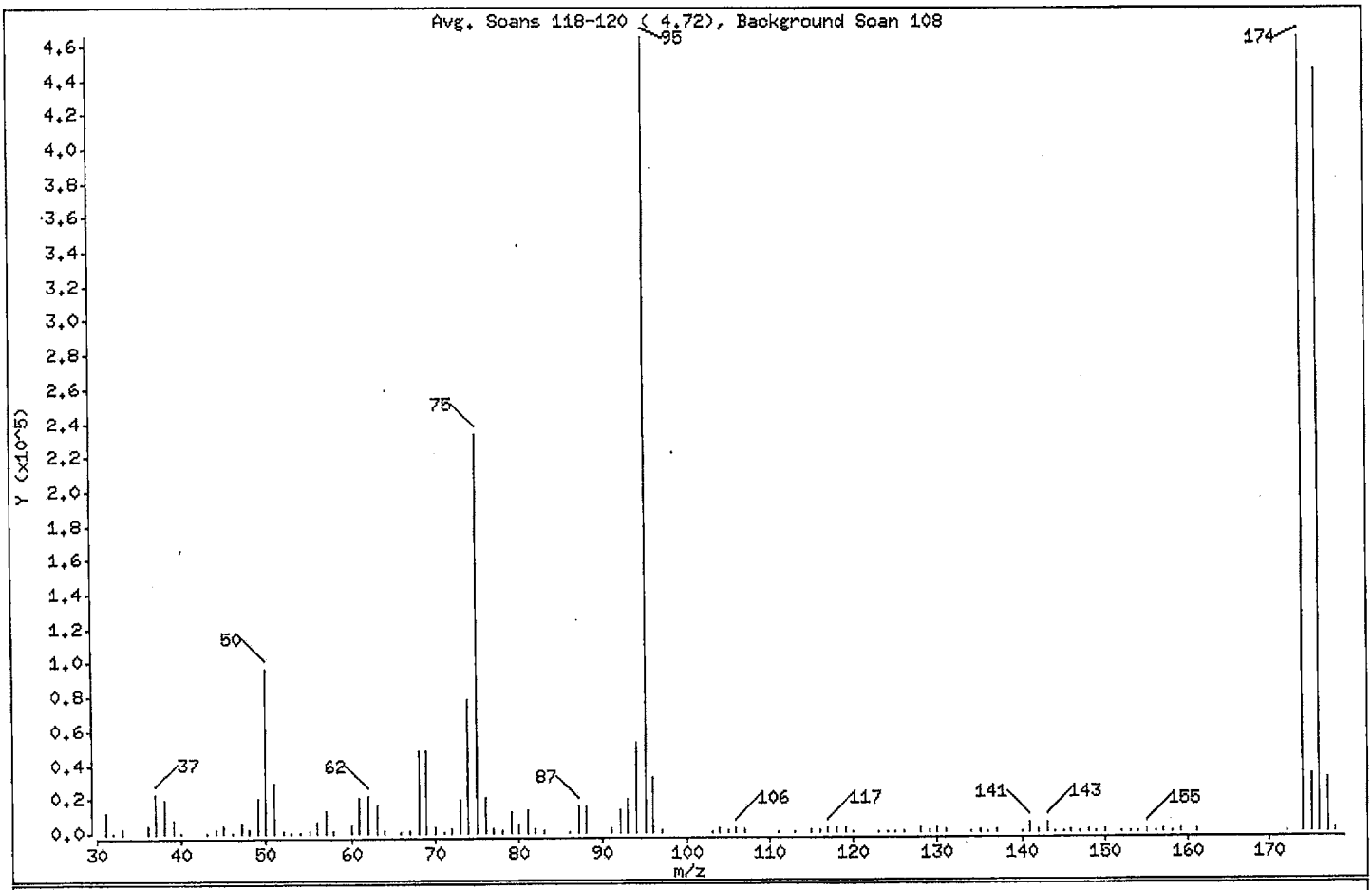
Sample Info: BFB,,3,,,BFB

Operator: 22980

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.65
75	30.00 - 60.00% of mass 95	50.21
96	5.00 - 9.00% of mass 95	6.82
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	100.00
175	5.00 - 9.00% of mass 174	7.23 (7.23)
176	95.00 - 101.00% of mass 174	95.79 (95.79)
177	5.00 - 9.00% of mass 176	6.58 (6.87)

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Calibration File Names:
Level 1: /var/chem/gcms/me.i/E030112I.b/eicc011.d
Level 2: /var/chem/gcms/me.i/E030112I.b/eicc012.d
Level 3: /var/chem/gcms/me.i/E030112I.b/eicc013.d
Level 4: /var/chem/gcms/me.i/E030112I.b/eicc014.d
Level 5: /var/chem/gcms/me.i/E030112I.b/eicc015.d
Level 6: /var/chem/gcms/me.i/E030112I.b/eicc016.d
Level 7: /var/chem/gcms/me.i/E030112I.b/eicc017.d
Level 8: /var/chem/gcms/me.i/E030112I.b/eicc018.d
Level 9: /var/chem/gcms/me.i/E030112I.b/eicc019.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
M 5 Xylene (total)	0.89170	1.09383	1.16276	1.03808	1.11300	0.97030					
	0.94635	0.96846	0.92931				AVRG		1.01264		9.20807
6 Chlorodifluoromethane	+++++	0.87357	0.64955	0.54868	0.51653	0.52863					
	0.47805	0.46565	0.41830				AVRG		0.55987		25.71091
7 Propene	+++++	+++++	1.71047	1.48694	1.60516	1.58241					
	1.34117	1.24527	1.08331				AVRG		1.43639		15.50870

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
10 Dichlorodifluoromethane	5.01574	5.81111	5.31139	4.71907	4.93224	5.20906					
	4.43004	4.18993	3.81244				AVRG		4.82567		12.69028
9 Chloromethane	+++++	0.62756	0.63992	0.52123	0.52161	0.54915					
	0.46243	0.43814	0.38750				AVRG		0.51844		16.99711
11 1,2-Dichlorotetrafluoroethane	3.24301	3.53067	2.74501	2.64147	2.69905	2.76148					
	2.43265	2.23109	2.31643				AVRG		2.73343		15.42683
8 ~ acetaldehyde	+++++	+++++	+++++	52994	122254	110369					
	208810	454487	786257				QUAD	0.000e+00	4.05775	1.68267	0.99140
~~12 Methanol~~	+++++	+++++	+++++	0.49468	0.31095	0.31593					
	0.23149	0.19587	+++++				AVRG		0.30978		~~37.27321~~ <- ✓ NT
13 Vinyl Chloride	1.62055	1.76455	1.73335	1.51868	1.63996	1.73980					
	1.47718	1.44502	1.31719				AVRG		1.58403		9.72451
14 n-Butane	+++++	+++++	3.32048	2.46995	2.50382	2.62897					
	2.15745	2.13803	1.90110				AVRG		2.44569		18.86435

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
15 1,3-Butadiene	1.27522	1.36639	1.24382	1.13583	1.17033	1.21436					
	1.06497	1.05261	0.96294				AVRG		1.16516		10.75810
16 Bromomethane	1.83976	1.93665	1.78367	1.51919	1.48156	1.56504					
	1.40593	1.35812	1.26275				AVRG		1.57252		14.73361
18 Chloroethane	0.61696	0.79320	0.73103	0.68032	0.67210	0.70241					
	0.60615	0.63356	0.60139				AVRG		0.67079		9.57211
17 ~ ethanol	+++++	+++++	26299	40235	110475	215202					
	404097	755742	1152858				QUAD	0.000e+00	1.50978	1.14482	0.99266
19 Vinyl Bromide	1.33304	1.60967	1.53467	1.40196	1.40185	1.46058					
	1.29880	1.26736	1.20446				AVRG		1.39027		9.36019
20 2-methyl butane	+++++	2.41225	2.29033	1.83910	1.71099	1.72755					
	1.56071	1.54230	1.42972				AVRG		1.81412		19.64602
21 Trichlorofluoromethane	+++++	5.52148	5.22135	4.74926	4.70967	4.82927					
	4.33895	4.16130	3.91574				AVRG		4.68088		11.41515

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
22 Acrolein	+++++	+++++	0.46772	0.41383	0.41999	0.37112					
	0.35477	0.38647	0.34083				AVRG		0.39353		11.09982
23 Acetonitrile	+++++	+++++	0.40766	0.42482	0.43711	0.39449					
	0.39959	0.40031	0.37174				AVRG		0.40510		5.23526
~~24 Acetone~~	+++++	+++++	1.22270	1.13227	1.09730	0.57920					
	0.47367	+++++	+++++				AVRG		0.90103		~~38.51292~~ <=AA
25 Pentane	+++++	+++++	0.25240	0.20276	0.20426	0.20794					
	0.18566	0.18586	0.17681				AVRG		0.20224		12.35066
26 Isopropyl alcohol	+++++	+++++	1.71855	1.19942	1.45401	1.53924					
	1.07275	1.08655	0.94172				AVRG		1.28746		22.21312
27 Ethyl Ether	+++++	+++++	1.28548	1.17391	1.19946	1.11737					
	1.09903	1.12473	1.05731				AVRG		1.15104		6.56469
28 1,1-Dichloroethene	1.25965	1.42486	1.28227	1.17416	1.18285	1.18625					
	1.05807	1.03955	0.96390				AVRG		1.17462		11.95949

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	4 Level 7	8 Level 8	16 Level 9									
29 Acrylonitrile	+++++	+++++	1.01964	0.97588	0.97514	0.85492						
	0.88770	0.89997	0.80638				AVRG		0.91709		8.28294	
30 1,1,2-Trichlorotrifluoroethan	2.50342	3.06484	2.93375	2.61820	2.65385	2.64879						
	2.33387	2.32592	2.15620				AVRG		2.58209		11.31124	
31 tert-butanol	+++++	+++++	2.47722	2.01674	2.28323	2.58907						
	1.69723	1.77687	1.73935				AVRG		2.08282		17.71274	
32 Methylene Chloride	+++++	+++++	1.97027	1.23869	1.15509	1.12692						
	0.96630	0.96466	+++++				AVRG		1.23699		30.33376	<- OK 1-3/15/12
33 3-Chloropropene	+++++	1.62590	1.67747	1.34428	1.52440	1.37681						
	1.33223	1.33518	1.18205				AVRG		1.42479		11.81956	
34 Carbon Disulfide	+++++	+++++	4.84971	4.35517	4.53532	4.62214						
	4.03375	3.81538	3.32309				AVRG		4.21922		12.53691	
35 trans-1,2-Dichloroethene	1.39690	1.62844	1.58130	1.39356	1.46551	1.45412						
	1.26697	1.27855	1.16992				AVRG		1.40392		10.61208	

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
36 ~ 2-Methyl Pentane	4.04837	4.57066	4.53802	4.01267	4.01393	4.00220					
	3.51287	3.43894	3.00970				AVRG		3.90526		13.02483
37 Methyl-t-Butyl Ether	+++++	3.45753	3.48100	3.33509	3.38823	3.24169					
	3.10006	3.09439	2.90747				AVRG		3.25068		6.22749
38 1,1-Dichloroethane	2.69086	3.07403	3.08842	2.77819	2.89303	2.85449					
	2.55637	2.54623	2.32120				AVRG		2.75587		9.23130
39 Vinyl Acetate	+++++	+++++	3.53210	3.61162	3.66887	3.21008					
	3.45950	3.46223	3.12515				AVRG		3.43851		5.85474
40 Hexane	+++++	+++++	1.61216	1.35902	1.35141	1.33195					
	1.16486	1.14824	1.02909				AVRG		1.28525		14.82233
41 2-Butanone	+++++	+++++	0.62454	0.53762	0.58390	0.51744					
	0.46507	0.46365	0.41693				AVRG		0.51559		14.16587
42 cis 1,2-Dichloroethene	1.30858	1.57564	1.50547	1.37184	1.44706	1.41302					
	1.25475	1.25352	1.13162				AVRG		1.36239		10.22876

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
43 Ethyl acetate	+++++	+++++	3.09417	2.94489	3.02182	2.90839					
	2.78243	2.79484	2.53942				AVRG		2.86942		6.41004
44 Chloroform	3.30115	3.66619	3.69125	3.30439	3.44731	3.38367					
	3.04011	3.04701	2.76100				AVRG		3.29356		9.21930
45 Tetrahydrofuran	+++++	+++++	1.83526	1.47815	1.53747	1.42766					
	1.40120	1.38975	1.29615				AVRG		1.48081		11.70992
46 1,1,1-Trichloroethane	+++++	4.14238	4.05949	3.66487	3.82780	3.77855					
	3.38559	3.37396	3.06540				AVRG		3.66226		10.03352
47 1,2-Dichloroethane	0.40749	0.56000	0.54072	0.47303	0.50580	0.49943					
	0.43540	0.44427	0.41299				AVRG		0.47546		11.52169
48 Cyclohexane	+++++	0.22784	0.19167	0.15190	0.15605	0.15658					
	0.12509	0.12665	0.11654				AVRG		0.15654		23.92950
49 Benzene	0.89962	1.00542	0.98285	0.81323	0.86000	0.82412					
	0.71002	0.73050	0.67183				AVRG		0.83307		14.03901

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.72507	0.92693	0.91648	0.60875	0.84519	0.65455					
	0.70267	0.71459	0.66871				AVRG		0.75144		15.45145
51 1-Butanol	+++++	+++++	+++++	0.09425	0.10580	0.11815					
	0.07197	0.07370	0.06757				AVRG		0.08857		23.36764
52 ~ 2,3-dimethylpentane	0.18149	0.23286	0.22066	0.17979	0.19370	0.19546					
	0.15639	0.16221	0.14861				AVRG		0.18569		15.28481
53 ~ Thiophene	0.51089	0.57679	0.55308	0.46419	0.49523	0.47881					
	0.41166	0.42894	0.39037				AVRG		0.47889		13.09207
54 2,2,4-trimethylpentane	1.49669	1.87249	1.84026	1.50989	1.63555	1.61972					
	1.33141	1.36727	1.22693				AVRG		1.54447		14.29854
55 Heptane	0.33876	0.39508	0.36133	0.29696	0.32101	0.31862					
	0.26016	0.27097	0.24781				AVRG		0.31230		15.56112
56 1,2-Dichloropropane	0.29696	0.36552	0.37921	0.32666	0.34896	0.33072					
	0.28643	0.29043	0.26220				AVRG		0.32079		12.29447

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
57 Trichloroethene	0.37442	0.47737	0.47657	0.38841	0.42763	0.42647					
	0.33914	0.35208	0.32864				AVRG		0.39897		14.06319
180 2-Nitropropene	0.30860	0.50263	0.52451	0.47324	0.56252	0.52357					
	0.50892	0.53458	0.45055				AVRG		0.48768		15.34043
58 Dibromomethane	0.36879	0.43441	0.45861	0.37809	0.41584	0.40989					
	0.34443	0.35588	0.32738				AVRG		0.38815		11.32785
59 Bromodichloromethane	0.65448	0.84584	0.84404	0.71498	0.80477	0.78739					
	0.67865	0.70229	0.64171				AVRG		0.74157		10.79102
60 1,4-dioxane	+++++	+++++	0.08687	0.06435	0.08797	0.11175					
	0.07641	0.06932	0.04975				AVRG		0.07806		25.51089
61 Methyl Methacrylate	+++++	0.38717	0.38692	0.36385	0.39476	0.38460					
	0.34148	0.36270	0.33623				AVRG		0.36971		6.00693
62 ~ methyl cyclohexane	0.51488	0.62531	0.60703	0.49879	0.54564	0.53948					
	0.43957	0.45119	0.41479				AVRG		0.51519		14.10472

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
63 cis-1,3-Dichloropropene	0.42253	0.54464	0.54153	0.47687	0.51931	0.50617					
	0.44091	0.45995	0.42525				AVRG		0.48191		9.95258
64 4-Methyl-2-pentanone	+++++	0.78797	0.71797	0.61062	0.67852	0.69752					
	0.55720	0.58083	0.50989				AVRG		0.64256		14.51142
65 trans-1,3-Dichloropropene	0.44553	0.55744	0.57300	0.51465	0.57189	0.53688					
	0.51042	0.53980	0.52297				AVRG		0.53029		7.39500
66 Toluene	+++++	1.25615	1.27108	1.07841	1.11783	1.03532					
	0.95370	0.97944	0.94196				AVRG		1.07924		11.93228
67 1,1,2-Trichloroethane	0.30487	0.37537	0.37089	0.33401	0.34887	0.32639					
	0.29504	0.30172	0.29121				AVRG		0.32760		9.78576
68 ~ 2-methyl thiophene	0.83981	1.02268	1.01081	0.89359	0.96108	0.89187					
	0.80929	0.83384	0.79966				AVRG		0.89585		9.44784
70 ~ 3-methyl thiophene	0.82653	1.03875	0.99737	0.90272	0.96761	0.90523					
	0.81771	0.84132	0.80994				AVRG		0.90080		9.37502

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
69 2-Hexanone	+++++	+++++	0.33587	0.29382	0.33488	0.32036					
	0.28117	0.29136	0.27264				AVRG		0.30430		8.48995
71 Octane	0.38634	0.46715	0.40952	0.35519	0.38244	0.36601					
	0.30976	0.31894	0.30741				AVRG		0.36697		14.20171
72 Dibromochloromethane	0.66080	0.79145	0.78898	0.68752	0.80854	0.77162					
	0.71032	0.75147	0.73358				AVRG		0.74492		6.81309
73 1,2-Dibromoethane	0.51321	0.65144	0.64660	0.57204	0.63979	0.59865					
	0.54484	0.56980	0.54721				AVRG		0.58706		8.50682
74 Tetrachloroethene	0.45911	0.52512	0.51534	0.44528	0.47354	0.45646					
	0.38629	0.40542	0.39680				AVRG		0.45149		10.92713
75 Chlorobenzene	0.75125	0.93113	0.91758	0.80914	0.87529	0.82815					
	0.75030	0.77766	0.75499				AVRG		0.82172		8.67917
76 ~ 2,3-dimethylheptane	1.20012	1.46261	1.42793	1.20541	1.29775	1.22575					
	1.03849	1.03011	0.92317				AVRG		1.20126		15.08611

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
77 Ethylbenzene	1.14728	1.43196	1.46785	1.31891	1.41172	1.25301					
	1.20530	1.23499	1.18222				AVRG		1.29481		9.08833
79 ~ 2-ethyl thiophene	0.95114	1.15827	1.19497	1.06486	1.16109	1.05607					
	0.99591	1.02150	0.98407				AVRG		1.06532		8.20218
78 m&p-Xylene	0.87498	1.08061	1.14597	1.02302	1.10462	0.96477					
	0.93835	0.96368	0.92747				AVRG		1.00261		9.09166
80 Nonane	+++++	0.97116	0.89565	0.77039	0.84127	0.79379					
	0.67943	0.68585	0.62849				AVRG		0.78325		14.93580
81 Bromoform	+++++	0.75387	0.73961	0.67205	0.85216	0.81217					
	0.79856	0.87144	0.89548				AVRG		0.79942		9.36501
82 Styrene	0.57827	0.69391	0.73078	0.68016	0.74819	0.66392					
	0.65988	0.69057	0.70119				AVRG		0.68299		7.11936
83 o-Xylene	0.92515	1.12027	1.19635	1.06820	1.12976	0.98136					
	0.96234	0.97803	0.93298				AVRG		1.03272		9.51308

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
84 1,1,2,2-Tetrachloroethane	0.60366	0.74975	0.80384	0.69922	0.77893	0.69995					
	0.65124	0.66475	0.63886				AVRG		0.69891		9.61365
85 1,2,3-Trichloropropane	0.15325	0.21524	0.20487	0.19642	0.21623	0.19102					
	0.18488	0.19055	0.18342				AVRG		0.19288		9.92972
86 Cumene	1.26510	1.55679	1.60028	1.43539	1.53207	1.35017					
	1.30880	1.34281	1.32101				AVRG		1.41249		8.68871
87 n-Propylbenzene	0.28146	0.36717	0.38280	0.34527	0.38218	0.33995					
	0.33493	0.34690	0.35022				AVRG		0.34788		8.75619
88 2-chlorotoluene	0.31668	0.38516	0.40106	0.36043	0.38914	0.36115					
	0.33030	0.33727	0.33178				AVRG		0.35700		8.38006
89 4-Ethyltoluene	1.17840	1.48531	1.42399	1.28957	1.43491	1.27611					
	1.24452	1.28490	1.26537				AVRG		1.32034		7.76827
90 1,3,5-Trimethylbenzene	0.47559	0.62275	0.63963	0.58669	0.62993	0.56044					
	0.53878	0.56031	0.56934				AVRG		0.57594		8.95029

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
91 Alpha-Methylstyrene	+++++ / 0.49853	+++++ / 0.51506	0.51507 / 0.52097	0.48356	0.54644	0.49253	AVRG		0.51031		4.10642
92 Decane	+++++ / 0.78703	0.90317 / 0.78372	0.80722 / 0.73306	0.83654	0.93283	0.81936	AVRG		0.82537		7.90718
93 tert-butylbenzene	0.97105 / 1.04635	1.21980 / 1.08895	1.27300 / 1.10973	1.13588	1.21890	1.09740	AVRG		1.12901		8.39496
94 1,2,4-Trimethylbenzene	+++++ / 0.98344	1.12276 / 1.01909	1.13465 / 1.01428	1.03455	1.12712	1.01812	AVRG		1.05675		5.76271
95 sec-butylbenzene	1.29905 / 1.41635	1.67340 / 1.46970	1.68622 / 1.48148	1.52122	1.64219	1.46902	AVRG		1.51762		8.47107
96 1,3-Dichlorobenzene	+++++ / 0.72671	0.78415 / 0.77969	0.78928 / 0.83545	0.69443	0.81096	0.74220	AVRG		0.77036		6.00555
97 Benzyl Chloride	+++++ / 0.84251	0.78007 / 0.88263	0.82650 / 0.86854	0.71788	0.87276	0.83977	AVRG		0.82883		6.67126

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
98 1,4-Dichlorobenzene	+++++ 0.68378	0.72029 0.71983	0.72534 0.74568	0.64288	0.74603	0.69011	AVRG		0.70924		4.93987
99 p-Cymene	+++++ 1.16056	1.35877 1.19156	1.37219 1.17869	1.22671	1.34239	1.24114	AVRG		1.25900		6.83054
100 ~ 1,2,3- Trimethylbenzene	0.75615 0.81491	0.95241 0.83231	0.96132 0.79247	0.87801	0.94972	0.85939	AVRG		0.86630		8.65439
101 ~ n-butylcyclohexane	0.76377 0.77066	0.97856 0.76881	1.02685 0.74032	0.88726	0.95903	0.87826	AVRG		0.86372		12.45188
102 1,2-Dichlorobenzene	+++++ 0.65297	0.70374 0.68041	0.72373 0.71167	0.65523	0.74512	0.67182	AVRG		0.69309		4.80408
103 ~ Indane	0.74379 0.83544	0.92725 0.86126	0.98988 0.88331	0.88062	0.95984	0.85555	AVRG		0.88188		8.23048
105 ~ Indene	+++++ 0.60342	0.61304 0.60052	0.63449 0.59270	0.58573	0.67662	0.61778	AVRG		0.61554		4.71036

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
104 n-butylbenzene	+++++	1.18481	1.14863	1.06696	1.22229	1.13443					
	1.05813	1.06807	1.02511				AVRG		1.11355		6.23108
106 Undecane	0.58230	0.81520	0.77268	0.54871	0.64061	0.70239					
	0.69721	0.75418	0.72222				AVRG		0.69283		12.68609
107 ~ 1,2-dimethyl-4-ethylenzene	+++++	1.00258	0.98765	0.92575	1.05655	1.00406					
	0.92098	0.93076	0.91019				AVRG		0.96732		5.44845
108 ~ 1,2,4,5-tetramethylbenzene	+++++	1.07704	0.94751	0.76886	0.94198	0.95357					
	0.90496	0.90762	0.87674				AVRG		0.92229		9.35219
109 ~ 1,2,3,5-tetramethylbenzene	+++++	0.81415	0.73482	0.58272	0.71295	0.71817					
	0.67586	0.66964	0.64421				AVRG		0.69406		9.86694
110 ~ 1,2,3,4-tetramethylbenzene	+++++	0.91097	0.83330	0.64209	0.74005	0.77639					
	0.71684	0.68259	0.63253				AVRG		0.74184		12.90956
111 Dodecane	+++++	+++++	+++++	0.46376	0.56754	0.71115					
	0.36577	0.32733	0.33380				AVRG		0.46156		33.14844

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 4 Level 7	0.0800 Level 2 8 Level 8	0.1600 Level 3 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
112 1,2,4-Trichlorobenzene	+++++	0.38811	0.36751	0.26074	0.36222	0.40109					
	0.32774	0.28376	0.27119				AVRG		0.33280		16.54063
113 Napthalene	+++++	+++++	0.64582	0.48239	0.65188	0.72008					
	0.56635	0.48589	0.44275				AVRG		0.57074		18.36662
114 ~ benzo(b) thiophene	+++++	0.36708	0.35495	0.25107	0.34542	0.41376					
	0.28610	0.23993	0.22563				AVRG		0.31049		22.23667
115 Hexachlorobutadiene	+++++	0.76072	0.72019	0.65254	0.70432	0.67746					
	0.59916	0.53483	0.50683				AVRG		0.64451		14.00099
116 1,2,3-trichlorobenzene	+++++	0.34786	0.36486	0.22566	0.29399	0.37796					
	0.20029	0.16978	+++++				AVRG		0.28291		29.92058
117 ~ 2-Methylnaphthalene	0.03655	0.05365	0.04241	0.03641	0.05240	0.07341					
	0.03290	0.02784	0.02523				AVRG		0.04231		35.99209
118 ~ 1-Methylnaphthalene	0.03621	0.05874	0.04753	0.03898	0.05101	0.06910					
	0.02955	0.02384	0.02015				AVRG		0.04168		39.15138

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.70541	0.72092	0.72681	0.71745	0.73292	0.74739					
	0.73599	0.72693	0.73365				AVRG		0.72750		1.66087

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

Report Date:03/05/2012 Page 1

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/me.i/E030112I.b/eicc011.d
STD 2 = /var/chem/gcms/me.i/E030112I.b/eicc012.d
STD 3 = /var/chem/gcms/me.i/E030112I.b/eicc013.d
STD 4 = /var/chem/gcms/me.i/E030112I.b/eicc014.d
STD 5 = /var/chem/gcms/me.i/E030112I.b/eicc015.d
STD 6 = /var/chem/gcms/me.i/E030112I.b/eicc016.d
STD 7 = /var/chem/gcms/me.i/E030112I.b/eicc017.d
STD 8 = /var/chem/gcms/me.i/E030112I.b/eicc018.d
STD 9 = /var/chem/gcms/me.i/E030112I.b/eicc019.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
Chlorobenzene-d5	15.176	15.176	15.176	15.176	15.176	15.176	15.176	15.182	15.182	15.177
1,4-Difluorobenzene	10.329	10.324	10.324	10.329	10.329	10.329	10.334	10.340	10.345	10.331
Bromochloromethane	8.177	8.177	8.177	8.177	8.177	8.177	8.183	8.188	8.199	8.181
4-Bromofluorobenzene	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110
2-Nitropropene	1.066	1.067	1.067	1.066	1.066	1.067	1.067	1.066	1.067	1.066
~ 2-Methylnaphthalene	1.438	1.438	1.438	1.438	1.438	1.438	1.438	1.438	1.438	1.438
Chlorodifluoromethane	NA	0.444	0.444	0.445	0.444	0.444	0.444	0.444	0.444	0.444
Propene	NA	NA	0.445	0.445	0.445	0.445	0.445	0.445	0.445	0.445
Dichlorodifluoromethane	0.451	0.451	0.451	0.451	0.451	0.451	0.450	0.450	0.450	0.451
Chloromethane	NA	0.470	0.469	0.470	0.469	0.469	0.469	0.468	0.468	0.469
1,2-Dichlorotetrafluoroethan	0.471	0.470	0.470	0.471	0.470	0.470	0.470	0.470	0.470	0.470
~ acetaldehyde	NA	NA	NA	0.486	0.485	0.485	0.484	0.485	0.484	0.485
Methanol	NA	NA	NA	0.485	0.484	0.484	0.483	0.484	NA	0.484
Vinyl Chloride	0.488	0.488	0.487	0.487	0.487	0.487	0.486	0.486	0.486	0.487
n-Butane	NA	NA	0.496	0.497	0.496	0.496	0.496	0.496	0.495	0.496
1,3-Butadiene	0.497	0.496	0.496	0.497	0.496	0.496	0.496	0.495	0.495	0.496
Bromomethane	0.529	0.529	0.529	0.530	0.529	0.529	0.529	0.529	0.529	0.529
Chloroethane	0.545	0.544	0.543	0.544	0.543	0.543	0.543	0.543	0.543	0.543
~ ethanol	NA	NA	0.554	0.555	0.554	0.555	0.555	0.555	0.556	0.555
Vinyl Bromide	0.575	0.575	0.575	0.575	0.575	0.574	0.575	0.575	0.575	0.575
2-methyl butane	NA	0.582	0.580	0.581	0.581	0.580	0.580	0.580	0.580	0.580
Trichlorofluoromethane	NA	0.603	0.603	0.603	0.603	0.603	0.603	0.603	0.603	0.603
Acrolein	NA	NA	0.604	0.604	0.603	0.603	0.604	0.604	0.604	0.604
Acetonitrile	NA	NA	0.610	0.610	0.610	0.610	0.610	0.611	0.611	0.610
Acetone	NA	NA	0.617	0.616	0.616	0.616	0.616	NA	NA	0.616
Pentane	NA	NA	0.628	0.627	0.627	0.627	0.626	0.627	0.627	0.627
Isopropyl alcohol	NA	NA	0.626	0.626	0.626	0.626	0.626	0.627	0.628	0.626
Ethyl Ether	NA	NA	0.646	0.645	0.645	0.644	0.644	0.644	0.644	0.644
1,1-Dichloroethene	0.680	0.679	0.679	0.678	0.678	0.678	0.678	0.678	0.678	0.678
Acrylonitrile	NA	NA	0.688	0.689	0.688	0.689	0.688	0.689	0.690	0.689
1,1,2-Trichlorotrifluoroetha	0.699	0.699	0.698	0.699	0.698	0.698	0.698	0.698	0.698	0.698
tert-butanol	NA	NA	0.690	0.690	0.689	0.690	0.690	0.690	0.691	0.690
Methylene Chloride	NA	NA	0.715	0.715	0.715	0.715	0.715	0.716	NA	0.715
3-Chloropropene	NA	0.718	0.717	0.717	0.717	0.717	0.717	0.717	0.717	0.717
Carbon Disulfide	NA	NA	0.733	0.733	0.732	0.732	0.732	0.733	0.732	0.732
trans-1,2-Dichloroethene	0.805	0.805	0.805	0.805	0.805	0.805	0.805	0.805	0.804	0.805
~ 2-Methyl Pentane	0.809	0.808	0.808	0.808	0.808	0.808	0.808	0.808	0.808	0.808

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/me.i/E030112I.b/eicc011.d
STD 2 = /var/chem/gcms/me.i/E030112I.b/eicc012.d
STD 3 = /var/chem/gcms/me.i/E030112I.b/eicc013.d
STD 4 = /var/chem/gcms/me.i/E030112I.b/eicc014.d
STD 5 = /var/chem/gcms/me.i/E030112I.b/eicc015.d
STD 6 = /var/chem/gcms/me.i/E030112I.b/eicc016.d
STD 7 = /var/chem/gcms/me.i/E030112I.b/eicc017.d
STD 8 = /var/chem/gcms/me.i/E030112I.b/eicc018.d
STD 9 = /var/chem/gcms/me.i/E030112I.b/eicc019.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
Methyl-t-Butyl Ether	NA	0.821	0.821	0.821	0.820	0.820	0.820	0.820	0.820	0.820
1,1-Dichloroethane	0.851	0.851	0.851	0.851	0.851	0.851	0.851	0.852	0.851	0.851
Vinyl Acetate	NA	NA	0.864	0.864	0.864	0.864	0.864	0.864	0.864	0.864
Hexane	NA	NA	0.918	0.919	0.918	0.918	0.918	0.918	0.918	0.918
2-Butanone	NA	NA	0.915	0.914	0.914	0.914	0.914	0.914	0.914	0.914
cis 1,2-Dichloroethene	0.963	0.962	0.962	0.962	0.962	0.962	0.962	0.962	0.963	0.962
Ethyl acetate	NA	NA	0.986	0.986	0.986	0.986	0.986	0.986	0.986	0.986
Chloroform	1.003	1.002	1.002	1.003	1.003	1.003	1.003	1.003	1.003	1.003
Tetrahydrofuran	NA	NA	1.051	1.051	1.050	1.049	1.049	1.049	1.048	1.050
1,1,1-Trichloroethane	NA	1.121	1.121	1.122	1.122	1.122	1.122	1.121	1.121	1.122
1,2-Dichloroethane	0.897	0.897	0.897	0.897	0.897	0.897	0.897	0.898	0.898	0.897
Cyclohexane	NA	0.945	0.946	0.945	0.945	0.945	0.945	0.945	0.945	0.945
Benzene	0.944	0.945	0.944	0.945	0.944	0.945	0.944	0.944	0.945	0.944
Carbon Tetrachloride	0.947	0.947	0.947	0.947	0.947	0.947	0.947	0.947	0.947	0.947
1-Butanol	NA	NA	NA	0.944	0.944	0.943	0.943	0.943	0.943	0.943
~ 2,3-dimethylpentane	0.958	0.959	0.959	0.959	0.959	0.958	0.958	0.958	0.958	0.958
~ Thiophene	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971
2,2,4-trimethylpentane	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023
Heptane	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061	1.061
1,2-Dichloropropane	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066
Trichloroethene	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070
Dibromomethane	1.076	1.078	1.077	1.076	1.076	1.077	1.077	1.077	1.077	1.077
Bromodichloromethane	1.092	1.093	1.093	1.092	1.092	1.093	1.093	1.092	1.092	1.092
~ 1-Methylnaphthalene	1.453	1.453	1.453	1.453	1.453	1.453	1.453	1.452	1.452	1.453
1,4-dioxane	NA	NA	1.096	1.096	1.095	1.095	1.095	1.094	1.095	1.095
Methyl Methacrylate	NA	1.105	1.105	1.105	1.105	1.105	1.105	1.104	1.104	1.105
~ methyl cyclohexane	1.147	1.148	1.147	1.147	1.147	1.147	1.147	1.147	1.147	1.147
cis-1,3-Dichloropropene	1.193	1.194	1.193	1.193	1.193	1.193	1.192	1.192	1.192	1.193
4-Methyl-2-pentanone	NA	1.190	1.190	1.189	1.188	1.188	1.188	1.188	1.188	1.189
trans-1,3-Dichloropropene	0.859	0.859	0.859	0.859	0.860	0.860	0.860	0.860	0.860	0.860
Toluene	NA	0.867	0.867	0.867	0.867	0.867	0.868	0.867	0.868	0.867
1,1,2-Trichloroethane	0.872	0.872	0.872	0.872	0.872	0.872	0.873	0.872	0.873	0.872
~ 2-methyl thiophene	0.877	0.877	0.877	0.877	0.877	0.877	0.878	0.878	0.878	0.877
~ 3-methyl thiophene	0.891	0.891	0.891	0.891	0.891	0.891	0.892	0.891	0.892	0.891
2-Hexanone	NA	NA	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900
Octane	0.917	0.917	0.917	0.917	0.917	0.917	0.917	0.917	0.917	0.917
Dibromochloromethane	0.919	0.919	0.919	0.919	0.919	0.919	0.920	0.919	0.920	0.919

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/me.i/E030112I.b/eicc011.d
STD 2 = /var/chem/gcms/me.i/E030112I.b/eicc012.d
STD 3 = /var/chem/gcms/me.i/E030112I.b/eicc013.d
STD 4 = /var/chem/gcms/me.i/E030112I.b/eicc014.d
STD 5 = /var/chem/gcms/me.i/E030112I.b/eicc015.d
STD 6 = /var/chem/gcms/me.i/E030112I.b/eicc016.d
STD 7 = /var/chem/gcms/me.i/E030112I.b/eicc017.d
STD 8 = /var/chem/gcms/me.i/E030112I.b/eicc018.d
STD 9 = /var/chem/gcms/me.i/E030112I.b/eicc019.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
1,2-Dibromoethane	0.938	0.938	0.938	0.938	0.938	0.938	0.939	0.938	0.939	0.938
Tetrachloroethene	0.945	0.944	0.944	0.944	0.944	0.944	0.945	0.944	0.945	0.944
Chlorobenzene	1.003	1.003	1.003	1.003	1.003	1.003	1.004	1.003	1.003	1.003
~ 2,3-dimethylheptane	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007
Ethylbenzene	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023
~ 2-ethyl thiophene	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
m&p-Xylene	1.034	1.034	1.034	1.034	1.034	1.034	1.034	1.034	1.035	1.034
Nonane	NA	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065
Bromoform	NA	1.063	1.062	1.063	1.062	1.063	1.063	1.062	1.063	1.063
Styrene	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065
o-Xylene	1.069	1.069	1.069	1.069	1.069	1.069	1.069	1.069	1.069	1.069
1,1,2,2-Tetrachloroethane	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091
1,2,3-Trichloropropane	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101
Cumene	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109
n-Propylbenzene	1.145	1.145	1.145	1.145	1.145	1.145	1.146	1.145	1.145	1.145
2-chlorotoluene	1.148	1.147	1.147	1.147	1.147	1.147	1.148	1.147	1.147	1.147
4-Ethyltoluene	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156
1,3,5-Trimethylbenzene	1.161	1.162	1.161	1.161	1.161	1.161	1.162	1.161	1.162	1.161
Alpha-Methylstyrene	NA	NA	1.177	1.177	1.177	1.177	1.177	1.177	1.177	1.177
Decane	NA	1.183	1.184	1.184	1.184	1.184	1.184	1.183	1.184	1.184
tert-butylbenzene	1.190	1.190	1.190	1.190	1.190	1.190	1.191	1.190	1.191	1.190
1,2,4-Trimethylbenzene	NA	1.191	1.191	1.191	1.191	1.191	1.191	1.191	1.191	1.191
sec-butylbenzene	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209
1,3-Dichlorobenzene	NA	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209
Benzyl Chloride	NA	1.214	1.214	1.214	1.214	1.214	1.214	1.214	1.214	1.214
1,4-Dichlorobenzene	NA	1.215	1.215	1.215	1.215	1.215	1.215	1.215	1.215	1.215
p-Cymene	NA	1.220	1.220	1.220	1.220	1.220	1.221	1.220	1.220	1.220
~ 1,2,3- Trimethylbenzene	1.223	1.223	1.223	1.223	1.223	1.223	1.224	1.223	1.223	1.223
~ n-butylcyclohexane	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228
1,2-Dichlorobenzene	NA	1.239	1.240	1.240	1.240	1.240	1.240	1.239	1.240	1.240
~ Indane	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240
~ Indene	NA	1.248	1.248	1.248	1.248	1.248	1.248	1.248	1.248	1.248
n-butylbenzene	NA	1.250	1.250	1.250	1.250	1.250	1.250	1.250	1.250	1.250
Undecane	1.273	1.273	1.273	1.273	1.273	1.274	1.274	1.273	1.273	1.273
~ 1,2-dimethyl-4-ethylenzene	NA	1.276	1.275	1.275	1.275	1.275	1.276	1.275	1.275	1.275
~ 1,2,4,5-tetramethylbenzene	NA	1.302	1.302	1.302	1.302	1.302	1.302	1.301	1.301	1.302
~ 1,2,3,5-tetramethylbenzene	NA	1.305	1.305	1.305	1.305	1.305	1.305	1.305	1.305	1.305

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/me.i/E030112I.b/eicc011.d
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STD 8 = /var/chem/gcms/me.i/E030112I.b/eicc018.d
STD 9 = /var/chem/gcms/me.i/E030112I.b/eicc019.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	MEAN
~ 1,2,3,4-tetramethylbenzene	NA	1.331	1.331	1.331	1.331	1.331	1.331	1.331	1.331	1.331
Dodecane	NA	NA	NA	1.344	1.344	1.344	1.344	1.344	1.344	1.344
1,2,4-Trichlorobenzene	NA	1.354	1.354	1.354	1.354	1.354	1.354	1.353	1.353	1.354
Napthalene	NA	NA	1.362	1.363	1.363	1.363	1.363	1.362	1.362	1.362
~ benzo(b) thiophene	NA	1.369	1.369	1.369	1.369	1.369	1.369	1.368	1.369	1.369
Hexachlorobutadiene	NA	1.378	1.378	1.378	1.378	1.378	1.378	1.377	1.377	1.378
1,2,3-trichlorobenzene	NA	1.381	1.381	1.381	1.381	1.381	1.381	1.381	NA	1.381

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/2/12	CCAL Batch/ Scan Name:	E030212I	Instrument:	ME	ICAL Batch/ Scan Name:	E030112I	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓			✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		~~□~~ [ccal] analytes > 30% but passes LCS criteria. (NT)	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				✓
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder? KB 3/5/12	NA	✓		NCM # 10870 overwrote BFB	✓
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 3/5/12	2nd Level Reviewer :	Date: 3/6/12
Comments:		**Comments:**	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Inst: ME

Analyst: [signature] Qtims Batch: 2065033 MQ778

Date: 3/2/12 ICAL Batch: E030212 I Target Batch: E030212 IS #1 Area: 327383

Surr/IS ID & Vol.: V425 40mL System Date/Time ok (y/n): Y 3/5/12

Preventive Maintenance Performed ☐ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1004	Y	Tune	EBFBC02	—	16	100	1	
1037	Y	CCV	ECCVC02	CX-2321	15	100	1	2nd Source
1310	N	BIK	Flush	—	16	500	1	
1420	Y	↓	EBIKC02	—	↓	↓	1	
1513	Y	H2B230466	MQ21A1AA	LA7118	1	50	1	10
1606	~~Y~~ N	RR 1/10 [initials] 3/4/12	~~Q21~~ MQ21C1AA	~~LX~~ L5116	2	20		25 3/2/12
1658	✓		MQ21D1AA	L5170	3	50		
1749	✓		MQ21E1AA	L5159	4			MQ21E1AA
1842	✓		MQ21F1AA	LA7166	5			
1934	✓ dup		MQ21FD	↓	5	↓		
2028	✓		MQ21G1AA	~~LA~~ L5108	6			3/2/12
2120	✓		MQ21H1AA	LA7117	7	↓	↓	
2213	✓		MQ21J1AA	LA7119	8	30mL	9.96	
2304	✓		MQ21K1AA	L5179	9	30mL	3.36	
2357	✓		MQ21L1AA	LA7115	10	60mL	~~9.9~~ 9.74	3/2/12
0050	✓		MQ21M1AA	L8176	11	50	1	
0143	✓		MQ21N1AA	L8195	12			
0236	✓		MQ21P1AA	L5187	13			
0328	✓		MQ21R1AA	L3831	14	↓	↓	
0419	✓	Ette RR 3/5/12	MQ21Q1AA	~~LA7113~~	15	310	499.47	Can # 04402 3/2/12
0510	✓		IT ↓	L5175	1	11	3.2	(10)
0601	✓		ICR	L5161	2	50	1	
0653	✓		10 IAA	12624	3	170	1849.5	5439.71
0746	✓	↓	11 ↓	L5165	4	16	3.31	(15)
0843	✓	Lot 9750	6508 →		16	500	1	

[signature] 3/5/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/5/12

Test America - Knoxville

Entech Autosampler Log

Position	Volume	Date	Time
16	102	3/2/2012	10:04
15	101	3/2/2012	10:37
16	501	3/2/2012	13:10
16	501	3/2/2012	14:20
1	51	3/2/2012	15:13
2	21	3/2/2012	16:06
3	51	3/2/2012	16:58
4	51	3/2/2012	17:49
5	51	3/2/2012	18:42
5	51	3/2/2012	19:34
6	51	3/2/2012	20:28
7	51	3/2/2012	21:20
8	31	3/2/2012	22:13
9	31	3/2/2012	23:04
10	61	3/2/2012	23:57
11	51	3/3/2012	0:50
12	51	3/3/2012	1:43
13	51	3/3/2012	2:36
14	51	3/3/2012	3:28
15	311	3/3/2012	4:19
1	11	3/3/2012	5:10
2	51	3/3/2012	6:01
3	171	3/3/2012	6:53
4	16	3/3/2012	7:46
16	501	3/3/2012	8:43

Data File: /chem/gcms/me.i/E030212.b/ebfbc02.d

Date : 02-MAR-2012 10:04

Client ID: BFB

Instrument: me.i

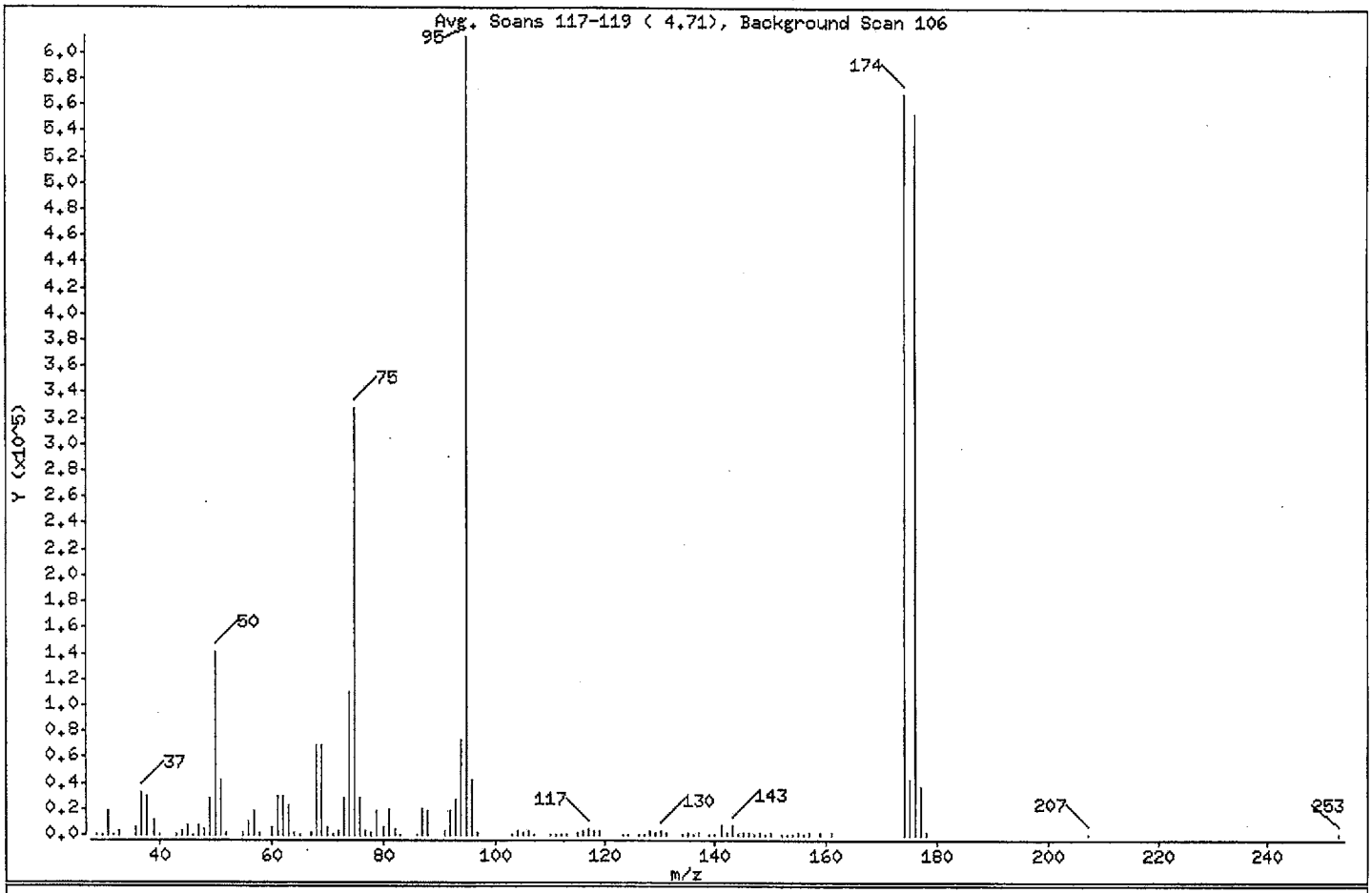
Sample Info: BFB,,3,,,BFB

Operator: 22980

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.90
75	30.00 - 60.00% of mass 95	53.64
96	5.00 - 9.00% of mass 95	6.92
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	92.96
175	5.00 - 9.00% of mass 174	6.89 (7.41)
176	95.00 - 101.00% of mass 174	90.32 (97.16)
177	5.00 - 9.00% of mass 176	6.01 (6.66)

Data File: /var/chem/gcms/me.i/E030212.b/eccvc02.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc02.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030212.b/TO155.m

Injection Date: 02-MAR-2012 10:37
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.72750	0.70377	0.70377	0.000	3.26100	30.00000	Averaged
M 5 Xylene (total)	1.01264	0.98777	0.98777	0.000	2.45598	30.00000	Averaged
6 Chlorodifluoromethane	0.55987	0.48018	0.48018	0.000	14.23320	30.00000	Averaged
7 Propene	1.43639	1.27355	1.27355	0.000	11.33696	30.00000	Averaged
10 Dichlorodifluoromethane	4.82567	4.38806	4.38806	0.000	9.06838	30.00000	Averaged
9 Chloromethane	0.51844	0.45758	0.45758	0.000	11.73863	30.00000	Averaged
11 1,2-Dichlorotetrafluoroetha	2.73343	2.64087	2.64087	0.000	3.38604	30.00000	Averaged
8 ~ acetaldehyde	22.94247	10.12000	0.39500	0.000	-127	30.00000	Quadratic <- NT
12 Methanol	0.30978	0.25902	0.25902	0.000	16.38609	30.00000	Averaged
13 Vinyl Chloride	1.58403	1.44740	1.44740	0.000	8.62561	30.00000	Averaged
14 n-Butane	2.44569	2.31546	2.31546	0.000	5.32482	30.00000	Averaged
15 1,3-Butadiene	1.16516	1.12695	1.12695	0.000	3.27942	30.00000	Averaged
16 Bromomethane	1.57252	1.32504	1.32504	0.000	15.73769	30.00000	Averaged
18 Chloroethane	0.67079	0.61862	0.61862	0.000	7.77681	30.00000	Averaged
17 ~ ethanol	9.98223	10.44000	0.36690	0.000	4.38478	30.00000	Quadratic
19 Vinyl Bromide	1.39027	1.35841	1.35841	0.000	2.29122	30.00000	Averaged
20 2-methyl butane	1.81412	1.57470	1.57470	0.000	13.19723	30.00000	Averaged
21 Trichlorofluoromethane	4.68088	4.25107	4.25107	0.000	9.18234	30.00000	Averaged
22 Acrolein	0.39353	0.36063	0.36063	0.000	8.36160	30.00000	Averaged
23 Acetonitrile	0.40510	0.40467	0.40467	0.000	0.10794	30.00000	Averaged
24 Acetone	0.90103	0.45599	0.45599	0.000	-49.39205	30.00000	Averaged <- MA
25 Pentane	0.20224	0.18312	0.18312	0.000	9.45552	30.00000	Averaged
26 Isopropyl alcohol	1.28746	1.29202	1.29202	0.000	-0.35418	30.00000	Averaged
27 Ethyl Ether	1.15104	1.40738	1.40738	0.000	-22.27043	30.00000	Averaged
28 1,1-Dichloroethene	1.17462	1.28324	1.28324	0.000	-9.24769	30.00000	Averaged
29 Acrylonitrile	0.91709	0.93870	0.93870	0.000	-2.35622	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.58209	2.77909	2.77909	0.000	-7.62936	30.00000	Averaged
31 tert-butanol	2.08282	2.08948	2.08948	0.000	-0.31991	30.00000	Averaged
32 Methylene Chloride	1.23699	1.14761	1.14761	0.000	7.22558	30.00000	Averaged
33 3-Chloropropene	1.42479	1.28524	1.28524	0.000	9.79479	30.00000	Averaged
34 Carbon Disulfide	4.21922	4.06989	4.06989	0.000	3.53937	30.00000	Averaged
35 trans-1,2-Dichloroethene	1.40392	1.31373	1.31373	0.000	6.42395	30.00000	Averaged
36 ~ 2-Methyl Pentane	3.90526	3.51392	3.51392	0.000	10.02079	30.00000	Averaged
37 Methyl-t-Butyl Ether	3.25068	3.25788	3.25788	0.000	-0.22147	30.00000	Averaged
38 1,1-Dichloroethane	2.75587	2.75679	2.75679	0.000	-0.03333	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030212.b/eccvc02.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc02.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030212.b/TO15S.m

Injection Date: 02-MAR-2012 10:37
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 Vinyl Acetate	3.43851	3.52229	3.52229	0.000	-2.43666	30.00000	Averaged
40 Hexane	1.28525	1.18621	1.18621	0.000	7.70593	30.00000	Averaged
41 2-Butanone	0.51559	0.48758	0.48758	0.000	5.43388	30.00000	Averaged
42 cis 1,2-Dichloroethene	1.36239	1.37174	1.37174	0.000	-0.68677	30.00000	Averaged
43 Ethyl acetate	2.86942	2.84285	2.84285	0.000	0.92594	30.00000	Averaged
44 Chloroform	3.29356	3.24214	3.24214	0.000	1.56126	30.00000	Averaged
45 Tetrahydrofuran	1.48081	1.46532	1.46532	0.000	1.04601	30.00000	Averaged
46 1,1,1-Trichloroethane	3.66226	3.57292	3.57292	0.000	2.43945	30.00000	Averaged
47 1,2-Dichloroethane	0.47546	0.44891	0.44891	0.000	5.58376	30.00000	Averaged
48 Cyclohexane	0.15654	0.12903	0.12903	0.000	17.57607	30.00000	Averaged
49 Benzene	0.83307	0.76223	0.76223	0.000	8.50307	30.00000	Averaged
50 Carbon Tetrachloride	0.75144	0.69635	0.69635	0.000	7.33149	30.00000	Averaged
51 1-Butanol	0.08857	0.09652	0.09652	0.000	-8.97652	30.00000	Averaged
52 ~ 2,3-dimethylpentane	0.18569	0.16721	0.16721	0.000	9.95147	30.00000	Averaged
53 ~ Thiophene	0.47889	0.42435	0.42435	0.000	11.38741	30.00000	Averaged
54 2,2,4-trimethylpentane	1.54447	1.35839	1.35839	0.000	12.04809	30.00000	Averaged
55 Heptane	0.31230	0.26794	0.26794	0.000	14.20565	30.00000	Averaged
56 1,2-Dichloropropane	0.32079	0.30188	0.30188	0.000	5.89393	30.00000	Averaged
57 Trichloroethene	0.39897	0.36294	0.36294	0.000	9.03001	30.00000	Averaged
180 2-Nitropropene	0.48768	0.53283	0.53283	0.000	-9.25871	25.00000	Averaged
58 Dibromomethane	0.38815	0.33768	0.33768	0.000	13.00197	30.00000	Averaged
59 Bromodichloromethane	0.74157	0.68733	0.68733	0.000	7.31534	30.00000	Averaged
60 1,4-dioxane	0.07806	0.08147	0.08147	0.000	-4.37143	30.00000	Averaged
61 Methyl Methacrylate	0.36971	0.35592	0.35592	0.000	3.73168	30.00000	Averaged
62 ~ methyl cyclohexane	0.51519	0.46248	0.46248	0.000	10.23131	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.48191	0.45214	0.45214	0.000	6.17638	30.00000	Averaged
64 4-Methyl-2-pentanone	0.64256	0.57008	0.57008	0.000	11.28033	30.00000	Averaged
65 trans-1,3-Dichloropropene	0.53029	0.52084	0.52084	0.000	1.78134	30.00000	Averaged
66 Toluene	1.07924	1.02281	1.02281	0.000	5.22829	30.00000	Averaged
67 1,1,2-Trichloroethane	0.32760	0.30213	0.30213	0.000	7.77339	30.00000	Averaged
68 ~ 2-methyl thiophene	0.89585	0.83158	0.83158	0.000	7.17394	30.00000	Averaged
70 ~ 3-methyl thiophene	0.90080	0.86144	0.86144	0.000	4.36956	30.00000	Averaged
69 2-Hexanone	0.30430	0.28655	0.28655	0.000	5.83403	30.00000	Averaged
71 Octane	0.36697	0.32176	0.32176	0.000	12.32053	30.00000	Averaged
72 Dibromochloromethane	0.74492	0.72676	0.72676	0.000	2.43756	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030212.b/eccvc02.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc02.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030212.b/TO155.m

Injection Date: 02-MAR-2012 10:37
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 1,2-Dibromoethane	0.58706	0.55096	0.55096	0.000	6.14926	30.00000	Averaged
74 Tetrachloroethene	0.45149	0.40930	0.40930	0.000	9.34440	30.00000	Averaged
75 Chlorobenzene	0.82172	0.77501	0.77501	0.000	5.68420	30.00000	Averaged
76 ~ 2,3-dimethylheptane	1.20126	1.12724	1.12724	0.000	6.16221	30.00000	Averaged
77 Ethylbenzene	1.29481	1.28294	1.28294	0.000	0.91641	30.00000	Averaged
79 ~ 2-ethyl thiophene	1.06532	1.02803	1.02803	0.000	3.50051	30.00000	Averaged
78 m&p-Xylene	1.00261	0.98380	0.98380	0.000	1.87547	30.00000	Averaged
80 Nonane	0.78325	0.69546	0.69546	0.000	11.20898	30.00000	Averaged
81 Bromoform	0.79942	0.76557	0.76557	0.000	4.23421	30.00000	Averaged
82 Styrene	0.68299	0.67011	0.67011	0.000	1.88527	30.00000	Averaged
83 o-Xylene	1.03272	0.99571	0.99571	0.000	3.58314	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.69891	0.65813	0.65813	0.000	5.83485	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19288	0.18564	0.18564	0.000	3.75033	30.00000	Averaged
86 Cumene	1.41249	1.33041	1.33041	0.000	5.81087	30.00000	Averaged
87 n-Propylbenzene	0.34788	0.33303	0.33303	0.000	4.26779	30.00000	Averaged
88 2-chlorotoluene	0.35700	0.33138	0.33138	0.000	7.17438	30.00000	Averaged
89 4-Ethyltoluene	1.32034	1.25553	1.25553	0.000	4.90840	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57594	0.56332	0.56332	0.000	2.19110	30.00000	Averaged
91 Alpha-Methylstyrene	0.51031	0.47326	0.47326	0.000	7.26123	30.00000	Averaged
92 Decane	0.82537	0.78673	0.78673	0.000	4.68090	30.00000	Averaged
93 tert-butylbenzene	1.12901	1.05162	1.05162	0.000	6.85469	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.05675	0.98892	0.98892	0.000	6.41853	30.00000	Averaged
95 sec-butylbenzene	1.51762	1.41299	1.41299	0.000	6.89460	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77036	0.67896	0.67896	0.000	11.86447	30.00000	Averaged
97 Benzyl Chloride	0.82883	0.78101	0.78101	0.000	5.76992	30.00000	Averaged
98 1,4-Dichlorobenzene	0.70924	0.62999	0.62999	0.000	11.17424	30.00000	Averaged
99 p-Cymene	1.25900	1.16561	1.16561	0.000	7.41760	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.86630	0.86492	0.86492	0.000	0.15949	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86372	0.80613	0.80613	0.000	6.66828	30.00000	Averaged
102 1,2-Dichlorobenzene	0.69309	0.59930	0.59930	0.000	13.53250	30.00000	Averaged
103 ~ Indane	0.88188	0.86135	0.86135	0.000	2.32812	30.00000	Averaged
105 ~ Indene	0.61554	0.59039	0.59039	0.000	4.08562	30.00000	Averaged
104 n-butylbenzene	1.11355	1.04101	1.04101	0.000	6.51481	30.00000	Averaged
106 Undecane	0.69283	0.55372	0.55372	0.000	20.07870	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96732	0.92886	0.92886	0.000	3.97604	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.92229	0.93512	0.93512	0.000	-1.39114	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030212.b/eccvc02.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc02.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030212.b/TO155.m

Injection Date: 02-MAR-2012 10:37
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.69406	0.67327	0.67327	0.000	2.99597	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.74184	0.68465	0.68465	0.000	7.70963	30.00000	Averaged	NT
~~121 Dodecane~~	0.46156	0.29934	0.29934	0.000	~~35.14610~~	30.00000	Averaged	<- 60-140
112 1,2,4-Trichlorobenzene	0.33280	0.24440	0.24440	0.000	26.56026	30.00000	Averaged	
113 Napthalene	0.57074	0.42031	0.42031	0.000	26.35697	30.00000	Averaged	
114 ~ benzo(b) thiophene	0.31049	0.23911	0.23911	0.000	22.99135	30.00000	Averaged	
115 Hexachlorobutadiene	0.64451	0.52266	0.52266	0.000	18.90604	30.00000	Averaged	NT
~~116 1,2,3-trichlorobenzene~~	0.28291	0.13678	0.13678	0.000	~~51.65908~~	30.00000	Averaged	<- 40-140
~~117 ~ 2-Methylnaphthalene~~	0.04231	0.01442	0.01442	0.000	~~65.91466~~	50.00000	Averaged	<- OK
~~118 ~ 1-Methylnaphthalene~~	0.04168	0.01267	0.01267	0.000	69.59809	50.00000	Averaged	<- OK

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/5/12	CCAL Batch/ Scan Name:	E030512	Instrument:	ME	ICAL Batch/ Scan Name:	E030112 I	Scanned

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓			✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		□ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	✓
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				✓
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
<11	0

Analyst:	**Date:** 3/5/12	**2nd Level Reviewer :**	**Date:** 3/6/12
Comments:		**Comments:**	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: [signature] Qtims Batch: 2065117 MQ8MN

Date: 3/5/12 ICAL Batch: E030102S Target Batch: E030512 IS #1 Area: 329820

Surr/IS ID & Vol. 40mL V425 System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0900	✓	Tune	EBFBC05	-	16	~~500~~ 100 3/5/12	1	
0932	✓	CCV	CCV	CX2322	15	100		
0932	✓	LCS	LCS					
1038	✓	Blk	Flush	-	16	500		
1127	✓		EBlkC05	-				
1325	✓	H2B230466	MQ21W1AA	SL1229	1	50	1	tetra.
1413	✓		212	L5129	2	11		10mL
1506	✓		213	L8181	3	50		
1557	✓		214	L8196	4	50		
1648	✓ (E)		215	L5163	5	11	3.79	(E) vinyl chloride needs x2
1738	✓		216	L5195	6	~~500~~ 50 3/5/12	1	no c/o ✓
1828	✓ RR ory	ok elev5	217	SL1232	7	~~125~~ 26mL		(Ok) as elev5
1919	✓		218	L5132	8	50		
2008	✓ IS2		219	L5142	9	50		
2058	✓		22A	L5112	10	11		10mL
2147	✓		22C	L5184	11	11		10mL
2237	✓		22D	SL1233	12	50		
2327	✓		22E	L5120	13			
~~000~~ 0017 3/4/12	✓		22F	L5156	14			00:17
0108	✓ IS		22G	L8177	15			RR
0157	dup		22GD		15			
0247	✓		22H1AA	L8189	1	50	1	
0338	✓		21Q2AA	04402	2	50	499.47	tce
0430	✓	H2B230465	MQ20L1AA	LA7168	3		1	
0518	✓		0Q	L5128	4			
0608	N	H2B230466	MQ2152AA	L5163	5	11	41.21	10 Needs IX1 RR 10mL
0700	✓	H2B230465	20R1AA	L5107	6	50	1	
Not Needed		H2B230466	217R	SL1232	7			
Not Run		Lot 9761	1006 →		8	500		std can

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

0752 ✓ H2B230466 MQ219R L5142 9 50 1

Analyst: [signature] Date: 3/4/12 MS027r16.DOC, 051210

0843 ✓ H2B230466 MQ22GR L8177 15 50 1

Test America - Knoxville

Entech Autosampler Log

Position	Volume	Date	Time
16	101	3/5/2012	9:00
15	100	3/5/2012	9:32
16	500	3/5/2012	10:37
16	501	3/5/2012	11:27
1	51	3/5/2012	13:25
2	11	3/5/2012	14:13
3	51	3/5/2012	15:06
4	51	3/5/2012	15:57
5	11	3/5/2012	16:48
6	51	3/5/2012	17:38
7	26	3/5/2012	18:28
8	51	3/5/2012	19:19
9	51	3/5/2012	20:08
10	11	3/5/2012	20:58
11	11	3/5/2012	21:47
12	51	3/5/2012	22:37
13	51	3/5/2012	23:27
14	51	3/6/2012	0:17
15	51	3/6/2012	1:08
15	51	3/6/2012	1:57
1	51	3/6/2012	2:47
2	51	3/6/2012	3:38
3	51	3/6/2012	4:30
4	51	3/6/2012	5:18
5	11	3/6/2012	6:08
6	51	3/6/2012	7:00

Position	Volume	Date	Time
9	50	3/6/2012	7:52
15	50	3/6/2012	8:43

Data File: /chem/gcms/me.i/E030512.b/ebfbo05.d

Date : 05-MAR-2012 09:00

Client ID: BFB

Instrument: me.i

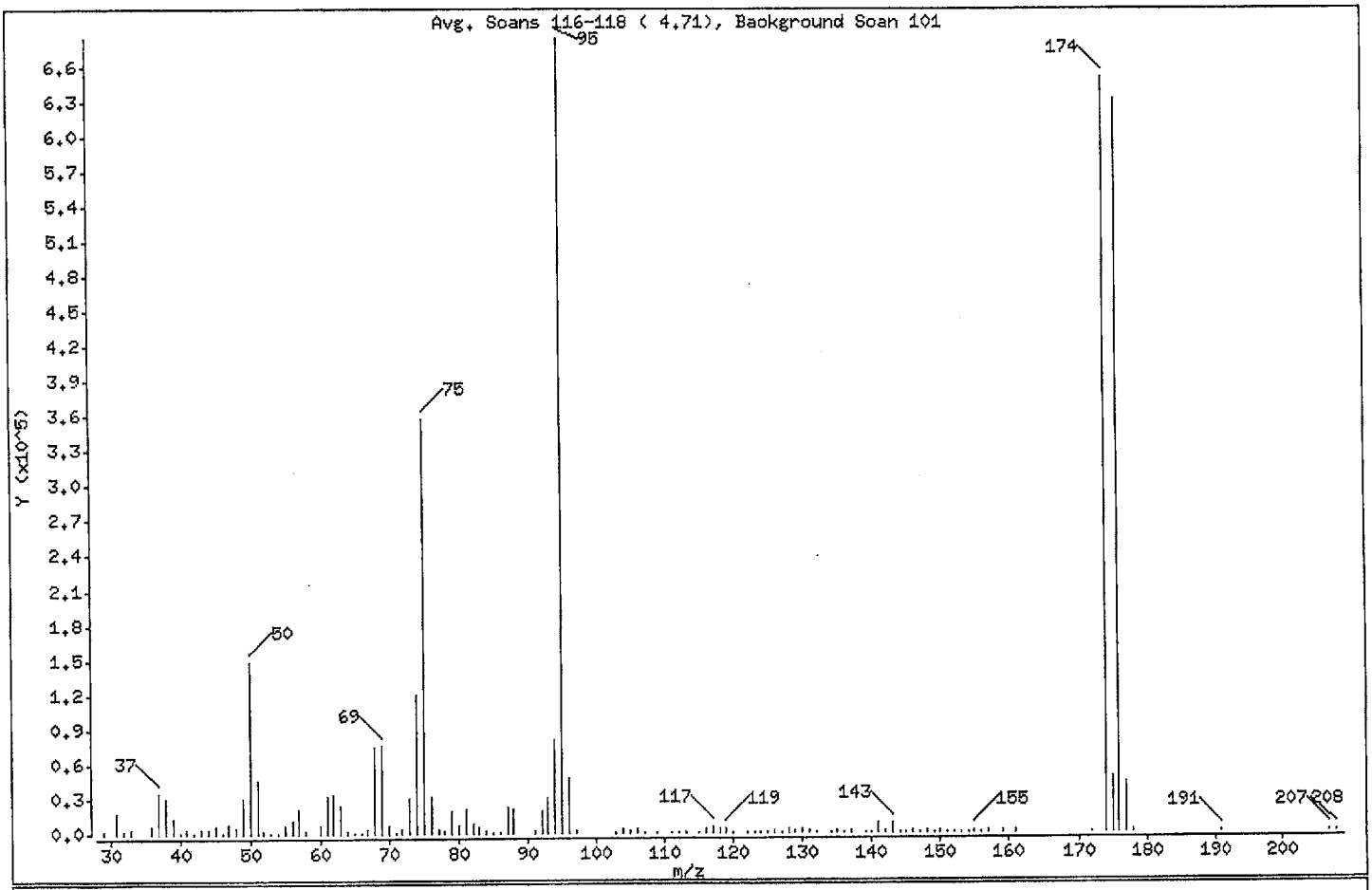
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	21.65
75	30.00 - 60.00% of mass 95	52.28
96	5.00 - 9.00% of mass 95	6.88
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	95.04
175	5.00 - 9.00% of mass 174	6.80 (7.15)
176	95.00 - 101.00% of mass 174	92.28 (97.09)
177	5.00 - 9.00% of mass 176	6.16 (6.68)

Data File: /var/chem/gcms/me.i/E030512.b/eccvc05.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030512.b/TO155.m

Injection Date: 05-MAR-2012 09:32
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 4-Bromofluorobenzene	0.72750	0.70059	0.70059	0.000	3.69816	30.00000	Averaged	
M 5 Xylene (total)	1.01264	1.02287	1.02287	0.000	-1.00993	30.00000	Averaged	
6 Chlorodifluoromethane	0.55987	0.42013	0.42013	0.000	24.95944	30.00000	Averaged	
7 Propene	1.43639	1.35204	1.35204	0.000	5.87238	30.00000	Averaged	
10 Dichlorodifluoromethane	4.82567	4.73686	4.73686	0.000	1.84040	30.00000	Averaged	
9 Chloromethane	0.51844	0.50010	0.50010	0.000	3.53685	30.00000	Averaged	
11 1,2-Dichlorotetrafluoroetha	2.73343	2.58326	2.58326	0.000	5.49392	30.00000	Averaged	
8 ~ acetaldehyde	7.52956	10.12000	0.15738	0.000	25.59721	30.00000	Quadratic	
12 Methanol	0.30978	0.26605	0.26605	0.000	14.11746	30.00000	Averaged	
13 Vinyl Chloride	1.58403	1.52389	1.52389	0.000	3.79639	30.00000	Averaged	
14 n-Butane	2.44569	2.20718	2.20718	0.000	9.75231	30.00000	Averaged	
15 1,3-Butadiene	1.16516	1.04869	1.04869	0.000	9.99588	30.00000	Averaged	
16 Bromomethane	1.57252	1.39462	1.39462	0.000	11.31300	30.00000	Averaged	
18 Chloroethane	0.67079	0.65460	0.65460	0.000	2.41399	30.00000	Averaged	
17 ~ ethanol	7.68539	10.44000	0.30431	0.000	26.38518	30.00000	Quadratic	
19 Vinyl Bromide	1.39027	1.30730	1.30730	0.000	5.96732	30.00000	Averaged	
20 2-methyl butane	1.81412	1.55047	1.55047	0.000	14.53326	30.00000	Averaged	
21 Trichlorofluoromethane	4.68088	4.37056	4.37056	0.000	6.62945	30.00000	Averaged	
22 Acrolein	0.39353	0.39329	0.39329	0.000	0.06157	30.00000	Averaged	
23 Acetonitrile	0.40510	0.39602	0.39602	0.000	2.24229	30.00000	Averaged	
24 ~~Acetone~~	0.90103	0.44177	0.44177	0.000	~~50.97653~~	30.00000	Averaged	<-NA
25 Pentane	0.20224	0.18517	0.18517	0.000	8.44135	30.00000	Averaged	
26 Isopropyl alcohol	1.28746	1.25695	1.25695	0.000	2.36978	30.00000	Averaged	
27 Ethyl Ether	1.15104	1.18269	1.18269	0.000	-2.74930	30.00000	Averaged	
28 1,1-Dichloroethene	1.17462	1.10345	1.10345	0.000	6.05898	30.00000	Averaged	
29 Acrylonitrile	0.91709	0.92557	0.92557	0.000	-0.92471	30.00000	Averaged	
30 1,1,2-Trichlorotrifluoroeth	2.58209	2.52069	2.52069	0.000	2.37819	30.00000	Averaged	
31 tert-butanol	2.08282	2.16456	2.16456	0.000	-3.92479	30.00000	Averaged	
32 Methylene Chloride	1.23699	1.05579	1.05579	0.000	14.64794	30.00000	Averaged	
33 3-Chloropropene	1.42479	1.30945	1.30945	0.000	8.09529	30.00000	Averaged	
34 Carbon Disulfide	4.21922	3.85202	3.85202	0.000	8.70317	30.00000	Averaged	
35 trans-1,2-Dichloroethene	1.40392	1.34543	1.34543	0.000	4.16601	30.00000	Averaged	
36 ~ 2-Methyl Pentane	3.90526	3.57561	3.57561	0.000	8.44120	30.00000	Averaged	
37 Methyl-t-Butyl Ether	3.25068	3.27137	3.27137	0.000	-0.63650	30.00000	Averaged	
38 1,1-Dichloroethane	2.75587	2.65395	2.65395	0.000	3.69852	30.00000	Averaged	

Data File: /var/chem/gcms/me.i/E030512.b/eccvc05.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030512.b/TO155.m

Injection Date: 05-MAR-2012 09:32
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 Vinyl Acetate	3.43851	3.40124	3.40124	0.000	1.08392	30.00000	Averaged
40 Hexane	1.28525	1.20260	1.20260	0.000	6.43041	30.00000	Averaged
41 2-Butanone	0.51559	0.46103	0.46103	0.000	10.58247	30.00000	Averaged
42 cis 1,2-Dichloroethene	1.36239	1.32143	1.32143	0.000	3.00630	30.00000	Averaged
43 Ethyl acetate	2.86942	2.73868	2.73868	0.000	4.55623	30.00000	Averaged
44 Chloroform	3.29356	3.14966	3.14966	0.000	4.36921	30.00000	Averaged
45 Tetrahydrofuran	1.48081	1.37783	1.37783	0.000	6.95401	30.00000	Averaged
46 1,1,1-Trichloroethane	3.66226	3.48570	3.48570	0.000	4.82083	30.00000	Averaged
47 1,2-Dichloroethane	0.47546	0.43950	0.43950	0.000	7.56408	30.00000	Averaged
48 Cyclohexane	0.15654	0.13051	0.13051	0.000	16.62715	30.00000	Averaged
49 Benzene	0.83307	0.74414	0.74414	0.000	10.67436	30.00000	Averaged
50 Carbon Tetrachloride	0.75144	0.74314	0.74314	0.000	1.10397	30.00000	Averaged
51 1-Butanol	0.08857	0.08853	0.08853	0.000	0.04833	30.00000	Averaged
52 ~ 2,3-dimethylpentane	0.18569	0.16976	0.16976	0.000	8.57609	30.00000	Averaged
53 ~ Thiophene	0.47889	0.43307	0.43307	0.000	9.56790	30.00000	Averaged
54 2,2,4-trimethylpentane	1.54447	1.38699	1.38699	0.000	10.19598	30.00000	Averaged
55 Heptane	0.31230	0.27502	0.27502	0.000	11.93702	30.00000	Averaged
56 1,2-Dichloropropane	0.32079	0.30204	0.30204	0.000	5.84448	30.00000	Averaged
57 Trichloroethene	0.39897	0.36414	0.36414	0.000	8.73086	30.00000	Averaged
180 2-Nitropropene	0.48768	0.48341	0.48341	0.000	0.87651	25.00000	Averaged
58 Dibromomethane	0.38815	0.35597	0.35597	0.000	8.28914	30.00000	Averaged
59 Bromodichloromethane	0.74157	0.70232	0.70232	0.000	5.29305	30.00000	Averaged
60 1,4-dioxane	0.07806	0.08042	0.08042	0.000	-3.02010	30.00000	Averaged
61 Methyl Methacrylate	0.36971	0.33485	0.33485	0.000	9.42878	30.00000	Averaged
62 ~ methyl cyclohexane	0.51519	0.45994	0.45994	0.000	10.72433	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.48191	0.44836	0.44836	0.000	6.96159	30.00000	Averaged
64 4-Methyl-2-pentanone	0.64256	0.54913	0.54913	0.000	14.54078	30.00000	Averaged
65 trans-1,3-Dichloropropene	0.53029	0.53538	0.53538	0.000	-0.96145	30.00000	Averaged
66 Toluene	1.07924	1.06724	1.06724	0.000	1.11205	30.00000	Averaged
67 1,1,2-Trichloroethane	0.32760	0.32491	0.32491	0.000	0.82038	30.00000	Averaged
68 ~ 2-methyl thiophene	0.89585	0.89384	0.89384	0.000	0.22458	30.00000	Averaged
70 ~ 3-methyl thiophene	0.90080	0.89790	0.89790	0.000	0.32125	30.00000	Averaged
69 2-Hexanone	0.30430	0.28174	0.28174	0.000	7.41473	30.00000	Averaged
71 Octane	0.36697	0.34890	0.34890	0.000	4.92440	30.00000	Averaged
72 Dibromochloromethane	0.74492	0.76425	0.76425	0.000	-2.59441	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030512.b/eccvc05.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030512.b/TO155.m

Injection Date: 05-MAR-2012 09:32
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 1,2-Dibromoethane	0.58706	0.56212	0.56212	0.000	4.24891	30.00000	Averaged
74 Tetrachloroethene	0.45149	0.43113	0.43113	0.000	4.50907	30.00000	Averaged
75 Chlorobenzene	0.82172	0.81299	0.81299	0.000	1.06244	30.00000	Averaged
76 ~ 2,3-dimethylheptane	1.20126	1.14858	1.14858	0.000	4.38505	30.00000	Averaged
77 Ethylbenzene	1.29481	1.31143	1.31143	0.000	-1.28411	30.00000	Averaged
79 ~ 2-ethyl thiophene	1.06532	1.07228	1.07228	0.000	-0.65337	30.00000	Averaged
78 m&p-Xylene	1.00261	1.01671	1.01671	0.000	-1.40613	30.00000	Averaged
80 Nonane	0.78325	0.75344	0.75344	0.000	3.80602	30.00000	Averaged
81 Bromoform	0.79942	0.78952	0.78952	0.000	1.23880	30.00000	Averaged
82 Styrene	0.68299	0.68218	0.68218	0.000	0.11778	30.00000	Averaged
83 o-Xylene	1.03272	1.03520	1.03520	0.000	-0.24063	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.69891	0.67936	0.67936	0.000	2.79814	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19288	0.19053	0.19053	0.000	1.21837	30.00000	Averaged
86 Cumene	1.41249	1.40532	1.40532	0.000	0.50781	30.00000	Averaged
87 n-Propylbenzene	0.34788	0.35290	0.35290	0.000	-1.44348	30.00000	Averaged
88 2-chlorotoluene	0.35700	0.34650	0.34650	0.000	2.94095	30.00000	Averaged
89 4-Ethyltoluene	1.32034	1.29428	1.29428	0.000	1.97388	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57594	0.56504	0.56504	0.000	1.89244	30.00000	Averaged
91 Alpha-Methylstyrene	0.51031	0.48412	0.48412	0.000	5.13144	30.00000	Averaged
92 Decane	0.82537	0.83931	0.83931	0.000	-1.68902	30.00000	Averaged
93 tert-butylbenzene	1.12901	1.09527	1.09527	0.000	2.98783	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.05675	1.00483	1.00483	0.000	4.91345	30.00000	Averaged
95 sec-butylbenzene	1.51762	1.46081	1.46081	0.000	3.74375	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77036	0.69364	0.69364	0.000	9.95806	30.00000	Averaged
97 Benzyl Chloride	0.82883	0.77200	0.77200	0.000	6.85737	30.00000	Averaged
98 1,4-Dichlorobenzene	0.70924	0.64007	0.64007	0.000	9.75254	30.00000	Averaged
99 p-Cymene	1.25900	1.18029	1.18029	0.000	6.25141	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.86630	0.82812	0.82812	0.000	4.40691	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86372	0.82395	0.82395	0.000	4.60469	30.00000	Averaged
102 1,2-Dichlorobenzene	0.69309	0.61737	0.61737	0.000	10.92549	30.00000	Averaged
103 ~ Indane	0.88188	0.81459	0.81459	0.000	7.63092	30.00000	Averaged
105 ~ Indene	0.61554	0.55482	0.55482	0.000	9.86444	30.00000	Averaged
104 n-butylbenzene	1.11355	1.03272	1.03272	0.000	7.25937	30.00000	Averaged
106 Undecane	0.69283	0.57270	0.57270	0.000	17.33981	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96732	0.86454	0.86454	0.000	10.62487	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.92229	0.80485	0.80485	0.000	12.73336	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030512.b/eccvc05.d
Report Date: 05-Mar-2012 17:00

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030512.b/TO155.m

Injection Date: 05-MAR-2012 09:32
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.69406	0.59992	0.59992	0.000	13.56352	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.74184	0.58545	0.58545	0.000	21.08190	30.00000	Averaged	
111 Dodecane	0.46156	0.50358	0.50358	0.000	-9.10416	30.00000	Averaged	
112 1,2,4-Trichlorobenzene	0.33280	0.25087	0.25087	0.000	24.61639	30.00000	Averaged	
113 Napthalene	0.57074	0.40575	0.40575	0.000	28.90774	30.00000	Averaged	
114 ~ benzo(b) thiophene	0.31049	0.21086	0.21086	0.000	32.09001	30.00000	Averaged	<-Ok
115 Hexachlorobutadiene	0.64451	0.51023	0.51023	0.000	20.83413	30.00000	Averaged	
116 1,2,3-trichlorobenzene	0.28291	0.20368	0.20368	0.000	28.00638	30.00000	Averaged	
117 ~ 2-Methylnaphthalene	0.04231	0.02152	0.02152	0.000	49.13068	50.00000	Averaged	
118 ~ 1-Methylnaphthalene	0.04168	0.01929	0.01929	0.000	53.72854	50.00000	Averaged	<-Ok

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/6/12	CCAL Batch/ Scan Name:	E030612	Instrument:	ME	ICAL Batch/ Scan Name:	E030112S	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓		#41 +35	✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		□ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				NA
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene • 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 3/6/12	2nd Level Reviewer :	Date: 3/7/12
Comments:		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: tHK Qtims Batch: 2066141 (MQ9GW)

Date: 3/6/12 ICAL Batch: E030112I Target Batch: E030612 IS #1 Area: 267101

Surr/IS ID & Vol.: 40MCV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☐Daily _____

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0958	✓	BLK	EBFBC06	–	16	100	1	
1033	✓	CCV	CCV	CV2323	15			#11 35+
1033	✓	LCS	LCS	↓	↓	↓		
1034	OK	BLK	Flush	–	16	500		
1332	✓	↓	EBLKC06	–	↓	↓		
1425	✓	H2B230465	MQ20N1AA	LS178	1	50	1	
1517	✓		20X	LS122	2	86	1.72	1
1609	✓		200	LS167	3	50	1	
1659	✓		201	L8182	4	50	1	3/6/12 LL
1750	✓	↓	208	LS104	5	20	3.07	76.75
1841	✓	H2B230466	MQ2152AA	LS163	6	11	150.0	10mL VCL
1936	✓	H2B230469	MQ23N1AA	1362N	7	500	1	
2029	E		23P	11370	8			E chlorodifluoro RR 200m
2123	E		23R	12298	9			" " RR 200m
2215	✓		23V	04307	10			
2311	✓		230	02306	11	↓		
0001	✓		234	93245	12	250		
0057	✓		237	93239	13	500		
0151	✓		239	1287N	14			
0242	✓		24C	03841	15			
0334	dup		24CD	03841	15	↓	↓	
0423	✓	H2B230465	MQ2031AA	LA3072	1	218.	4.36	MQ2031AA
0517	✓	H2B230469	MQ24E1AA 3/6/12 LL	93244	2	500	1	
0611	✓		4F	S1489	3			
0704	✓		4J	1316N	4			
0757	✓	↓	4L	A281	5	↓	↓	
0847	✓	lot 9763	B003 →		6			STD can
	MS	9761	1006 →		7			
	dup	9759	5506 →		16	↓	↓	

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 3/7/12

Test America - Knoxville

Entech Autosampler Log

Position	Volume	Date	Time
16	101	3/6/2012	9:58
15	101	3/6/2012	10:33
16	501	3/6/2012	12:33
16	500	3/6/2012	13:32
1	51	3/6/2012	14:25
2	86	3/6/2012	15:17
3	51	3/6/2012	16:09
4	51	3/6/2012	16:58
5	21	3/6/2012	17:50
6	11	3/6/2012	18:41
7	501	3/6/2012	19:36
8	501	3/6/2012	20:29
9	501	3/6/2012	21:23
10	501	3/6/2012	22:15
11	501	3/6/2012	23:11
12	251	3/7/2012	0:01
13	501	3/7/2012	0:57
14	501	3/7/2012	1:51
15	501	3/7/2012	2:42
15	501	3/7/2012	3:34
1	218	3/7/2012	4:23
2	501	3/7/2012	5:17
3	501	3/7/2012	6:11
4	501	3/7/2012	7:04
5	501	3/7/2012	7:56
6	501	3/7/2012	8:47

Data File: /chem/gcms/me.i/E030612.b/ebfbo06.d

Date : 06-MAR-2012 09:58

Client ID: BFB

Instrument: me.i

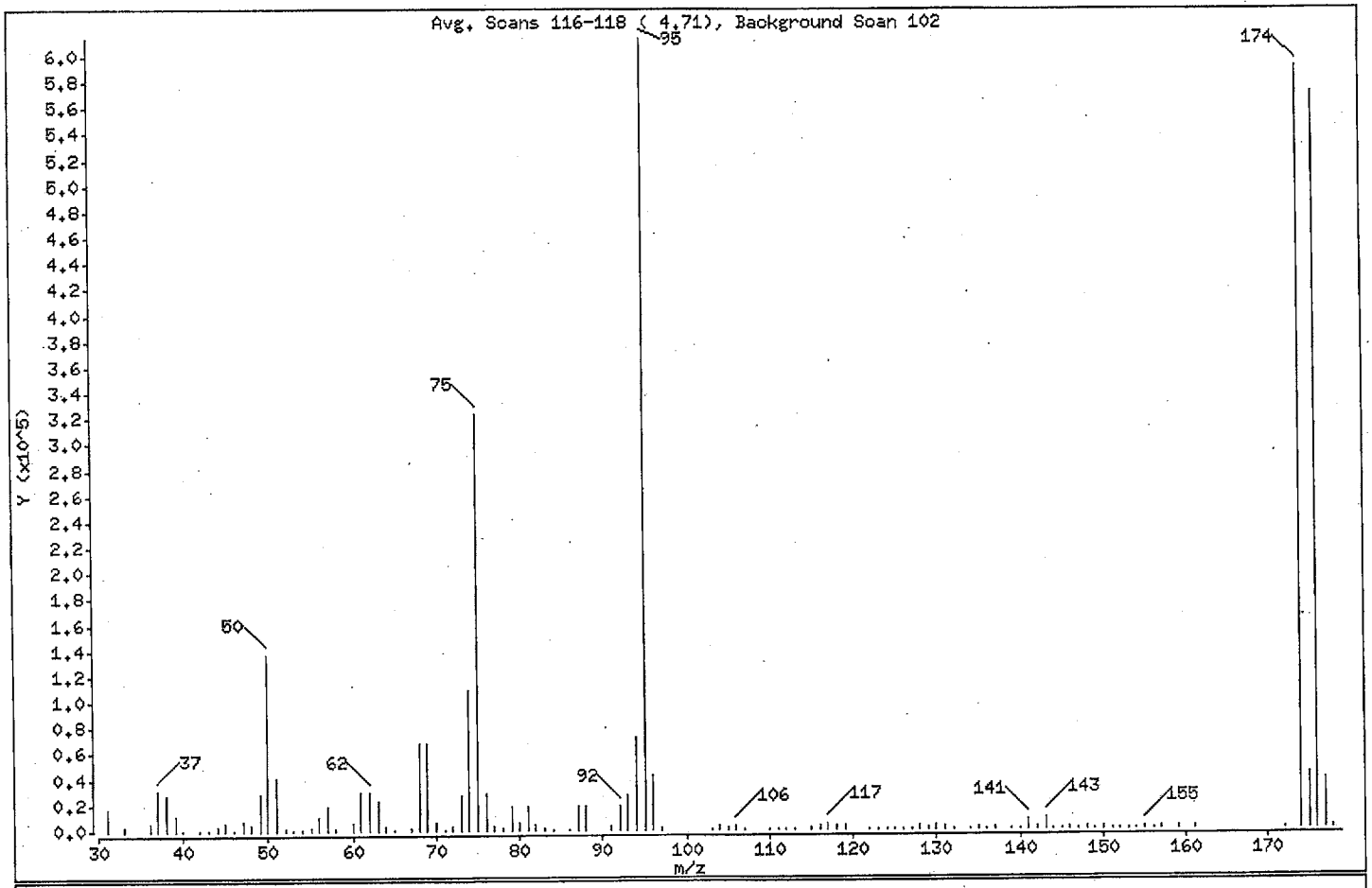
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.40
75	30.00 - 60.00% of mass 95	52.61
96	5.00 - 9.00% of mass 95	6.79
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	96.41
175	5.00 - 9.00% of mass 174	6.80 (7.06)
176	95.00 - 101.00% of mass 174	93.21 (96.69)
177	5.00 - 9.00% of mass 176	6.15 (6.60)

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.72750	0.72384	0.72384	0.000	0.50231	30.00000	Averaged
M 5 Xylene (total)	1.01264	1.07079	1.07079	0.000	-5.74173	30.00000	Averaged
6 Chlorodifluoromethane	0.55987	0.59602	0.59602	0.000	-6.45619	30.00000	Averaged
7 Propene	1.43639	1.60311	1.60311	0.000	-11.60652	30.00000	Averaged
10 Dichlorodifluoromethane	4.82567	5.63028	5.63028	0.000	-16.67358	30.00000	Averaged
9 Chloromethane	0.51844	0.55971	0.55971	0.000	-7.96142	30.00000	Averaged
~~11 1,2-Dichlorotetrafluoroetha~~	2.73343	3.69723	3.69723	0.000	~~-35.25880~~	30.00000	Averaged
8 ~ acetaldehyde	8.41568	10.12000	0.17339	0.000	16.84115	30.00000	Quadratic
12 Methanol	0.30978	0.30903	0.30903	0.000	0.24164	30.00000	Averaged
13 Vinyl Chloride	1.58403	1.78929	1.78929	0.000	-12.95824	30.00000	Averaged
14 n-Butane	2.44569	2.69073	2.69073	0.000	-10.01945	30.00000	Averaged
15 1,3-Butadiene	1.16516	1.31950	1.31950	0.000	-13.24591	30.00000	Averaged
16 Bromomethane	1.57252	1.69076	1.69076	0.000	-7.51936	30.00000	Averaged
18 Chloroethane	0.67079	0.76123	0.76123	0.000	-13.48253	30.00000	Averaged
17 ~ ethanol	9.77333	10.44000	0.36147	0.000	6.38573	30.00000	Quadratic
19 Vinyl Bromide	1.39027	1.55220	1.55220	0.000	-11.64788	30.00000	Averaged
20 2-methyl butane	1.81412	1.92324	1.92324	0.000	-6.01490	30.00000	Averaged
21 Trichlorofluoromethane	4.68088	5.40516	5.40516	0.000	-15.47308	30.00000	Averaged
22 Acrolein	0.39353	0.44381	0.44381	0.000	-12.77483	30.00000	Averaged
23 Acetonitrile	0.40510	0.44540	0.44540	0.000	-9.94676	30.00000	Averaged
~~24 Acetone~~	0.90103	0.57167	0.57167	0.000	~~36.55348~~	30.00000	Averaged
25 Pentane	0.20224	0.22026	0.22026	0.000	-8.91182	30.00000	Averaged
26 Isopropyl alcohol	1.28746	1.40893	1.40893	0.000	-9.43439	30.00000	Averaged
27 Ethyl Ether	1.15104	1.32695	1.32695	0.000	-15.28269	30.00000	Averaged
28 1,1-Dichloroethene	1.17462	1.26259	1.26259	0.000	-7.48930	30.00000	Averaged
29 Acrylonitrile	0.91709	1.00163	1.00163	0.000	-9.21806	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.58209	2.76235	2.76235	0.000	-6.98082	30.00000	Averaged
31 tert-butanol	2.08282	2.35445	2.35445	0.000	-13.04133	30.00000	Averaged
32 Methylene Chloride	1.23699	1.14230	1.14230	0.000	7.65433	30.00000	Averaged
33 3-Chloropropene	1.42479	1.46341	1.46341	0.000	-2.71033	30.00000	Averaged
34 Carbon Disulfide	4.21922	4.64968	4.64968	0.000	-10.20223	30.00000	Averaged
35 trans-1,2-Dichloroethene	1.40392	1.44393	1.44393	0.000	-2.84997	30.00000	Averaged
36 ~ 2-Methyl Pentane	3.90526	4.02090	4.02090	0.000	-2.96116	30.00000	Averaged
37 Methyl-t-Butyl Ether	3.25068	3.71051	3.71051	0.000	-14.14545	30.00000	Averaged
38 1,1-Dichloroethane	2.75587	2.88294	2.88294	0.000	-4.61068	30.00000	Averaged

<-60.140

<-MP

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 Vinyl Acetate	3.43851	3.87386	3.87386	0.000	-12.66114	30.00000	Averaged
40 Hexane	1.28525	1.29831	1.29831	0.000	-1.01658	30.00000	Averaged
41 2-Butanone	0.51559	0.52405	0.52405	0.000	-1.64031	30.00000	Averaged
42 cis 1,2-Dichloroethene	1.36239	1.36227	1.36227	0.000	0.00887	30.00000	Averaged
43 Ethyl acetate	2.86942	3.27052	3.27052	0.000	-13.97845	30.00000	Averaged
44 Chloroform	3.29356	3.41907	3.41907	0.000	-3.81055	30.00000	Averaged
45 Tetrahydrofuran	1.48081	1.57105	1.57105	0.000	-6.09443	30.00000	Averaged
46 1,1,1-Trichloroethane	3.66226	3.85065	3.85065	0.000	-5.14419	30.00000	Averaged
47 1,2-Dichloroethane	0.47546	0.49858	0.49858	0.000	-4.86237	30.00000	Averaged
48 Cyclohexane	0.15654	0.14031	0.14031	0.000	10.36727	30.00000	Averaged
49 Benzene	0.83307	0.78432	0.78432	0.000	5.85187	30.00000	Averaged
50 Carbon Tetrachloride	0.75144	0.75639	0.75639	0.000	-0.65926	30.00000	Averaged
51 1-Butanol	0.08857	0.09537	0.09537	0.000	-7.67549	30.00000	Averaged
52 ~ 2,3-dimethylpentane	0.18569	0.18047	0.18047	0.000	2.80841	30.00000	Averaged
53 ~ Thiophene	0.47889	0.45254	0.45254	0.000	5.50191	30.00000	Averaged
54 2,2,4-trimethylpentane	1.54447	1.50093	1.50093	0.000	2.81870	30.00000	Averaged
55 Heptane	0.31230	0.29235	0.29235	0.000	6.38976	30.00000	Averaged
56 1,2-Dichloropropane	0.32079	0.32274	0.32274	0.000	-0.60761	30.00000	Averaged
57 Trichloroethene	0.39897	0.37222	0.37222	0.000	6.70444	30.00000	Averaged
180 2-Nitropropene	0.48768	0.61450	0.61450	0.000	-26.00454	25.00000	Averaged
58 Dibromomethane	0.38815	0.37568	0.37568	0.000	3.21112	30.00000	Averaged
59 Bromodichloromethane	0.74157	0.75284	0.75284	0.000	-1.51880	30.00000	Averaged
60 1,4-dioxane	0.07806	0.08179	0.08179	0.000	-4.77753	30.00000	Averaged
61 Methyl Methacrylate	0.36971	0.39646	0.39646	0.000	-7.23523	30.00000	Averaged
62 ~ methyl cyclohexane	0.51519	0.49093	0.49093	0.000	4.70860	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.48191	0.47819	0.47819	0.000	0.77190	30.00000	Averaged
64 4-Methyl-2-pentanone	0.64256	0.58921	0.58921	0.000	8.30375	30.00000	Averaged
65 trans-1,3-Dichloropropene	0.53029	0.57911	0.57911	0.000	-9.20647	30.00000	Averaged
66 Toluene	1.07924	1.10036	1.10036	0.000	-1.95703	30.00000	Averaged
67 1,1,2-Trichloroethane	0.32760	0.34334	0.34334	0.000	-4.80503	30.00000	Averaged
68 ~ 2-methyl thiophene	0.89585	0.92657	0.92657	0.000	-3.42995	30.00000	Averaged
70 ~ 3-methyl thiophene	0.90080	0.93019	0.93019	0.000	-3.26278	30.00000	Averaged
69 2-Hexanone	0.30430	0.30289	0.30289	0.000	0.46370	30.00000	Averaged
71 Octane	0.36697	0.36701	0.36701	0.000	-0.01083	30.00000	Averaged
72 Dibromochloromethane	0.74492	0.78690	0.78690	0.000	-5.63585	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 1,2-Dibromoethane	0.58706	0.59431	0.59431	0.000	-1.23354	30.00000	Averaged
74 Tetrachloroethene	0.45149	0.46022	0.46022	0.000	-1.93573	30.00000	Averaged
75 Chlorobenzene	0.82172	0.82855	0.82855	0.000	-0.83063	30.00000	Averaged
76 ~ 2,3-dimethylheptane	1.20126	1.24633	1.24633	0.000	-3.75211	30.00000	Averaged
77 Ethylbenzene	1.29481	1.36017	1.36017	0.000	-5.04849	30.00000	Averaged
79 ~ 2-ethyl thiophene	1.06532	1.11173	1.11173	0.000	-4.35662	30.00000	Averaged
78 m&p-Xylene	1.00261	1.06707	1.06707	0.000	-6.42937	30.00000	Averaged
80 Nonane	0.78325	0.80633	0.80633	0.000	-2.94552	30.00000	Averaged
81 Bromoform	0.79942	0.78407	0.78407	0.000	1.92021	30.00000	Averaged
82 Styrene	0.68299	0.68911	0.68911	0.000	-0.89593	30.00000	Averaged
83 o-Xylene	1.03272	1.07822	1.07822	0.000	-4.40654	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.69891	0.70264	0.70264	0.000	-0.53391	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19288	0.19957	0.19957	0.000	-3.46821	30.00000	Averaged
86 Cumene	1.41249	1.45570	1.45570	0.000	-3.05884	30.00000	Averaged
87 n-Propylbenzene	0.34788	0.35637	0.35637	0.000	-2.44060	30.00000	Averaged
88 2-chlorotoluene	0.35700	0.34272	0.34272	0.000	3.99901	30.00000	Averaged
89 4-Ethyltoluene	1.32034	1.34246	1.34246	0.000	-1.67505	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57594	0.57394	0.57394	0.000	0.34781	30.00000	Averaged
91 Alpha-Methylstyrene	0.51031	0.47751	0.47751	0.000	6.42668	30.00000	Averaged
92 Decane	0.82537	0.89856	0.89856	0.000	-8.86869	30.00000	Averaged
93 tert-butylbenzene	1.12901	1.11943	1.11943	0.000	0.84787	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.05675	1.02791	1.02791	0.000	2.72952	30.00000	Averaged
95 sec-butylbenzene	1.51762	1.47207	1.47207	0.000	3.00174	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77036	0.69095	0.69095	0.000	10.30844	30.00000	Averaged
97 Benzyl Chloride	0.82883	0.79915	0.79915	0.000	3.58159	30.00000	Averaged
98 1,4-Dichlorobenzene	0.70924	0.64195	0.64195	0.000	9.48764	30.00000	Averaged
99 p-Cymene	1.25900	1.20177	1.20177	0.000	4.54539	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.86630	0.83069	0.83069	0.000	4.11082	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86372	0.83234	0.83234	0.000	3.63356	30.00000	Averaged
102 1,2-Dichlorobenzene	0.69309	0.60859	0.60859	0.000	12.19172	30.00000	Averaged
103 ~ Indane	0.88188	0.81388	0.81388	0.000	7.71111	30.00000	Averaged
105 ~ Indene	0.61554	0.54406	0.54406	0.000	11.61211	30.00000	Averaged
104 n-butylbenzene	1.11355	1.06436	1.06436	0.000	4.41796	30.00000	Averaged
106 Undecane	0.69283	0.61069	0.61069	0.000	11.85553	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96732	0.87336	0.87336	0.000	9.71320	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.92229	0.82040	0.82040	0.000	11.04757	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.69406	0.62007	0.62007	0.000	10.66071	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.74184	0.63848	0.63848	0.000	13.93391	30.00000	Averaged	
111 Dodecane	0.46156	0.36123	0.36123	0.000	21.73714	30.00000	Averaged	
112 1,2,4-Trichlorobenzene	0.33280	0.25694	0.25694	0.000	22.79337	30.00000	Averaged	
113 Napthalene	0.57074	0.43312	0.43312	0.000	24.11320	30.00000	Averaged	
114 ~~benzo(b) thiophene~~	0.31049	0.20132	0.20132	0.000	~~35.16265~~	30.00000	Averaged	<- OK
115 Hexachlorobutadiene	0.64451	0.55707	0.55707	0.000	13.56574	30.00000	Averaged	
116 ~~1,2,3-trichlorobenzene~~	0.28291	0.14089	0.14089	0.000	~~50.19976~~	30.00000	Averaged	<- NT
117 ~~2-Methylnaphthalene~~	0.04231	0.02288	0.02288	0.000	~~45.91868~~	50.00000	Averaged	
118 ~~1-Methylnaphthalene~~	0.04168	0.02153	0.02153	0.000	~~48.32853~~	50.00000	Averaged	

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C050000 - 033B	**Work Order #**	MQ7781AA	**Matrix.....:**	AIR
Prep Date.....:	02/21/2012 03/02/2012	**Date Received..:**	02/23/2012		
Prep Batch #.....:	206503	**Analysis Date...**	03/02/2012		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.080	ND	0.26
Carbon tetrachloride	ND	0.080	ND	0.50
Chlorodifluoromethane	**0.052 J**	**0.080**	**0.18 J**	**0.28**
Chloroform	ND	0.080	ND	0.39
Dichlorodifluoromethane	ND	0.080	ND	0.40
1,1-Dichloroethane	ND	0.080	ND	0.32
1,2-Dichloroethane	ND	0.080	ND	0.32
cis-1,2-Dichloroethene	ND	0.080	ND	0.32
trans-1,2-Dichloroethene	ND	0.080	ND	0.32
1,1-Dichloroethene	ND	0.080	ND	0.32
Ethylbenzene	ND	0.080	ND	0.35
Methylene chloride	**0.091 J**	**0.20**	**0.32 J**	**0.69**
Methyl tert-butyl ether	ND	0.40	ND	1.4
Naphthalene	ND	0.20	ND	1.0
Tetrachloroethene	ND	0.080	ND	0.54
Toluene	ND	0.080	ND	0.30
1,2,4-Trichlorobenzene	ND	0.40	ND	3.0
1,1,1-Trichloroethane	ND	0.080	ND	0.44
1,1,2-Trichloroethane	ND	0.080	ND	0.44
Trichloroethene	ND	0.040	ND	0.21
1,2,3-Trimethylbenzene	ND	0.080	ND	0.39
1,2,4-Trimethylbenzene	ND	0.080	ND	0.39
1,3,5-Trimethylbenzene	ND	0.080	ND	0.39
Vinyl chloride	ND	0.080	ND	0.20
Xylenes (total)	ND	0.16	ND	0.69

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C050000 - 033C **Work Order #** MQ7781AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/02/2012	**Analysis Date...**	03/02/2012
Prep Batch #.....:	2065033		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.58	16	14.6	92	70 - 130
Carbon tetrachloride	5.00	4.63	31	29.1	93	70 - 130
Chlorodifluoromethane	5.00	4.29	18	15.2	86	60 - 140
Chloroform	5.00	4.92	24	24.0	98	70 - 130
Dichlorodifluoromethane	5.00	4.55	25	22.5	91	60 - 140
1,1-Dichloroethane	5.00	5.00	20	20.2	100	70 - 130
1,2-Dichloroethane	5.00	4.72	20	19.1	94	70 - 130
cis-1,2-Dichloroethene	5.00	5.03	20	20.0	101	70 - 130
trans-1,2-Dichloroethene	5.00	4.68	20	18.6	94	70 - 130
1,1-Dichloroethene	5.00	5.46	20	21.7	109	70 - 130
Ethylbenzene	5.00	4.95	22	21.5	99	70 - 130
Methylene chloride	5.00	4.64	17	16.1	93	70 - 130
Methyl tert-butyl ether	5.00	5.01	18	18.1	100	60 - 140
Naphthalene	5.00	3.68	26	19.3	74	40 - 140
Tetrachloroethene	5.00	4.53	34	30.7	91	70 - 130
Toluene	5.00	4.74	19	17.9	95	70 - 130
1,2,4-Trichlorobenzene	5.00	3.67	37	27.3	73	60 - 140
1,1,1-Trichloroethane	5.00	4.88	27	26.6	98	70 - 130
1,1,2-Trichloroethane	5.00	4.61	27	25.2	92	70 - 130
Trichloroethene	5.00	4.55	27	24.4	91	70 - 130
1,2,3-Trimethylbenzene	5.10	5.19	25	25.5	102	20 - 180
1,2,4-Trimethylbenzene	5.00	4.68	25	23.0	94	70 - 130
1,3,5-Trimethylbenzene	5.00	4.89	25	24.0	98	70 - 130
Vinyl chloride	5.00	4.57	13	11.7	91	70 - 130
Xylenes (total)	15.0	14.6	65	63.5	98	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C050000 - 117B	**Work Order #**	MQ8MN1AA	**Matrix.....:**	AIR
	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.080	ND	0.26
Carbon tetrachloride	ND	0.080	ND	0.50
Chlorodifluoromethane	ND	0.080	ND	0.28
Chloroform	ND	0.080	ND	0.39
Dichlorodifluoromethane	ND	0.080	ND	0.40
1,1-Dichloroethane	ND	0.080	ND	0.32
1,2-Dichloroethane	ND	0.080	ND	0.32
cis-1,2-Dichloroethene	ND	0.080	ND	0.32
trans-1,2-Dichloroethene	ND	0.080	ND	0.32
1,1-Dichloroethene	ND	0.080	ND	0.32
Ethylbenzene	ND	0.080	ND	0.35
Methylene chloride	**0.050 J**	**0.20**	**0.17 J**	**0.69**
Methyl tert-butyl ether	ND	0.40	ND	1.4
Naphthalene	ND	0.20	ND	1.0
Tetrachloroethene	ND	0.080	ND	0.54
Toluene	ND	0.080	ND	0.30
1,2,4-Trichlorobenzene	ND	0.40	ND	3.0
1,1,1-Trichloroethane	ND	0.080	ND	0.44
1,1,2-Trichloroethane	ND	0.080	ND	0.44
Trichloroethene	ND	0.040	ND	0.21
1,2,3-Trimethylbenzene	ND	0.080	ND	0.39
1,2,4-Trimethylbenzene	ND	0.080	ND	0.39
1,3,5-Trimethylbenzene	ND	0.080	ND	0.39
Vinyl chloride	ND	0.080	ND	0.20
Xylenes (total)	ND	0.16	ND	0.69

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample #	H2C050000 - 117C	**Work Order #**	MQ8MN1AC	**Matrix.....:**	AIR
	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/05/2012	**Analysis Date...**	03/05/2012		
Prep Batch #.....:	2065117				
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.47	16	14.3	89	70 - 130
Carbon tetrachloride	5.00	4.94	31	31.1	99	70 - 130
Chlorodifluoromethane	5.00	3.75	18	13.3	75	60 - 140
Chloroform	5.00	4.78	24	23.3	96	70 - 130
Dichlorodifluoromethane	5.00	4.91	25	24.3	98	60 - 140
1,1-Dichloroethane	5.00	4.82	20	19.5	96	70 - 130
1,2-Dichloroethane	5.00	4.62	20	18.7	92	70 - 130
cis-1,2-Dichloroethene	5.00	4.85	20	19.2	97	70 - 130
trans-1,2-Dichloroethene	5.00	4.79	20	19.0	96	70 - 130
1,1-Dichloroethene	5.00	4.70	20	18.6	94	70 - 130
Ethylbenzene	5.00	5.06	22	22.0	101	70 - 130
Methylene chloride	5.00	4.27	17	14.8	85	70 - 130
Methyl tert-butyl ether	5.00	5.03	18	18.1	101	60 - 140
Naphthalene	5.00	3.56	26	18.6	71	40 - 140
Tetrachloroethene	5.00	4.77	34	32.4	95	70 - 130
Toluene	5.00	4.94	19	18.6	99	70 - 130
1,2,4-Trichlorobenzene	5.00	3.77	37	28.0	75	60 - 140
1,1,1-Trichloroethane	5.00	4.76	27	26.0	95	70 - 130
1,1,2-Trichloroethane	5.00	4.96	27	27.1	99	70 - 130
Trichloroethene	5.00	4.56	27	24.5	91	70 - 130
1,2,3-Trimethylbenzene	5.10	4.97	25	24.4	97	20 - 180
1,2,4-Trimethylbenzene	5.00	4.75	25	23.4	95	70 - 130
1,3,5-Trimethylbenzene	5.00	4.90	25	24.1	98	70 - 130
Vinyl chloride	5.00	4.81	13	12.3	96	70 - 130
Xylenes (total)	15.0	15.2	65	65.8	101	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C060000 - 141B	**Work Order #**	MQ9GW1AA	**Matrix.....:**	AIR
	02/22/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/06/2012	**Analysis Date...**	03/06/2012		
Prep Batch #.....:	2066141				
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Vinyl chloride	ND	0.080	ND	0.20

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample #	H2C060000 - 141C	**Work Order #**	MQ9GW1AC
Matrix.....:	AIR		
	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Date...**	03/06/2012
Prep Batch #.....:	2066141		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Vinyl chloride	5.00	5.65	13	14.4	113	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Data File: /var/chem/gcms/me.i/E030212.b/mq21g1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21G1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-044-C-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.008	100.21	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq22d1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22D1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-050-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.948	98.70	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21h1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21H1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-057-B-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.827	95.68	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21t1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21T1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-060-C-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.636	90.89	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2141aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2141AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-063-B-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.893	97.33	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21k1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21K1AA
Client Smp ID: SV-088-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.891	97.28	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq22gr.d
Report Date: 06-Mar-2012 10:01

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22G1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-091-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.894	97.34	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2181aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2181AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-100-B-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.939	98.48	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2171aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2171AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-101-B-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.754	93.85	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq22e1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22E1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-103-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.894	97.36	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21f1aa.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21F1AA
Client Smp ID: SV-104-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.865	96.63	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq22a1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22A1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-105-Z-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.744	93.59	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21r1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21R1AA
Client Smp ID: SV-111-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.846	96.16	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21e1aa.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21E1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-112-C-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.019	100.47	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21l1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21L1AA
Client Smp ID: SV-113-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.796	94.90	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21n1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21N1AA
Client Smp ID: SV-114-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.841	96.03	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21m1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21M1AA
Client Smp ID: SV-115-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.814	95.35	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2161aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2161AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-121-B-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.987	99.67	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq219r.d
Report Date: 06-Mar-2012 09:59

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2191AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-122-B-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.934	98.34	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq22c1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22C1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-123-Z-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.833	95.82	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq22f1aa.d
Report Date: 06-Mar-2012 10:01

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22F1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-124-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.919	97.97	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq22h1aa.d
Report Date: 06-Mar-2012 10:02

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22H1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-125-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.862	96.54	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2151aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2151AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-126-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.809	95.22	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq2152aa.d
Report Date: 06-Mar-2012 19:21

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2152AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-126-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb (v/v)	CONC RECOVERED ppb (v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.828	95.71	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq2101aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ2101AA
Client Smp ID: SV-127-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.720	93.00	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2121aa.d
Report Date: 06-Mar-2012 09:57

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2121AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-128-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.762	94.06	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21d1aa.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21D1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-129-C-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb (v/v)	CONC RECOVERED ppb (v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.941	98.52	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21a1aa.d
Report Date: 05-Mar-2012 17:46

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21A1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-130-C-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.236	105.91	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21cr.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21C1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-131-C-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.950	98.75	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq21w1aa.d
Report Date: 06-Mar-2012 10:35

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21W1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-132-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.901	97.53	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21q1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21Q1AA
Client Smp ID: SV-133-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.908	97.71	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq21q2aa.d
Report Date: 06-Mar-2012 10:47

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ21Q2AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tce.sub
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tce.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-133-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.816	95.40	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21p1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230466
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ21P1AA
Client Smp ID: SV-134-C-12
Level: LOW
Operator: 22980
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.808	95.21	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq2111aa.d
Report Date: 05-Mar-2012 17:50

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2111AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-DUP-1-12
Operator: 22980
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.759	93.98	70-130

Data File: /var/chem/gcms/me.i/E030512.b/mq2131aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2131AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Client SDG: H2B230466
Fraction: OTHER
Client Smp ID: SV-DUP-2-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.056	101.39	70-130

Data File: /var/chem/gcms/me.i/E030212.b/mq21g1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21g1aa.d
Lab Smp Id: MQ21G1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-044-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	286070	-12.62
2 1,4-Difluorobenze	1676329	997416	2355242	1487279	-11.28
3 Chlorobenzene-d5	1484276	883144	2085408	1266187	-14.69

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq22d1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq22d1aa.d
Lab Smp Id: MQ22D1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-050-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	270038	-18.13
2 1,4-Difluorobenze	1654479	984415	2324543	1402137	-15.25
3 Chlorobenzene-d5	1398791	832281	1965301	1112822	-20.44

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.20
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21h1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21h1aa.d
Lab Smp Id: MQ21H1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-057-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	280939	-14.19
2 1,4-Difluorobenze	1676329	997416	2355242	1437979	-14.22
3 Chlorobenzene-d5	1484276	883144	2085408	1202119	-19.01

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	0.00
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21t1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21t1aa.d
Lab Smp Id: MQ21T1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-060-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	292997	-10.50
2 1,4-Difluorobenze	1676329	997416	2355242	1524769	-9.04
3 Chlorobenzene-d5	1484276	883144	2085408	1196822	-19.37

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq2141aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2141aa.d
Lab Smp Id: MQ2141AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-063-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	260229	-21.10
2 1,4-Difluorobenze	1654479	984415	2324543	1364391	-17.53
3 Chlorobenzene-d5	1398791	832281	1965301	1106926	-20.87

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.15
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21k1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21k1aa.d
Lab Smp Id: MQ21K1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-088-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	270501	-17.37
2 1,4-Difluorobenze	1676329	997416	2355242	1418450	-15.38
3 Chlorobenzene-d5	1484276	883144	2085408	1222103	-17.66

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq22gr.d
Report Date: 06-Mar-2012 10:01

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq22gr.d
Lab Smp Id: MQ22G1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-091-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	255734	-22.46
2 1,4-Difluorobenze	1654479	984415	2324543	1340831	-18.96
3 Chlorobenzene-d5	1398791	832281	1965301	1074751	-23.17

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.15
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq2181aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2181aa.d
Lab Smp Id: MQ2181AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-100-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	264618	-19.77
2 1,4-Difluorobenze	1654479	984415	2324543	1362206	-17.67
3 Chlorobenzene-d5	1398791	832281	1965301	1115266	-20.27

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.20
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq2171aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2171aa.d
Lab Smp Id: MQ2171AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-101-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	263817	-20.01
2 1,4-Difluorobenze	1654479	984415	2324543	1347919	-18.53
3 Chlorobenzene-d5	1398791	832281	1965301	1108522	-20.75

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.13
2 1,4-Difluorobenze	10.34	10.01	10.67	10.33	-0.10
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq22e1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq22e1aa.d
Lab Smp Id: MQ22E1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-103-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	266285	-19.26
2 1,4-Difluorobenze	1654479	984415	2324543	1367918	-17.32
3 Chlorobenzene-d5	1398791	832281	1965301	1095572	-21.68

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21f1aa.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21f1aa.d
Lab Smp Id: MQ21F1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-104-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	301766	-7.82
2 1,4-Difluorobenze	1676329	997416	2355242	1562795	-6.77
3 Chlorobenzene-d5	1484276	883144	2085408	1327595	-10.56

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.19	0.06
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	0.00
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq22a1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq22a1aa.d
Lab Smp Id: MQ22A1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-105-Z-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	263628	-20.07
2 1,4-Difluorobenze	1654479	984415	2324543	1370148	-17.19
3 Chlorobenzene-d5	1398791	832281	1965301	1110867	-20.58

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.20
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21r1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21r1aa.d
Lab Smp Id: MQ21R1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-111-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	273941	-16.32
2 1,4-Difluorobenze	1676329	997416	2355242	1425541	-14.96
3 Chlorobenzene-d5	1484276	883144	2085408	1156510	-22.08

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21e1aa.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21e1aa.d
Lab Smp Id: MQ21E1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-112-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	226379	-30.85
2 1,4-Difluorobenze	1676329	997416	2355242	1149627	-31.42
3 Chlorobenzene-d5	1484276	883144	2085408	1084797	-26.91

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq2111aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2111aa.d
Lab Smp Id: MQ21L1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-113-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	303928	-7.16
2 1,4-Difluorobenze	1676329	997416	2355242	1573429	-6.14
3 Chlorobenzene-d5	1484276	883144	2085408	1297845	-12.56

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21n1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21n1aa.d
Lab Smp Id: MQ21N1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-114-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	289105	-11.69
2 1,4-Difluorobenze	1676329	997416	2355242	1500083	-10.51
3 Chlorobenzene-d5	1484276	883144	2085408	1206440	-18.72

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21m1aa.d
Report Date: 05-Mar-2012 17:48

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21m1aa.d
Lab Smp Id: MQ21M1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-115-C-12
Level: LOW
Sample Type: AIR
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	229651	-29.85
2 1,4-Difluorobenze	1676329	997416	2355242	1140932	-31.94
3 Chlorobenzene-d5	1484276	883144	2085408	988774	-33.38

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq2161aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2161aa.d
Lab Smp Id: MQ2161AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-121-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	263509	-20.11
2 1,4-Difluorobenze	1654479	984415	2324543	1353131	-18.21
3 Chlorobenzene-d5	1398791	832281	1965301	1120200	-19.92

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.20
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq219r.d
Report Date: 06-Mar-2012 09:59

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq219r.d
Lab Smp Id: MQ2191AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-122-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	261127	-20.83
2 1,4-Difluorobenze	1654479	984415	2324543	1341323	-18.93
3 Chlorobenzene-d5	1398791	832281	1965301	1084448	-22.47

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.21
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq22c1aa.d
Report Date: 06-Mar-2012 10:00

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq22c1aa.d
Lab Smp Id: MQ22C1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-123-Z-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	247593	-24.93
2 1,4-Difluorobenze	1654479	984415	2324543	1281790	-22.53
3 Chlorobenzene-d5	1398791	832281	1965301	1054530	-24.61

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.20
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq22f1aa.d
Report Date: 06-Mar-2012 10:01

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq22f1aa.d
Lab Smp Id: MQ22F1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-124-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	269326	-18.34
2 1,4-Difluorobenze	1654479	984415	2324543	1380844	-16.54
3 Chlorobenzene-d5	1398791	832281	1965301	1100633	-21.32

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq22h1aa.d
Report Date: 06-Mar-2012 10:02

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq22h1aa.d
Lab Smp Id: MQ22H1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-125-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	260335	-21.07
2 1,4-Difluorobenze	1654479	984415	2324543	1367416	-17.35
3 Chlorobenzene-d5	1398791	832281	1965301	1074571	-23.18

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq2151aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2151aa.d
Lab Smp Id: MQ2151AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-126-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	264685	-19.75
2 1,4-Difluorobenze	1654479	984415	2324543	1367242	-17.36
3 Chlorobenzene-d5	1398791	832281	1965301	1104869	-21.01

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.20
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq2152aa.d
Report Date: 06-Mar-2012 19:21

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2152aa.d
Lab Smp Id: MQ2152AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: SV-126-C-12
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	245736	-8.00
2 1,4-Difluorobenze	1341010	797901	1884119	1291005	-3.73
3 Chlorobenzene-d5	1134838	675229	1594447	1063521	-6.28

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.13
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.10
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq2101aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2101aa.d
Lab Smp Id: MQ2101AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-127-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	291335	-11.01
2 1,4-Difluorobenze	1676329	997416	2355242	1489838	-11.12
3 Chlorobenzene-d5	1484276	883144	2085408	1165695	-21.46

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.13
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq2121aa.d
Report Date: 06-Mar-2012 09:57

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2121aa.d
Lab Smp Id: MQ2121AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-128-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	258324	-21.68
2 1,4-Difluorobenze	1654479	984415	2324543	1291604	-21.93
3 Chlorobenzene-d5	1398791	832281	1965301	1057648	-24.39

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21d1aa.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21d1aa.d
Lab Smp Id: MQ21D1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-129-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	299716	-8.45
2 1,4-Difluorobenze	1676329	997416	2355242	1557970	-7.06
3 Chlorobenzene-d5	1484276	883144	2085408	1314966	-11.41

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21a1aa.d
Report Date: 05-Mar-2012 17:46

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21a1aa.d
Lab Smp Id: MQ21A1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-130-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	220273	-32.72
2 1,4-Difluorobenze	1676329	997416	2355242	1159761	-30.82
3 Chlorobenzene-d5	1484276	883144	2085408	1074842	-27.58

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21cr.d
Report Date: 05-Mar-2012 17:47

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21cr.d
Lab Smp Id: MQ21C1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-131-C-12
Level: LOW
Sample Type: AIR
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	236332	-27.81
2 1,4-Difluorobenze	1676329	997416	2355242	1194503	-28.74
3 Chlorobenzene-d5	1484276	883144	2085408	1041996	-29.80

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.10
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq21w1aa.d
Report Date: 06-Mar-2012 10:35

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21w1aa.d
Lab Smp Id: MQ21W1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-132-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	219005	-33.60
2 1,4-Difluorobenze	1654479	984415	2324543	1022688	-38.19
3 Chlorobenzene-d5	1398791	832281	1965301	881670	-36.97

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.21
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21q1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21q1aa.d
Lab Smp Id: MQ21Q1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-133-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	203853	-37.73
2 1,4-Difluorobenze	1676329	997416	2355242	1008636	-39.83
3 Chlorobenzene-d5	1484276	883144	2085408	886964	-40.24

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq21q2aa.d
Report Date: 06-Mar-2012 10:47

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21q2aa.d
Lab Smp Id: MQ21Q2AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tce.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-133-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	261388	-20.75
2 1,4-Difluorobenze	1654479	984415	2324543	1362740	-17.63
3 Chlorobenzene-d5	1398791	832281	1965301	1067155	-23.71

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.21
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq21p1aa.d
Report Date: 05-Mar-2012 17:49

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq21p1aa.d
Lab Smp Id: MQ21P1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-134-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	284335	-13.15
2 1,4-Difluorobenze	1676329	997416	2355242	1465256	-12.59
3 Chlorobenzene-d5	1484276	883144	2085408	1149475	-22.56

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030212.b/mq2111aa.d
Report Date: 05-Mar-2012 17:50

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2111aa.d
Lab Smp Id: MQ2111AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 22980
Method File: /var/chem/gcms/me.i/E030212.b/TO155.m
Misc Info: E030212,TO155,tetra.sub,,

Calibration Date: 02-MAR-2012
Calibration Time: 10:37
Client Smp ID: SV-DUP-1-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	327383	194793	459973	219321	-33.01
2 1,4-Difluorobenze	1676329	997416	2355242	1143102	-31.81
3 Chlorobenzene-d5	1484276	883144	2085408	908401	-38.80

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.13
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030512.b/mq2131aa.d
Report Date: 06-Mar-2012 09:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2131aa.d
Lab Smp Id: MQ2131AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030512.b/TO155.m
Misc Info: E030512,TO155,tetra.sub,,

Calibration Date: 05-MAR-2012
Calibration Time: 09:32
Client Smp ID: SV-DUP-2-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	329820	196243	463397	216347	-34.40
2 1,4-Difluorobenze	1654479	984415	2324543	1014501	-38.68
3 Chlorobenzene-d5	1398791	832281	1965301	878574	-37.19

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.17	-0.26
2 1,4-Difluorobenze	10.34	10.01	10.67	10.32	-0.16
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

LMC-MIDDLE RIVER
AIR DATA
H2B230466

FRACTION	CHEMICAL	SVDUP-2-12	UNITS	SV063-B-12	RPD	D
OV	1,2,3-TRIMETHYLBENZENE	8	UG/M3	5.8	31.88	2.20
OV	1,2,4-TRIMETHYLBENZENE	19	UG/M3	14	30.30	5.00
OV	1,3,5-TRIMETHYLBENZENE	4.5	UG/M3	3.2 J	33.77	1.30
OV	BENZENE	1.3 J	UG/M3	1.1 J	16.67	0.20
OV	CARBON TETRACHLORIDE	1.5 J	UG/M3	1.2 J	22.22	0.30
OV	CHLORODIFLUOROMETHANE	22	UG/M3	21	4.65	1.00
OV	CHLOROFORM	2.7 J	UG/M3	2.4 J	11.76	0.30
OV	DICHLORODIFLUOROMETHANE	2.9 J	UG/M3	2.5 J	14.81	0.40
OV	ETHYLBENZENE	7.8	UG/M3	6.4	19.72	1.40
OV	METHYLENE CHLORIDE	4.1 B	UG/M3	3.7 B	10.26	0.40
OV	NAPHTHALENE	200	UG/M3	99	67.56	101.00
OV	TETRACHLOROETHENE	1.2 J	UG/M3	ND	200.00	1.20 N/A<2xR.L.
OV	TOLUENE	18	UG/M3	17	5.71	1.00
OV	TOTAL XYLENES	40	UG/M3	31	25.35	9.00
OV	TRICHLOROETHENE	0.79 J	UG/M3	ND	200.00	0.79 N/A<2xR.L.

Current RPD Quality Control Limit: 50 %.
Shaded cells indicate RPDs that exceed the applicable quality control limit.

LMC-MIDDLE RIVER
AIR DATA
H2B230466

FRACTION	CHEMICAL	SVDUP-1-12	UNITS	SV060-C-12	RPD	D
OV	1,1,1-TRICHLOROETHANE	17 J	UG/M3	11 J	42.86	6.00
OV	1,1-DICHLOROETHANE	120	UG/M3	71	51.31	49.00
OV	1,1-DICHLOROETHENE	12 J	UG/M3	11 J	8.70	1.00
OV	1,2,4-TRIMETHYLBENZENE	64	UG/M3	20 J	104.76	44.00 N/A<2xR.L.
OV	1,3,5-TRIMETHYLBENZENE	19 J	UG/M3	ND	200.00	19.00 N/A<2xR.L.
OV	CHLORODIFLUOROMETHANE	15 B	UG/M3	18 B	18.18	3.00
OV	CHLOROFORM	94	UG/M3	56	50.67	38.00
OV	CIS-1,2-DICHLOROETHENE	340	UG/M3	200	51.85	140.00
OV	ETHYLBENZENE	460	UG/M3	190	83.08	270.00
OV	METHYLENE CHLORIDE	20 B	UG/M3	25 B	22.22	5.00
OV	NAPHTHALENE	770	UG/M3	280	93.33	490.00
OV	TETRACHLOROETHENE	40 J	UG/M3	23 J	53.97	17.00 N/A<2xR.L.
OV	TOLUENE	29 J	UG/M3	14 J	69.77	15.00 N/A<2xR.L.
OV	TOTAL XYLENES	3100	UG/M3	1200	88.37	1900.00
OV	TRANS-1,2-DICHLOROETHENE	38	UG/M3	26 J	37.50	12.00
OV	TRICHLOROETHENE	4900	UG/M3	3000	48.10	1900.00

Current RPD Quality Control Limit: 50 %.
Shaded cells indicate RPDs that exceed the applicable quality control limit.

CALCULATION VERIFICATION

SDG H2B230466 / LMC MIDDLE RIVER / PROJECT 03953

INSTRUMENT SAMPLE		Instrument ME SV130-C-12	
COMPOUND RESPONSE	CHLOROFORM	426973	
COMPOUND RESPONSE	TRICHLOROETHENE	1126442	
COMPOUND RESPONSE	TETRACHLOROETHENE	n/a	
COMPOUND RRF	CHLOROFORM	3.2936	
COMPOUND RRF	TRICHLOROETHENE	0.399	
COMPOUND RRF	TETRACHLOROETHENE	n/a	
INTERNAL STD. AREA FOR BROMOCHLOROMETHANE	CHLOROFORM	220273	
INTERNAL STD. AREA FOR 1,4-DICHLOROBENZENE	TRICHLOROETHENE	1159761	
INTERNAL STD. AREA FOR CHLOROBENZENE-D5	TETRACHLOROETHENE	n/a	
INTERNAL STANDARD CONCENTRATION (PPBV)	CHLOROFORM	4	
INTERNAL STANDARD CONCENTRATION (PPBV)	TRICHLOROETHENE	4	
INTERNAL STANDARD CONCENTRATION (PPBV)	TETRACHLOROETHENE	4	
SAMPLE DILUTION FACTOR	CHLOROFORM	10	
SAMPLE DILUTION FACTOR	TRICHLOROETHENE	10	
SAMPLE DILUTION FACTOR	TETRACHLOROETHENE	n/a	
COMPOUND CALCULATED CONCENTRATION PPBV	**CHLOROFORM**	**23.54118**	PPBV
COMPOUND CALCULATED CONCENTRATION PPBV	**TRICHLOROETHENE**	**97.37051**	PPBV
COMPOUND CALCULATED CONCENTRATION PPBV	**TETRACHLOROETHENE**	**#VALUE!**	PPBV
COMPOUND CALCULATED CONCENTRATION µg/m^3	**CHLOROFORM**	**114.943**	µg/m3
COMPOUND CALCULATED CONCENTRATION µg/m^3	**TRICHLOROETHENE**	**523.252**	µg/m3
COMPOUND CALCULATED CONCENTRATION µg/m^3	**TETRACHLOROETHENE**	**#VALUE!**	µg/m3

Data File: /var/chem/gcms/me.i/E030212.b/mq21a1aa.d
Report Date: 05-Mar-2012 17:46

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/me.i/E030212.b/mq21a1aa.d
Lab Smp Id: MQ21A1AA Client Smp ID: SV-130-C-12
Inj Date : 02-MAR-2012 15:13
Operator : 22980 Inst ID: me.i
Smp Info : ,10,0,,,
Misc Info : E030212,TO155,tetra.sub,,
Comment :
Method : /var/chem/gcms/me.i/E030212.b/TO155.m
Meth Date : 05-Mar-2012 16:59 barlozha Quant Type: ISTD
Cal Date : 01-MAR-2012 22:23 Cal File: eicc019.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: tetra.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	10.00000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	500.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
*	1 Bromochloromethane	128	8.177	8.183	(1.000)	220273	4.00000	4.000
*	2 1,4-Difluorobenzene	114	10.329	10.335	(1.000)	1159761	4.00000	4.000
*	3 Chlorobenzene-d5	117	15.176	15.176	(1.000)	1074842	4.00000	4.000
$	4 4-Bromofluorobenzene	95	16.849	16.849	(1.110)	828190	4.23657	4.236
	6 Chlorodifluoromethane	67	3.626	3.632	(0.443)	2000	0.06487	0.6487
	10 Dichlorodifluoromethane	85	3.685	3.686	(0.451)	21235	0.07991	0.7991
	28 1,1-Dichloroethene	96	5.547	5.547	(0.678)	158361	2.44822	24.48
	32 Methylene Chloride	84	5.853	5.853	(0.716)	33684	0.49449	4.945
	35 trans-1,2-Dichloroethene	96	6.585	6.585	(0.805)	2314	0.02993	0.2993
	38 1,1-Dichloroethane	63	6.962	6.967	(0.851)	118103	0.77822	7.782
	42 cis-1,2-Dichloroethene	96	7.881	7.876	(0.964)	2408	0.03210	0.3210
	44 Chloroform	83	8.199	8.204	(1.003)	426973	2.35414	23.54
	46 1,1,1-Trichloroethane	97	9.172	9.178	(1.122)	2910633	14.4324	144.3
	49 Benzene	78	9.759	9.759	(0.945)	170226	0.70475	7.048
	57 Trichloroethene	130	11.055	11.056	(1.070)	1126442	9.73774	97.38
	66 Toluene	91	13.164	13.170	(0.867)	364989	1.25857	12.58

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
43 Ethyl acetate	+++++	+++++	3.09417	2.94489	3.02182	2.90839					
	2.78243	2.79484	2.53942				AVRG		2.86942		6.41004
44 Chloroform	3.30115	3.66619	3.69125	3.30439	3.44731	3.38367					
	3.04011	3.04701	2.76100				AVRG		3.29356		9.21930
45 Tetrahydrofuran	+++++	+++++	1.83526	1.47815	1.53747	1.42766					
	1.40120	1.38975	1.29615				AVRG		1.48081		11.70992
46 1,1,1-Trichloroethane	+++++	4.14238	4.05949	3.66487	3.82780	3.77855					
	3.38559	3.37396	3.06540				AVRG		3.66226		10.03352
47 1,2-Dichloroethane	0.40749	0.56000	0.54072	0.47303	0.50580	0.49943					
	0.43540	0.44427	0.41299				AVRG		0.47546		11.52169
48 Cyclohexane	+++++	0.22784	0.19167	0.15190	0.15605	0.15658					
	0.12509	0.12665	0.11654				AVRG		0.15654		23.92950
49 Benzene	0.89962	1.00542	0.98285	0.81323	0.86000	0.82412					
	0.71002	0.73050	0.67183				AVRG		0.83307		14.03901

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
57 Trichloroethene	0.37442	0.47737	0.47657	0.38841	0.42763	0.42647					
	0.33914	0.35208	0.32864				AVRG		0.39897		14.06319
180 2-Nitropropene	0.30860	0.50263	0.52451	0.47324	0.56252	0.52357					
	0.50892	0.53458	0.45055				AVRG		0.48768		15.34043
58 Dibromomethane	0.36879	0.43441	0.45861	0.37809	0.41584	0.40989					
	0.34443	0.35588	0.32738				AVRG		0.38815		11.32785
59 Bromodichloromethane	0.65448	0.84584	0.84404	0.71498	0.80477	0.78739					
	0.67865	0.70229	0.64171				AVRG		0.74157		10.79102
60 1,4-dioxane	+++++	+++++	0.08687	0.06435	0.08797	0.11175					
	0.07641	0.06932	0.04975				AVRG		0.07806		25.51089
61 Methyl Methacrylate	+++++	0.38717	0.38692	0.36385	0.39476	0.38460					
	0.34148	0.36270	0.33623				AVRG		0.36971		6.00693
62 ~ methyl cyclohexane	0.51488	0.62531	0.60703	0.49879	0.54564	0.53948					
	0.43957	0.45119	0.41479				AVRG		0.51519		14.10472

Tetra Tech **INTERNAL CORRESPONDENCE**

TO: **E. SAMUELS** **DATE:** **MARCH 19, 2012**

FROM: **A. COGNETTI** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SAMPLE DELIVERY GROUP (SDG) – H2B230467

SAMPLES: 21/Air/VOC

BCK1-12	BCK2-12	BCK3-12	BCK4-12
IA001-C-12	IA044-C-12	IA057-B-12	IA063-B-12
IA088-C-12	IA091-C-12	IA101-B-12	IA104-C-12
IA112-C-12	IA113-C-12	IA115-C-12	IA121-B-12
IA124-C-12	IA129-C-12	IA130-C-12	IA131-C-12
IA135-C-12			

Overview

The sample set for LMC – Middle River, SDG H2B230467 consisted of twenty one (21) air samples. All samples were analyzed for volatile organic compounds (VOC). There is one (1) field duplicate pair included in this SDG: IA063-B-12/IADUP2-12. Sample IADUP2-12 is included in SDG H2B230469.

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The samples were collected by Tetra Tech on February 21, 2012 and analyzed by Test America Laboratories, Inc. All analyses were conducted in accordance with EPA Method TO-15 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, blank spike results, internal standard recoveries, chromatographic resolution, compound identification, compound quantitation, field duplicate precision and detection limits. Areas of concern are listed below.

Major

No major noncompliances were noted.

Minor

- Contamination was detected in several laboratory method blanks at the following maximum concentrations:

Contaminant	Maximum Concentration (ug/m3)	Action Level (ug/m3)
Methylene chloride [1]	0.11	1.1
Naphthalene [1]	0.24	1.2
Methylene chloride [2]	0.16	1.6
Methylene chloride [3]	0.17	1.7

(1) Maximum concentration of contaminant detected in laboratory method blank associated with batch 2062154 analyzed on March 2, 2012 @ 12:38.
(2) Maximum concentration of contaminant detected in laboratory method blank associated with batch 2066125 analyzed on March 6, 2012 @ 11:05.

(3) Maximum concentration of contaminant detected in laboratory method blank associated with batch 2067130 analyzed on March 7, 2012 @ 12:00.

An action level of 5X the maximum concentration of naphthalene and 10X the maximum concentration of methylene chloride was established in order to evaluate samples for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into account when applying the action level. Positive results less than the action level were qualified as (B).

- The continuing calibration percent difference (%D) for benzene was greater than 30% but less than 50% on March 2, 2012 @ 11:33 on instrument MJ. The positive benzene results were qualified as estimated (J) in the affected samples IA091-C-12, IA124-C-12, IA063-B-12, BCK1-12 and BCK2-12.

- The initial calibration percent relative standard deviation (%RSD) for methylene chloride was greater than the 30% quality control limit and less than 50% on March 1, 2012 on instrument ME. The positive methylene chloride result in the affected sample IA044-C-12 was qualified as estimated (J). The positive methylene chloride result in sample IA001-C-12 was qualified due to blank contamination. No further action was taken.

- Positive results less than the reporting limit and greater than the method detection limit were qualified as estimated (J).

Notes

According to the chain of custody, a start and stop time was not recorded for sample BCK-1-12.

It is noted in the case narrative that the dash (-) mark was removed after the IA or BCK portion of the sample identification per client request. The form 1s and EDD match this revision to the sample identifications on the chain of custody.

The following samples were diluted in order to obtain concentrations of target analytes within instrument calibration range resulting in elevated reporting limits:

Sample	Dilution Factor
IA001-C-12	45.45X
IA063-B-12	2X
IA101-B-12	5X
IA112-C-12	2X
IA121-B-12	2X

Nondetected results were reported to the method detection limit (MDL).

Executive Summary

Laboratory Performance: Contamination was detected in several laboratory method blanks. The continuing calibration %D for benzene exceeded quality control limits. The initial calibration %RSD for methylene chloride exceeded quality control limits.

Other Factors Affecting Data Quality: Positive results less than the reporting limit and greater than the method detection limit were qualified as estimated (J).

The data for these analyses were reviewed with reference to Region III modifications to U.S. EPA National Functional Guidelines for Organic Data Validation (Sept. 1994) and EPA Method TO-15. The text of this report has been formulated to address only those problem areas affecting data quality.

Tetra Tech
Ann Cognetti
Chemist/Data Validator

Tetra Tech
Joseph A. Samchuck
Quality Assurance Officer

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Appendix A

Qualified Analytical Results

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed

PROJ_NO: 03953	NSAMPLE	BCK1-12			BCK2-12			BCK3-12			BCK4-12		
SDG: H2B230467	LAB_ID	H2B230467004			H2B230467005			H2B230467006			H2B230467007		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.95			0.065	U		0.065	U		0.065	U	
1,1,2-TRICHLOROETHANE		0.11	U		0.11	U		0.11	U		0.11	U	
1,1-DICHLOROETHANE		0.04	U		0.04	U		0.04	U		0.04	U	
1,1-DICHLOROETHENE		0.052	U		0.052	U		0.052	U		0.052	U	
1,2,3-TRIMETHYLBENZENE		0.39	U		0.39	U		0.39	U		0.39	U	
1,2,4-TRICHLOROBENZENE		0.29	U		0.29	U		0.29	U		0.29	U	
1,2,4-TRIMETHYLBENZENE		0.12	U		0.12	U		0.12	U		0.12	U	
1,2-DICHLOROETHANE		0.15	J	P	0.077	U		0.077	U		0.077	U	
1,3,5-TRIMETHYLBENZENE		0.13	U		0.13	U		0.13	U		0.13	U	
BENZENE		0.51	J	C	0.36	J	C	0.41			0.45		
CARBON TETRACHLORIDE		0.34	J	P	0.39	J	P	0.44	J	P	0.42	J	P
CHLORODIFLUOROMETHANE		1.3			1.3			1.5			3.9		
CHLOROFORM		0.12	J	P	0.073	U		0.073	U		0.073	U	
CIS-1,2-DICHLOROETHENE		0.095	U		0.095	U		0.095	U		0.095	U	
DICHLORODIFLUOROMETHANE		2.3			2.2			2.3			2.3		
ETHYLBENZENE		0.12	U		0.12	U		0.12	U		0.15	J	P
METHYL TERT-BUTYL ETHER		0.25	U		0.25	U		0.25	U		0.25	U	
METHYLENE CHLORIDE		2.9			8.8			0.94	B	A	3.2		
NAPHTHALENE		0.19	U		0.19	U		0.19	U		0.19	U	
TETRACHLOROETHENE		0.28	J	P	0.11	U		0.37	J	P	0.11	U	
TOLUENE		0.58			0.93			0.45			0.44		
TOTAL XYLENES		0.23	J	P	0.1	U		0.23	J	P	0.53	J	P
TRANS-1,2-DICHLOROETHENE		0.079	U		0.079	U		0.079	U		0.079	U	
TRICHLOROETHENE		0.075	U		0.075	U		0.075	U		0.075	U	
VINYL CHLORIDE		0.074	U		0.074	U		0.074	U		0.074	U	

PROJ_NO: 03953	NSAMPLE	IA001-C-12			IA044-C-12			IA057-B-12			IA063-B-12		
SDG: H2B230467	LAB_ID	H2B230467015			H2B230467016			H2B230467017			H2B230467003		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		3	U		0.27	J	P	0.26	J	P	0.13	U	
1,1,2-TRICHLOROETHANE		5.2	U		0.11	U		0.11	U		0.23	U	
1,1-DICHLOROETHANE		1.8	U		0.04	U		0.04	U		0.081	U	
1,1-DICHLOROETHENE		2.3	U		0.052	U		0.052	U		0.1	U	
1,2,3-TRIMETHYLBENZENE		18	U		0.39	U		0.39	U		0.79	U	
1,2,4-TRICHLOROBENZENE		13	U		0.29	U		0.29	U		0.58	U	
1,2,4-TRIMETHYLBENZENE		5.6	U		0.3	J	P	0.28	J	P	0.4	J	P
1,2-DICHLOROETHANE		3.5	U		0.077	U		0.077	U		0.15	U	
1,3,5-TRIMETHYLBENZENE		5.8	U		0.13	U		0.13	U		0.26	U	
BENZENE		3.3	U		1.7			0.62			0.63	J	C
CARBON TETRACHLORIDE		4.3	U		0.57			0.55			0.47	J	P
CHLORODIFLUOROMETHANE		1700			45			51			30		
CHLOROFORM		3.3	U		0.18	J	P	0.26	J	P	0.34	J	P
CIS-1,2-DICHLOROETHENE		4.3	U		0.095	U		0.095	U		0.19	U	
DICHLORODIFLUOROMETHANE		6.1	U		3			2.4			2.4		
ETHYLBENZENE		5.3	U		0.6			0.63			2.7		
METHYL TERT-BUTYL ETHER		11	U		0.25	U		0.25	U		0.49	U	
METHYLENE CHLORIDE		7.5	B	A	3.3	J	C	2.6			21		
NAPHTHALENE		8.6	U		0.49	J	P	0.23	J	P	0.43	B	A
TETRACHLOROETHENE		4.9	U		0.14	J	P	0.11	J	P	0.22	U	
TOLUENE		7.6	J	P	11			12			120		
TOTAL XYLENES		4.7	U		2.9			3.1			13		
TRANS-1,2-DICHLOROETHENE		3.6	U		0.079	U		0.079	U		0.16	U	
TRICHLOROETHENE		3.4	U		0.16	J	P	0.15	J	P	0.24	J	P
VINYL CHLORIDE		3.4	U		0.074	U		0.074	U		0.15	U	

PROJ_NO: 03953	NSAMPLE	IA088-C-12			IA091-C-12			IA101-B-12			IA104-C-12		
SDG: H2B230467	LAB_ID	H2B230467019			H2B230467001			H2B230467009			H2B230467014		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.27	J	P	0.065	U		0.33	U		0.065	U	
1,1,2-TRICHLOROETHANE		0.11	U		0.11	U		0.57	U		0.11	U	
1,1-DICHLOROETHANE		0.04	U		0.04	U		0.2	U		0.04	U	
1,1-DICHLOROETHENE		0.052	U		0.052	U		0.26	U		0.052	U	
1,2,3-TRIMETHYLBENZENE		0.39	U		0.39	U		2	U		0.39	U	
1,2,4-TRICHLOROBENZENE		0.29	U		0.29	U		1.4	U		0.29	U	
1,2,4-TRIMETHYLBENZENE		0.24	J	P	0.12	U		0.61	U		0.12	U	
1,2-DICHLOROETHANE		0.077	U		0.077	U		0.38	U		0.077	U	
1,3,5-TRIMETHYLBENZENE		0.13	U		0.13	U		0.64	U		0.13	U	
BENZENE		0.6			0.38	J	C	0.85	J	P	0.42		
CARBON TETRACHLORIDE		0.43	J	P	0.45	J	P	0.47	U		0.43	J	P
CHLORODIFLUOROMETHANE		39			7.2			37			11		
CHLOROFORM		0.14	J	P	0.087	J	P	0.37	U		0.073	U	
CIS-1,2-DICHLOROETHENE		0.095	U		0.095	U		0.48	U		0.095	U	
DICHLORODIFLUOROMETHANE		2.3			2.4			2.7			2.3		
ETHYLBENZENE		0.48			0.12	U		4.4			0.12	U	
METHYL TERT-BUTYL ETHER		0.25	U		0.25	U		1.2	U		0.25	U	
METHYLENE CHLORIDE		2.9			3.3			5.7	B	A	0.53	B	A
NAPHTHALENE		0.38	J	P	0.19	U		0.94	U		0.19	U	
TETRACHLOROETHENE		0.11	U		0.11	U		0.54	U		0.11	U	
TOLUENE		9.2			1.3			170			0.53		
TOTAL XYLENES		2.3			0.25	J	P	24			0.44	J	P
TRANS-1,2-DICHLOROETHENE		0.079	U		0.079	U		0.4	U		0.079	U	
TRICHLOROETHENE		0.13	J	P	0.075	U		0.48	J	P	0.075	U	
VINYL CHLORIDE		0.074	U		0.074	U		0.37	U		0.074	U	

PROJ_NO: 03953	NSAMPLE	IA112-C-12			IA113-C-12			IA115-C-12			IA121-B-12		
SDG: H2B230467	LAB_ID	H2B230467013			H2B230467020			H2B230467021			H2B230467008		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.39	J	P	0.065	U		0.065	U		0.13	U	
1,1,2-TRICHLOROETHANE		0.23	U		0.11	U		0.11	U		0.23	U	
1,1-DICHLOROETHANE		0.081	U		0.04	U		0.04	U		0.081	U	
1,1-DICHLOROETHENE		0.1	U		0.052	U		0.052	U		0.1	U	
1,2,3-TRIMETHYLBENZENE		0.79	U		0.39	U		0.39	U		0.79	U	
1,2,4-TRICHLOROBENZENE		0.58	U		0.29	U		0.29	U		0.58	U	
1,2,4-TRIMETHYLBENZENE		0.25	U		0.23	J	P	0.21	J	P	0.25	U	
1,2-DICHLOROETHANE		0.15	U		0.077	U		0.077	U		0.15	U	
1,3,5-TRIMETHYLBENZENE		0.26	U		0.13	U		0.13	U		0.26	U	
BENZENE		0.49	J	P	0.61			0.59			0.28	J	P
CARBON TETRACHLORIDE		0.25	J	P	0.46	J	P	0.44	J	P	0.19	U	
CHLORODIFLUOROMETHANE		72			29			28			24		
CHLOROFORM		0.15	U		0.14	J	P	0.15	J	P	0.36	J	P
CIS-1,2-DICHLOROETHENE		0.19	U		0.095	U		0.095	U		0.19	U	
DICHLORODIFLUOROMETHANE		2.5			2.2			2.3			2.3		
ETHYLBENZENE		0.23	U		0.47			0.42			0.23	U	
METHYL TERT-BUTYL ETHER		0.49	U		0.25	U		0.25	U		0.49	U	
METHYLENE CHLORIDE		3.6			2.3			2.2			4.7		
NAPHTHALENE		0.38	U		0.22	J	P	0.29	J	P	0.38	U	
TETRACHLOROETHENE		0.22	U		0.11	J	P	0.11	U		0.22	U	
TOLUENE		2.9			12			11			8.7		
TOTAL XYLENES		0.21	U		2.3			2			0.21	U	
TRANS-1,2-DICHLOROETHENE		0.16	U		0.079	U		0.079	U		0.16	U	
TRICHLOROETHENE		0.17	J	P	0.075	U		0.075	U		0.28	J	P
VINYL CHLORIDE		0.15	U		0.074	U		0.074	U		0.15	U	

PROJ_NO: 03953	NSAMPLE	IA124-C-12			IA129-C-12			IA130-C-12			IA131-C-12		
SDG: H2B230467	LAB_ID	H2B230467002			H2B230467012			H2B230467010			H2B230467011		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.065	U		0.98			0.41	J	P	0.45		
1,1,2-TRICHLOROETHANE		0.11	U		0.11	U		0.11	U		0.11	U	
1,1-DICHLOROETHANE		0.04	U		0.04	U		0.04	U		0.04	U	
1,1-DICHLOROETHENE		0.052	U		0.052	U		0.052	U		0.052	U	
1,2,3-TRIMETHYLBENZENE		0.39	U		0.39	U		0.39	U		0.39	U	
1,2,4-TRICHLOROBENZENE		0.29	U		0.29	U		0.29	U		0.29	U	
1,2,4-TRIMETHYLBENZENE		0.12	U		0.28	J	P	0.12	U		0.28	J	P
1,2-DICHLOROETHANE		0.077	U		0.077	U		0.077	U		0.077	U	
1,3,5-TRIMETHYLBENZENE		0.13	U		0.13	U		0.13	U		0.13	U	
BENZENE		0.4	J	C	0.64			0.47			0.64		
CARBON TETRACHLORIDE		0.39	J	P	0.44	J	P	0.44	J	P	0.44	J	P
CHLORODIFLUOROMETHANE		14			48			5.8			52		
CHLOROFORM		0.11	J	P	0.16	J	P	0.084	J	P	0.14	J	P
CIS-1,2-DICHLOROETHENE		0.095	U		0.095	U		0.095	U		0.095	U	
DICHLORODIFLUOROMETHANE		2.4			2.3			2.3			2.4		
ETHYLBENZENE		0.12	U		0.6			0.3	J	P	0.88		
METHYL TERT-BUTYL ETHER		0.25	U		0.25	U		0.25	U		0.25	U	
METHYLENE CHLORIDE		1.6			8.2			5.5			4.8		
NAPHTHALENE		0.19	U		0.36	J	P	0.19	U		0.29	J	P
TETRACHLOROETHENE		0.11	U		0.11	U		0.11	U		0.13	J	P
TOLUENE		1.1			6.8			2.8			6.4		
TOTAL XYLENES		0.1	U		3			1.5			4.3		
TRANS-1,2-DICHLOROETHENE		0.079	U		0.079	U		0.079	U		0.079	U	
TRICHLOROETHENE		0.075	U		0.31			0.13	J	P	0.19	J	P
VINYL CHLORIDE		0.074	U		0.074	U		0.074	U		0.074	U	

PROJ_NO: 03953	NSAMPLE	IA135-C-12		
SDG: H2B230467	LAB_ID	H2B230467018		
FRACTION: OV	SAMP_DATE	2/21/2012		
MEDIA: AIR	QC_TYPE	NM		
	UNITS	UG/M3		
	PCT_SOLIDS			
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.19	J	P
1,1,2-TRICHLOROETHANE		0.11	U	
1,1-DICHLOROETHANE		0.04	U	
1,1-DICHLOROETHENE		0.052	U	
1,2,3-TRIMETHYLBENZENE		0.39	U	
1,2,4-TRICHLOROBENZENE		0.29	U	
1,2,4-TRIMETHYLBENZENE		0.22	J	P
1,2-DICHLOROETHANE		0.14	J	P
1,3,5-TRIMETHYLBENZENE		0.13	U	
BENZENE		0.68		
CARBON TETRACHLORIDE		0.43	J	P
CHLORODIFLUOROMETHANE		35		
CHLOROFORM		0.15	J	P
CIS-1,2-DICHLOROETHENE		0.095	U	
DICHLORODIFLUOROMETHANE		2.4		
ETHYLBENZENE		0.49		
METHYL TERT-BUTYL ETHER		0.25	U	
METHYLENE CHLORIDE		2.8		
NAPHTHALENE		0.19	U	
TETRACHLOROETHENE		0.12	J	P
TOLUENE		11		
TOTAL XYLENES		2.3		
TRANS-1,2-DICHLOROETHENE		0.079	U	
TRICHLOROETHENE		0.1	J	P
VINYL CHLORIDE		0.074	U	

Appendix B

Results as Reported by the Laboratory

Tetra Tech, Inc

Client Sample ID: BCK1-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 004 **Work Order #** MQ22P1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/02/2012 **Analysis Time....:** 03/03/2012
Prep Batch #.....: 2062154 **Analysis Time....:** 06:57
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.16**	**0.080**	**0.023**	**0.51**	**0.26**	**0.073**
Carbon tetrachloride	**0.054 J**	**0.080**	**0.015**	**0.34 J**	**0.50**	**0.094**
Chlorodifluoromethane	**0.38**	**0.080**	**0.015**	**1.3**	**0.28**	**0.053**
Chloroform	**0.025 J**	**0.080**	**0.015**	**0.12 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.46**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.038 J**	**0.080**	**0.019**	**0.15 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.83 B**	**0.20**	**0.018**	**2.9 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.041 J**	**0.080**	**0.016**	**0.28 J**	**0.54**	**0.11**
Toluene	**0.15**	**0.080**	**0.021**	**0.58**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.17**	**0.080**	**0.012**	**0.95**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.052 J**	**0.16**	**0.024**	**0.23 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: BCK2-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 005 **Work Order #** MQ22Q1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/02/2012 **Analysis Time....:** 03/03/2012
Prep Batch #.....: 2062154 **Analysis Time....:** 07:50
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.11**	**0.080**	**0.023**	**0.36**	**0.26**	**0.073**
Carbon tetrachloride	**0.061 J**	**0.080**	**0.015**	**0.39 J**	**0.50**	**0.094**
Chlorodifluoromethane	**0.37**	**0.080**	**0.015**	**1.3**	**0.28**	**0.053**
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	**0.45**	**0.080**	**0.027**	**2.2**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**2.5 B**	**0.20**	**0.018**	**8.8 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.25**	**0.080**	**0.021**	**0.93**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: BCK3-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 006 **Work Order #** MQ22R1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2066125 **Analysis Time....:** 12:51
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.13**	**0.080**	**0.023**	**0.41**	**0.26**	**0.073**
Carbon tetrachloride	**0.070 J**	**0.080**	**0.015**	**0.44 J**	**0.50**	**0.094**
Chlorodifluoromethane	**0.43**	**0.080**	**0.015**	**1.5**	**0.28**	**0.053**
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	**0.47**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.27 B**	**0.20**	**0.018**	**0.94 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.054 J**	**0.080**	**0.016**	**0.37 J**	**0.54**	**0.11**
Toluene	**0.12**	**0.080**	**0.021**	**0.45**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.052 J**	**0.16**	**0.024**	**0.23 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: BCK4-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 007 **Work Order #** MQ22T1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2066125 **Analysis Time....:** 13:44
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.14**	**0.080**	**0.023**	**0.45**	**0.26**	**0.073**
Carbon tetrachloride	**0.067 J**	**0.080**	**0.015**	**0.42 J**	**0.50**	**0.094**
Chlorodifluoromethane	**1.1**	**0.080**	**0.015**	**3.9**	**0.28**	**0.053**
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	**0.47**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.036 J**	**0.080**	**0.027**	**0.15 J**	**0.35**	**0.12**
Methylene chloride	**0.92 B**	**0.20**	**0.018**	**3.2 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.12**	**0.080**	**0.021**	**0.44**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.12 J**	**0.16**	**0.024**	**0.53 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA001-C-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 015 **Work Order #** MQ2241AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012
Prep Date.....: 03/07/2012
Prep Batch #.....: 2067130
Dilution Factor.: 45.45

Date Received..: 02/23/2012
Analysis Time....: 03/08/2012
Analysis Time....: 04:28
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	3.6	1.0	ND	12	3.3
Carbon tetrachloride	ND	3.6	0.68	ND	23	4.3
Chlorodifluoromethane	**470**	**3.6**	**0.68**	**1700**	**13**	**2.4**
Chloroform	ND	3.6	0.68	ND	18	3.3
Dichlorodifluoromethane	ND	3.6	1.2	ND	18	6.1
1,1-Dichloroethane	ND	3.6	0.45	ND	15	1.8
1,2-Dichloroethane	ND	3.6	0.86	ND	15	3.5
cis-1,2-Dichloroethene	ND	3.6	1.1	ND	14	4.3
trans-1,2-Dichloroethene	ND	3.6	0.91	ND	14	3.6
1,1-Dichloroethene	ND	3.6	0.59	ND	14	2.3
Ethylbenzene	ND	3.6	1.2	ND	16	5.3
Methylene chloride	**2.1 J B**	**9.1**	**0.82**	**7.5 J B**	**32**	**2.8**
Methyl tert-butyl ether	ND	18	3.1	ND	66	11
Naphthalene	ND	9.1	1.6	ND	48	8.6
Tetrachloroethene	ND	3.6	0.73	ND	25	4.9
Toluene	**2.0 J**	**3.6**	**0.95**	**7.6 J**	**14**	**3.6**
1,2,4-Trichlorobenzene	ND	18	1.8	ND	130	13
1,1,1-Trichloroethane	ND	3.6	0.55	ND	20	3.0
1,1,2-Trichloroethane	ND	3.6	0.95	ND	20	5.2
Trichloroethene	ND	1.8	0.64	ND	9.8	3.4
1,2,3-Trimethylbenzene	ND	3.6	3.6	ND	18	18
1,2,4-Trimethylbenzene	ND	3.6	1.1	ND	18	5.6
1,3,5-Trimethylbenzene	ND	3.6	1.2	ND	18	5.8
Vinyl chloride	ND	3.6	1.3	ND	9.3	3.4
Xylenes (total)	ND	7.3	1.1	ND	32	4.7

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA044-C-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 016 **Work Order #** MQ2251AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/07/2012 **Analysis Time....:** 03/07/2012
Prep Batch #.....: 2067130 **Analysis Time....:** 16:21
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.53**	**0.080**	**0.023**	**1.7**	**0.26**	**0.073**
Carbon tetrachloride	**0.091**	**0.080**	**0.015**	**0.57**	**0.50**	**0.094**
Chlorodifluoromethane	**13**	**0.080**	**0.015**	**45**	**0.28**	**0.053**
Chloroform	**0.037 J**	**0.080**	**0.015**	**0.18 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.61**	**0.080**	**0.027**	**3.0**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.14**	**0.080**	**0.027**	**0.60**	**0.35**	**0.12**
Methylene chloride	**0.94 B**	**0.20**	**0.018**	**3.3 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.093 J**	**0.20**	**0.036**	**0.49 J**	**1.0**	**0.19**
Tetrachloroethene	**0.020 J**	**0.080**	**0.016**	**0.14 J**	**0.54**	**0.11**
Toluene	**3.0**	**0.080**	**0.021**	**11**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.050 J**	**0.080**	**0.012**	**0.27 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.031 J**	**0.040**	**0.014**	**0.16 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.062 J**	**0.080**	**0.025**	**0.30 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.67**	**0.16**	**0.024**	**2.9**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA057-B-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 017 **Work Order #** MQ2261AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012
Prep Date.....: 03/06/2012
Prep Batch #.....: 2066125
Dilution Factor.: 1

Date Received..: 02/23/2012
Analysis Time....: 03/06/2012
Analysis Time....: 22:31
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.19**	**0.080**	**0.023**	**0.62**	**0.26**	**0.073**
Carbon tetrachloride	**0.088**	**0.080**	**0.015**	**0.55**	**0.50**	**0.094**
Chlorodifluoromethane	**15**	**0.080**	**0.015**	**51**	**0.28**	**0.053**
Chloroform	**0.053 J**	**0.080**	**0.015**	**0.26 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.48**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.15**	**0.080**	**0.027**	**0.63**	**0.35**	**0.12**
Methylene chloride	**0.76 B**	**0.20**	**0.018**	**2.6 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.044 J**	**0.20**	**0.036**	**0.23 J**	**1.0**	**0.19**
Tetrachloroethene	**0.016 J**	**0.080**	**0.016**	**0.11 J**	**0.54**	**0.11**
Toluene	**3.3**	**0.080**	**0.021**	**12**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.048 J**	**0.080**	**0.012**	**0.26 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.028 J**	**0.040**	**0.014**	**0.15 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.056 J**	**0.080**	**0.025**	**0.28 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.71**	**0.16**	**0.024**	**3.1**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA063-B-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 003 **Work Order #** MQ22N1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012
Prep Date.....: 03/02/2012
Prep Batch #.....: 2062154
Dilution Factor.: 2

Date Received..: 02/23/2012
Analysis Time....: 03/03/2012
Analysis Time....: 06:04
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.20**	**0.16**	**0.046**	**0.63**	**0.51**	**0.15**
Carbon tetrachloride	**0.075 J**	**0.16**	**0.030**	**0.47 J**	**1.0**	**0.19**
Chlorodifluoromethane	**8.3**	**0.16**	**0.030**	**30**	**0.57**	**0.11**
Chloroform	**0.070 J**	**0.16**	**0.030**	**0.34 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.49**	**0.16**	**0.054**	**2.4**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	ND	0.16	0.026	ND	0.63	0.10
Ethylbenzene	**0.62**	**0.16**	**0.054**	**2.7**	**0.69**	**0.23**
Methylene chloride	**6.0 B**	**0.40**	**0.036**	**21 B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	**0.081 J B**	**0.40**	**0.072**	**0.43 J B**	**2.1**	**0.38**
Tetrachloroethene	ND	0.16	0.032	ND	1.1	0.22
Toluene	**33**	**0.16**	**0.042**	**120**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.045 J**	**0.080**	**0.028**	**0.24 J**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	**0.082 J**	**0.16**	**0.050**	**0.40 J**	**0.79**	**0.25**
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**3.1**	**0.32**	**0.048**	**13**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA088-C-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 019 **Work Order #** MQ2291AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012
Prep Date.....: 03/06/2012
Prep Batch #.....: 2066125
Dilution Factor.: 1

Date Received..: 02/23/2012
Analysis Time....: 03/07/2012
Analysis Time....: 00:19
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.19**	**0.080**	**0.023**	**0.60**	**0.26**	**0.073**
Carbon tetrachloride	**0.069 J**	**0.080**	**0.015**	**0.43 J**	**0.50**	**0.094**
Chlorodifluoromethane	**11**	**0.080**	**0.015**	**39**	**0.28**	**0.053**
Chloroform	**0.029 J**	**0.080**	**0.015**	**0.14 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.47**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.11**	**0.080**	**0.027**	**0.48**	**0.35**	**0.12**
Methylene chloride	**0.84 B**	**0.20**	**0.018**	**2.9 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.072 J**	**0.20**	**0.036**	**0.38 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**2.4**	**0.080**	**0.021**	**9.2**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.050 J**	**0.080**	**0.012**	**0.27 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.024 J**	**0.040**	**0.014**	**0.13 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.048 J**	**0.080**	**0.025**	**0.24 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.54**	**0.16**	**0.024**	**2.3**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA091-C-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 001 **Work Order #** MQ22L1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/02/2012 **Analysis Time....:** 03/03/2012
Prep Batch #.....: 2062154 **Analysis Time....:** 04:21
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.12**	**0.080**	**0.023**	**0.38**	**0.26**	**0.073**
Carbon tetrachloride	**0.071 J**	**0.080**	**0.015**	**0.45 J**	**0.50**	**0.094**
Chlorodifluoromethane	**2.0**	**0.080**	**0.015**	**7.2**	**0.28**	**0.053**
Chloroform	**0.018 J**	**0.080**	**0.015**	**0.087 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.48**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.95 B**	**0.20**	**0.018**	**3.3 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.36**	**0.080**	**0.021**	**1.3**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.058 J**	**0.16**	**0.024**	**0.25 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA101-B-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 009 **Work Order #** MQ22W1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012
Prep Date.....: 03/06/2012
Prep Batch #.....: 2066125
Dilution Factor.: 5

Date Received..: 02/23/2012
Analysis Time....: 03/07/2012
Analysis Time....: 05:29
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.26 J**	**0.40**	**0.12**	**0.85 J**	**1.3**	**0.37**
Carbon tetrachloride	ND	0.40	0.075	ND	2.5	0.47
Chlorodifluoromethane	**10**	**0.40**	**0.075**	**37**	**1.4**	**0.27**
Chloroform	ND	0.40	0.075	ND	2.0	0.37
Dichlorodifluoromethane	**0.54**	**0.40**	**0.14**	**2.7**	**2.0**	**0.67**
1,1-Dichloroethane	ND	0.40	0.050	ND	1.6	0.20
1,2-Dichloroethane	ND	0.40	0.095	ND	1.6	0.38
cis-1,2-Dichloroethene	ND	0.40	0.12	ND	1.6	0.48
trans-1,2-Dichloroethene	ND	0.40	0.10	ND	1.6	0.40
1,1-Dichloroethene	ND	0.40	0.065	ND	1.6	0.26
Ethylbenzene	**1.0**	**0.40**	**0.14**	**4.4**	**1.7**	**0.59**
Methylene chloride	**1.6 B**	**1.0**	**0.090**	**5.7 B**	**3.5**	**0.31**
Methyl tert-butyl ether	ND	2.0	0.34	ND	7.2	1.2
Naphthalene	ND	1.0	0.18	ND	5.2	0.94
Tetrachloroethene	ND	0.40	0.080	ND	2.7	0.54
Toluene	**46**	**0.40**	**0.10**	**170**	**1.5**	**0.40**
1,2,4-Trichlorobenzene	ND	2.0	0.20	ND	15	1.4
1,1,1-Trichloroethane	ND	0.40	0.060	ND	2.2	0.33
1,1,2-Trichloroethane	ND	0.40	0.10	ND	2.2	0.57
Trichloroethene	**0.089 J**	**0.20**	**0.070**	**0.48 J**	**1.1**	**0.38**
1,2,3-Trimethylbenzene	ND	0.40	0.40	ND	2.0	2.0
1,2,4-Trimethylbenzene	ND	0.40	0.12	ND	2.0	0.61
1,3,5-Trimethylbenzene	ND	0.40	0.13	ND	2.0	0.64
Vinyl chloride	ND	0.40	0.14	ND	1.0	0.37
Xylenes (total)	**5.6**	**0.80**	**0.12**	**24**	**3.5**	**0.52**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA104-C-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 014 **Work Order #** MQ2231AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2066125 **Analysis Time....:** 19:53
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.13**	**0.080**	**0.023**	**0.42**	**0.26**	**0.073**
Carbon tetrachloride	**0.068 J**	**0.080**	**0.015**	**0.43 J**	**0.50**	**0.094**
Chlorodifluoromethane	**3.2**	**0.080**	**0.015**	**11**	**0.28**	**0.053**
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	**0.46**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.15 J B**	**0.20**	**0.018**	**0.53 J B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.14**	**0.080**	**0.021**	**0.53**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.10 J**	**0.16**	**0.024**	**0.44 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA112-C-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 013 **Work Order #** MQ2221AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012
Prep Date.....: 03/06/2012
Prep Batch #.....: 2066125
Dilution Factor.: 2

Date Received..: 02/23/2012
Analysis Time....: 03/07/2012
Analysis Time....: 07:08
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.15 J**	**0.16**	**0.046**	**0.49 J**	**0.51**	**0.15**
Carbon tetrachloride	**0.040 J**	**0.16**	**0.030**	**0.25 J**	**1.0**	**0.19**
Chlorodifluoromethane	**20**	**0.16**	**0.030**	**72**	**0.57**	**0.11**
Chloroform	ND	0.16	0.030	ND	0.78	0.15
Dichlorodifluoromethane	**0.51**	**0.16**	**0.054**	**2.5**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	ND	0.16	0.026	ND	0.63	0.10
Ethylbenzene	ND	0.16	0.054	ND	0.69	0.23
Methylene chloride	**1.0 B**	**0.40**	**0.036**	**3.6 B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	ND	0.16	0.032	ND	1.1	0.22
Toluene	**0.76**	**0.16**	**0.042**	**2.9**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	**0.071 J**	**0.16**	**0.024**	**0.39 J**	**0.87**	**0.13**
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.031 J**	**0.080**	**0.028**	**0.17 J**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	ND	0.16	0.050	ND	0.79	0.25
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	ND	0.32	0.048	ND	1.4	0.21

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA113-C-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 020 **Work Order #** MQ23C1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012
Prep Date.....: 03/06/2012
Prep Batch #.....: 2066125
Dilution Factor.: 1

Date Received..: 02/23/2012
Analysis Time....: 03/07/2012
Analysis Time....: 02:04
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.19**	**0.080**	**0.023**	**0.61**	**0.26**	**0.073**
Carbon tetrachloride	**0.073 J**	**0.080**	**0.015**	**0.46 J**	**0.50**	**0.094**
Chlorodifluoromethane	**8.1**	**0.080**	**0.015**	**29**	**0.28**	**0.053**
Chloroform	**0.029 J**	**0.080**	**0.015**	**0.14 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.45**	**0.080**	**0.027**	**2.2**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.11**	**0.080**	**0.027**	**0.47**	**0.35**	**0.12**
Methylene chloride	**0.66 B**	**0.20**	**0.018**	**2.3 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.041 J**	**0.20**	**0.036**	**0.22 J**	**1.0**	**0.19**
Tetrachloroethene	**0.016 J**	**0.080**	**0.016**	**0.11 J**	**0.54**	**0.11**
Toluene	**3.2**	**0.080**	**0.021**	**12**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.047 J**	**0.080**	**0.025**	**0.23 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.53**	**0.16**	**0.024**	**2.3**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA115-C-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 021 **Work Order #** MQ23D1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012
Prep Date.....: 03/06/2012
Prep Batch #.....: 2066125
Dilution Factor.: 1

Date Received..: 02/23/2012
Analysis Time....: 03/07/2012
Analysis Time....: 02:56
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.18**	**0.080**	**0.023**	**0.59**	**0.26**	**0.073**
Carbon tetrachloride	**0.070 J**	**0.080**	**0.015**	**0.44 J**	**0.50**	**0.094**
Chlorodifluoromethane	**8.0**	**0.080**	**0.015**	**28**	**0.28**	**0.053**
Chloroform	**0.030 J**	**0.080**	**0.015**	**0.15 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.47**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.096**	**0.080**	**0.027**	**0.42**	**0.35**	**0.12**
Methylene chloride	**0.62 B**	**0.20**	**0.018**	**2.2 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.055 J**	**0.20**	**0.036**	**0.29 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**3.0**	**0.080**	**0.021**	**11**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.042 J**	**0.080**	**0.025**	**0.21 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.45**	**0.16**	**0.024**	**2.0**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA121-B-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 008 **Work Order #** MQ22V1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2066125 **Analysis Time....:** 14:36
Dilution Factor.: 2 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.087 J**	**0.16**	**0.046**	**0.28 J**	**0.51**	**0.15**
Carbon tetrachloride	ND	0.16	0.030	ND	1.0	0.19
Chlorodifluoromethane	**6.7**	**0.16**	**0.030**	**24**	**0.57**	**0.11**
Chloroform	**0.073 J**	**0.16**	**0.030**	**0.36 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.47**	**0.16**	**0.054**	**2.3**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	ND	0.16	0.026	ND	0.63	0.10
Ethylbenzene	ND	0.16	0.054	ND	0.69	0.23
Methylene chloride	**1.3 B**	**0.40**	**0.036**	**4.7 B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	ND	0.16	0.032	ND	1.1	0.22
Toluene	**2.3**	**0.16**	**0.042**	**8.7**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.052 J**	**0.080**	**0.028**	**0.28 J**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	ND	0.16	0.050	ND	0.79	0.25
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	ND	0.32	0.048	ND	1.4	0.21

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA124-C-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 002 **Work Order #** MQ22M1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/02/2012 **Analysis Time....:** 03/03/2012
Prep Batch #.....: 2062154 **Analysis Time....:** 05:15
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.12**	**0.080**	**0.023**	**0.40**	**0.26**	**0.073**
Carbon tetrachloride	**0.062 J**	**0.080**	**0.015**	**0.39 J**	**0.50**	**0.094**
Chlorodifluoromethane	**4.0**	**0.080**	**0.015**	**14**	**0.28**	**0.053**
Chloroform	**0.023 J**	**0.080**	**0.015**	**0.11 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.49**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.46 B**	**0.20**	**0.018**	**1.6 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.28**	**0.080**	**0.021**	**1.1**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA129-C-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 012 **Work Order #** MQ2211AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2066125 **Analysis Time....:** 18:07
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.20**	**0.080**	**0.023**	**0.64**	**0.26**	**0.073**
Carbon tetrachloride	**0.070 J**	**0.080**	**0.015**	**0.44 J**	**0.50**	**0.094**
Chlorodifluoromethane	**13**	**0.080**	**0.015**	**48**	**0.28**	**0.053**
Chloroform	**0.034 J**	**0.080**	**0.015**	**0.16 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.47**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.14**	**0.080**	**0.027**	**0.60**	**0.35**	**0.12**
Methylene chloride	**2.4 B**	**0.20**	**0.018**	**8.2 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.069 J**	**0.20**	**0.036**	**0.36 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**1.8**	**0.080**	**0.021**	**6.8**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.18**	**0.080**	**0.012**	**0.98**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.058**	**0.040**	**0.014**	**0.31**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.057 J**	**0.080**	**0.025**	**0.28 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.68**	**0.16**	**0.024**	**3.0**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA130-C-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 010 **Work Order #** MQ22X1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2066125 **Analysis Time....:** 16:20
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.15**	**0.080**	**0.023**	**0.47**	**0.26**	**0.073**
Carbon tetrachloride	**0.070 J**	**0.080**	**0.015**	**0.44 J**	**0.50**	**0.094**
Chlorodifluoromethane	**1.7**	**0.080**	**0.015**	**5.8**	**0.28**	**0.053**
Chloroform	**0.017 J**	**0.080**	**0.015**	**0.084 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.47**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.069 J**	**0.080**	**0.027**	**0.30 J**	**0.35**	**0.12**
Methylene chloride	**1.6 B**	**0.20**	**0.018**	**5.5 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.74**	**0.080**	**0.021**	**2.8**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.076 J**	**0.080**	**0.012**	**0.41 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.024 J**	**0.040**	**0.014**	**0.13 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.33**	**0.16**	**0.024**	**1.5**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA131-C-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 011 **Work Order #** MQ2201AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012
Prep Date.....: 03/06/2012
Prep Batch #.....: 2066125
Dilution Factor.: 1

Date Received..: 02/23/2012
Analysis Time....: 03/06/2012
Analysis Time....: 17:16
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.20**	**0.080**	**0.023**	**0.64**	**0.26**	**0.073**
Carbon tetrachloride	**0.070 J**	**0.080**	**0.015**	**0.44 J**	**0.50**	**0.094**
Chlorodifluoromethane	**15**	**0.080**	**0.015**	**52**	**0.28**	**0.053**
Chloroform	**0.029 J**	**0.080**	**0.015**	**0.14 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.48**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.20**	**0.080**	**0.027**	**0.88**	**0.35**	**0.12**
Methylene chloride	**1.4 B**	**0.20**	**0.018**	**4.8 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.056 J**	**0.20**	**0.036**	**0.29 J**	**1.0**	**0.19**
Tetrachloroethene	**0.019 J**	**0.080**	**0.016**	**0.13 J**	**0.54**	**0.11**
Toluene	**1.7**	**0.080**	**0.021**	**6.4**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.083**	**0.080**	**0.012**	**0.45**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.035 J**	**0.040**	**0.014**	**0.19 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.056 J**	**0.080**	**0.025**	**0.28 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**1.0**	**0.16**	**0.024**	**4.3**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA135-C-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 018 **Work Order #** MQ2271AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012
Prep Date.....: 03/06/2012
Prep Batch #.....: 2066125
Dilution Factor.: 1

Date Received..: 02/23/2012
Analysis Time....: 03/06/2012
Analysis Time....: 23:26
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.080**	**0.023**	**0.68**	**0.26**	**0.073**
Carbon tetrachloride	**0.069 J**	**0.080**	**0.015**	**0.43 J**	**0.50**	**0.094**
Chlorodifluoromethane	**10**	**0.080**	**0.015**	**35**	**0.28**	**0.053**
Chloroform	**0.030 J**	**0.080**	**0.015**	**0.15 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.49**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.034 J**	**0.080**	**0.019**	**0.14 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.11**	**0.080**	**0.027**	**0.49**	**0.35**	**0.12**
Methylene chloride	**0.80 B**	**0.20**	**0.018**	**2.8 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.018 J**	**0.080**	**0.016**	**0.12 J**	**0.54**	**0.11**
Toluene	**3.0**	**0.080**	**0.021**	**11**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.036 J**	**0.080**	**0.012**	**0.19 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.019 J**	**0.040**	**0.014**	**0.10 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.045 J**	**0.080**	**0.025**	**0.22 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.54**	**0.16**	**0.024**	**2.3**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Appendix C

Support Documentation

PROJECT NARRATIVE
H2B230467

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

The chain of custody lists a sample ID as IA-130-C-12; however the canister tag lists the ID as IA-130-C. The sample was matched by canister ID and logged according to the chain of custody.

The chain of custody lists a sample ID as IA-131-C-12; however the canister tag lists the ID as IA-131-C. The sample was matched by canister ID and logged according to the chain of custody.

The chain of custody lists a sample ID as IA-129-C-12; however the canister tag lists the ID as IA-129-C. The sample was matched by canister ID and logged according to the chain of custody.

Custody seals were not present.

All sample IDs were revised to remove the dash (-) after the IA or BCK portion of the ID, per client request.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

The quantitation for 1,2,3-trimethylbenzene was based on a minimum 5-point calibration curve. The following interim criteria are being used until the method performance for this additional analyte is fully established:

- The initial calibration acceptance criteria is set at 40% RSD. Any compound greater than 40% RSD was changed to a linear or quadratic model with an $r2 \geq 0.990$ acceptance criteria.
- There are no criteria for second source standard verification % D. The second source standard was independently prepared from the same parent mixture (as the primary source).

PROJECT NARRATIVE
H2B230467

- The continuing calibration verification criteria are set at 50% D. Any compound greater than 50% D must pass the LCS criteria.
- The LCS recovery criteria are set at 20% to 180%.
- A method detection limit study has not been performed. The detection of the analyte is demonstrated by detection of the calibration standard at the reporting limit. No estimated results are reported below the reporting limit.

1-72823D467

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-091-C-12	2/21/12	0957	1730	-28.6	-5	K396	0166	X											
IA-124-C-12		0958	1731	-29	-6	K383	12496	X											
IA-063-B-12		1009	1733	-30	-6	K494	1367	X											
BCK-1-12*		0815	1630	0A	0*	K279	8815B*	X											
BCK-2-12		0825	1628	-30	-3	K345	93297	X											
BCK-3-12		0755	1620	-30	-3	K243	93009	X											

8815B

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

* BCK-1-12 regulator never responded

10 Boxes Rec'd @ Ambient Temp 21°C with out custody seals
2/23/12

10 Boxes Fed x #

7932 5488 2503M

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

40 CANS / 40 Flows

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by:	2-23-12 09:40
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

38

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

1-12B230467

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	**Phone:** (770) 413-0965		
Address: 2171 W Park Ct. Ste E	**Site Contact:** (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	**TAL Contact:**		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
BCK-4-12	2/21/12	0800	1624	-30	-5	K474	0104	X											
IA-121-B-12		0910	1654	-30	-9	K331	0174	X											
IA-101-B-12		0912	1655	-30	-2	K366	6360	X											
								X											
								X											
								X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2-23-12 09:40
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B230467

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-130-C-12	2/21/12	0821	1704	-29.1	0	K445	12626	X											
IA-131-C-12		0822	1705	-29	0	K368	1866	X											
IA-129-C-12		0825	1706	-29	-2	K282	1137	X											
IA-112-C-12		0905	1712	-28.9	-4	K512	11407	X											
IA-104-C-12		0828	1713	-28.9	0	K300	04413	X											
IA-001-C-12		0830	1714	-28.8	-3	K503	3400261	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by:	2-23-12 0924
Relinquished by:	Date/Time:	Received by:	

Lab Use Only: Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

1-H2B230467

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Rick Samuels	Sampled By: RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	Analysis Turnaround Time		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type: Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-044-C-12 ✓	2/21/12	0834	1715	-28.7	0	K164	34001268	X										
IA-057-B-12 ✓	↓	0836	1716	-28.9	-2	K213	04748	X										
IA-135-C-12 ✓		0841	1717	-28.6	0	K307	0168	X										
IA-088-C-12 ✓		0853	1718	-28.9	-2	K327	6235W	X										
IA-113-C-12 ✓		0858	1719	-28.8	-3	K448	1377	X										
IA-115-C-12 ✓	↓	0855	1720	-29	-4	K1138	1133	X										

34001268

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2-23-12 09:41
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: 120a30467

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)		✓		☑ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	1A, COC List ID as: IA-130-C-12, Canister Tag List ID as: IA-130-C, matched by Canister ID. Log by COC 1A, COC List ID as: IA-131-C-12 Canister Tag List ID as IA, matched by canister ID. Log by COC 1A, COC List ID as IA-129-C-12, Canister Tag List ID as: IA-129-C, matched by Canister ID. Log by COC
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)	✓			☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____ ☐ 2c Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?				☐ 3a Sample preservative =	4A
4. Were custody seals present/intact on cooler and/or containers?		✓	.	☑ 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	✓			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?			✓	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	✓			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?	✓				

Quote #: 83292 PM Instructions: NA

Sample Receiving Associate: [signature] Date: 2/23/12

QA026R22.doc, 012811

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2B230467*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
DOF 2-24-12	NA	28.43	MQ22L	0106	-4.9													9703
			MQ22M	12426	-2.7													9713
			MQ22N	1367	-4.4													9715
			MQ22P	8815B	+1.2													9700
			MQ22Q	93297	-0.9													↓
			MQ22R	93009	-1.0													↓
			MQ22T	0104	-0.7													9714
			MQ22V	0174	-6.3													9713
			MQ22W	6360	-0.3													↓
			MQ22X	12626	+0.7													9700
			MQ220	1366	0													9704
			MQ221	1137	-0.4													9708
			MQ222	11407	-2.2													9715
			MQ223	04413	-0.3													9714
			MQ224	3400 1261	-1.7													9711
			MQ225	↓ 1206	-1.0													↓
			MQ226	04748	-1.7													9714
			MQ227	3400 1266	+0.4													9711
			MQ229	62359N	-2.1													9714
			MQ23C	1377	-1.6													9704
↓	↓	↓	MQ23D	1133	-2.0													↓

SAMPLE SUMMARY

H2B230467

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MQ22L	001	IA091-C-12	02/21/12	17:30
MQ22M	002	IA124-C-12	02/21/12	17:31
MQ22N	003	IA063-B-12	02/21/12	17:33
MQ22P	004	BCK1-12	02/21/12	16:30
MQ22Q	005	BCK2-12	02/21/12	16:28
MQ22R	006	BCK3-12	02/21/12	16:20
MQ22T	007	BCK4-12	02/21/12	16:24
MQ22V	008	IA121-B-12	02/21/12	16:54
MQ22W	009	IA101-B-12	02/21/12	16:55
MQ22X	010	IA130-C-12	02/21/12	17:04
MQ220	011	IA131-C-12	02/21/12	17:05
MQ221	012	IA129-C-12	02/21/12	17:06
MQ222	013	IA112-C-12	02/21/12	17:12
MQ223	014	IA104-C-12	02/21/12	17:13
MQ224	015	IA001-C-12	02/21/12	17:14
MQ225	016	IA044-C-12	02/21/12	17:15
MQ226	017	IA057-B-12	02/21/12	17:16
MQ227	018	IA135-C-12	02/21/12	17:17
MQ229	019	IA088-C-12	02/21/12	17:18
MQ23C	020	IA113-C-12	02/21/12	17:19
MQ23D	021	IA115-C-12	02/21/12	17:20

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

ANALYTICAL METHODS SUMMARY

H2B230467

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

HOLDTIME

SDG H2B230467

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	IA104-C-12	H2B230467014	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14
OV	UG/M3	BCK2-12	H2B230467005	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	BCK3-12	H2B230467006	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14
OV	UG/M3	BCK4-12	H2B230467007	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14
OV	UG/M3	IA001-C-12	H2B230467015	NM	2/21/2012	3/7/2012	3/8/2012	15	1	16
OV	UG/M3	IA044-C-12	H2B230467016	NM	2/21/2012	3/7/2012	3/7/2012	15	0	15
OV	UG/M3	IA057-B-12	H2B230467017	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14
OV	UG/M3	IA063-B-12	H2B230467003	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	IA088-C-12	H2B230467019	NM	2/21/2012	3/6/2012	3/7/2012	14	1	15
OV	UG/M3	BCK1-12	H2B230467004	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	IA101-B-12	H2B230467009	NM	2/21/2012	3/6/2012	3/7/2012	14	1	15
OV	UG/M3	IA135-C-12	H2B230467018	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14
OV	UG/M3	IA112-C-12	H2B230467013	NM	2/21/2012	3/6/2012	3/7/2012	14	1	15
OV	UG/M3	IA113-C-12	H2B230467020	NM	2/21/2012	3/6/2012	3/7/2012	14	1	15
OV	UG/M3	IA115-C-12	H2B230467021	NM	2/21/2012	3/6/2012	3/7/2012	14	1	15

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	IA121-B-12	H2B230467008	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14
OV	UG/M3	IA124-C-12	H2B230467002	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11
OV	UG/M3	IA129-C-12	H2B230467012	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14
OV	UG/M3	IA130-C-12	H2B230467010	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14
OV	UG/M3	IA131-C-12	H2B230467011	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14
OV	UG/M3	IA091-C-12	H2B230467001	NM	2/21/2012	3/2/2012	3/3/2012	10	1	11

LMC-MIDDLE RIVER
AIR DATA
H2B230467 AND H2B230469

FRACTION	CHEMICAL	IA063-B-12	UNITS	IADUP2-12	RPD	D
OV	1,2,4-TRIMETHYLBENZENE	0.4 J	UG/M3	ND	200.00	0.40
OV	BENZENE	0.63 J	UG/M3	0.71	11.94	0.08
OV	CARBON TETRACHLORIDE	0.47 J	UG/M3	0.29 J	47.37	0.18
OV	CHLORODIFLUOROMETHANE	30	UG/M3	31	3.28	1.00
OV	CHLOROFORM	0.34 J	UG/M3	0.22 J	42.86	0.12
OV	DICHLORODIFLUOROMETHANE	2.4	UG/M3	2.8	15.38	0.40
OV	ETHYLBENZENE	2.7	UG/M3	2.4	11.76	0.30
OV	METHYLENE CHLORIDE	21	UG/M3	24 J	13.33	3.00
OV	NAPHTHALENE	0.43 B	UG/M3	ND	200.00	0.43
OV	TOLUENE	120	UG/M3	120	0.00	0.00
OV	TOTAL XYLENES	13	UG/M3	10	26.09	3.00
OV	TRICHLOROETHENE	0.24 J	UG/M3	0.24 J	0.00	0.00

50

Current RPD Quality Control Limit: ~~30~~ %.

Shaded cells indicate RPDs that exceed the applicable quality control limit.

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/1/12	Instrument::	ME	ICAL Batch/Scan Name:	E030112I	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad		✓			✓
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓		Acetone = 39%, Dodecane = 33%	✓
11. If curves were used, is correlation coefficient ≥0.990?		✓			✓
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.		✓			✓
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).		✓			✓
14. Is the "Y" intercept less than the RL for each curve?		✓			✓
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?		✓		3/6/12	NA ✓
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			✓
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3-, 1,4-, and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)			✓	Acetone, 123TCLB6	✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 3/2/12	2nd Level Reviewer :	Date: 3/5/12
Comments: ~~CH2Cl2~~ Upper limit is 8mb for the following compounds CH2Cl2, O.K for new lower R.L. NYstate.		Comments:	

3/2/12

Invalid for Acetone, 123TCLB6

120301

TA-Knoxville
TO-14 Autosampler Log

Sample	Position/Volume	Date	Time
BFB	16 - 100 mL	3/1/2012	12:13:15 PM
blk	16 - 501 mL	3/1/2012	12:52:21 PM
MDL	1 - 51 mL	3/1/2012	1:51:59 PM
ICAL1	1 - 101 mL	3/1/2012	2:55:30 PM
ICAL02	1 - 201 mL	3/1/2012	3:50:07 PM
ICAL03	2 - 201 mL	3/1/2012	4:45:20 PM
ICAL04	3 - 201 mL	3/1/2012	5:40:10 PM
ICAL05	4 - 202 mL	3/1/2012	6:34:42 PM
ICAL06	5 - 200 mL	3/1/2012	7:29:12 PM
ICAL07	6 - 200 mL	3/1/2012	8:26:02 PM
ICAL08	7 - 201 mL	3/1/2012	9:23:17 PM
ICAL09	8 - 201 mL	3/1/2012	10:23:22 PM
BLK	16 - 200 mL	3/1/2012	11:20:35 PM
ICV	9 - 100 mL	3/2/2012	12:18:48 AM
LCS	9 - 201 mL	3/2/2012	1:20:23 AM
BLK	16 - 500 mL	3/2/2012	7:36:06 AM
blk10	10 - 501 mL	3/2/2012	8:40:45 AM

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: [signature] Qtims Batch: ICAL

Date: 3/1/12 ICAL Batch: ED301121 Target Batch: NA IS #1 Area: 232168

Surr/IS ID & Vol.: V425 40mL System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☒ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1213	Y	Tune	EBFBC01	—	16	100	1	
1252	N	Blk	Blk1	—	16	500		
1352	N	MOLV	MOLCHK	CX-2331	1	50		
1455	Y	ICAL1 ~~3/1/12~~ ~~3/1/12~~	~~EICO1~~ EICC011		1	100		
1550		2	EICC012		1	200		
1645		3	3	~~CX-2330~~ CX-2330	2			~3/1/12
1740		4	4	CX-2329	3			
1834		5	5	CX-2328	4			
1929		6	6	CX-2327	5			
2026		7	7	CX-2326	6			
2123		8	8	CX-2325	7			
2223		9	9	CX-2324	8			
2320	N	Blk2	Blk2	—	16	200		
0018	N	ICV	EICVC01	CX-2321	9	100		
0120	N	LCS	ELCSC01		9	200		
0736	N	Blk	Blk3	—	16	500		
0840	~~N~~ Y	Lot ✓	9754	6683	10			
Aborted	N	Lot 9750	6508 →		11			STD can } ~3/2/12
		Lot 9747	6520 →		12			
			92021 →		13			
			7489 →		14			
			12521 →		15			
		Lot ✓ 9751	1369 →	~~STD~~				STD CAN (POS1)
		Lot 9752	6383 →		2			

~3/2/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/2/12

MS027r16.DOC, 051210

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Inst: ME

Analyst: [signature] Qtims Batch: _____

Date: 3/2/12 ICAL Batch: E030212 Target Batch: _____ IS #1 Area: 327381

Surr/IS ID & Vol.: V425 40mL System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☐ Daily _____

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1004	Y	Tune	E030212	—	16	100	1	
1037	Y	CCV	E030212	CX-2321	15	100	1	2nd Source

3/2/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/2/12

Data File: /chem/gcms/me.i/E030112I.b/ebfbo01.d

Date : 01-MAR-2012 12:13

Client ID: BFB

Instrument: me.i

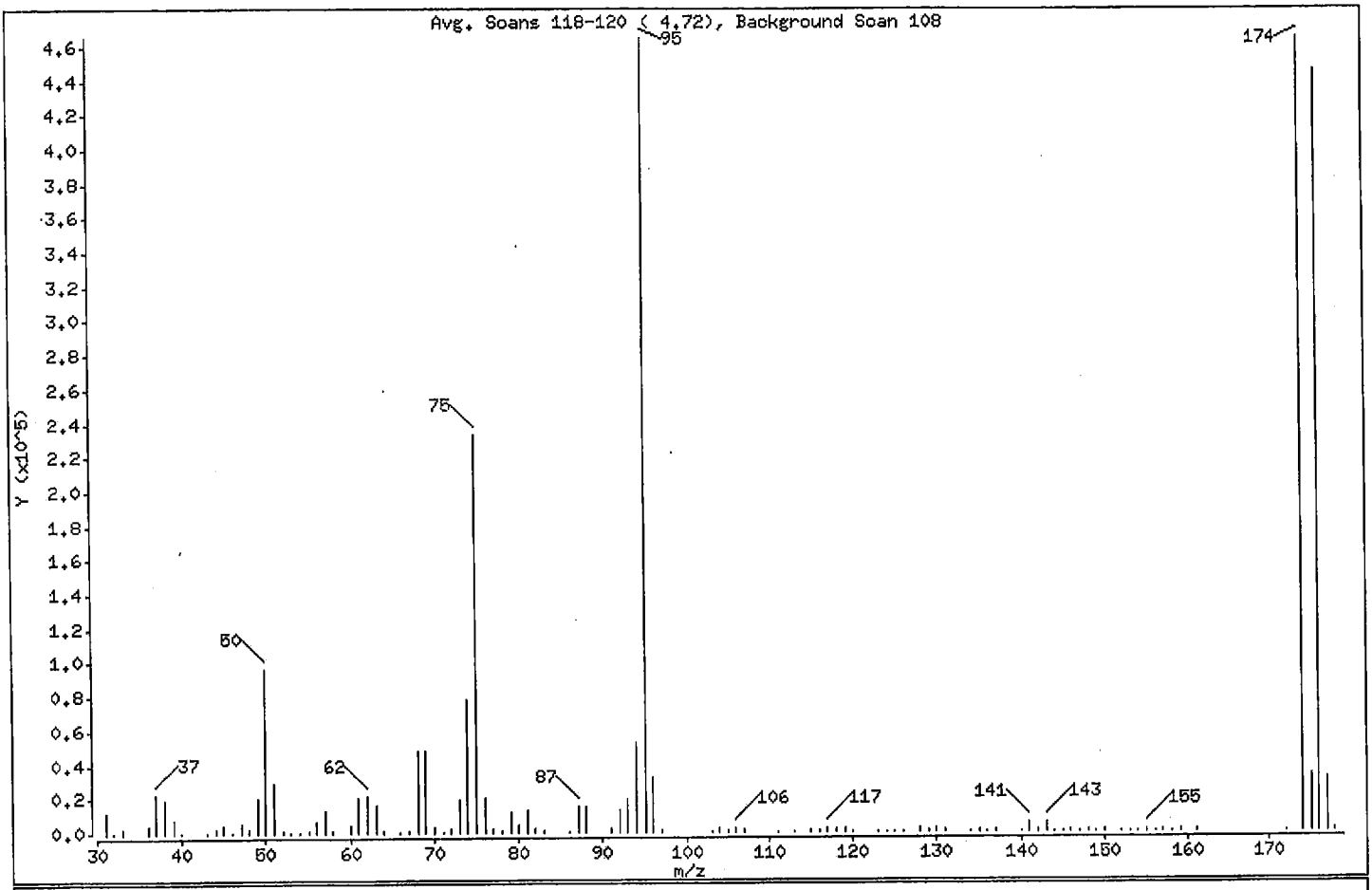
Sample Info: BFB,,3,,,BFB

Operator: 22980

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.65
75	30.00 - 60.00% of mass 95	60.21
96	5.00 - 9.00% of mass 95	6.82
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	100.00
175	5.00 - 9.00% of mass 174	7.23 (7.23)
176	95.00 - 101.00% of mass 174	95.79 (95.79)
177	5.00 - 9.00% of mass 176	6.58 (6.87)

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Calibration File Names:
Level 1: /var/chem/gcms/me.i/E030112I.b/eicc011.d
Level 2: /var/chem/gcms/me.i/E030112I.b/eicc012.d
Level 3: /var/chem/gcms/me.i/E030112I.b/eicc013.d
Level 4: /var/chem/gcms/me.i/E030112I.b/eicc014.d
Level 5: /var/chem/gcms/me.i/E030112I.b/eicc015.d
Level 6: /var/chem/gcms/me.i/E030112I.b/eicc016.d
Level 7: /var/chem/gcms/me.i/E030112I.b/eicc017.d
Level 8: /var/chem/gcms/me.i/E030112I.b/eicc018.d
Level 9: /var/chem/gcms/me.i/E030112I.b/eicc019.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
M 5 Xylene (total)	0.89170	1.09383	1.16276	1.03808	1.11300	0.97030					
	0.94635	0.96846	0.92931				AVRG		1.01264		9.20807
6 Chlorodifluoromethane	+++++	0.87357	0.64955	0.54868	0.51653	0.52863					
	0.47805	0.46565	0.41830				AVRG		0.55987		25.71091
7 Propene	+++++	+++++	1.71047	1.48694	1.60516	1.58241					
	1.34117	1.24527	1.08331				AVRG		1.43639		15.50870

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 4 Level 7	0.0800 Level 2 8 Level 8	0.1600 Level 3 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
10 Dichlorodifluoromethane	5.01574	5.81111	5.31139	4.71907	4.93224	5.20906					
	4.43004	4.18993	3.81244				AVRG		4.82567		12.69028
9 Chloromethane	+++++	0.62756	0.63992	0.52123	0.52161	0.54915					
	0.46243	0.43814	0.38750				AVRG		0.51844		16.99711
11 1,2-Dichlorotetrafluoroethane	3.24301	3.53067	2.74501	2.64147	2.69905	2.76148					
	2.43265	2.23109	2.31643				AVRG		2.73343		15.42683
8 ~ acetaldehyde	+++++	+++++	+++++	52994	122254	110369					
	208810	454487	786257				QUAD	0.000e+00	4.05775	1.68267	0.99140
12 Methanol	+++++	+++++	+++++	0.49468	0.31095	0.31593					
	0.23149	0.19587	+++++				AVRG		0.30978		37.27321 <-- NT
13 Vinyl Chloride	1.62055	1.76455	1.73335	1.51868	1.63996	1.73980					
	1.47718	1.44502	1.31719				AVRG		1.58403		9.72451
14 n-Butane	+++++	+++++	3.32048	2.46995	2.50382	2.62897					
	2.15745	2.13803	1.90110				AVRG		2.44569		18.86435

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
15 1,3-Butadiene	1.27522	1.36639	1.24382	1.13583	1.17033	1.21436					
	1.06497	1.05261	0.96294				AVRG		1.16516		10.75810
16 Bromomethane	1.83976	1.93665	1.78367	1.51919	1.48156	1.56504					
	1.40593	1.35812	1.26275				AVRG		1.57252		14.73361
18 Chloroethane	0.61696	0.79320	0.73103	0.68032	0.67210	0.70241					
	0.60615	0.63356	0.60139				AVRG		0.67079		9.57211
17 ~ ethanol	+++++	+++++	26299	40235	110475	215202					
	404097	755742	1152858				QUAD	0.000e+00	1.50978	1.14482	0.99266
19 Vinyl Bromide	1.33304	1.60967	1.53467	1.40196	1.40185	1.46058					
	1.29880	1.26736	1.20446				AVRG		1.39027		9.36019
20 2-methyl butane	+++++	2.41225	2.29033	1.83910	1.71099	1.72755					
	1.56071	1.54230	1.42972				AVRG		1.81412		19.64602
21 Trichlorofluoromethane	+++++	5.52148	5.22135	4.74926	4.70967	4.82927					
	4.33895	4.16130	3.91574				AVRG		4.68088		11.41515

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INITIAL CALIBRATION DATA

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End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
22 Acrolein	+++++	+++++	0.46772	0.41383	0.41999	0.37112					
	0.35477	0.38647	0.34083				AVRG		0.39353		11.09982
23 Acetonitrile	+++++	+++++	0.40766	0.42482	0.43711	0.39449					
	0.39959	0.40031	0.37174				AVRG		0.40510		5.23526
24 Acetone	+++++	+++++	1.22270	1.13227	1.09730	0.57920					
	0.47367	+++++	+++++				AVRG		0.90103		38.51292 <-MA NT
25 Pentane	+++++	+++++	0.25240	0.20276	0.20426	0.20794					
	0.18566	0.18586	0.17681				AVRG		0.20224		12.35066
26 Isopropyl alcohol	+++++	+++++	1.71855	1.19942	1.45401	1.53924					
	1.07275	1.08655	0.94172				AVRG		1.28746		22.21312
27 Ethyl Ether	+++++	+++++	1.28548	1.17391	1.19946	1.11737					
	1.09903	1.12473	1.05731				AVRG		1.15104		6.56469
28 1,1-Dichloroethene	1.25965	1.42486	1.28227	1.17416	1.18285	1.18625					
	1.05807	1.03955	0.96390				AVRG		1.17462		11.95949

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Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
29 Acrylonitrile	+++++	+++++	1.01964	0.97588	0.97514	0.85492					
	0.88770	0.89997	0.80638				AVRG		0.91709		8.28294
30 1,1,2-Trichlorotrifluoroethan	2.50342	3.06484	2.93375	2.61820	2.65385	2.64879					
	2.33387	2.32592	2.15620				AVRG		2.58209		11.31124
31 tert-butanol	+++++	+++++	2.47722	2.01674	2.28323	2.58907					
	1.69723	1.77687	1.73935				AVRG		2.08282		17.71274
32 Methylene Chloride	+++++	+++++	1.97027	1.23869	1.15509	1.12692					
	0.96630	0.96466	+++++				AVRG		1.23699		30.33376 <- O.K 1-3/5/12
33 3-Chloropropene	+++++	1.62590	1.67747	1.34428	1.52440	1.37681					
	1.33223	1.33518	1.18205				AVRG		1.42479		11.81956
34 Carbon Disulfide	+++++	+++++	4.84971	4.35517	4.53532	4.62214					
	4.03375	3.81538	3.32309				AVRG		4.21922		12.53691
35 trans-1,2-Dichloroethene	1.39690	1.62844	1.58130	1.39356	1.46551	1.45412					
	1.26697	1.27855	1.16992				AVRG		1.40392		10.61208

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Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
36 ~ 2-Methyl Pentane	4.04837	4.57066	4.53802	4.01267	4.01393	4.00220					
	3.51287	3.43894	3.00970				AVRG		3.90526		13.02483
37 Methyl-t-Butyl Ether	+++++	3.45753	3.48100	3.33509	3.38823	3.24169					
	3.10006	3.09439	2.90747				AVRG		3.25068		6.22749
38 1,1-Dichloroethane	2.69086	3.07403	3.08842	2.77819	2.89303	2.85449					
	2.55637	2.54623	2.32120				AVRG		2.75587		9.23130
39 Vinyl Acetate	+++++	+++++	3.53210	3.61162	3.66887	3.21008					
	3.45950	3.46223	3.12515				AVRG		3.43851		5.85474
40 Hexane	+++++	+++++	1.61216	1.35902	1.35141	1.33195					
	1.16486	1.14824	1.02909				AVRG		1.28525		14.82233
41 2-Butanone	+++++	+++++	0.62454	0.53762	0.58390	0.51744					
	0.46507	0.46365	0.41693				AVRG		0.51559		14.16587
42 cis 1,2-Dichloroethene	1.30858	1.57564	1.50547	1.37184	1.44706	1.41302					
	1.25475	1.25352	1.13162				AVRG		1.36239		10.22876

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Quant Method : ISTD
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Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
43 Ethyl acetate	+++++	+++++	3.09417	2.94489	3.02182	2.90839					
	2.78243	2.79484	2.53942				AVRG		2.86942		6.41004
44 Chloroform	3.30115	3.66619	3.69125	3.30439	3.44731	3.38367					
	3.04011	3.04701	2.76100				AVRG		3.29356		9.21930
45 Tetrahydrofuran	+++++	+++++	1.83526	1.47815	1.53747	1.42766					
	1.40120	1.38975	1.29615				AVRG		1.48081		11.70992
46 1,1,1-Trichloroethane	+++++	4.14238	4.05949	3.66487	3.82780	3.77855					
	3.38559	3.37396	3.06540				AVRG		3.66226		10.03352
47 1,2-Dichloroethane	0.40749	0.56000	0.54072	0.47303	0.50580	0.49943					
	0.43540	0.44427	0.41299				AVRG		0.47546		11.52169
48 Cyclohexane	+++++	0.22784	0.19167	0.15190	0.15605	0.15658					
	0.12509	0.12665	0.11654				AVRG		0.15654		23.92950
49 Benzene	0.89962	1.00542	0.98285	0.81323	0.86000	0.82412					
	0.71002	0.73050	0.67183				AVRG		0.83307		14.03901

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.72507	0.92693	0.91648	0.60875	0.84519	0.65455					15.45145
	0.70267	0.71459	0.66871				AVRG		0.75144		
51 1-Butanol	+++++	+++++	+++++	0.09425	0.10580	0.11815					23.36764
	0.07197	0.07370	0.06757				AVRG		0.08857		
52 ~ 2,3-dimethylpentane	0.18149	0.23286	0.22066	0.17979	0.19370	0.19546					15.28481
	0.15639	0.16221	0.14861				AVRG		0.18569		
53 ~ Thiophene	0.51089	0.57679	0.55308	0.46419	0.49523	0.47881					13.09207
	0.41166	0.42894	0.39037				AVRG		0.47889		
54 2,2,4-trimethylpentane	1.49669	1.87249	1.84026	1.50989	1.63555	1.61972					14.29854
	1.33141	1.36727	1.22693				AVRG		1.54447		
55 Heptane	0.33876	0.39508	0.36133	0.29696	0.32101	0.31862					15.56112
	0.26016	0.27097	0.24781				AVRG		0.31230		
56 1,2-Dichloropropane	0.29696	0.36552	0.37921	0.32666	0.34896	0.33072					12.29447
	0.28643	0.29043	0.26220				AVRG		0.32079		

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Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
57 Trichloroethene	0.37442	0.47737	0.47657	0.38841	0.42763	0.42647					
	0.33914	0.35208	0.32864				AVRG		0.39897		14.06319
180 2-Nitropropene	0.30860	0.50263	0.52451	0.47324	0.56252	0.52357					
	0.50892	0.53458	0.45055				AVRG		0.48768		15.34043
58 Dibromomethane	0.36879	0.43441	0.45861	0.37809	0.41584	0.40989					
	0.34443	0.35588	0.32738				AVRG		0.38815		11.32785
59 Bromodichloromethane	0.65448	0.84584	0.84404	0.71498	0.80477	0.78739					
	0.67865	0.70229	0.64171				AVRG		0.74157		10.79102
60 1,4-dioxane	+++++	+++++	0.08687	0.06435	0.08797	0.11175					
	0.07641	0.06932	0.04975				AVRG		0.07806		25.51089
61 Methyl Methacrylate	+++++	0.38717	0.38692	0.36385	0.39476	0.38460					
	0.34148	0.36270	0.33623				AVRG		0.36971		6.00693
62 ~ methyl cyclohexane	0.51488	0.62531	0.60703	0.49879	0.54564	0.53948					
	0.43957	0.45119	0.41479				AVRG		0.51519		14.10472

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
63 cis-1,3-Dichloropropene	0.42253	0.54464	0.54153	0.47687	0.51931	0.50617					
	0.44091	0.45995	0.42525				AVRG		0.48191		9.95258
64 4-Methyl-2-pentanone	+++++	0.78797	0.71797	0.61062	0.67852	0.69752					
	0.55720	0.58083	0.50989				AVRG		0.64256		14.51142
65 trans-1,3-Dichloropropene	0.44553	0.55744	0.57300	0.51465	0.57189	0.53688					
	0.51042	0.53980	0.52297				AVRG		0.53029		7.39500
66 Toluene	+++++	1.25615	1.27108	1.07841	1.11783	1.03532					
	0.95370	0.97944	0.94196				AVRG		1.07924		11.93228
67 1,1,2-Trichloroethane	0.30487	0.37537	0.37089	0.33401	0.34887	0.32639					
	0.29504	0.30172	0.29121				AVRG		0.32760		9.78576
68 ~ 2-methyl thiophene	0.83981	1.02268	1.01081	0.89359	0.96108	0.89187					
	0.80929	0.83384	0.79966				AVRG		0.89585		9.44784
70 ~ 3-methyl thiophene	0.82653	1.03875	0.99737	0.90272	0.96761	0.90523					
	0.81771	0.84132	0.80994				AVRG		0.90080		9.37502

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Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
69 2-Hexanone	+++++	+++++	0.33587	0.29382	0.33488	0.32036					
	0.28117	0.29136	0.27264				AVRG		0.30430		8.48995
71 Octane	0.38634	0.46715	0.40952	0.35519	0.38244	0.36601					
	0.30976	0.31894	0.30741				AVRG		0.36697		14.20171
72 Dibromochloromethane	0.66080	0.79145	0.78898	0.68752	0.80854	0.77162					
	0.71032	0.75147	0.73358				AVRG		0.74492		6.81309
73 1,2-Dibromoethane	0.51321	0.65144	0.64660	0.57204	0.63979	0.59865					
	0.54484	0.56980	0.54721				AVRG		0.58706		8.50682
74 Tetrachloroethene	0.45911	0.52512	0.51534	0.44528	0.47354	0.45646					
	0.38629	0.40542	0.39680				AVRG		0.45149		10.92713
75 Chlorobenzene	0.75125	0.93113	0.91758	0.80914	0.87529	0.82815					
	0.75030	0.77766	0.75499				AVRG		0.82172		8.67917
76 ~ 2,3-dimethylheptane	1.20012	1.46261	1.42793	1.20541	1.29775	1.22575					
	1.03849	1.03011	0.92317				AVRG		1.20126		15.08611

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End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
77 Ethylbenzene	1.14728	1.43196	1.46785	1.31891	1.41172	1.25301					
	1.20530	1.23499	1.18222				AVRG		1.29481		9.08833
79 ~ 2-ethyl thiophene	0.95114	1.15827	1.19497	1.06486	1.16109	1.05607					
	0.99591	1.02150	0.98407				AVRG		1.06532		8.20218
78 m&p-Xylene	0.87498	1.08061	1.14597	1.02302	1.10462	0.96477					
	0.93835	0.96368	0.92747				AVRG		1.00261		9.09166
80 Nonane	+++++	0.97116	0.89565	0.77039	0.84127	0.79379					
	0.67943	0.68585	0.62849				AVRG		0.78325		14.93580
81 Bromoform	+++++	0.75387	0.73961	0.67205	0.85216	0.81217					
	0.79856	0.87144	0.89548				AVRG		0.79942		9.36501
82 Styrene	0.57827	0.69391	0.73078	0.68016	0.74819	0.66392					
	0.65988	0.69057	0.70119				AVRG		0.68299		7.11936
83 o-Xylene	0.92515	1.12027	1.19635	1.06820	1.12976	0.98136					
	0.96234	0.97803	0.93298				AVRG		1.03272		9.51308

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
84 1,1,2,2-Tetrachloroethane	0.60366	0.74975	0.80384	0.69922	0.77893	0.69995	AVRG		0.69891		9.61365
	0.65124	0.66475	0.63886								
85 1,2,3-Trichloropropane	0.15325	0.21524	0.20487	0.19642	0.21623	0.19102	AVRG		0.19288		9.92972
	0.18488	0.19055	0.18342								
86 Cumene	1.26510	1.55679	1.60028	1.43539	1.53207	1.35017	AVRG		1.41249		8.68871
	1.30880	1.34281	1.32101								
87 n-Propylbenzene	0.28146	0.36717	0.38280	0.34527	0.38218	0.33995	AVRG		0.34788		8.75619
	0.33493	0.34690	0.35022								
88 2-chlorotoluene	0.31668	0.38516	0.40106	0.36043	0.38914	0.36115	AVRG		0.35700		8.38006
	0.33030	0.33727	0.33178								
89 4-Ethyltoluene	1.17840	1.48531	1.42399	1.28957	1.43491	1.27611	AVRG		1.32034		7.76827
	1.24452	1.28490	1.26537								
90 1,3,5-Trimethylbenzene	0.47559	0.62275	0.63963	0.58669	0.62993	0.56044	AVRG		0.57594		8.95029
	0.53878	0.56031	0.56934								

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
91 Alpha-Methylstyrene	+++++	+++++	0.51507	0.48356	0.54644	0.49253					
	0.49853	0.51506	0.52097				AVRG		0.51031		4.10642
92 Decane	+++++	0.90317	0.80722	0.83654	0.93283	0.81936					
	0.78703	0.78372	0.73306				AVRG		0.82537		7.90718
93 tert-butylbenzene	0.97105	1.21980	1.27300	1.13588	1.21890	1.09740					
	1.04635	1.08895	1.10973				AVRG		1.12901		8.39496
94 1,2,4-Trimethylbenzene	+++++	1.12276	1.13465	1.03455	1.12712	1.01812					
	0.98344	1.01909	1.01428				AVRG		1.05675		5.76271
95 sec-butylbenzene	1.29905	1.67340	1.68622	1.52122	1.64219	1.46902					
	1.41635	1.46970	1.48148				AVRG		1.51762		8.47107
96 1,3-Dichlorobenzene	+++++	0.78415	0.78928	0.69443	0.81096	0.74220					
	0.72671	0.77969	0.83545				AVRG		0.77036		6.00555
97 Benzyl Chloride	+++++	0.78007	0.82650	0.71788	0.87276	0.83977					
	0.84251	0.88263	0.86854				AVRG		0.82883		6.67126

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
98 1,4-Dichlorobenzene	+++++	0.72029	0.72534	0.64288	0.74603	0.69011					
	0.68378	0.71983	0.74568				AVRG		0.70924		4.93987
99 p-Cymene	+++++	1.35877	1.37219	1.22671	1.34239	1.24114					
	1.16056	1.19156	1.17869				AVRG		1.25900		6.83054
100 ~ 1,2,3- Trimethylbenzene	0.75615	0.95241	0.96132	0.87801	0.94972	0.85939					
	0.81491	0.83231	0.79247				AVRG		0.86630		8.65439
101 ~ n-butylcyclohexane	0.76377	0.97856	1.02685	0.88726	0.95903	0.87826					
	0.77066	0.76881	0.74032				AVRG		0.86372		12.45188
102 1,2-Dichlorobenzene	+++++	0.70374	0.72373	0.65523	0.74512	0.67182					
	0.65297	0.68041	0.71167				AVRG		0.69309		4.80408
103 ~ Indane	0.74379	0.92725	0.98988	0.88062	0.95984	0.85555					
	0.83544	0.86126	0.88331				AVRG		0.88188		8.23048
105 ~ Indene	+++++	0.61304	0.63449	0.58573	0.67662	0.61778					
	0.60342	0.60052	0.59270				AVRG		0.61554		4.71036

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	4 Level 7	8 Level 8	16 Level 9									
104 n-butylbenzene	+++++	1.18481	1.14863	1.06696	1.22229	1.13443						
	1.05813	1.06807	1.02511				AVRG		1.11355		6.23108	
106 Undecane	0.58230	0.81520	0.77268	0.54871	0.64061	0.70239						
	0.69721	0.75418	0.72222				AVRG		0.69283		12.68609	
107 ~ 1,2-dimethyl-4-ethylenzene	+++++	1.00258	0.98765	0.92575	1.05655	1.00406						
	0.92098	0.93076	0.91019				AVRG		0.96732		5.44845	
108 ~ 1,2,4,5-tetramethylbenzene	+++++	1.07704	0.94751	0.76886	0.94198	0.95357						
	0.90496	0.90762	0.87674				AVRG		0.92229		9.35219	
109 ~ 1,2,3,5-tetramethylbenzene	+++++	0.81415	0.73482	0.58272	0.71295	0.71817						
	0.67586	0.66964	0.64421				AVRG		0.69406		9.86694	
110 ~ 1,2,3,4-tetramethylbenzene	+++++	0.91097	0.83330	0.64209	0.74005	0.77639						
	0.71684	0.68259	0.63253				AVRG		0.74184		12.90956	
111 Dodecane	+++++	+++++	+++++	0.46376	0.56754	0.71115						
	0.36577	0.32733	0.33380				AVRG		0.46156		33.14844	<-

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
112 1,2,4-Trichlorobenzene	+++++	0.38811	0.36751	0.26074	0.36222	0.40109					
	0.32774	0.28376	0.27119				AVRG		0.33280		16.54063
113 Napthalene	+++++	+++++	0.64582	0.48239	0.65188	0.72008					
	0.56635	0.48589	0.44275				AVRG		0.57074		18.36662
114 ~ benzo(b) thiophene	+++++	0.36708	0.35495	0.25107	0.34542	0.41376					
	0.28610	0.23993	0.22563				AVRG		0.31049		22.23667
115 Hexachlorobutadiene	+++++	0.76072	0.72019	0.65254	0.70432	0.67746					
	0.59916	0.53483	0.50683				AVRG		0.64451		14.00099
116 1,2,3-trichlorobenzene	+++++	0.34786	0.36486	0.22566	0.29399	0.37796					
	0.20029	0.16978	+++++				AVRG		0.28291		29.92058
117 ~ 2-Methylnaphthalene	0.03655	0.05365	0.04241	0.03641	0.05240	0.07341					
	0.03290	0.02784	0.02523				AVRG		0.04231		35.99208 NT
118 ~ 1-Methylnaphthalene	0.03621	0.05874	0.04753	0.03898	0.05101	0.06910					
	0.02955	0.02384	0.02015				AVRG		0.04168		39.15138 NT

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.70541	0.72092	0.72681	0.71745	0.73292	0.74739					
	0.73599	0.72693	0.73365				AVRG		0.72750		1.66087

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/7/12	CCAL Batch/ Scan Name:	E030712	Instrument:	ME	ICAL Batch/ Scan Name:	E030112I	Scanned

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓			✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		□ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓	✓ 3/7/12		Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?		✓			NA
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 3/7/12	2nd Level Reviewer :	Date: 3/8/12
Comments:		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG 3/7/12

GCMS Analysis: AIR Inst: ME

Analyst: HMC Qtims Batch: 2067130 (MQRAAQ)

Date: 3/7/12 ICAL Batch: E030712 Target Batch: E030112I IS #1 Area: 254617

Surr/IS ID & Vol.: 40mL V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0934	✓	Tune	EBFBC07	-	16	100	1	
1006	✓	CCV	CCV	CX2323	15			
1006	✓	LCS	LCS					
1110	✓	Blk	Flush	-	16	500		
1200	✓	↓	EBlkC07	-	↓	↓		
1249	(E)	H2B240437	MQ3J01AA	7786	1	250		tetra RR to1 25mL
1338	elevt		3KL	6669	2	50		
1432	(E)		3KO	7492	3	~~500~~ 250	3/7/12 LB	E to1 RR 50mL
1522	(E)	H2B230467	MQ224IAA	3400 1261	4	20	1	(E)#6 RR 10mL
1621	✓	↓	225	34001268	5	500	1	
1713	(E)	H2B230469	MQ23P1AA	34001267	6	200	1	(E)to1 RR 50mL
1807	✓	↓	23R	12298	7	200		WO# MQ24P1AA
1900	RR 200mL	(ok) ✓ 50mL	24P	11370	8	~~50~~		~~200mL~~ 50mL WO# MQ23P1AA
1951	✓		24Q	34000825	9	~~200~~	12.45	50 pos 8 ↑ 50mL
2043	✓		24R	34001263	10	200	12.69	50
2137	(E)	H2B240437	MQ3KF1AA	12162	11	~~250~~ 200	1	200mL RR to1 100
2231	(E)		3KK	84306	12	250	1	RR100mL
2323	(E)		3KM	6366	13	200	1	RR10mL
0013	✓		3KP	4497N	14	11	3.6	10mL 16364
0103	✓		3KV	1520	15	4	1	10mL
0153	✓		3J0 R	7786	1	25 26mL		3/4/12 LB
0249	E		3KW1AA	0179	2	500	1	RR 20mL
0337	✓		MQ 3K0 R	7492	3	50	1	
0428	✓	H2B230467	224R	3400 1261	4	11	1	10mL
0522	✓	H2B240437	MQ3KX1AA	0001	5	500		
0618	✓	H2B230469	23PR 3/7/12	34001267	6	50		WO# MQ24PR 3/7/12
0702	dup	↓	24PD 3/7/12	↓	6	↓	↓	
0756	✓	Lot ✓	9769	1486	7	500	1	
0850	✓	↓	9770	7510	8	↓	↓	

*Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Enteph report amount is used for calulations.

Not Needed. H2B230469 MQ23PR 11370 8

Analyst: CH Date: 3/8/12

Data File: /var/chem/gcms/me.i/E030712.b/eccvc07.d
Report Date: 07-Mar-2012 12:33

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc07.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030712.b/TO155.m

Injection Date: 07-MAR-2012 10:06
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.72750	0.74037	0.74037	0.000	-1.77014	30.00000	Averaged
M 5 Xylene (total)	1.01264	1.15897	1.15897	0.000	-14.44950	30.00000	Averaged
6 Chlorodifluoromethane	0.55987	0.54805	0.54805	0.000	2.11132	30.00000	Averaged
7 Propene	1.43639	1.66680	1.66680	0.000	-16.04055	30.00000	Averaged
10 Dichlorodifluoromethane	4.82567	5.60197	5.60197	0.000	-16.08697	30.00000	Averaged
9 Chloromethane	0.51844	0.54718	0.54718	0.000	-5.54341	30.00000	Averaged
11 1,2-Dichlorotetrafluoroetha	2.73343	3.01514	3.01514	0.000	-10.30625	30.00000	Averaged
8 ~ acetaldehyde	8.84339	10.12000	0.18099	0.000	12.61472	30.00000	Quadratic
12 Methanol	0.30978	0.30825	0.30825	0.000	0.49424	30.00000	Averaged
13 Vinyl Chloride	1.58403	1.68807	1.68807	0.000	-6.56831	30.00000	Averaged
14 n-Butane	2.44569	2.50495	2.50495	0.000	-2.42300	30.00000	Averaged
15 1,3-Butadiene	1.16516	1.21841	1.21841	0.000	-4.56971	30.00000	Averaged
16 Bromomethane	1.57252	1.59456	1.59456	0.000	-1.40139	30.00000	Averaged
18 Chloroethane	0.67079	0.73812	0.73812	0.000	-10.03709	30.00000	Averaged
17 ~ ethanol	9.57044	10.44000	0.35615	0.000	8.32913	30.00000	Quadratic
19 Vinyl Bromide	1.39027	1.48278	1.48278	0.000	-6.65446	30.00000	Averaged
20 2-methyl butane	1.81412	1.77243	1.77243	0.000	2.29823	30.00000	Averaged
21 Trichlorofluoromethane	4.68088	5.27888	5.27888	0.000	-12.77547	30.00000	Averaged
22 Acrolein	0.39353	0.46763	0.46763	0.000	-18.82713	30.00000	Averaged
23 Acetonitrile	0.40510	0.47725	0.47725	0.000	-17.80970	30.00000	Averaged
24 Acetone	0.90103	0.59870	0.59870	0.000	33.55403 NT	30.00000	Averaged <- NA
25 Pentane	0.20224	0.21048	0.21048	0.000	-4.07464	30.00000	Averaged
26 Isopropyl alcohol	1.28746	1.38837	1.38837	0.000	-7.83785	30.00000	Averaged
27 Ethyl Ether	1.15104	1.31530	1.31530	0.000	-14.27054	30.00000	Averaged
28 1,1-Dichloroethene	1.17462	1.24345	1.24345	0.000	-5.85945	30.00000	Averaged
29 Acrylonitrile	0.91709	1.10446	1.10446	0.000	-20.43110	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.58209	2.85184	2.85184	0.000	-10.44679	30.00000	Averaged
31 tert-butanol	2.08282	2.45657	2.45657	0.000	-17.94457	30.00000	Averaged
32 Methylene Chloride	1.23699	1.18936	1.18936	0.000	3.84999	30.00000	Averaged
33 3-Chloropropene	1.42479	1.58384	1.58384	0.000	-11.16272	30.00000	Averaged
34 Carbon Disulfide	4.21922	4.35757	4.35757	0.000	-3.27889	30.00000	Averaged
35 trans-1,2-Dichloroethene	1.40392	1.50630	1.50630	0.000	-7.29228	30.00000	Averaged
36 ~ 2-Methyl Pentane	3.90526	4.31956	4.31956	0.000	-10.60885	30.00000	Averaged
37 Methyl-t-Butyl Ether	3.25068	3.92660	3.92660	0.000	-20.79293	30.00000	Averaged
38 1,1-Dichloroethane	2.75587	3.11515	3.11515	0.000	-13.03670	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030712.b/eccvc07.d
Report Date: 07-Mar-2012 12:33

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc07.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030712.b/TO155.m

Injection Date: 07-MAR-2012 10:06
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
39 Vinyl Acetate	3.43851	4.25389	4.25389	0.000	-23.71309	30.00000	Averaged	
40 Hexane	1.28525	1.39540	1.39540	0.000	-8.57031	30.00000	Averaged	
41 2-Butanone	0.51559	0.56523	0.56523	0.000	-9.62721	30.00000	Averaged	
42 cis 1,2-Dichloroethene	1.36239	1.47236	1.47236	0.000	-8.07226	30.00000	Averaged	
43 Ethyl acetate	2.86942	3.59262	3.59262	0.000	-25.20373	30.00000	Averaged	
44 Chloroform	3.29356	3.67619	3.67619	0.000	-11.61728	30.00000	Averaged	
45 Tetrahydrofuran	1.48081	1.77051	1.77051	0.000	-19.56375	30.00000	Averaged	
46 1,1,1-Trichloroethane	3.66226	4.16285	4.16285	0.000	-13.66902	30.00000	Averaged	
47 1,2-Dichloroethane	0.47546	0.53351	0.53351	0.000	-12.20967	30.00000	Averaged	
48 Cyclohexane	0.15654	0.14741	0.14741	0.000	5.83493	30.00000	Averaged	
49 Benzene	0.83307	0.83432	0.83432	0.000	-0.15099	30.00000	Averaged	
50 Carbon Tetrachloride	0.75144	0.80981	0.80981	0.000	-7.76746	30.00000	Averaged	
51 1-Butanol	0.08857	0.10460	0.10460	0.000	-18.09469	30.00000	Averaged	
52 ~ 2,3-dimethylpentane	0.18569	0.19037	0.19037	0.000	-2.52197	30.00000	Averaged	
53 ~ Thiophene	0.47889	0.48369	0.48369	0.000	-1.00287	30.00000	Averaged	
54 2,2,4-trimethylpentane	1.54447	1.60708	1.60708	0.000	-4.05389	30.00000	Averaged	
55 Heptane	0.31230	0.30952	0.30952	0.000	0.88895	30.00000	Averaged	
56 1,2-Dichloropropane	0.32079	0.34686	0.34686	0.000	-8.12753	30.00000	Averaged	
57 Trichloroethene	0.39897	0.39776	0.39776	0.000	0.30403	30.00000	Averaged	
180 2-Nitropropene	0.48768	0.66138	0.66138	0.000	-35.61767 NT	25.00000	Averaged	<-OK 50-150
58 Dibromomethane	0.38815	0.40974	0.40974	0.000	-5.56234	30.00000	Averaged	
59 Bromodichloromethane	0.74157	0.82020	0.82020	0.000	-10.60306	30.00000	Averaged	
60 1,4-dioxane	0.07806	0.08770	0.08770	0.000	-12.35568	30.00000	Averaged	
61 Methyl Methacrylate	0.36971	0.43902	0.43902	0.000	-18.74690	30.00000	Averaged	
62 ~ methyl cyclohexane	0.51519	0.51926	0.51926	0.000	-0.79050	30.00000	Averaged	
63 cis-1,3-Dichloropropene	0.48191	0.51126	0.51126	0.000	-6.09109	30.00000	Averaged	
64 4-Methyl-2-pentanone	0.64256	0.64442	0.64442	0.000	-0.28941	30.00000	Averaged	
65 trans-1,3-Dichloropropene	0.53029	0.63240	0.63240	0.000	-19.25712	30.00000	Averaged	
66 Toluene	1.07924	1.19105	1.19105	0.000	-10.36086	30.00000	Averaged	
67 1,1,2-Trichloroethane	0.32760	0.37083	0.37083	0.000	-13.19649	30.00000	Averaged	
68 ~ 2-methyl thiophene	0.89585	0.99950	0.99950	0.000	-11.57048	30.00000	Averaged	
70 ~ 3-methyl thiophene	0.90080	0.99221	0.99221	0.000	-10.14835	30.00000	Averaged	
69 2-Hexanone	0.30430	0.32730	0.32730	0.000	-7.55794	30.00000	Averaged	
71 Octane	0.36697	0.39197	0.39197	0.000	-6.81293	30.00000	Averaged	
72 Dibromochloromethane	0.74492	0.84238	0.84238	0.000	-13.08319	30.00000	Averaged	

Data File: /var/chem/gcms/me.i/E030712.b/eccvc07.d
Report Date: 07-Mar-2012 12:33

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc07.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030712.b/TO155.m

Injection Date: 07-MAR-2012 10:06
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 1,2-Dibromoethane	0.58706	0.63954	0.63954	0.000	-8.93806	30.00000	Averaged
74 Tetrachloroethene	0.45149	0.48345	0.48345	0.000	-7.08061	30.00000	Averaged
75 Chlorobenzene	0.82172	0.87965	0.87965	0.000	-7.05003	30.00000	Averaged
76 ~ 2,3-dimethylheptane	1.20126	1.35459	1.35459	0.000	-12.76393	30.00000	Averaged
77 Ethylbenzene	1.29481	1.48529	1.48529	0.000	-14.71130	30.00000	Averaged
79 ~ 2-ethyl thiophene	1.06532	1.20620	1.20620	0.000	-13.22363	30.00000	Averaged
78 m&p-Xylene	1.00261	1.15680	1.15680	0.000	-15.37940	30.00000	Averaged
80 Nonane	0.78325	0.86716	0.86716	0.000	-10.71310	30.00000	Averaged
81 Bromoform	0.79942	0.84315	0.84315	0.000	-5.47042	30.00000	Averaged
82 Styrene	0.68299	0.74399	0.74399	0.000	-8.93141	30.00000	Averaged
83 o-Xylene	1.03272	1.16329	1.16329	0.000	-12.64391	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.69891	0.76630	0.76630	0.000	-9.64239	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19288	0.22173	0.22173	0.000	-14.95817	30.00000	Averaged
86 Cumene	1.41249	1.57481	1.57481	0.000	-11.49167	30.00000	Averaged
87 n-Propylbenzene	0.34788	0.38491	0.38491	0.000	-10.64524	30.00000	Averaged
88 2-chlorotoluene	0.35700	0.37397	0.37397	0.000	-4.75492	30.00000	Averaged
89 4-Ethyltoluene	1.32034	1.45310	1.45310	0.000	-10.05526	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57594	0.62045	0.62045	0.000	-7.72854	30.00000	Averaged
91 Alpha-Methylstyrene	0.51031	0.52426	0.52426	0.000	-2.73319	30.00000	Averaged
92 Decane	0.82537	0.98212	0.98212	0.000	-18.99267	30.00000	Averaged
93 tert-butylbenzene	1.12901	1.22569	1.22569	0.000	-8.56391	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.05675	1.13417	1.13417	0.000	-7.32614	30.00000	Averaged
95 sec-butylbenzene	1.51762	1.63313	1.63313	0.000	-7.61092	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77036	0.75076	0.75076	0.000	2.54335	30.00000	Averaged
97 Benzyl Chloride	0.82883	0.88664	0.88664	0.000	-6.97516	30.00000	Averaged
98 1,4-Dichlorobenzene	0.70924	0.69888	0.69888	0.000	1.46110	30.00000	Averaged
99 p-Cymene	1.25900	1.31910	1.31910	0.000	-4.77361	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.86630	0.91695	0.91695	0.000	-5.84643	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86372	0.90823	0.90823	0.000	-5.15246	30.00000	Averaged
102 1,2-Dichlorobenzene	0.69309	0.67904	0.67904	0.000	2.02710	30.00000	Averaged
103 ~ Indane	0.88188	0.89280	0.89280	0.000	-1.23737	30.00000	Averaged
105 ~ Indene	0.61554	0.60144	0.60144	0.000	2.29068	30.00000	Averaged
104 n-butylbenzene	1.11355	1.19149	1.19149	0.000	-6.99894	30.00000	Averaged
106 Undecane	0.69283	0.73827	0.73827	0.000	-6.55796	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96732	0.97897	0.97897	0.000	-1.20484	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.92229	0.92250	0.92250	0.000	-0.02334	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030712.b/eccvc07.d
Report Date: 07-Mar-2012 12:33

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc07.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030712.b/TO155.m

Injection Date: 07-MAR-2012 10:06
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
109 ~ 1,2,3,5-tetramethylbenzen	0.69406	0.69392	0.69392	0.000	0.02020	30.00000	Averaged
110 ~ 1,2,3,4-tetramethylbenzen	0.74184	0.72405	0.72405	0.000	2.39829	30.00000	Averaged
111 Dodecane	0.46156	0.58823	0.58823	0.000	-27.44310	30.00000	Averaged
112 1,2,4-Trichlorobenzene	0.33280	0.34070	0.34070	0.000	-2.37645	30.00000	Averaged
113 Napthalene	0.57074	0.56313	0.56313	0.000	1.33409	30.00000	Averaged
114 ~ benzo(b) thiophene	0.31049	0.31969	0.31969	0.000	-2.96373	30.00000	Averaged
115 Hexachlorobutadiene	0.64451	0.61906	0.61906	0.000	3.94843	30.00000	Averaged
116 1,2,3-trichlorobenzene	0.28291	0.32057	0.32057	0.000	-13.30849	30.00000	Averaged
117 ~ 2-Methylnaphthalene	0.04231	0.04470	0.04470	0.000	-5.63682	50.00000	Averaged
118 ~ 1-Methylnaphthalene	0.04168	0.04171	0.04171	0.000	-0.06995	50.00000	Averaged

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C070000 - 130B **Work Order #** MRAAQ1AA **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	12:00
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.049 J**	**0.20**	**0.018**	**0.17 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C020000 - 154C **Work Order #** MQ7WC1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/02/2012	**Analysis Time....:**	03/02/2012
Prep Batch #.....:	2062154	**Analysis Time....:**	11:33
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	3.48	16.0	11.1	70	70 - 130
Carbon tetrachloride	5.00	4.78	31.5	30.1	96	70 - 130
Chlorodifluoromethane	5.00	5.03	17.7	17.8	101	60 - 140
Chloroform	5.00	4.47	24.4	21.8	89	70 - 130
Dichlorodifluoromethane	5.00	5.06	24.7	25.0	101	60 - 140
1,1-Dichloroethane	5.00	4.17	20.2	16.9	83	70 - 130
1,2-Dichloroethane	5.00	4.47	20.2	18.1	89	70 - 130
cis-1,2-Dichloroethene	5.00	4.12	19.8	16.3	82	70 - 130
trans-1,2-Dichloroethene	5.00	4.24	19.8	16.8	85	70 - 130
1,1-Dichloroethene	5.00	4.21	19.8	16.7	84	70 - 130
Ethylbenzene	5.00	3.64	21.7	15.8	73	70 - 130
Methylene chloride	5.00	4.01	17.4	13.9	80	70 - 130
Methyl tert-butyl ether	5.00	3.95	18.0	14.2	79	60 - 140
Naphthalene	5.00	4.05	26.2	21.3	81	40 - 140
Tetrachloroethene	5.00	3.80	33.9	25.8	76	70 - 130
Toluene	5.00	3.63	18.8	13.7	73	70 - 130
1,2,4-Trichlorobenzene	5.00	3.63	37.1	26.9	73	60 - 140
1,1,1-Trichloroethane	5.00	4.77	27.3	26.0	95	70 - 130
1,1,2-Trichloroethane	5.00	3.70	27.3	20.2	74	70 - 130
Trichloroethene	5.00	3.60	26.9	19.4	72	70 - 130
1,2,3-Trimethylbenzene	5.00	3.69	24.6	18.1	74	20 - 180
1,2,4-Trimethylbenzene	5.00	3.62	24.6	17.8	72	70 - 130
1,3,5-Trimethylbenzene	5.00	3.48	24.6	17.1	70	70 - 130
Vinyl chloride	5.00	4.43	12.8	11.3	89	70 - 130
Xylenes (total)	15.0	11.0	65.1	47.6	73	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C060000 - 125C **Work Order #** MQ9FL1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	09:16
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	3.94	16.0	12.6	79	70 - 130
Carbon tetrachloride	5.00	6.17	31.5	38.8	123	70 - 130
Chlorodifluoromethane	5.00	6.31	17.7	22.3	126	60 - 140
Chloroform	5.00	5.08	24.4	24.8	102	70 - 130
Dichlorodifluoromethane	5.00	6.25	24.7	30.9	125	60 - 140
1,1-Dichloroethane	5.00	4.78	20.2	19.4	96	70 - 130
1,2-Dichloroethane	5.00	5.42	20.2	21.9	108	70 - 130
cis-1,2-Dichloroethene	5.00	4.50	19.8	17.8	90	70 - 130
trans-1,2-Dichloroethene	5.00	4.42	19.8	17.5	88	70 - 130
1,1-Dichloroethene	5.00	4.41	19.8	17.5	88	70 - 130
Ethylbenzene	5.00	4.02	21.7	17.5	80	70 - 130
Methylene chloride	5.00	4.24	17.4	14.7	85	70 - 130
Methyl tert-butyl ether	5.00	4.16	18.0	15.0	83	60 - 140
Naphthalene	5.00	3.94	26.2	20.6	79	40 - 140
Tetrachloroethene	5.00	4.22	33.9	28.6	84	70 - 130
Toluene	5.00	3.85	18.8	14.5	77	70 - 130
1,2,4-Trichlorobenzene	5.00	3.71	37.1	27.5	74	60 - 140
1,1,1-Trichloroethane	5.00	5.67	27.3	30.9	113	70 - 130
1,1,2-Trichloroethane	5.00	3.86	27.3	21.0	77	70 - 130
Trichloroethene	5.00	4.56	26.9	24.5	91	70 - 130
1,2,3-Trimethylbenzene	5.00	4.09	24.6	20.1	82	20 - 180
1,2,4-Trimethylbenzene	5.00	4.00	24.6	19.7	80	70 - 130
1,3,5-Trimethylbenzene	5.00	3.83	24.6	18.8	77	70 - 130
Vinyl chloride	5.00	5.39	12.8	13.8	108	70 - 130
Xylenes (total)	15.0	12.2	65.1	52.8	81	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	108	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C070000 - 130C **Work Order #** MRAAQ1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	10:06
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	5.01	16.0	16.0	100	70 - 130
Carbon tetrachloride	5.00	5.39	31.5	33.9	108	70 - 130
Chlorodifluoromethane	5.00	4.89	17.7	17.3	98	60 - 140
Chloroform	5.00	5.58	24.4	27.2	112	70 - 130
Dichlorodifluoromethane	5.00	5.80	24.7	28.7	116	60 - 140
1,1-Dichloroethane	5.00	5.65	20.2	22.9	113	70 - 130
1,2-Dichloroethane	5.00	5.61	20.2	22.7	112	70 - 130
cis-1,2-Dichloroethene	5.00	5.40	19.8	21.4	108	70 - 130
trans-1,2-Dichloroethene	5.00	5.36	19.8	21.3	107	70 - 130
1,1-Dichloroethene	5.00	5.29	19.8	21.0	106	70 - 130
Ethylbenzene	5.00	5.74	21.7	24.9	115	70 - 130
Methylene chloride	5.00	4.81	17.4	16.7	96	70 - 130
Methyl tert-butyl ether	5.00	6.04	18.0	21.8	121	60 - 140
Naphthalene	5.00	4.93	26.2	25.9	99	40 - 140
Tetrachloroethene	5.00	5.35	33.9	36.3	107	70 - 130
Toluene	5.00	5.52	18.8	20.8	110	70 - 130
1,2,4-Trichlorobenzene	5.00	5.12	37.1	38.0	102	60 - 140
1,1,1-Trichloroethane	5.00	5.68	27.3	31.0	114	70 - 130
1,1,2-Trichloroethane	5.00	5.66	27.3	30.9	113	70 - 130
Trichloroethene	5.00	4.98	26.9	26.8	100	70 - 130
1,2,3-Trimethylbenzene	5.10	5.50	25.1	27.1	108	20 - 180
1,2,4-Trimethylbenzene	5.00	5.37	24.6	26.4	107	70 - 130
1,3,5-Trimethylbenzene	5.00	5.39	24.6	26.5	108	70 - 130
Vinyl chloride	5.00	5.33	12.8	13.6	107	70 - 130
Xylenes (total)	15.0	17.2	65.1	74.6	114	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	2/24/12	Instrument::	MS	ICAL Batch/Scan Name:	JO22412I	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad		✓			✓
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓		acetaldehyde 64% quad 1-methylnaph 50% lin area 2-methylnaph 50% linear	✓
11. If curves were used, is correlation coefficient ≥0.990?		✓			✓
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.		✓			✓
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).		✓			✓
14. Is the "Y" intercept less than the RL for each curve?		✓			✓
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?	✓				✓
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			-
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)		✓		ICV 257% acetaldehyde.	✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 2/27/12	2nd Level Reviewer :	Date: 2/27/12
Comments:		Comments: OK for Lower NY RL's	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Inst: MJ

Analyst: HMC Qtims Batch: ICAL

Date: 2/24/12 ICAL Batch: J022412I Target Batch: J022412F IS #1 Area: 668304

Surr/IS ID & Vol.: 40mL V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1418	✓	fluo	JBFBB24	—	16	100	1	
1448	✓	MDL ✓	JMDLB24	CX2331	1	50		
1541	✓	ICAL 1	JICB241	↓	1	100		
1633	✓	2	2	↓	1	200		
1726	✓	3	3	CX2329	3	100		
1818	✓	4	4	↓	3	200		
1909	✓	5	5	CX2327	5	100		
1959	✓	6	6	↓	5	200		
2050	✓	7	7	CX2326	6			
2144	✓	8	8	CX2325	7			
2237	✓	9	9	CX2324	8			
2333	OK	blk	blk1	—	16	200		
0025	✓	ICV	JICVB24	CX2321	9	100		
0120	OK	LCS	LCS	↓	9	200		
0215	OK	Blk	Blk	—	16	500		

2/25/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 2/25/12

Data File: /chem/goms/mj.i/J022412I.b/jbfbb24.d

Date : 24-FEB-2012 14:18

Client ID: BFB

Instrument: mj.i

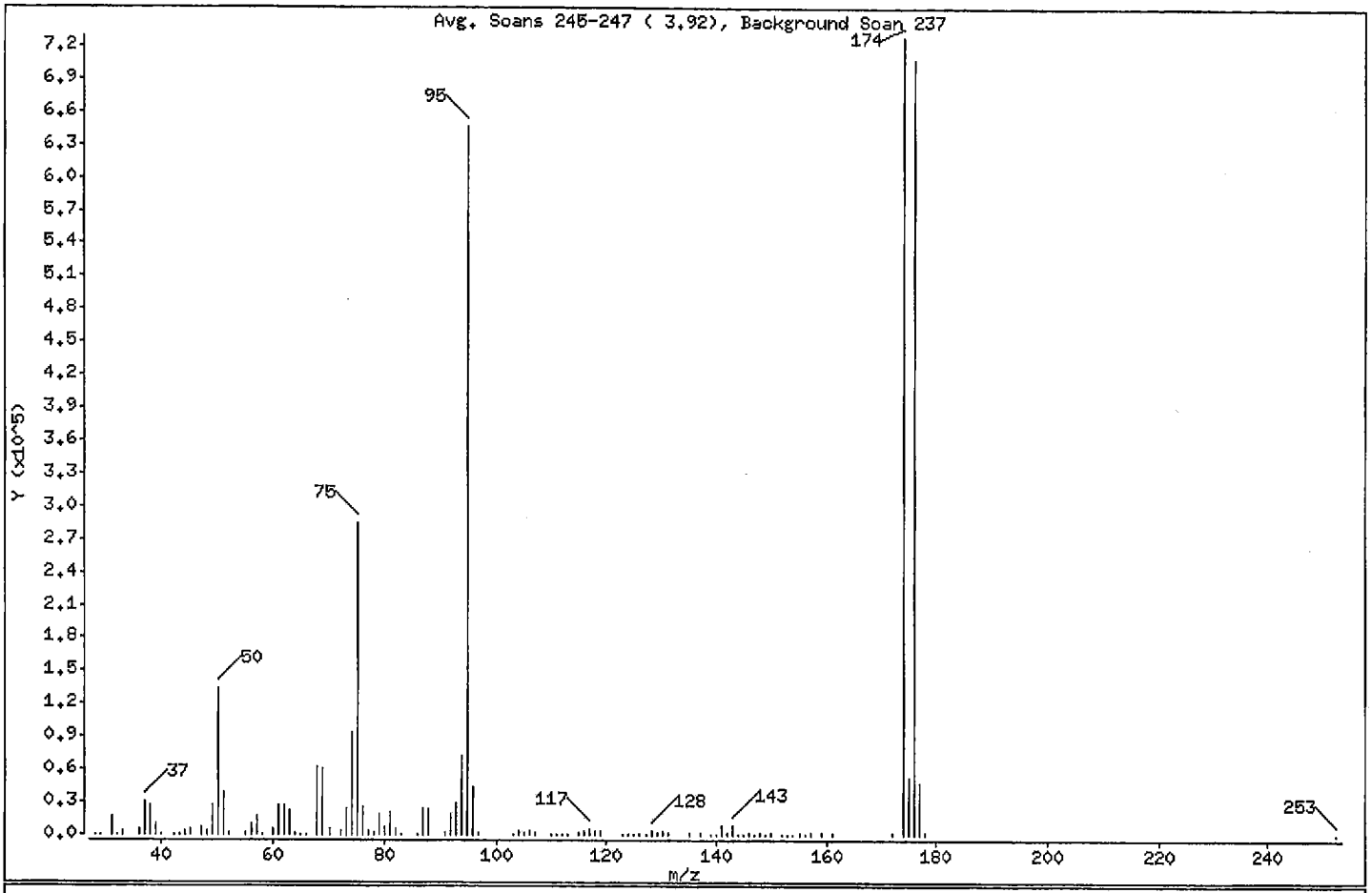
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.63
75	30.00 - 60.00% of mass 95	44.19
96	5.00 - 9.00% of mass 95	6.80
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	112.74
175	5.00 - 9.00% of mass 174	8.01 (7.11)
176	95.00 - 101.00% of mass 174	109.68 (97.28)
177	5.00 - 9.00% of mass 176	7.38 (6.73)

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Calibration File Names:
Level 1: /var/chem/gcms/mj.i/J022412I.b/jicb241.d
Level 2: /var/chem/gcms/mj.i/J022412I.b/jicb242.d
Level 3: /var/chem/gcms/mj.i/J022412I.b/jicb243.d
Level 4: /var/chem/gcms/mj.i/J022412I.b/jicb244.d
Level 5: /var/chem/gcms/mj.i/J022412I.b/jicb245.d
Level 6: /var/chem/gcms/mj.i/J022412I.b/jicb246.d
Level 7: /var/chem/gcms/mj.i/J022412I.b/jicb247.d
Level 8: /var/chem/gcms/mj.i/J022412I.b/jicb248.d
Level 9: /var/chem/gcms/mj.i/J022412I.b/jicb249.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
5 Chlorodifluoromethane	+++++	0.49172	0.54130	0.45303	0.46380	0.39994					
	0.43285	0.42942	0.41529				AVRG		0.45342		10.07605
6 Propene	+++++	+++++	1.66930	1.38699	1.44925	1.19872					
	1.27470	1.19883	1.09478				AVRG		1.32465		14.62600
7 Dichlorodifluoromethane	4.25361	4.45237	5.25552	4.50389	4.78518	4.02026					
	4.31974	4.14826	3.77803				AVRG		4.39076		9.91220

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Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
8 Chloromethane	+++++	0.56562	0.53084	0.45297	0.43322	0.30746					
	0.32328	0.31659	0.29445				AVRG		0.40306		26.67746
9 1,2-Dichlorotetrafluoroethane	3.47913	3.33484	4.07171	3.48255	3.62297	2.86596					
	3.10138	3.00853	2.80653				AVRG		3.30818		12.28879
10 Methanol	+++++	+++++	+++++	+++++	0.31373	0.22908					
	0.21558	0.20479	0.15312				AVRG		0.22326		26.05776
11 - acetaldehyde	+++++	+++++	57069	124796	92790	183719					
	357604	742680	1319839				QUAD	0.000e+00	7.37380	0.92357	0.99544
12 Vinyl Chloride	1.38915	1.31603	1.53947	1.25688	1.28167	0.98716					
	1.06677	1.05730	1.04808				AVRG		1.21583		15.34919
13 n-Butane	+++++	+++++	2.59775	2.06406	2.01262	1.45446					
	1.59762	1.60243	1.48603				AVRG		1.83071		22.77122
14 1,3-Butadiene	0.97780	1.05225	1.18451	0.92176	0.95290	0.73073					
	0.80167	0.81047	0.78291				AVRG		0.91278		16.06524

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
15 Bromomethane	+++++	1.24636	1.56620	1.20030	1.27602	1.01825	AVRG		1.21493		13.38361
	1.13471	1.14278	1.13478								
16 Chloroethane	+++++	0.60275	0.69521	0.52583	0.52606	0.41793	AVRG		0.52204		17.08219
	0.46759	0.47303	0.46792								
17 - ethanol	+++++	+++++	0.62538	0.57262	0.50742	0.36745	AVRG		0.46393		23.06485
	0.41793	0.41610	0.34058								
18 Vinyl Bromide	1.40005	1.44249	1.78912	1.43414	1.52716	1.21058	AVRG		1.40412		12.75460
	1.22126	1.32531	1.28698								
19 2-methyl butane	2.26421	2.27764	2.66309	2.19823	2.25291	1.73751	AVRG		2.05391		17.64042
	1.54915	1.84090	1.70159								
20 Trichlorofluoromethane	4.54687	4.59736	5.68445	4.70392	5.02213	4.06894	AVRG		4.62094		10.57026
	4.22439	4.45967	4.28075								
21 Acrolein	+++++	+++++	0.50435	0.48876	0.28282	0.28562	AVRG		0.36578		26.61529
	0.27038	0.35626	0.37224								

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Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
22 Acetonitrile	+++++	+++++	+++++	0.68766	0.43717	0.37429					
	0.39792	0.49914	0.50168				AVRG		0.48298		23.36132
23 Acetone	+++++	+++++	+++++	+++++	0.54163	0.40181					
	0.38764	0.48512	0.42300				AVRG		0.44784		14.36112
24 Isopropyl alcohol	+++++	+++++	2.00490	1.85208	1.88013	1.26029					
	1.38088	1.61098	1.39553				AVRG		1.62640		17.86297
25 Pentane	+++++	0.20331	0.23013	0.20814	0.21444	0.14076					
	0.14791	0.18234	0.17142				AVRG		0.18731		17.18904
26 Ethyl Ether	1.52554	1.71302	1.60662	1.96532	1.31278	1.09342					
	1.26765	1.57225	1.52379				AVRG		1.50893		17.11131
27 1,1-Dichloroethene	1.16604	1.03637	1.25377	1.22302	1.23950	0.91555					
	0.98007	1.13154	1.07013				AVRG		1.11289		10.79404
28 tert-butanol	+++++	2.00266	1.99815	1.97389	2.10238	1.56311					
	1.75378	1.91252	1.68488				AVRG		1.87392		9.93164

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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
29 Acrylonitrile	0.86026	0.78947	0.78231	1.02047	0.56929	0.57365					
	0.64817	0.81659	0.78698				AVRG		0.76080		18.97880
30 1,1,2-Trichlorotrifluoroethan	2.66034	2.45488	3.05640	2.83943	2.62254	2.20416					
	2.35700	2.62043	2.35648				AVRG		2.57463		10.28081
31 Methylene Chloride	+++++	+++++	1.30930	1.19931	0.95160	0.79588					
	0.83154	0.95961	0.80502				AVRG		0.97889		20.61403
32 3-Chloropropene	+++++	1.38131	1.62338	1.53538	1.29021	1.20682					
	1.35002	1.51483	1.30148				AVRG		1.40043		10.21812
33 Carbon Disulfide	4.63103	3.94183	3.77799	3.71051	3.29551	2.72547					
	2.89644	3.39404	2.83886				AVRG		3.46796		17.77860
34 trans-1,2-Dichloroethene	1.48326	1.20830	1.52190	1.42151	1.29243	1.10564					
	1.15494	1.29706	1.16163				AVRG		1.29408		11.71028
35 - 2-Methyl Pentane	4.04437	3.53636	4.09988	3.94681	3.27418	2.89108					
	2.99495	3.42888	2.74643				AVRG		3.44033		14.80309

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
36 Methyl-t-Butyl Ether	2.02724	2.36109	2.43800	2.87213	1.93559	1.85539					
	2.07165	2.34643	2.17972				AVRG		2.23192		14.00842
37 1,1-Dichloroethane	2.46888	2.15426	2.70228	2.32353	1.95539	1.87631					
	1.92131	2.18808	1.91699				AVRG		2.16745		13.20072
38 Vinyl Acetate	2.66263	2.89238	2.77346	3.17228	1.83990	2.14332					
	2.39004	2.91918	2.65791				AVRG		2.60568		15.95290
39 2-Butamone	+++++	+++++	0.35090	0.38322	0.30600	0.26607					
	0.28377	0.33804	0.28497				AVRG		0.31614		13.43078
40 Hexane	1.37636	1.13606	1.33387	1.08476	1.03252	0.93208					
	0.96308	1.11090	0.95109				AVRG		1.10230		14.56966
41 cis 1,2-Dichloroethene	1.34687	1.14345	1.47606	1.20372	1.09258	1.02877					
	1.07598	1.19505	1.08993				AVRG		1.18360		12.20505
42 Ethyl acetate	1.97526	2.37158	2.18666	2.49223	2.03955	1.83169					
	1.96241	2.30701	2.00588				AVRG		2.13025		10.34766

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
43 Chloroform	2.96384	2.70028	3.38661	2.74611	2.43221	2.27919					
	2.36123	2.54899	2.41328				AVRG		2.64797		13.26735
44 Tetrahydrofuran	+++++	+++++	1.18756	1.23190	0.94315	0.88870					
	0.98217	1.00829	1.03270				AVRG		1.03921		12.12530
45 1,1,1-Trichloroethane	3.28187	3.09045	3.91874	3.24602	2.89996	2.80930					
	2.96916	2.92613	2.93433				AVRG		3.11955		10.87484
46 1,2-Dichloroethane	0.48675	0.45436	0.55703	0.46971	0.44243	0.40319					
	0.46263	0.56258	0.48110				AVRG		0.47997		10.71930
47 1-Butanol	+++++	+++++	0.11087	0.09308	0.12516	0.09351					
	0.11382	0.13207	0.10243				AVRG		0.11014		13.60766
48 Benzene	0.89191	0.75777	0.87171	0.68762	0.61693	0.55614					
	0.61483	0.73998	0.64220				AVRG		0.70879		16.46069
49 Cyclohexane	0.12775	0.11317	0.14415	0.11017	0.13101	0.10512					
	0.11015	0.13038	0.11218				AVRG		0.12046		10.95488

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Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

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End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
50 Carbon Tetrachloride	0.81632 0.90259	0.81825 1.07989	0.88397 0.93671	0.72980	0.86389	0.74172	AVRG		0.86368		12.35610
51 - 2,3-dimethylpentane	0.15004 0.13418	0.13849 0.16505	0.17845 0.14402	0.14459	0.14823	0.12733	AVRG		0.14782		10.58203
52 - Thiophene	0.45778 0.37971	0.42216 0.46753	0.50932 0.40985	0.40577	0.39304	0.35531	AVRG		0.42227		11.37693
53 2,2,4-trimethylpentane	1.48798 1.20552	1.33706 1.47546	1.66668 1.24658	1.32562	1.37741	1.15101	AVRG		1.36370		11.76873
54 Heptane	0.27173 0.20765	0.25940 0.26120	0.28338 0.22859	0.23042	0.24443	0.19986	AVRG		0.24296		11.76410
55 1,2-Dichloropropane	0.26848 0.23041	0.25540 0.27337	0.28944 0.24201	0.26281	0.23272	0.20412	AVRG		0.25097		10.42774
56 Trichloroethene	0.49714 0.45893	0.47048 0.56701	0.60173 0.49602	0.46733	0.53097	0.42598	AVRG		0.50173		11.11940

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Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
180 - 2-nitropropane	0.31623	0.47841	0.42469	0.53315	0.45447	0.41860					
	0.49794	0.65907	0.56253				AVRG		0.48279		20.22257
57 Dibromomethane	0.39915	0.36207	0.45482	0.36311	0.39086	0.33030					
	0.35189	0.43540	0.38484				AVRG		0.38583		10.34122
58 Bromodichloromethane	0.65151	0.64184	0.77774	0.69104	0.70164	0.58895					
	0.65545	0.82384	0.72605				AVRG		0.69534		10.42002
59 1,4-dioxane	+++++	0.06027	0.07087	0.07568	0.09460	0.07264					
	0.08016	0.09414	0.07968				AVRG		0.07850		14.76842
60 Methyl Methacrylate	0.22848	0.32505	0.28850	0.33269	0.31107	0.27121					
	0.30614	0.39818	0.35221				AVRG		0.31261		15.53386
61 - methyl cyclohexane	0.46309	0.41812	0.52503	0.42773	0.45811	0.38396					
	0.40386	0.49294	0.42413				AVRG		0.44411		10.09161
62 4-Methyl-2-pentanone	0.43173	0.50829	0.47804	0.49783	0.62926	0.48751					
	0.53995	0.67346	0.55753				AVRG		0.53374		14.33485

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
63 cis-1,3-Dichloropropene	0.33834	0.34744	0.41171	0.39088	0.35514	0.31549					
	0.36007	0.44825	0.40165				AVRG		0.37433		11.14967
64 trans-1,3-Dichloropropene	0.37303	0.38904	0.44367	0.42839	0.39362	0.37043					
	0.44291	0.50005	0.45092				AVRG		0.42134		10.21522
65 Toluene	0.90830	0.91480	1.00066	0.94386	0.75057	0.72598					
	0.83864	0.93682	0.83516				AVRG		0.87276		10.53259
66 1,1,2-Trichloroethane	0.26523	0.26642	0.32223	0.28037	0.25953	0.22325					
	0.25823	0.28524	0.25809				AVRG		0.26873		9.90180
67 ~ 2-methyl thiophene	0.80312	0.78184	0.90172	0.84880	0.68896	0.66345					
	0.75723	0.84661	0.76307				AVRG		0.78387		9.78516
68 ~ 3-methyl thiophene	0.77394	0.79984	0.92506	0.83755	0.70887	0.66337					
	0.76097	0.85108	0.76352				AVRG		0.78713		9.90958
69 2-Hexanone	0.21080	0.25373	0.21134	0.23176	0.29538	0.22171					
	0.25531	0.28358	0.23621				AVRG		0.24442		12.36200

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Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
70 Octane	0.31488	0.31119	0.33448	0.30066	0.30314	0.24672					
	0.28038	0.31004	0.27335				AVRG		0.29721		8.83025
71 Dibromochloromethane	0.71603	0.73561	0.86813	0.81415	0.83229	0.72362					
	0.87427	1.00378	0.89541				AVRG		0.82926		11.38903
72 1,2-Dibromoethane	0.59707	0.59943	0.66343	0.64305	0.57593	0.52340					
	0.59543	0.66121	0.60556				AVRG		0.60717		7.28880
73 Tetrachloroethene	0.54410	0.52167	0.62414	0.51136	0.52058	0.42825					
	0.45707	0.52295	0.48491				AVRG		0.51278		10.82594
74 Chlorobenzene	0.81478	0.83431	0.95953	0.84079	0.77255	0.67379					
	0.76198	0.84460	0.77539				AVRG		0.80864		9.63481
75 ~ 2,3-dimethylheptane	1.05065	1.13997	1.26359	1.11183	1.05981	0.86925					
	1.02144	1.07425	0.84151				AVRG		1.04803		12.40157
76 Ethylbenzene	0.97108	1.11273	1.14523	1.15512	0.93219	0.88744					
	1.05557	1.17509	1.04554				AVRG		1.05333		9.85399

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TestAmerica Knoxville

INITIAL CALIBRATION DATA

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
77 - 2-ethyl thiophene	0.79638	0.92747	1.01024	0.98339	0.82945	0.78348					
	0.92758	1.03419	0.93347				AVRG		0.91396		10.03458
78 m&p-Xylene	0.72594	0.87293	0.89724	0.90591	0.76203	0.68959					
	0.81996	0.91339	0.79666				AVRG		0.82041		10.07228
79 Nonane	0.56617	0.63265	0.67111	0.64368	0.60097	0.50011					
	0.60688	0.64962	0.54404				AVRG		0.60169		9.24807
80 Bromoform	+++++	0.53683	0.62069	0.61211	0.65977	0.58920					
	0.73153	0.85554	0.80483				AVRG		0.67631		16.41011
81 Styrene	0.47998	0.54135	0.60168	0.64834	0.59992	0.54761					
	0.65340	0.74922	0.69516				AVRG		0.61296		13.59954
82 o-Xylene	0.78230	0.91228	0.93412	0.95326	0.80235	0.70069					
	0.85291	0.96543	0.84812				AVRG		0.86127		10.30000
M 83 Xylene (total)	0.74474	0.88605	0.90953	0.92169	0.77547	0.69329					
	0.83094	0.93074	0.81381				AVRG		0.83403		10.12698

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
84 1,1,2,2-Tetrachloroethane	0.44960	0.55035	0.57765	0.60960	0.60527	0.48142					
	0.57483	0.63514	0.54679				AVRG		0.55896		10.82859
85 1,2,3-Trichloropropane	0.14994	0.18847	0.19921	0.21021	0.20240	0.16106					
	0.19303	0.21999	0.19799				AVRG		0.19137		11.75368
86 Cumene	1.14910	1.30660	1.29613	1.35501	1.17715	1.00568					
	1.21899	1.36615	1.18240				AVRG		1.22858		9.38827
87 n-Propylbenzene	0.28102	0.34829	0.34367	0.37515	0.35463	0.29176					
	0.35029	0.40431	0.37193				AVRG		0.34678		11.25411
88 2-chlorotoluene	0.32887	0.37732	0.42022	0.40958	0.38190	0.32659					
	0.38727	0.43014	0.39633				AVRG		0.38425		9.49147
89 4-Ethyltoluene	0.90823	1.19723	1.10911	1.26462	1.22732	0.97228					
	1.16124	1.30162	1.13360				AVRG		1.14169		11.41265
90 1,3,5-Trimethylbenzene	0.42171	0.58856	0.55825	0.64428	0.61417	0.48712					
	0.58430	0.67106	0.61409				AVRG		0.57595		13.56806

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Quant Method : ISTD
Target Version : 3.50
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Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
91 Alpha-Methylstyrene	0.29654	0.43107	0.39270	0.47798	0.51059	0.41893					
	0.51441	0.58434	0.53416				AVRG		0.46230		18.81514
92 Decane	0.52689	0.70900	0.57650	0.70590	0.62891	0.55225					
	0.68181	0.73177	0.61792				AVRG		0.63677		11.68848
93 tert-butylbenzene	0.86936	1.14998	1.08095	1.21191	1.15739	0.91117					
	1.11139	1.27172	1.11949				AVRG		1.09815		11.93825
94 1,2,4-Trimethylbenzene	0.63808	0.92324	0.84904	1.01139	1.00035	0.77334					
	0.92318	1.03647	0.91723				AVRG		0.89692		14.19243
95 sec-butylbenzene	0.97360	1.36922	1.25868	1.43084	1.35564	1.07118					
	1.28661	1.43076	1.22185				AVRG		1.26649		12.44968
96 1,3-Dichlorobenzene	0.67627	0.72915	0.78339	0.77768	0.80006	0.66126					
	0.79322	0.90216	0.82636				AVRG		0.77217		9.66536
97 Benzyl Chloride	0.48915	0.62813	0.62071	0.74151	0.86711	0.69165					
	0.81550	0.92981	0.81892				AVRG		0.73361		19.02026

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Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
98 1,4-Dichlorobenzene	0.65766	0.70552	0.73260	0.74080	0.79783	0.65030					
	0.77499	0.87612	0.80973				AVRG		0.74951		9.80630
99 p-Cymene	0.79933	1.17192	1.04379	1.27055	1.28021	0.99214					
	1.18987	1.34755	1.16305				AVRG		1.13982		14.90785
100 ~ 1,2,3- Trimethylbenzene	0.54045	0.76856	0.71967	0.83043	0.83053	0.64108					
	0.75095	0.84230	0.73922				AVRG		0.74035		13.31933
101 ~ n-butylcyclohexane	0.60967	0.69912	0.76981	0.71216	0.66845	0.56629					
	0.68259	0.73915	0.63152				AVRG		0.67542		9.52966
102 ~ Indane	0.67704	0.89234	0.85193	0.92207	0.92199	0.72159					
	0.84618	0.94488	0.83640				AVRG		0.84605		10.86802
103 1,2-Dichlorobenzene	0.60308	0.68419	0.68586	0.71405	0.72968	0.59410					
	0.70585	0.79774	0.72474				AVRG		0.69325		9.11253
104 n-butylbenzene	0.63620	0.91028	0.80962	0.98252	1.03514	0.79397					
	0.91481	1.02198	0.87937				AVRG		0.88710		14.27038

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Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
105 ~ Indene	0.42494	0.56255	0.54502	0.64294	0.69331	0.54723					
	0.64501	0.72413	0.65523				AVRG		0.60448		15.33155
106 Undecane	0.44671	0.46749	0.46166	0.46632	0.69625	0.47869					
	0.55199	0.65701	0.56930				AVRG		0.53283		17.29415
107 ~ 1,2-dimethyl-4-ethylenzene	0.64022	0.85704	0.78669	0.93851	1.06542	0.81921					
	0.95512	1.07230	0.89848				AVRG		0.89255		15.32988
108 ~ 1,2,4,5-tetramethylbenzene	0.62989	0.69269	0.69324	0.81188	1.04509	0.80324					
	0.92397	1.04306	0.82660				AVRG		0.82996		18.03023
109 ~ 1,2,3,5-tetramethylbenzene	0.50194	0.51758	0.53429	0.61625	0.55088	0.61155					
	0.70445	0.79706	0.63641				AVRG		0.60782		15.82905
110 ~ 1,2,3,4-tetramethylbenzene	0.56262	0.53269	0.53922	0.58098	0.82452	0.65244					
	0.75051	0.85255	0.60535				AVRG		0.65565		18.81371
111 Dodecane	+++++	+++++	0.36318	0.36712	0.59208	0.47866					
	0.51089	0.57134	0.35131				AVRG		0.46208		22.09855

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
112 1,2,4-Trichlorobenzene	0.32830	0.27710	0.26331	0.26825	0.37597	0.33780					
	0.40005	0.44971	0.26855				AVRG		0.32989		20.40503
113 Napthalene	0.62721	0.54774	0.50673	0.54036	0.83392	0.76723					
	0.88639	0.94167	0.57039				AVRG		0.69129		24.15351
114 ~ benzo(b) thiophene	0.36915	0.34044	0.28736	0.30096	0.46056	0.45550					
	0.53555	0.57109	0.33863				AVRG		0.40658		25.31728
115 Hexachlorobutadiene	0.32090	0.32809	0.28699	0.35046	0.36684	0.32158					
	0.39442	0.46258	0.30611				AVRG		0.34866		15.36074
116 1,2,3-trichlorobenzene	0.21298	0.20298	0.18389	0.17443	0.26068	0.24867					
	0.28713	0.31449	0.18612				AVRG		0.23015		21.64384
117 ~ 2-Methylnaphthalene	+++++	+++++	7243	26806	111260	420444					
	721089	1506333	3116939				LINR	0.000e+00	0.05582		0.99329
118 ~ 1-Methylnaphthalene	+++++	+++++	5432	22831	91352	343836					
	562994	1212752	2590476				LINR	0.000e+00	0.04591		0.99480

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.65779	0.66228	0.65642	0.66845	0.71574	0.67488					
	0.70337	0.75601	0.71024				AVRG		0.68946		4.92703

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/2/12	CCAL Batch/ Scan Name:	J030212	Instrument:	MW	ICAL Batch/ Scan Name:	J022412S	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓		see comment	✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		□ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				NA
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3-, 1,4-, and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected heptane ↓ 35 Ok J030112	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?		✓			NA
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 3/2/12	2nd Level Reviewer :	Date: 3/2/12
Comments:		Comments:	
Acrolein 31-	Methylmethacrylate 33-		
Acetonitrile 34-	MIBK 31-		
Acetone 37-	2-hexanone 31-		
IPA 32-	Undecane 36-		
Acrylonitrile 33-	Dodecane 33-		
2-Butanone 35-			
1-butanol 35-			
1-4 DFB 35-			

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MJ

Analyst: [signature] Qtims Batch: 2062152 (MQ7V8) (AM) 2062153 (MQ7V9)

Date: 3/2/12 ICAL Batch: J022412F Target Batch: J030212 IS #1 Area: 523169

Surr/IS ID & Vol.: 40MCV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☐ Daily 2062154 (MQ7WC) (*)

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0955	✓	tune	JBFBC02	-	16	100	1	1-dec 33- acrolein 31- acetonitrile 34- acetone 37- IPA 32- acrylonitrile 33- 2-butanone 35- 1-but 35- under 36-
1025	N	CCV	JCCVC02	CX2322	15	↓	↓	
1133	✓	CCV	JCCVC02A	↓	↓	↓	↓	140XN 35- methyl meth 33- MIBK 31- 2-hex 31-
1133	✓	LCS	JLCSC02A	↓	↓	↓	↓	heptane 35 ↓ ok J030102 3/12/12
not needed		Blk	Flush	-	16	500	↓	
1238	✓	↓	JBlkC02	-	↓	↓		
1331	✓	H2C010409	MQ6LX1AA	3118	1	500	1	shaw
1845	c/o?	N	6L0	7487	2	↓	↓	RR
2031	↓	N	6L2	93189	3	↓	↓	
2127	↓	N	6L3	12398	4	↓	↓	
2221	✓	↓	6L7 ↓	62344	5	↓	↓	
2314	dup ✓	↓	6L7 D	↓	5	↓	↓	
0007	✓	H2C010406	MQ6K01AA	34001253	6	200	1	btyn. Mech CRC can# A247
0058	✓	↓	6K1	6670	7	↓	↓	↓
0149	✓	↓	6K2	12157	8	↓	↓	↓
0238	✓	↓	6K4	34001255	9	↓	↓	12650
0329	✓	↓	6K5	34001259	10	↓	↓	12541
~~0421~~ 0421	3/5/12 ✓	H2B230467	MQ22L1AA	0106	11	500	1	tetra (*) 04:21
0515	✓	↓	22M	18426	12	500	1	
0604	✓	↓	22N	1367	13	250	~~2~~ 1 3/2/12	
0657	✓	↓	22P	8815B	14	500	1	
0750	✓	↓	22Q	93297	15	↓	1	
1414	✓	H2C020405	MQ7C31AA	bag	1	11	1	10mL tolling
1517	✓	lot ✓	9753	6381	STD	500	↓	
1608	✓	H2C020407	MQ7DT1AA	Bag	1	10	↓	honeywell
1659	✓	↓	DP ↓	↓	1	10	↓	
1751	N	H2C020447	P21AC	↓	1	10	↓	mcl (S) (E) mel + others
0840	✓	H2B280414	MQ43N1AA	7783	2	20	↓	mtbebtex
0935	N	lot ✓	9757	1529	1	500	1	OK btyn

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/5/12

Data File: /chem/gcms/mj.i/J030212.b/jbfbo02.d

Date : 02-MAR-2012 09:55

Client ID: BFB

Instrument: mj.i

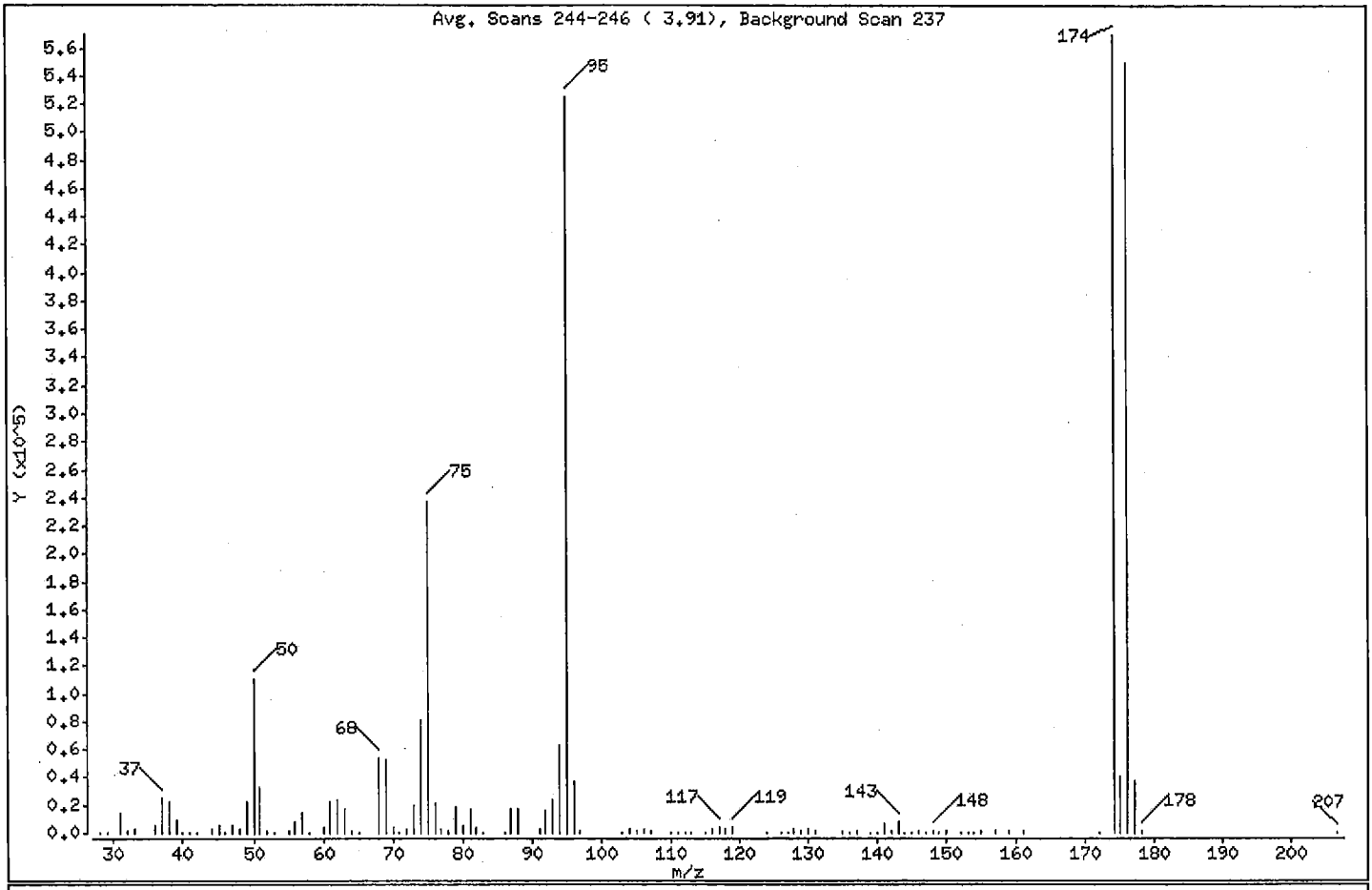
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	21.05
75	30.00 - 60.00% of mass 95	45.04
96	5.00 - 9.00% of mass 95	6.91
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	108.38
175	5.00 - 9.00% of mass 174	7.78 (7.18)
176	95.00 - 101.00% of mass 174	104.69 (96.60)
177	5.00 - 9.00% of mass 176	7.04 (6.72)

Data File: /var/chem/gcms/mj.i/J030212.b/jccvc02a.d
Report Date: 02-Mar-2012 12:48

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc02a.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J030212.b/TO15.m

Injection Date: 02-MAR-2012 11:33
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT		MAX %D / %DRIFT	CURVE TYPE	
$ 4 4-Bromofluorobenzene	0.68946	0.69266	0.69266	0.000	-0.46324		30.00000	Averaged	
5 Chlorodifluoromethane	0.45342	0.45647	0.45647	0.000	-0.67303		30.00000	Averaged	
6 Propene	1.32465	1.22142	1.22142	0.000	7.79299		30.00000	Averaged	
7 Dichlorodifluoromethane	4.39076	4.43885	4.43885	0.000	-1.09530		30.00000	Averaged	
8 Chloromethane	0.40306	0.33771	0.33771	0.000	16.21321		30.00000	Averaged	
9 1,2-Dichlorotetrafluoroetha	3.30818	3.29783	3.29783	0.000	0.31292		30.00000	Averaged	
10 Methanol	0.22326	0.19227	0.19227	0.000	13.88262		30.00000	Averaged	
11 ~ acetaldehyde	8.66267	10.12000	0.11210	0.000	14.40054		30.00000	Quadratic	
12 Vinyl Chloride	1.21583	1.07777	1.07777	0.000	11.35577		30.00000	Averaged	
13 n-Butane	1.83071	1.60584	1.60584	0.000	12.28295		30.00000	Averaged	
14 1,3-Butadiene	0.91278	0.78504	0.78504	0.000	13.99415		30.00000	Averaged	
15 Bromomethane	1.21493	1.20914	1.20914	0.000	0.47593		30.00000	Averaged	
16 Chloroethane	0.52204	0.46804	0.46804	0.000	10.34511		30.00000	Averaged	
17 ~ ethanol	0.46393	0.28206	0.28206	0.000	39.20210	NT	30.00000	Averaged	<- OK 50-150
18 Vinyl Bromide	1.40412	1.13278	1.13278	0.000	19.32461		30.00000	Averaged	
19 2-methyl butane	2.05391	1.50712	1.50712	0.000	26.62198		30.00000	Averaged	
20 Trichlorofluoromethane	4.62094	4.65194	4.65194	0.000	-0.67068		30.00000	Averaged	
21 Acrolein	0.36578	0.25103	0.25103	0.000	31.36979	NT	30.00000	Averaged	<- 60-140
22 Acetonitrile	0.48298	0.31885	0.31885	0.000	33.98274	NT	30.00000	Averaged	<-
23 Acetone	0.44784	0.28052	0.28052	0.000	37.36247	NT	30.00000	Averaged	<-
24 Isopropyl alcohol	1.62640	1.11153	1.11153	0.000	31.65710	NT	30.00000	Averaged	<-
25 Pentane	0.18731	0.14138	0.14138	0.000	24.52086		30.00000	Averaged	
26 Ethyl Ether	1.50893	1.07364	1.07364	0.000	28.84776		30.00000	Averaged	
27 1,1-Dichloroethene	1.11289	0.93769	0.93769	0.000	15.74282		30.00000	Averaged	
28 tert-butanol	1.87392	1.45696	1.45696	0.000	22.25094		30.00000	Averaged	
29 Acrylonitrile	0.76080	0.51025	0.51025	0.000	32.93261	NT	30.00000	Averaged	<- 60-140
30 1,1,2-Trichlorotrifluoroeth	2.57463	2.36264	2.36264	0.000	8.23384		30.00000	Averaged	
31 Methylene Chloride	0.97889	0.78458	0.78458	0.000	19.85057		30.00000	Averaged	
32 3-Chloropropene	1.40043	1.29668	1.29668	0.000	7.40855		30.00000	Averaged	
33 Carbon Disulfide	3.46796	2.69848	2.69848	0.000	22.18842		30.00000	Averaged	
34 trans-1,2-Dichloroethene	1.29408	1.09627	1.09627	0.000	15.28529		30.00000	Averaged	
35 ~ 2-Methyl Pentane	3.44033	2.75797	2.75797	0.000	19.83396		30.00000	Averaged	
36 Methyl-t-Butyl Ether	2.23192	1.76357	1.76357	0.000	20.98385		30.00000	Averaged	
37 1,1-Dichloroethane	2.16745	1.80865	1.80865	0.000	16.55386		30.00000	Averaged	
38 Vinyl Acetate	2.60568	1.87730	1.87730	0.000	27.95349		30.00000	Averaged	

Data File: /var/chem/gcms/mj.i/J030212.b/jccvc02a.d
Report Date: 02-Mar-2012 12:48

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc02a.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J030212.b/TO15.m

Injection Date: 02-MAR-2012 11:33
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
39 2-Butanone	0.31614	0.20693	0.20693	0.000	34.54392 NT	30.00000	Averaged	<-60-140
40 Hexane	1.10230	0.85664	0.85664	0.000	22.28595	30.00000	Averaged	
41 cis 1,2-Dichloroethene	1.18360	0.97441	0.97441	0.000	17.67394	30.00000	Averaged	
42 Ethyl acetate	2.13025	1.51307	1.51307	0.000	28.97217	30.00000	Averaged	
43 Chloroform	2.64797	2.36532	2.36532	0.000	10.67421	30.00000	Averaged	
44 Tetrahydrofuran	1.03921	0.74588	0.74588	0.000	28.22648	30.00000	Averaged	
45 1,1,1-Trichloroethane	3.11955	2.97731	2.97731	0.000	4.55968	30.00000	Averaged	
46 1,2-Dichloroethane	0.47997	0.42928	0.42928	0.000	10.56266	30.00000	Averaged	
47 1-Butanol	0.11014	0.07159	0.07159	0.000	34.99642 NT	30.00000	Averaged	<-60-140
48 Benzene	0.70879	0.49283	0.49283	0.000	30.46947	30.00000	Averaged	<- OK
49 Cyclohexane	0.12046	0.08904	0.08904	0.000	26.07868	30.00000	Averaged	
50 Carbon Tetrachloride	0.86368	0.82527	0.82527	0.000	4.44806	30.00000	Averaged	
51 ~ 2,3-dimethylpentane	0.14782	0.10566	0.10566	0.000	28.52043	30.00000	Averaged	
52 ~ Thiophene	0.42227	0.30433	0.30433	0.000	27.93062	30.00000	Averaged	
53 2,2,4-trimethylpentane	1.36370	1.00480	1.00480	0.000	26.31808	30.00000	Averaged	
54 Heptane	0.24296	0.16393	0.16393	0.000	32.52768 NT	30.00000	Averaged	<-70-130
55 1,2-Dichloropropane	0.25097	0.17838	0.17838	0.000	28.92629	30.00000	Averaged	OK J030112
56 Trichloroethene	0.50173	0.36146	0.36146	0.000	27.95800	30.00000	Averaged	
180 ~ 2-nitropropane	0.48279	0.36089	0.36089	0.000	25.24782	30.00000	Averaged	
57 Dibromomethane	0.38583	0.30664	0.30664	0.000	20.52523	30.00000	Averaged	
58 Bromodichloromethane	0.69534	0.57642	0.57642	0.000	17.10256	30.00000	Averaged	
59 1,4-dioxane	0.07850	0.05109	0.05109	0.000	34.92016 NT	30.00000	Averaged	<-60-140
60 Methyl Methacrylate	0.31261	0.20845	0.20845	0.000	33.32196 NT	30.00000	Averaged	<-60-140
61 ~ methyl cyclohexane	0.44411	0.32368	0.32368	0.000	27.11597	30.00000	Averaged	
62 4-Methyl-2-pentanone	0.53374	0.37035	0.37035	0.000	30.61104 NT	30.00000	Averaged	<-60-140
63 cis-1,3-Dichloropropene	0.37433	0.27594	0.27594	0.000	26.28490	30.00000	Averaged	
64 trans-1,3-Dichloropropene	0.42134	0.33426	0.33426	0.000	20.66664	30.00000	Averaged	
65 Toluene	0.87276	0.63330	0.63330	0.000	27.43712	30.00000	Averaged	
66 1,1,2-Trichloroethane	0.26873	0.19859	0.19859	0.000	26.10081	30.00000	Averaged	
67 ~ 2-methyl thiophene	0.78387	0.57973	0.57973	0.000	26.04223	30.00000	Averaged	
68 ~ 3-methyl thiophene	0.78713	0.57768	0.57768	0.000	26.60982	30.00000	Averaged	
69 2-Hexanone	0.24442	0.16838	0.16838	0.000	31.11083 NT	30.00000	Averaged	<-60-140
70 Octane	0.29721	0.21633	0.21633	0.000	27.21232	30.00000	Averaged	
71 Dibromochloromethane	0.82926	0.71552	0.71552	0.000	13.71600	30.00000	Averaged	
72 1,2-Dibromoethane	0.60717	0.46899	0.46899	0.000	22.75845	30.00000	Averaged	

Data File: /var/chem/gcms/mj.i/J030212.b/jccvc02a.d
Report Date: 02-Mar-2012 12:48

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc02a.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J030212.b/TO15.m

Injection Date: 02-MAR-2012 11:33
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
73 Tetrachloroethene	0.51278	0.38975	0.38975	0.000	23.99236	30.00000	Averaged	
74 Chlorobenzene	0.80864	0.58688	0.58688	0.000	27.42304	30.00000	Averaged	
75 ~ 2,3-dimethylheptane	1.04803	0.82088	0.82088	0.000	21.67389	30.00000	Averaged	
76 Ethylbenzene	1.05333	0.76583	0.76583	0.000	27.29485	30.00000	Averaged	
77 ~ 2-ethyl thiophene	0.91396	0.69405	0.69405	0.000	24.06129	30.00000	Averaged	
78 m&p-Xylene	0.82041	0.60415	0.60415	0.000	26.35989	30.00000	Averaged	
79 Nonane	0.60169	0.45153	0.45153	0.000	24.95746	30.00000	Averaged	
80 Bromoform	0.67631	0.53455	0.53455	0.000	20.96084	30.00000	Averaged	
81 Styrene	0.61296	0.44953	0.44953	0.000	26.66266	30.00000	Averaged	
82 o-Xylene	0.86127	0.61874	0.61874	0.000	28.16030	30.00000	Averaged	
M 83 Xylene (total)	0.83403	0.60901	0.60901	0.000	26.97976	30.00000	Averaged	
84 1,1,2,2-Tetrachloroethane	0.55896	0.39893	0.39893	0.000	28.63022	30.00000	Averaged	
85 1,2,3-Trichloropropane	0.19137	0.14308	0.14308	0.000	25.23413	30.00000	Averaged	
86 Cumene	1.22858	0.89891	0.89891	0.000	26.83364	30.00000	Averaged	
87 n-Propylbenzene	0.34678	0.24273	0.24273	0.000	30.00441 NT	30.00000	Averaged	<-OK
88 2-chlorotoluene	0.38425	0.28767	0.28767	0.000	25.13391	30.00000	Averaged	
89 4-Ethyltoluene	1.14169	0.81437	0.81437	0.000	28.66981	30.00000	Averaged	
90 1,3,5-Trimethylbenzene	0.57595	0.40105	0.40105	0.000	30.36743 NT	30.00000	Averaged	<-OK
91 Alpha-Methylstyrene	0.46230	0.33540	0.33540	0.000	27.45074	30.00000	Averaged	
92 Decane	0.63677	0.45729	0.45729	0.000	28.18693	30.00000	Averaged	
93 tert-butylbenzene	1.09815	0.79214	0.79214	0.000	27.86643	30.00000	Averaged	
94 1,2,4-Trimethylbenzene	0.89692	0.64948	0.64948	0.000	27.58836	30.00000	Averaged	
95 sec-butylbenzene	1.26649	0.90692	0.90692	0.000	28.39074	30.00000	Averaged	
96 1,3-Dichlorobenzene	0.77217	0.55532	0.55532	0.000	28.08354	30.00000	Averaged	
97 Benzyl Chloride	0.73361	0.52181	0.52181	0.000	28.87080	30.00000	Averaged	
98 1,4-Dichlorobenzene	0.74951	0.53638	0.53638	0.000	28.43632	30.00000	Averaged	
99 p-Cymene	1.13982	0.82344	0.82344	0.000	27.75758	30.00000	Averaged	
100 ~ 1,2,3- Trimethylbenzene	0.74035	0.52520	0.52520	0.000	29.06072	30.00000	Averaged	
101 ~ n-butylcyclohexane	0.67542	0.48549	0.48549	0.000	28.12066	30.00000	Averaged	
102 ~ Indane	0.84605	0.59326	0.59326	0.000	29.87846	30.00000	Averaged	
103 1,2-Dichlorobenzene	0.69325	0.50078	0.50078	0.000	27.76342	30.00000	Averaged	
104 n-butylbenzene	0.88710	0.62107	0.62107	0.000	29.98875	30.00000	Averaged	
105 ~ Indene	0.60448	0.42029	0.42029	0.000	30.47127 NT	30.00000	Averaged	<-OK
106 Undecane	0.53283	0.33891	0.33891	0.000	36.39472 NT	30.00000	Averaged	<-60140
107 ~ 1,2-dimethyl-4-ethylenzen	0.89255	0.64544	0.64544	0.000	27.68621	30.00000	Averaged	
108 ~ 1,2,4,5-tetramethylbenzen	0.82996	0.61916	0.61916	0.000	25.39852	30.00000	Averaged	

Data File: /var/chem/gcms/mj.i/J030212.b/jccvc02a.d
Report Date: 02-Mar-2012 12:48

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc02a.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J030212.b/TO15.m

Injection Date: 02-MAR-2012 11:33
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
109 ~ 1,2,3,5-tetramethylbenzen	0.60782	0.46843	0.46843	0.000	22.93279	30.00000	Averaged
110 ~ 1,2,3,4-tetramethylbenzen	0.65565	0.49519	0.49519	0.000	24.47367	30.00000	Averaged
111 Dodecane	0.46208	0.31018	0.31018	0.000	32.87414	30.00000	Averaged
112 1,2,4-Trichlorobenzene	0.32989	0.23929	0.23929	0.000	27.46458	30.00000	Averaged
113 Napthalene	0.69129	0.56050	0.56050	0.000	18.92050	30.00000	Averaged
114 ~ benzo(b) thiophene	0.40658	0.32837	0.32837	0.000	19.23732	30.00000	Averaged
115 Hexachlorobutadiene	0.34866	0.25671	0.25671	0.000	26.37235	30.00000	Averaged
116 1,2,3-trichlorobenzene	0.23015	0.18348	0.18348	0.000	20.27729	30.00000	Averaged
117 ~ 2-Methylnaphthalene	9.52285	12.50000	0.04252	0.000	23.81719	50.00000	Linear
118 ~ 1-Methylnaphthalene	9.50936	12.50000	0.03493	0.000	23.92508	50.00000	Linear

NR <60-140

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C020000 - 154B **Work Order #** MQ7WC1AA **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/02/2012	**Analysis Time....:**	03/02/2012
Prep Batch #.....:	2062154	**Analysis Time....:**	12:38
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.030 J**	**0.20**	**0.018**	**0.11 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.046 J**	**0.20**	**0.036**	**0.24 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/6/12	CCAL Batch/ Scan Name:	J030612	Instrument:	MJ	ICAL Batch/ Scan Name:	J022412 5	Scanned

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		☐ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓		acetone 36- 2-butanone 37- 1-butanol 32- 1,4-DXN 31- 2-hexanone 33- Under 33-	✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		☐ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				NA
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		☐ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits ☐ [lcs5] LCS outside marginal exceedences high, but analytes were not detected acetone ↓41 OK J030512	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 3/6/12	2nd Level Reviewer :	Date: 3/7/12
Comments:		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MJ

Analyst: HMK Qtims Batch: 2066125 (MQ9FL)

Date: 3/6/12 ICAL Batch: J022412I Target Batch: J030612 IS #1 Area: 411288

Surr/IS ID & Vol.: 40MC V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0846	✓	tune	JBFBC06	-	16	100	1	acrolein 2-butanone 1-butanol 1,4-DXN 2-hexanone undecane
0916	✓	CCV	CCV	CX2322	15			
0916	✓	LCS	LCS					Acetone ↓41 ok J030512
1013	✓	Blk	Flush	-	16	500		
1105	✓		JBlkC06	-				
1159	✓	H2B230469	MQ23M1AA	93038	1	500	1	tetra
1251	✓	H2B230467	MQ22R1AA	93009	2	500	1	
~~1314~~ 3/6/12	13:49 ✓		22T	0104	3			
1436	✓		22V	0174	4	250		
1527	(E)		22W	6360	5	250		(E) tol RR 100mL
1620	✓		22X	12626	6	500		
1716	✓		220	1366	7			
1807	✓		221	1137	8			
1900	(E)		222	11407	9			(E) chlorodifluoro
1953	✓		223	04413	10			
2046	(E)		224	34001261	11			(E) chlorodifluoro RR 20mL
2140	RR 40?		225	34001268	12			
~~2321~~ 3/7/12	2231 ✓		226	04748	13			
2326	✓		227	12168	14			tg 34001266
0019	✓		229	62359N	15			
0112	dup		229D		15			
0204	✓		23C1AA	1377	1			
0256	✓		23D1AA	1133	2			
0347	✓	H2B230469	24M	1405	3	500		
0438	✓		24N	6623	4	100		
0618	(E)		24P	9722B	6	250		tag 34001267 E tol RR 50mL
0529	✓	H2B230467	22WR	6360	5	100		
0800	✓	Lot ✓	9767	1009N	7	500		
0857	out size	tm	9768	6596	8			
0708	✓	H2B230467	MQ222R	11407	9	250	1	

Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/7/12

MS027r16.DOC, 051210

Data File: /chem/gcms/mj.i/J030612.b/jbfbo06.d

Date : 06-MAR-2012 08:46

Client ID: BFB

Instrument: mj.i

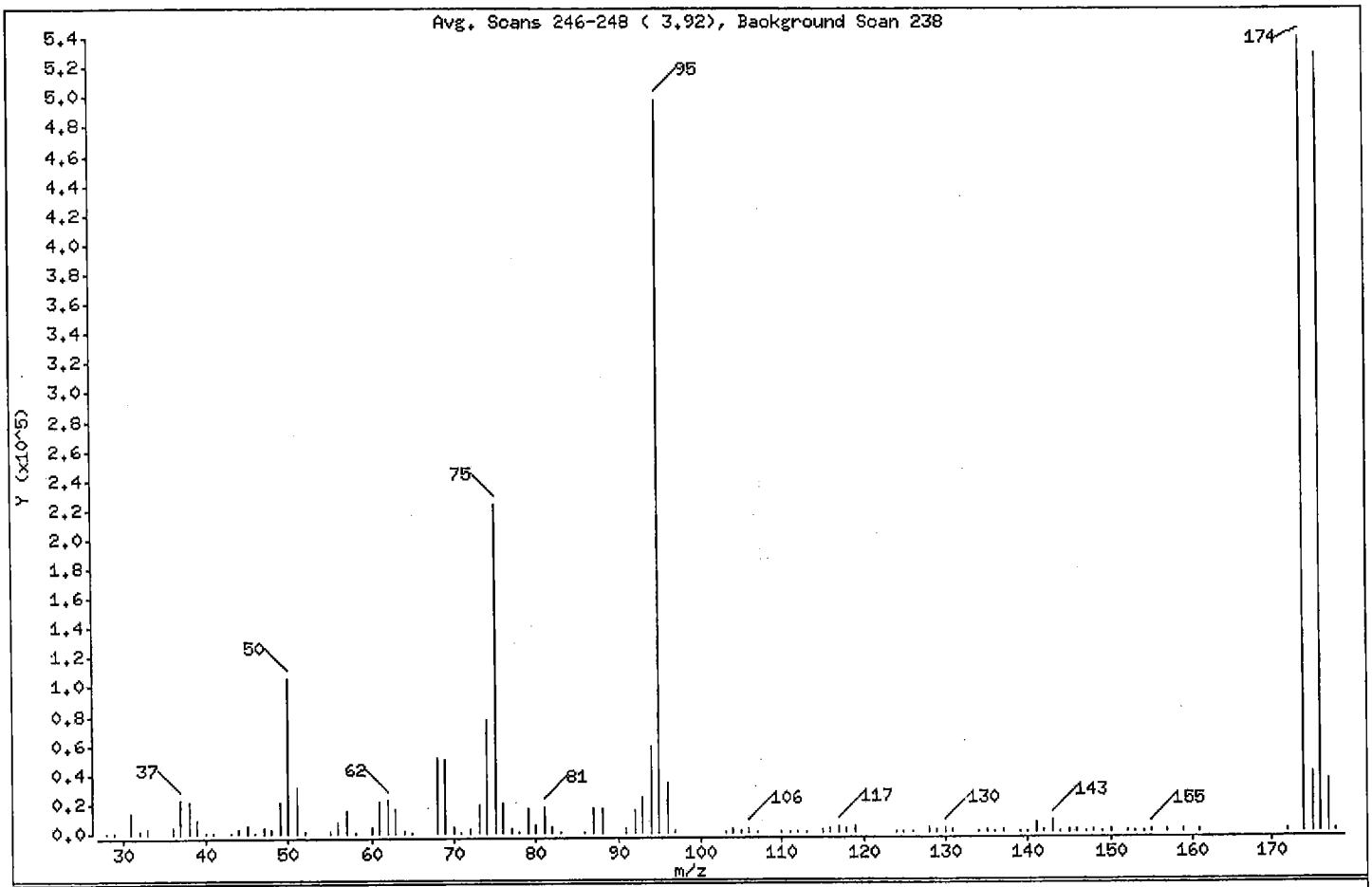
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	21.30
75	30.00 - 60.00% of mass 95	44.99
96	5.00 - 9.00% of mass 95	6.83
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	108.60
175	5.00 - 9.00% of mass 174	7.94 (7.31)
176	95.00 - 101.00% of mass 174	106.35 (97.93)
177	5.00 - 9.00% of mass 176	6.96 (6.54)

Data File: /var/chem/gcms/mj.i/J030612.b/jccvc06.d
Report Date: 06-Mar-2012 12:51

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /var/chem/gcms/mj.i/J030612.b/TO15.m

Injection Date: 06-MAR-2012 09:16
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 4-Bromofluorobenzene	0.68946	0.74417	0.74417	0.000	-7.93388	30.00000	Averaged	
5 Chlorodifluoromethane	0.45342	0.57255	0.57255	0.000	-26.27412	30.00000	Averaged	
6 Propene	1.32465	1.49526	1.49526	0.000	-12.87962	30.00000	Averaged	
7 Dichlorodifluoromethane	4.39076	5.49209	5.49209	0.000	-25.08280	30.00000	Averaged	
8 Chloromethane	0.40306	0.40198	0.40198	0.000	0.26752	30.00000	Averaged	
9 1,2-Dichlorotetrafluoroetha	3.30818	3.98611	3.98611	0.000	-20.49268	30.00000	Averaged	
10 Methanol	0.22326	0.23116	0.23116	0.000	-3.53700	30.00000	Averaged	
11 ~ acetaldehyde	8.98107	10.12000	0.11608	0.000	11.25421	30.00000	Quadratic	
12 Vinyl Chloride	1.21583	1.31172	1.31172	0.000	-7.88637	30.00000	Averaged	
13 n-Butane	1.83071	1.88066	1.88066	0.000	-2.72847	30.00000	Averaged	
14 1,3-Butadiene	0.91278	0.95950	0.95950	0.000	-5.11868	30.00000	Averaged	
15 Bromomethane	1.21493	1.44904	1.44904	0.000	-19.26988	30.00000	Averaged	
16 Chloroethane	0.52204	0.57017	0.57017	0.000	-9.21934	30.00000	Averaged	
17 ~ ethanol	0.46393	0.29754	0.29754	0.000	35.86455 NT	30.00000	Averaged	<- 50 OK
18 Vinyl Bromide	1.40412	1.18229	1.18229	0.000	15.79830	30.00000	Averaged	
19 2-methyl butane	2.05391	1.63352	1.63352	0.000	20.46782	30.00000	Averaged	
20 Trichlorofluoromethane	4.62094	5.25062	5.25062	0.000	-13.62663	30.00000	Averaged	
21 Acrolein	0.36578	0.23423	0.23423	0.000	35.96426 NT	30.00000	Averaged	<- 60-140
22 Acetonitrile	0.48298	0.33592	0.33592	0.000	30.44738 NT	30.00000	Averaged	<- OK
23 Acetone	0.44784	0.26608	0.26608	0.000	40.58568 NT	30.00000	Averaged	<- OK + OK J03072
24 Isopropyl alcohol	1.62640	1.13810	1.13810	0.000	30.02327 NT	30.00000	Averaged	<- OK
25 Pentane	0.18731	0.14283	0.14283	0.000	23.74747	30.00000	Averaged	
26 Ethyl Ether	1.50893	1.16326	1.16326	0.000	22.90821	30.00000	Averaged	
27 1,1-Dichloroethene	1.11289	0.98129	0.98129	0.000	11.82523	30.00000	Averaged	
28 tert-butanol	1.87392	1.51233	1.51233	0.000	19.29605	30.00000	Averaged	
29 Acrylonitrile	0.76080	0.53309	0.53309	0.000	29.92967	30.00000	Averaged	
30 1,1,2-Trichlorotrifluoroeth	2.57463	2.57807	2.57807	0.000	-0.13365	30.00000	Averaged	
31 Methylene Chloride	0.97889	0.82969	0.82969	0.000	15.24201	30.00000	Averaged	
32 3-Chloropropene	1.40043	1.51635	1.51635	0.000	-8.27743	30.00000	Averaged	
33 Carbon Disulfide	3.46796	2.79259	2.79259	0.000	19.47454	30.00000	Averaged	
34 trans-1,2-Dichloroethene	1.29408	1.14510	1.14510	0.000	11.51188	30.00000	Averaged	
35 ~ 2-Methyl Pentane	3.44033	3.03899	3.03899	0.000	11.66568	30.00000	Averaged	
36 Methyl-t-Butyl Ether	2.23192	1.85624	1.85624	0.000	16.83188	30.00000	Averaged	
37 1,1-Dichloroethane	2.16745	2.07266	2.07266	0.000	4.37334	30.00000	Averaged	
38 Vinyl Acetate	2.60568	2.03894	2.03894	0.000	21.75033	30.00000	Averaged	

Data File: /var/chem/gcms/mj.i/J030612.b/jccvc06.d
Report Date: 06-Mar-2012 12:51

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /var/chem/gcms/mj.i/J030612.b/TO15.m

Injection Date: 06-MAR-2012 09:16
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
39 2-Butanone	0.31614	0.19983	0.19983	0.000	36.78948 NT	30.00000	Averaged	<- 60-140
40 Hexane	1.10230	0.97138	0.97138	0.000	11.87690	30.00000	Averaged	
41 cis 1,2-Dichloroethene	1.18360	1.06503	1.06503	0.000	10.01740	30.00000	Averaged	
42 Ethyl acetate	2.13025	1.60955	1.60955	0.000	24.44334	30.00000	Averaged	
43 Chloroform	2.64797	2.68876	2.68876	0.000	-1.54060	30.00000	Averaged	
44 Tetrahydrofuran	1.03921	0.79207	0.79207	0.000	23.78125	30.00000	Averaged	
45 1,1,1-Trichloroethane	3.11955	3.53659	3.53659	0.000	-13.36853	30.00000	Averaged	
46 1,2-Dichloroethane	0.47997	0.52062	0.52062	0.000	-8.46886	30.00000	Averaged	
47 1-Butanol	0.11014	0.07504	0.07504	0.000	31.86664 NT	30.00000	Averaged	<- 60-140
48 Benzene	0.70879	0.55920	0.55920	0.000	21.10511	30.00000	Averaged	
49 Cyclohexane	0.12046	0.10270	0.10270	0.000	14.73950	30.00000	Averaged	
50 Carbon Tetrachloride	0.86368	1.06567	1.06567	0.000	-23.38652	30.00000	Averaged	
51 ~ 2,3-dimethylpentane	0.14782	0.12451	0.12451	0.000	15.76992	30.00000	Averaged	
52 ~ Thiophene	0.42227	0.35791	0.35791	0.000	15.24263	30.00000	Averaged	
53 2,2,4-trimethylpentane	1.36370	1.13330	1.13330	0.000	16.89571	30.00000	Averaged	
54 Heptane	0.24296	0.18225	0.18225	0.000	24.98978	30.00000	Averaged	
55 1,2-Dichloropropane	0.25097	0.19174	0.19174	0.000	23.60168	30.00000	Averaged	
56 Trichloroethene	0.50173	0.45740	0.45740	0.000	8.83712	30.00000	Averaged	
180 ~ 2-nitropropane	0.48279	0.43183	0.43183	0.000	10.55426	30.00000	Averaged	
57 Dibromomethane	0.38583	0.36269	0.36269	0.000	5.99683	30.00000	Averaged	
58 Bromodichloromethane	0.69534	0.66741	0.66741	0.000	4.01705	30.00000	Averaged	
59 1,4-dioxane	0.07850	0.05429	0.05429	0.000	30.84603 NT	30.00000	Averaged	<- 60-140
60 Methyl Methacrylate	0.31261	0.24441	0.24441	0.000	21.81661	30.00000	Averaged	
61 ~ methyl cyclohexane	0.44411	0.38115	0.38115	0.000	14.17644	30.00000	Averaged	
62 4-Methyl-2-pentanone	0.53374	0.40581	0.40581	0.000	23.96871	30.00000	Averaged	
63 cis-1,3-Dichloropropene	0.37433	0.30258	0.30258	0.000	19.16799	30.00000	Averaged	
64 trans-1,3-Dichloropropene	0.42134	0.36467	0.36467	0.000	13.44999	30.00000	Averaged	
65 Toluene	0.87276	0.67215	0.67215	0.000	22.98512	30.00000	Averaged	
66 1,1,2-Trichloroethane	0.26873	0.20726	0.20726	0.000	22.87469	30.00000	Averaged	
67 ~ 2-methyl thiophene	0.78387	0.59372	0.59372	0.000	24.25721	30.00000	Averaged	
68 ~ 3-methyl thiophene	0.78713	0.59657	0.59657	0.000	24.21010	30.00000	Averaged	
69 2-Hexanone	0.24442	0.16450	0.16450	0.000	32.69726 NT	30.00000	Averaged	<- 60-140
70 Octane	0.29721	0.22267	0.22267	0.000	25.07989	30.00000	Averaged	
71 Dibromochloromethane	0.82926	0.77204	0.77204	0.000	6.90012	30.00000	Averaged	
72 1,2-Dibromoethane	0.60717	0.50131	0.50131	0.000	17.43495	30.00000	Averaged	

Data File: /var/chem/gcms/mj.i/J030612.b/jccvc06.d
Report Date: 06-Mar-2012 12:51

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /var/chem/gcms/mj.i/J030612.b/TO15.m

Injection Date: 06-MAR-2012 09:16
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 Tetrachloroethene	0.51278	0.43274	0.43274	0.000	15.60844	30.00000	Averaged
74 Chlorobenzene	0.80864	0.62639	0.62639	0.000	22.53776	30.00000	Averaged
75 ~ 2,3-dimethylheptane	1.04803	0.88931	0.88931	0.000	15.14533	30.00000	Averaged
76 Ethylbenzene	1.05333	0.84795	0.84795	0.000	19.49863	30.00000	Averaged
77 ~ 2-ethyl thiophene	0.91396	0.75742	0.75742	0.000	17.12733	30.00000	Averaged
78 m&p-Xylene	0.82041	0.66955	0.66955	0.000	18.38756	30.00000	Averaged
79 Nonane	0.60169	0.47761	0.47761	0.000	20.62232	30.00000	Averaged
80 Bromoform	0.67631	0.56182	0.56182	0.000	16.92881	30.00000	Averaged
81 Styrene	0.61296	0.46661	0.46661	0.000	23.87662	30.00000	Averaged
82 o-Xylene	0.86127	0.68901	0.68901	0.000	20.00140	30.00000	Averaged
M 83 Xylene (total)	0.83403	0.67604	0.67604	0.000	18.94322	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.55896	0.40761	0.40761	0.000	27.07752	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19137	0.15516	0.15516	0.000	18.92079	30.00000	Averaged
86 Cumene	1.22858	0.98806	0.98806	0.000	19.57738	30.00000	Averaged
87 n-Propylbenzene	0.34678	0.26524	0.26524	0.000	23.51297	30.00000	Averaged
88 2-chlorotoluene	0.38425	0.30687	0.30687	0.000	20.13683	30.00000	Averaged
89 4-Ethyltoluene	1.14169	0.88184	0.88184	0.000	22.76040	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57595	0.44157	0.44157	0.000	23.33191	30.00000	Averaged
91 Alpha-Methylstyrene	0.46230	0.35988	0.35988	0.000	22.15371	30.00000	Averaged
92 Decane	0.63677	0.50674	0.50674	0.000	20.42056	30.00000	Averaged
93 tert-butylbenzene	1.09815	0.88976	0.88976	0.000	18.97645	30.00000	Averaged
94 1,2,4-Trimethylbenzene	0.89692	0.71796	0.71796	0.000	19.95295	30.00000	Averaged
95 sec-butylbenzene	1.26649	1.02130	1.02130	0.000	19.35931	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77217	0.59734	0.59734	0.000	22.64088	30.00000	Averaged
97 Benzyl Chloride	0.73361	0.56586	0.56586	0.000	22.86643	30.00000	Averaged
98 1,4-Dichlorobenzene	0.74951	0.55710	0.55710	0.000	25.67070	30.00000	Averaged
99 p-Cymene	1.13982	0.92111	0.92111	0.000	19.18864	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.74035	0.58227	0.58227	0.000	21.35268	30.00000	Averaged
101 ~ n-butylcyclohexane	0.67542	0.54467	0.54467	0.000	19.35860	30.00000	Averaged
102 ~ Indane	0.84605	0.64327	0.64327	0.000	23.96752	30.00000	Averaged
103 1,2-Dichlorobenzene	0.69325	0.53367	0.53367	0.000	23.01942	30.00000	Averaged
104 n-butylbenzene	0.88710	0.68449	0.68449	0.000	22.83939	30.00000	Averaged
105 ~ Indene	0.60448	0.45855	0.45855	0.000	24.14211	30.00000	Averaged
106 Undecane	0.53283	0.35502	0.35502	0.000	33.37020 NT	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.89255	0.69142	0.69142	0.000	22.53513	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.82996	0.64762	0.64762	0.000	21.96941	30.00000	Averaged

<60-140

Data File: /var/chem/gcms/mj.i/J030612.b/jccvc06.d
Report Date: 06-Mar-2012 12:51

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /var/chem/gcms/mj.i/J030612.b/TO15.m

Injection Date: 06-MAR-2012 09:16
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
109 ~ 1,2,3,5-tetramethylbenzen	0.60782	0.50473	0.50473	0.000	16.96074	30.00000	Averaged
110 ~ 1,2,3,4-tetramethylbenzen	0.65565	0.51973	0.51973	0.000	20.73070	30.00000	Averaged
111 Dodecane	0.46208	0.32586	0.32586	0.000	29.48080	30.00000	Averaged
112 1,2,4-Trichlorobenzene	0.32989	0.24486	0.24486	0.000	25.77669	30.00000	Averaged
113 Napthalene	0.69129	0.54448	0.54448	0.000	21.23733	30.00000	Averaged
114 ~ benzo(b) thiophene	0.40658	0.32599	0.32599	0.000	19.82160	30.00000	Averaged
115 Hexachlorobutadiene	0.34866	0.28629	0.28629	0.000	17.88968	30.00000	Averaged
116 1,2,3-trichlorobenzene	0.23015	0.19084	0.19084	0.000	17.08233	30.00000	Averaged
117 ~ 2-Methylnaphthalene	10.48536	12.50000	0.04682	0.000	16.11714	50.00000	Linear
118 ~ 1-Methylnaphthalene	10.61167	12.50000	0.03897	0.000	15.10666	50.00000	Linear

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C060000 - 125B **Work Order #** MQ9FL1AA **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	11:05
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.045 J**	**0.20**	**0.018**	**0.16 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Data File: /var/chem/gcms/mj.i/J030212.b/mq22p1aa.d
Report Date: 08-Mar-2012 13:04

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230467
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ22P1AA
Client Smp ID: BCK-1-12
Level: LOW
Operator: 403648
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allnew.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030212.b/TO15.m
Misc Info: J030212,TO15,tetra.sub,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.981	99.53	70-130

Data File: /var/chem/gcms/mj.i/J030212.b/mq22q1aa.d
Report Date: 08-Mar-2012 13:04

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230467
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ22Q1AA
Client Smp ID: BCK-2-12
Level: LOW
Operator: 403648
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allnew.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030212.b/TO15.m
Misc Info: J030212,TO15,tetra.sub,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.969	99.23	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq22r1aa.d
Report Date: 07-Mar-2012 10:37

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22R1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Client SDG: H2B230467
Fraction: OTHER
Client Smp ID: BCK-3-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.064	101.60	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq22t1aa.d
Report Date: 07-Mar-2012 10:37

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22T1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Client SDG: H2B230467
Fraction: OTHER
Client Smp ID: BCK-4-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.143	103.59	70-130

Data File: /var/chem/gcms/me.i/E030712.b/mq224r.d
Report Date: 08-Mar-2012 11:20

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230467
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ2241AA
Client Smp ID: IA001-C-12
Level: LOW
Operator: 7126
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030712.b/TO155.m
Misc Info: E030712,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.789	94.73	70-130

Data File: /var/chem/gcms/me.i/E030712.b/mq2251aa.d
Report Date: 08-Mar-2012 11:21

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2251AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030712.b/TO155.m
Misc Info: E030712,TO155,tetra.sub,,

Client SDG: H2B230467
Fraction: OTHER
Client Smp ID: IA044-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.079	101.99	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq2261aa.d
Report Date: 07-Mar-2012 10:36

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2261AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Client SDG: H2B230467
Fraction: OTHER
Client Smp ID: IA-057-B-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.176	104.40	70-130

Data File: /var/chem/gcms/mj.i/J030212.b/mq22n1aa.d
Report Date: 08-Mar-2012 13:04

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230467
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ22N1AA
Client Smp ID: IA-063-B-12
Level: LOW
Operator: 403648
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allnew.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030212.b/TO15.m
Misc Info: J030212,TO15,tetra.sub,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.146	103.65	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq2291aa.d
Report Date: 07-Mar-2012 10:36

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2291AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Client SDG: H2B230467
Fraction: OTHER
Client Smp ID: IA-088-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.226	105.65	70-130

Data File: /var/chem/gcms/mj.i/J030212.b/mq22l1aa.d
Report Date: 08-Mar-2012 13:04

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230467
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ22L1AA
Client Smp ID: IA-091-C-12
Level: LOW
Operator: 403648
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allnew.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030212.b/TO15.m
Misc Info: J030212,TO15,tetra.sub,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.130	103.25	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq22wr.d
Report Date: 07-Mar-2012 10:37

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22W1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Client SDG: H2B230467
Fraction: OTHER
Client Smp ID: IA-101-B-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.215	105.37	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq2231aa.d
Report Date: 07-Mar-2012 10:36

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230467
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ2231AA
Client Smp ID: IA-104-C-12
Level: LOW
Operator: 7126
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allnew.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.176	104.40	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq222r.d
Report Date: 07-Mar-2012 10:35

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2221AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Client SDG: H2B230467
Fraction: OTHER
Client Smp ID: IA-112-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.102	102.54	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq23c1aa.d
Report Date: 07-Mar-2012 10:37

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ23C1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Client SDG: H2B230467
Fraction: OTHER
Client Smp ID: IA-113-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.120	103.01	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq23d1aa.d
Report Date: 07-Mar-2012 10:37

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ23D1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Client SDG: H2B230467
Fraction: OTHER
Client Smp ID: IA-115-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.081	102.02	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq22v1aa.d
Report Date: 07-Mar-2012 10:37

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22V1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Client SDG: H2B230467
Fraction: OTHER
Client Smp ID: IA-121-B-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.122	103.04	70-130

Data File: /var/chem/gcms/mj.i/J030212.b/mq22m1aa.d
Report Date: 08-Mar-2012 13:04

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230467
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ22M1AA
Client Smp ID: IA-124-C-12
Level: LOW
Operator: 403648
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allnew.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030212.b/TO15.m
Misc Info: J030212,TO15,tetra.sub,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.097	102.42	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq2211aa.d
Report Date: 07-Mar-2012 10:35

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2211AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Client SDG: H2B230467
Fraction: OTHER
Client Smp ID: IA-129-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.206	105.14	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq22x1aa.d
Report Date: 07-Mar-2012 10:37

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ22X1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Client SDG: H2B230467
Fraction: OTHER
Client Smp ID: IA-130-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.122	103.06	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq2201aa.d
Report Date: 07-Mar-2012 10:35

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2201AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Client SDG: H2B230467
Fraction: OTHER
Client Smp ID: IA-131-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.153	103.83	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq2271aa.d
Report Date: 07-Mar-2012 10:36

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2271AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Client SDG: H2B230467
Fraction: OTHER
Client Smp ID: IA-135-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.280	107.00	70-130

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C020000 - 154C **Work Order #** MQ7WC1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/02/2012	**Analysis Time....:**	03/02/2012
Prep Batch #.....:	2062154	**Analysis Time....:**	11:33
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	3.48	16.0	11.1	70	70 - 130
Carbon tetrachloride	5.00	4.78	31.5	30.1	96	70 - 130
Chlorodifluoromethane	5.00	5.03	17.7	17.8	101	60 - 140
Chloroform	5.00	4.47	24.4	21.8	89	70 - 130
Dichlorodifluoromethane	5.00	5.06	24.7	25.0	101	60 - 140
1,1-Dichloroethane	5.00	4.17	20.2	16.9	83	70 - 130
1,2-Dichloroethane	5.00	4.47	20.2	18.1	89	70 - 130
cis-1,2-Dichloroethene	5.00	4.12	19.8	16.3	82	70 - 130
trans-1,2-Dichloroethene	5.00	4.24	19.8	16.8	85	70 - 130
1,1-Dichloroethene	5.00	4.21	19.8	16.7	84	70 - 130
Ethylbenzene	5.00	3.64	21.7	15.8	73	70 - 130
Methylene chloride	5.00	4.01	17.4	13.9	80	70 - 130
Methyl tert-butyl ether	5.00	3.95	18.0	14.2	79	60 - 140
Naphthalene	5.00	4.05	26.2	21.3	81	40 - 140
Tetrachloroethene	5.00	3.80	33.9	25.8	76	70 - 130
Toluene	5.00	3.63	18.8	13.7	73	70 - 130
1,2,4-Trichlorobenzene	5.00	3.63	37.1	26.9	73	60 - 140
1,1,1-Trichloroethane	5.00	4.77	27.3	26.0	95	70 - 130
1,1,2-Trichloroethane	5.00	3.70	27.3	20.2	74	70 - 130
Trichloroethene	5.00	3.60	26.9	19.4	72	70 - 130
1,2,3-Trimethylbenzene	5.00	3.69	24.6	18.1	74	20 - 180
1,2,4-Trimethylbenzene	5.00	3.62	24.6	17.8	72	70 - 130
1,3,5-Trimethylbenzene	5.00	3.48	24.6	17.1	70	70 - 130
Vinyl chloride	5.00	4.43	12.8	11.3	89	70 - 130
Xylenes (total)	15.0	11.0	65.1	47.6	73	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C060000 - 125C **Work Order #** MQ9FL1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	09:16
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	3.94	16.0	12.6	79	70 - 130
Carbon tetrachloride	5.00	6.17	31.5	38.8	123	70 - 130
Chlorodifluoromethane	5.00	6.31	17.7	22.3	126	60 - 140
Chloroform	5.00	5.08	24.4	24.8	102	70 - 130
Dichlorodifluoromethane	5.00	6.25	24.7	30.9	125	60 - 140
1,1-Dichloroethane	5.00	4.78	20.2	19.4	96	70 - 130
1,2-Dichloroethane	5.00	5.42	20.2	21.9	108	70 - 130
cis-1,2-Dichloroethene	5.00	4.50	19.8	17.8	90	70 - 130
trans-1,2-Dichloroethene	5.00	4.42	19.8	17.5	88	70 - 130
1,1-Dichloroethene	5.00	4.41	19.8	17.5	88	70 - 130
Ethylbenzene	5.00	4.02	21.7	17.5	80	70 - 130
Methylene chloride	5.00	4.24	17.4	14.7	85	70 - 130
Methyl tert-butyl ether	5.00	4.16	18.0	15.0	83	60 - 140
Naphthalene	5.00	3.94	26.2	20.6	79	40 - 140
Tetrachloroethene	5.00	4.22	33.9	28.6	84	70 - 130
Toluene	5.00	3.85	18.8	14.5	77	70 - 130
1,2,4-Trichlorobenzene	5.00	3.71	37.1	27.5	74	60 - 140
1,1,1-Trichloroethane	5.00	5.67	27.3	30.9	113	70 - 130
1,1,2-Trichloroethane	5.00	3.86	27.3	21.0	77	70 - 130
Trichloroethene	5.00	4.56	26.9	24.5	91	70 - 130
1,2,3-Trimethylbenzene	5.00	4.09	24.6	20.1	82	20 - 180
1,2,4-Trimethylbenzene	5.00	4.00	24.6	19.7	80	70 - 130
1,3,5-Trimethylbenzene	5.00	3.83	24.6	18.8	77	70 - 130
Vinyl chloride	5.00	5.39	12.8	13.8	108	70 - 130
Xylenes (total)	15.0	12.2	65.1	52.8	81	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	108	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C070000 - 130C **Work Order #** MRAAQ1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	10:06
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	5.01	16.0	16.0	100	70 - 130
Carbon tetrachloride	5.00	5.39	31.5	33.9	108	70 - 130
Chlorodifluoromethane	5.00	4.89	17.7	17.3	98	60 - 140
Chloroform	5.00	5.58	24.4	27.2	112	70 - 130
Dichlorodifluoromethane	5.00	5.80	24.7	28.7	116	60 - 140
1,1-Dichloroethane	5.00	5.65	20.2	22.9	113	70 - 130
1,2-Dichloroethane	5.00	5.61	20.2	22.7	112	70 - 130
cis-1,2-Dichloroethene	5.00	5.40	19.8	21.4	108	70 - 130
trans-1,2-Dichloroethene	5.00	5.36	19.8	21.3	107	70 - 130
1,1-Dichloroethene	5.00	5.29	19.8	21.0	106	70 - 130
Ethylbenzene	5.00	5.74	21.7	24.9	115	70 - 130
Methylene chloride	5.00	4.81	17.4	16.7	96	70 - 130
Methyl tert-butyl ether	5.00	6.04	18.0	21.8	121	60 - 140
Naphthalene	5.00	4.93	26.2	25.9	99	40 - 140
Tetrachloroethene	5.00	5.35	33.9	36.3	107	70 - 130
Toluene	5.00	5.52	18.8	20.8	110	70 - 130
1,2,4-Trichlorobenzene	5.00	5.12	37.1	38.0	102	60 - 140
1,1,1-Trichloroethane	5.00	5.68	27.3	31.0	114	70 - 130
1,1,2-Trichloroethane	5.00	5.66	27.3	30.9	113	70 - 130
Trichloroethene	5.00	4.98	26.9	26.8	100	70 - 130
1,2,3-Trimethylbenzene	5.10	5.50	25.1	27.1	108	20 - 180
1,2,4-Trimethylbenzene	5.00	5.37	24.6	26.4	107	70 - 130
1,3,5-Trimethylbenzene	5.00	5.39	24.6	26.5	108	70 - 130
Vinyl chloride	5.00	5.33	12.8	13.6	107	70 - 130
Xylenes (total)	15.0	17.2	65.1	74.6	114	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Data File: /var/chem/gcms/mj.i/J030212.b/mq22p1aa.d
Report Date: 08-Mar-2012 13:04

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq22p1aa.d
Lab Smp Id: MQ22P1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mj.i/J030212.b/TO15.m
Misc Info: J030212,TO15,tetra.sub,,,

Calibration Date: 02-MAR-2012
Calibration Time: 11:33
Client Smp ID: BCK-1-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	523169	311286	735052	480295	-8.20
2 1,4-Difluorobenze	2283351	1358594	3208108	1982072	-13.19
3 Chlorobenzene-d5	2004523	1192691	2816355	1741389	-13.13

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.08	8.75	9.41	9.08	0.03
2 1,4-Difluorobenze	11.26	10.93	11.59	11.26	0.02
3 Chlorobenzene-d5	15.97	15.64	16.30	15.97	0.01

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030212.b/mq22q1aa.d
Report Date: 08-Mar-2012 13:04

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq22q1aa.d
Lab Smp Id: MQ22Q1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mj.i/J030212.b/TO15.m
Misc Info: J030212,TO15,tetra.sub,,,

Calibration Date: 02-MAR-2012
Calibration Time: 11:33
Client Smp ID: BCK-2-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	523169	311286	735052	485431	-7.21
2 1,4-Difluorobenze	2283351	1358594	3208108	2145566	-6.03
3 Chlorobenzene-d5	2004523	1192691	2816355	1838801	-8.27

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.08	8.75	9.41	9.09	0.15
2 1,4-Difluorobenze	11.26	10.93	11.59	11.26	0.08
3 Chlorobenzene-d5	15.97	15.64	16.30	15.97	0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq22r1aa.d
Report Date: 07-Mar-2012 10:37

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq22r1aa.d
Lab Smp Id: MQ22R1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: BCK-3-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	459358	11.69
2 1,4-Difluorobenze	1644806	978660	2310952	1993389	21.19
3 Chlorobenzene-d5	1504811	895363	2114259	1750264	16.31

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.08	0.07
2 1,4-Difluorobenze	11.25	10.92	11.58	11.26	0.05
3 Chlorobenzene-d5	15.96	15.63	16.29	15.97	0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq22t1aa.d
Report Date: 07-Mar-2012 10:37

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq22t1aa.d
Lab Smp Id: MQ22T1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: BCK-4-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	457618	11.26
2 1,4-Difluorobenze	1644806	978660	2310952	1975482	20.10
3 Chlorobenzene-d5	1504811	895363	2114259	1734708	15.28

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.08	0.07
2 1,4-Difluorobenze	11.25	10.92	11.58	11.25	0.01
3 Chlorobenzene-d5	15.96	15.63	16.29	15.96	0.01

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030712.b/mq224r.d
Report Date: 08-Mar-2012 11:20

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq224r.d
Lab Smp Id: MQ2241AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030712.b/TO155.m
Misc Info: E030712,TO155,tetra.sub,,

Calibration Date: 07-MAR-2012
Calibration Time: 10:06
Client Smp ID: IA001-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	254614	151495	357733	254373	-0.09
2 1,4-Difluorobenze	1281072	762238	1799906	1333868	4.12
3 Chlorobenzene-d5	1078501	641708	1515294	1075163	-0.31

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	0.00
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030712.b/mq2251aa.d
Report Date: 08-Mar-2012 11:21

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2251aa.d
Lab Smp Id: MQ2251AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030712.b/TO155.m
Misc Info: E030712,TO155,tetra.sub,,

Calibration Date: 07-MAR-2012
Calibration Time: 10:06
Client Smp ID: IA044-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	254614	151495	357733	192442	-24.42
2 1,4-Difluorobenze	1281072	762238	1799906	931919	-27.25
3 Chlorobenzene-d5	1078501	641708	1515294	801785	-25.66

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.19	0.20
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	0.00
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq2261aa.d
Report Date: 07-Mar-2012 10:36

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq2261aa.d
Lab Smp Id: MQ2261AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-057-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	455979	10.87
2 1,4-Difluorobenze	1644806	978660	2310952	2026474	23.20
3 Chlorobenzene-d5	1504811	895363	2114259	1799697	19.60

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.08	0.09
2 1,4-Difluorobenze	11.25	10.92	11.58	11.25	0.02
3 Chlorobenzene-d5	15.96	15.63	16.29	15.97	0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030212.b/mq22n1aa.d
Report Date: 08-Mar-2012 13:04

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq22n1aa.d
Lab Smp Id: MQ22N1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mj.i/J030212.b/TO15.m
Misc Info: J030212,TO15,tetra.sub,,,

Calibration Date: 02-MAR-2012
Calibration Time: 11:33
Client Smp ID: IA-063-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	523169	311286	735052	449225	-14.13
2 1,4-Difluorobenze	2283351	1358594	3208108	1983221	-13.14
3 Chlorobenzene-d5	2004523	1192691	2816355	1740801	-13.16

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.08	8.75	9.41	9.09	0.09
2 1,4-Difluorobenze	11.26	10.93	11.59	11.26	0.02
3 Chlorobenzene-d5	15.97	15.64	16.30	15.97	0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq2291aa.d
Report Date: 07-Mar-2012 10:36

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq2291aa.d
Lab Smp Id: MQ2291AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-088-C-12
Level: LOW
Sample Type: AIR
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	447448	8.79
2 1,4-Difluorobenze	1644806	978660	2310952	1879165	14.25
3 Chlorobenzene-d5	1504811	895363	2114259	1629019	8.25

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.08	0.12
2 1,4-Difluorobenze	11.25	10.92	11.58	11.26	0.05
3 Chlorobenzene-d5	15.96	15.63	16.29	15.96	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030212.b/mq22l1aa.d
Report Date: 08-Mar-2012 13:04

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq22l1aa.d
Lab Smp Id: MQ22L1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mj.i/J030212.b/TO15.m
Misc Info: J030212,TO15,tetra.sub,,,

Calibration Date: 02-MAR-2012
Calibration Time: 11:33
Client Smp ID: IA-091-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	523169	311286	735052	458960	-12.27
2 1,4-Difluorobenze	2283351	1358594	3208108	2026838	-11.23
3 Chlorobenzene-d5	2004523	1192691	2816355	1767732	-11.81

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.08	8.75	9.41	9.09	0.10
2 1,4-Difluorobenze	11.26	10.93	11.59	11.26	0.04
3 Chlorobenzene-d5	15.97	15.64	16.30	15.97	0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq22wr.d
Report Date: 07-Mar-2012 10:37

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq22wr.d
Lab Smp Id: MQ22W1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-101-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	418076	1.65
2 1,4-Difluorobenze	1644806	978660	2310952	1872007	13.81
3 Chlorobenzene-d5	1504811	895363	2114259	1705225	13.32

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.09	0.14
2 1,4-Difluorobenze	11.25	10.92	11.58	11.26	0.07
3 Chlorobenzene-d5	15.96	15.63	16.29	15.97	0.01

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq2231aa.d
Report Date: 07-Mar-2012 10:36

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq2231aa.d
Lab Smp Id: MQ2231AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-104-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	453354	10.23
2 1,4-Difluorobenze	1644806	978660	2310952	2030092	23.42
3 Chlorobenzene-d5	1504811	895363	2114259	1814780	20.60

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.08	0.13
2 1,4-Difluorobenze	11.25	10.92	11.58	11.26	0.05
3 Chlorobenzene-d5	15.96	15.63	16.29	15.97	0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq222r.d
Report Date: 07-Mar-2012 10:35

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq222r.d
Lab Smp Id: MQ2221AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-112-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	429682	4.47
2 1,4-Difluorobenze	1644806	978660	2310952	1927494	17.19
3 Chlorobenzene-d5	1504811	895363	2114259	1683728	11.89

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.07	-0.02
2 1,4-Difluorobenze	11.25	10.92	11.58	11.25	-0.01
3 Chlorobenzene-d5	15.96	15.63	16.29	15.96	-0.01

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq23c1aa.d
Report Date: 07-Mar-2012 10:37

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq23c1aa.d
Lab Smp Id: MQ23C1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-113-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	482276	17.26
2 1,4-Difluorobenze	1644806	978660	2310952	2046887	24.45
3 Chlorobenzene-d5	1504811	895363	2114259	1700214	12.99

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.09	0.15
2 1,4-Difluorobenze	11.25	10.92	11.58	11.26	0.08
3 Chlorobenzene-d5	15.96	15.63	16.29	15.97	0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq23d1aa.d
Report Date: 07-Mar-2012 10:37

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq23d1aa.d
Lab Smp Id: MQ23D1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-115-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	457619	11.26
2 1,4-Difluorobenze	1644806	978660	2310952	2024939	23.11
3 Chlorobenzene-d5	1504811	895363	2114259	1803357	19.84

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.08	0.08
2 1,4-Difluorobenze	11.25	10.92	11.58	11.25	0.02
3 Chlorobenzene-d5	15.96	15.63	16.29	15.97	0.01

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq22v1aa.d
Report Date: 07-Mar-2012 10:37

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq22v1aa.d
Lab Smp Id: MQ22V1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-121-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	463758	12.76
2 1,4-Difluorobenze	1644806	978660	2310952	1977582	20.23
3 Chlorobenzene-d5	1504811	895363	2114259	1622732	7.84

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.10	0.28
2 1,4-Difluorobenze	11.25	10.92	11.58	11.27	0.13
3 Chlorobenzene-d5	15.96	15.63	16.29	15.97	0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030212.b/mq22m1aa.d
Report Date: 08-Mar-2012 13:04

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq22m1aa.d
Lab Smp Id: MQ22M1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mj.i/J030212.b/TO15.m
Misc Info: J030212,TO15,tetra.sub,,,

Calibration Date: 02-MAR-2012
Calibration Time: 11:33
Client Smp ID: IA-124-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	523169	311286	735052	455423	-12.95
2 1,4-Difluorobenze	2283351	1358594	3208108	2007582	-12.08
3 Chlorobenzene-d5	2004523	1192691	2816355	1729535	-13.72

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.08	8.75	9.41	9.07	-0.05
2 1,4-Difluorobenze	11.26	10.93	11.59	11.26	0.01
3 Chlorobenzene-d5	15.97	15.64	16.30	15.97	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq2211aa.d
Report Date: 07-Mar-2012 10:35

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq2211aa.d
Lab Smp Id: MQ2211AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-129-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	452817	10.10
2 1,4-Difluorobenze	1644806	978660	2310952	2025084	23.12
3 Chlorobenzene-d5	1504811	895363	2114259	1785675	18.66

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.09	0.17
2 1,4-Difluorobenze	11.25	10.92	11.58	11.26	0.04
3 Chlorobenzene-d5	15.96	15.63	16.29	15.97	0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq22x1aa.d
Report Date: 07-Mar-2012 10:37

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq22x1aa.d
Lab Smp Id: MQ22X1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-130-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	465181	13.10
2 1,4-Difluorobenze	1644806	978660	2310952	2015095	22.51
3 Chlorobenzene-d5	1504811	895363	2114259	1709557	13.61

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.07	0.03
2 1,4-Difluorobenze	11.25	10.92	11.58	11.25	0.02
3 Chlorobenzene-d5	15.96	15.63	16.29	15.97	0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq2201aa.d
Report Date: 07-Mar-2012 10:35

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq2201aa.d
Lab Smp Id: MQ2201AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-131-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	449341	9.25
2 1,4-Difluorobenze	1644806	978660	2310952	1944940	18.25
3 Chlorobenzene-d5	1504811	895363	2114259	1741821	15.75

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.09	0.15
2 1,4-Difluorobenze	11.25	10.92	11.58	11.25	0.03
3 Chlorobenzene-d5	15.96	15.63	16.29	15.97	0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq2271aa.d
Report Date: 07-Mar-2012 10:36

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq2271aa.d
Lab Smp Id: MQ2271AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-135-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	436329	6.09
2 1,4-Difluorobenze	1644806	978660	2310952	1853707	12.70
3 Chlorobenzene-d5	1504811	895363	2114259	1615804	7.38

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.07	-0.02
2 1,4-Difluorobenze	11.25	10.92	11.58	11.25	-0.02
3 Chlorobenzene-d5	15.96	15.63	16.29	15.96	-0.01

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

TETRA TECH **CALCULATION WORKSHEET** PAGE 1 OF 1

CLIENT	JOB NUMBER		
LMC Middle River	SDG H2B230467		
SUBJECT: Sample Calculation			
BASED ON	DRAWING NUMBER		
BY: John Cognetti	CHECKED BY	APPROVED BY	DATE: March 20, 2012

Sample IA001-C-12; Chlorodifluoromethane

$$\frac{366106}{254373} * 45.45 * \frac{500}{500} * \frac{4\ ppbv}{0.55987} = 467.4\ ppbv$$

$$467.4\ ppbv * \frac{86.47\ g/mole}{24.45\ L/mole} = 1653\ ug/m^3$$

Sample Calculation

Tetra Tech, Inc

Client Sample ID: IA001-C-12

GC/MS Volatiles

Lot-Sample # H2B230467 - 015 **Work Order #** MQ2241AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/07/2012 **Analysis Time....:** 03/08/2012
Prep Batch #.....: 2067130 **Analysis Time....:** 04:28
Dilution Factor.: 45.45 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	3.6	1.0	ND	12	3.3
Carbon tetrachloride	ND	3.6	0.68	ND	23	4.3
Chlorodifluoromethane	**470**	**3.6**	**0.68**	**1700**	**13**	**2.4**
Chloroform	ND	3.6	0.68	ND	18	3.3
Dichlorodifluoromethane	ND	3.6	1.2	ND	18	6.1
1,1-Dichloroethane	ND	3.6	0.45	ND	15	1.8
1,2-Dichloroethane	ND	3.6	0.86	ND	15	3.5
cis-1,2-Dichloroethene	ND	3.6	1.1	ND	14	4.3
trans-1,2-Dichloroethene	ND	3.6	0.91	ND	14	3.6
1,1-Dichloroethene	ND	3.6	0.59	ND	14	2.3
Ethylbenzene	ND	3.6	1.2	ND	16	5.3
Methylene chloride	**2.1 J B**	**9.1**	**0.82**	**7.5 J B**	**32**	**2.8**
Methyl tert-butyl ether	ND	18	3.1	ND	66	11
Naphthalene	ND	9.1	1.6	ND	48	8.6
Tetrachloroethene	ND	3.6	0.73	ND	25	4.9
Toluene	**2.0 J**	**3.6**	**0.95**	**7.6 J**	**14**	**3.6**
1,2,4-Trichlorobenzene	ND	18	1.8	ND	130	13
1,1,1-Trichloroethane	ND	3.6	0.55	ND	20	3.0
1,1,2-Trichloroethane	ND	3.6	0.95	ND	20	5.2
Trichloroethene	ND	1.8	0.64	ND	9.8	3.4
1,2,3-Trimethylbenzene	ND	3.6	3.6	ND	18	18
1,2,4-Trimethylbenzene	ND	3.6	1.1	ND	18	5.6
1,3,5-Trimethylbenzene	ND	3.6	1.2	ND	18	5.8
Vinyl chloride	ND	3.6	1.3	ND	9.3	3.4
Xylenes (total)	ND	7.3	1.1	ND	32	4.7

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Sample Calculation 256

Data File: /var/chem/gcms/me.i/E030712.b/mq224r.d
Report Date: 08-Mar-2012 11:20

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/me.i/E030712.b/mq224r.d
Lab Smp Id: MQ2241AA Client Smp ID: IA001-C-12
Inj Date : 08-MAR-2012 04:28
Operator : 7126 Inst ID: me.i
Smp Info : MQ2241AA,45.45,0,,,
Misc Info : E030712,TO155,tetra.sub,,
Comment :
Method : /var/chem/gcms/me.i/E030712.b/TO155.m
Meth Date : 08-Mar-2012 11:20 tajh Quant Type: ISTD
Cal Date : 01-MAR-2012 22:23 Cal File: eicc019.d
Als bottle: 4
Dil Factor: 45.45000
Integrator: HP RTE Compound Sublist: tetra.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	45.45000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	500.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	CONCENTRATIONS FINAL (ppb(v/v))
*	1 Bromochloromethane	128	8.177	8.177	(1.000)	254373	4.00000	4.000
*	2 1,4-Difluorobenzene	114	10.324	10.329	(1.000)	1333868	4.00000	4.000
*	3 Chlorobenzene-d5	117	15.171	15.176	(1.000)	1075163	4.00000	4.000
$	4 4-Bromofluorobenzene	95	16.844	16.844	(1.110)	740980	3.78932	3.789
	6 Chlorodifluoromethane	67	3.637	3.632	(0.445)	366106	10.2827	467.4
	32 Methylene Chloride	84	5.853	5.848	(0.716)	3713	0.04720	2.145
	66 Toluene	91	13.159	13.164	(0.867)	12903	0.04448	2.022

Sample calculation

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Calibration File Names:
Level 1: /var/chem/gcms/me.i/E030112I.b/eicc011.d
Level 2: /var/chem/gcms/me.i/E030112I.b/eicc012.d
Level 3: /var/chem/gcms/me.i/E030112I.b/eicc013.d
Level 4: /var/chem/gcms/me.i/E030112I.b/eicc014.d
Level 5: /var/chem/gcms/me.i/E030112I.b/eicc015.d
Level 6: /var/chem/gcms/me.i/E030112I.b/eicc016.d
Level 7: /var/chem/gcms/me.i/E030112I.b/eicc017.d
Level 8: /var/chem/gcms/me.i/E030112I.b/eicc018.d
Level 9: /var/chem/gcms/me.i/E030112I.b/eicc019.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
M 5 Xylene (total)	0.89170	1.09383	1.16276	1.03808	1.11300	0.97030					
	0.94635	0.96846	0.92931				AVRG		1.01264		9.20807
6 Chlorodifluoromethane	+++++	0.87357	0.64955	0.54868	0.51653	0.52863					
	0.47805	0.46565	0.41830				AVRG		0.55987		25.71091
7 Propene	+++++	+++++	1.71047	1.48694	1.60516	1.58241					
	1.34117	1.24527	1.08331				AVRG		1.43639		15.50870

Tetra Tech **INTERNAL CORRESPONDENCE**

TO: **E. SAMUELS** **DATE:** **April 3, 2012**

FROM: **A. COGNETTI** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SAMPLE DELIVERY GROUP (SDG) – H2B230469

SAMPLES: 19/Air/VOC

IA050-C-12	IA051-C-12	IA060-C-12	IA100-B-12
IA103-C-12	IA105-7-12	IA111-C-12	IA114-C-12
IA122-B-12	IA123-Z-12	IA125-C-12	IA126-C-12
IA127-C-12	IA128-C-12	IA132-C-12	IA133-C-12
IA134-C-12	IADUP1-12	IADUP2-12	

Overview

The sample set for LMC – Middle River, SDG H2B230469 consisted of nineteen (19) air samples. All samples were analyzed for volatile organic compounds (VOC). There are two (2) field duplicate pairs included in this SDG: IA060-C-12/IAPDUP1-12 and IA063-B-12/IADUP2-12. Sample IA063-B-12 is included in SDG H2B230467.

The samples were collected by Tetra Tech on February 21, 2012 and analyzed by Test America Laboratories, Inc. All analyses were conducted in accordance with EPA Method TO-15 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, blank spike results, internal standard recoveries, chromatographic resolution, compound identification, compound quantitation, field duplicate precision and detection limits. Areas of concern are listed below.

Major

No major noncompliances were noted.

Minor

- Contamination was detected in several laboratory method blanks at the following maximum concentrations:

Contaminant	Maximum Concentration (ug/m3)	Action Level (ug/m3)
Methylene chloride [1]	0.16	1.6
Methylene chloride [2,3]	0.17	1.7
Methylene chloride [4]	0.15	1.5

(1) Maximum concentration of contaminant detected in laboratory method blank associated with batch 2066125 analyzed on March 6, 2012 @ 11:05.
(2) Maximum concentration of contaminant detected in laboratory method blanks associated with batches 2066141 analyzed on March 6, 2012 @ 13:32 and 2067130 analyzed on March 7, 2012 @ 12:00.

(3) Maximum concentration of contaminant detected in laboratory method blank associated with batch 2069094 analyzed on March 9, 2012 @ 12:24.

An action level of 10X the maximum concentration of methylene chloride was established in order to evaluate samples for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into account when applying the action level. Positive results less than the action level were qualified as (B).

- The initial calibration percent relative standard deviation (%RSD) for methylene chloride was greater than the 30% quality control limit and less than 50% on March 1, 2012 on instrument ME. The positive methylene chloride results were qualified as estimated (J) in the affected samples IA103-C-12, IA125-C-12, IA132-C-12, IA134-C-12, IADUP-2-12 and IADUP2-12. The positive methylene chloride results in the affected samples IA050-C-12, IA051-C-12, IA060-C-12, IA105-7-12, IA111-C-12, IA122-B-12, IA123-Z-12, IA126-C-12 and IA133-C-12 were qualified due to blank contamination. No further action was taken.

- The continuing calibration percent difference (%D) for dichlorodifluoromethane was greater than the 20% quality control limit and less than 50% on March 9, 2012 @ 10:32 on instrument MG. The positive dichlorodifluoromethane result in the affected sample IA128-C-12 was qualified as estimated (J).

- Field duplicate imprecision was noted in the field duplicate pair IA060-C-12 and IADUP1-12 for naphthalene. The positive naphthalene results in samples IA060-C-12 and IADUP1-12 were qualified as estimated (J).

- Positive results less than the reporting limit and greater than the method detection limit were qualified as estimated (J).

Notes

Sample IADUP1-12 was incorrectly written on the chain of custody as sample IA-DUP-2-12. The project manager correctly identified the field duplicates by the canister number. A copy of the project manager's email is included in Appendix C as a reference.

It is noted in the case narrative that the dash (-) mark was removed after the IA or BCK portion of the sample identification per client request. The form 1s and EDD match this revision to the sample identifications on the chain of custody.

The following sample was diluted resulting in elevated reporting limits:

Sample	Dilution Factor
IADUP2-12	2X

Nondetected results were reported to the method detection limit (MDL).

Executive Summary

Laboratory Performance: Contamination was detected in several laboratory method blanks. The continuing calibration %D for dichlorodifluoromethane exceeded quality control limits. The initial calibration %RSD for methylene chloride exceeded quality control limits.

Other Factors Affecting Data Quality: Field duplicate imprecision was noted in the field duplicate pair IA060-C-12 and IADUP1-12 for naphthalene. Positive results less than the reporting limit and greater than the method detection limit were qualified as estimated (J).

The data for these analyses were reviewed with reference to Region III modifications to U.S. EPA National Functional Guidelines for Organic Data Validation (Sept. 1994) and EPA Method TO-15. The text of this report has been formulated to address only those problem areas affecting data quality.

Ann Cognetti

Tetra Tech
Ann Cognetti
Chemist/Data Validator

Tetra Tech
Joseph A. Samchuck
Quality Assurance Officer

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Appendix A

Qualified Analytical Results

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed

PROJ_NO: 03953	NSAMPLE	IA050-C-12			IA051-C-12			IA060-C-12			IA100-B-12		
SDG: H2B230469	LAB_ID	H2B230469008			H2B230469011			H2B230469005			H2B230469016		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.065	U		0.065	U		0.13	J	P	0.33	U	
1,1,2-TRICHLOROETHANE		0.11	U		0.11	U		0.11	U		0.57	U	
1,1-DICHLOROETHANE		0.04	U		0.04	U		0.04	U		0.2	U	
1,1-DICHLOROETHENE		0.052	U		0.052	U		0.052	U		0.26	U	
1,2,3-TRIMETHYLBENZENE		0.39	U		0.39	U		0.39	U		2	U	
1,2,4-TRICHLOROBENZENE		0.29	U		0.29	U		0.29	U		1.4	U	
1,2,4-TRIMETHYLBENZENE		0.12	U		0.16	J	P	0.14	J	P	0.69	J	P
1,2-DICHLOROETHANE		0.077	U		0.077	U		0.077	U		0.38	U	
1,3,5-TRIMETHYLBENZENE		0.13	U		0.13	U		0.13	U		0.64	U	
BENZENE		0.69			0.58			0.56			0.81	J	P
CARBON TETRACHLORIDE		0.58			0.44	J	P	0.47	J	P	0.47	U	
CHLORODIFLUOROMETHANE		17			27			12			45		
CHLOROFORM		0.17	J	P	0.18	J	P	0.12	J	P	0.37	U	
CIS-1,2-DICHLOROETHENE		0.095	U		0.095	U		0.095	U		0.48	U	
DICHLORODIFLUOROMETHANE		2.7			2.4			2.3			2.6		
ETHYLBENZENE		0.19	J	P	0.25	J	P	0.4			5.5		
METHYL TERT-BUTYL ETHER		0.25	U		0.25	U		0.25	U		1.2	U	
METHYLENE CHLORIDE		1.5	B	A	0.98	B	A	1.7	B	A	5.6	B	A
NAPHTHALENE		0.19	U		0.2	J	P	0.23	J	GP	0.94	U	
TETRACHLOROETHENE		0.11	U		0.11	U		0.11	U		0.54	U	
TOLUENE		3.5			4.5			3			290		
TOTAL XYLENES		0.53	J	P	1.1			2.2			25		
TRANS-1,2-DICHLOROETHENE		0.079	U		0.079	U		0.079	U		0.4	U	
TRICHLOROETHENE		0.075	U		0.075	U		0.12	J	P	0.38	U	
VINYL CHLORIDE		0.074	U		0.074	U		0.074	U		0.37	U	

PROJ_NO: 03953	NSAMPLE	IA103-C-12			IA105-7-12			IA111-C-12			IA114-C-12		
SDG: H2B230469	LAB_ID	H2B230469012			H2B230469018			H2B230469004			H2B230469001		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.065	U		8.2	U		0.19	J	P	0.57		
1,1,2-TRICHLOROETHANE		0.11	U		14	U		0.29	U		0.11	U	
1,1-DICHLOROETHANE		0.04	U		5	U		0.1	U		0.04	U	
1,1-DICHLOROETHENE		0.052	U		6.4	U		0.13	U		0.052	U	
1,2,3-TRIMETHYLBENZENE		0.39	U		49	U		0.98	U		0.39	U	
1,2,4-TRICHLOROBENZENE		0.29	U		36	U		0.72	U		0.29	U	
1,2,4-TRIMETHYLBENZENE		0.16	J	P	15	U		0.31	U		0.22	J	P
1,2-DICHLOROETHANE		0.077	U		9.6	U		0.19	U		0.077	U	
1,3,5-TRIMETHYLBENZENE		0.13	U		16	U		0.32	U		0.13	U	
BENZENE		0.67			9.1	U		0.52	J	P	0.59		
CARBON TETRACHLORIDE		0.54			12	U		0.36	J	P	0.48	J	P
CHLORODIFLUOROMETHANE		27			6.6	U		91			54		
CHLOROFORM		0.25	J	P	9.1	U		0.18	U		0.13	J	P
CIS-1,2-DICHLOROETHENE		0.095	U		12	U		0.88			0.095	U	
DICHLORODIFLUOROMETHANE		2.5			17	U		2.4			2.4		
ETHYLBENZENE		0.21	J	P	32	J	P	0.56	J	P	0.59		
METHYL TERT-BUTYL ETHER		0.25	U		31	U		0.61	U		0.25	U	
METHYLENE CHLORIDE		2.1	J	C	16	B	A	3.9	B	A	4.2		
NAPHTHALENE		0.19	U		23	U		0.47	U		0.2	J	P
TETRACHLOROETHENE		0.11	U		14	U		0.27	U		0.11	J	P
TOLUENE		2.4			2200			8.4			6.8		
TOTAL XYLENES		0.84			180			2.7			3		
TRANS-1,2-DICHLOROETHENE		0.079	U		9.9	U		0.2	U		0.079	U	
TRICHLOROETHENE		0.18	J	P	9.4	U		1.4			0.23		
VINYL CHLORIDE		0.074	U		9.2	U		0.19	U		0.074	U	

PROJ_NO: 03953	NSAMPLE	IA122-B-12			IA123-Z-12			IA125-C-12			IA126-C-12		
SDG: H2B230469	LAB_ID	H2B230469017			H2B230469019			H2B230469010			H2B230469009		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.65	U		8.3	U		0.088	J	P	0.32	J	P
1,1,2-TRICHLOROETHANE		1.1	U		14	U		0.11	U		0.11	U	
1,1-DICHLOROETHANE		0.4	U		5.1	U		0.04	U		0.04	U	
1,1-DICHLOROETHENE		0.52	U		6.5	U		0.052	U		0.052	U	
1,2,3-TRIMETHYLBENZENE		3.9	U		50	U		0.39	U		0.39	U	
1,2,4-TRICHLOROBENZENE		2.9	U		37	U		0.29	U		0.29	U	
1,2,4-TRIMETHYLBENZENE		1.2	U		16	U		0.12	U		0.14	J	P
1,2-DICHLOROETHANE		0.77	U		9.7	U		0.077	U		0.077	U	
1,3,5-TRIMETHYLBENZENE		1.3	U		16	U		0.13	U		0.13	U	
BENZENE		0.72	J	P	9.3	U		0.66			0.66		
CARBON TETRACHLORIDE		0.94	U		12	U		0.52			0.54		
CHLORODIFLUOROMETHANE		54			6.7	U		20			4.3		
CHLOROFORM		0.73	U		9.3	U		0.13	J	P	0.11	J	P
CIS-1,2-DICHLOROETHENE		0.95	U		12	U		0.095	U		0.095	U	
DICHLORODIFLUOROMETHANE		2.5	J	P	17	U		2.6			2.6		
ETHYLBENZENE		2.8	J	P	37	J	P	0.14	J	P	0.17	J	P
METHYL TERT-BUTYL ETHER		2.5	U		31	U		0.25	U		0.25	U	
METHYLENE CHLORIDE		5.3	B	A	16	B	A	2.3	J	C	0.87	B	A
NAPHTHALENE		1.9	U		24	U		0.19	U		0.19	U	
TETRACHLOROETHENE		1.1	U		14	U		0.31	J	P	0.11	U	
TOLUENE		200			2600			2			2.3		
TOTAL XYLENES		13			200			0.45	J	P	0.61	J	P
TRANS-1,2-DICHLOROETHENE		0.79	U		10	U		0.079	U		0.079	U	
TRICHLOROETHENE		0.75	U		9.5	U		0.075	U		0.075	U	
VINYL CHLORIDE		0.74	U		9.4	U		0.074	U		0.074	U	

PROJ_NO: 03953	NSAMPLE	IA127-C-12			IA128-C-12			IA132-C-12			IA133-C-12		
SDG: H2B230469	LAB_ID	H2B230469015			H2B230469014			H2B230469006			H2B230469003		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.069	J	P	12			0.091	J	P	0.65	U	
1,1,2-TRICHLOROETHANE		0.11	U		0.11	U		0.11	U		1.1	U	
1,1-DICHLOROETHANE		0.04	U		0.051	J	P	0.04	U		0.4	U	
1,1-DICHLOROETHENE		0.052	U		0.052	U		0.052	U		0.52	U	
1,2,3-TRIMETHYLBENZENE		0.39	U		0.39	U		0.39	U		3.9	U	
1,2,4-TRICHLOROBENZENE		0.29	U		0.29	U		0.29	U		2.9	U	
1,2,4-TRIMETHYLBENZENE		0.12	U		0.36	J	P	0.36	J	P	1.2	U	
1,2-DICHLOROETHANE		0.077	U		0.1	J	P	0.077	U		0.77	U	
1,3,5-TRIMETHYLBENZENE		0.13	U		0.13	J	P	0.13	U		1.3	U	
BENZENE		0.45			0.68			0.77			0.73	U	
CARBON TETRACHLORIDE		0.43	J	P	0.49	J	P	0.54			0.94	U	
CHLORODIFLUOROMETHANE		15			26			20			120		
CHLOROFORM		0.11	J	P	0.2	J	P	0.14	J	P	0.73	U	
CIS-1,2-DICHLOROETHENE		0.095	U		0.095	U		0.095	U		0.95	U	
DICHLORODIFLUOROMETHANE		2.4			3.3	J	C	2.6			2.8	J	P
ETHYLBENZENE		0.24	J	P	0.55			0.42			1.2	U	
METHYL TERT-BUTYL ETHER		0.25	U		0.25	U		0.25	U		2.5	U	
METHYLENE CHLORIDE		1.9			31			1.9	J	C	5.1	B	A
NAPHTHALENE		0.19	U		0.19	U		0.27	J	P	1.9	U	
TETRACHLOROETHENE		0.11	U		0.15	J	P	0.16	J	P	1.1	U	
TOLUENE		2.4			2.5			6.8			6.8		
TOTAL XYLENES		1.1			3			2			1	U	
TRANS-1,2-DICHLOROETHENE		0.079	U		0.079	U		0.079	U		0.79	U	
TRICHLOROETHENE		0.26			0.68			0.082	J	P	0.75	U	
VINYL CHLORIDE		0.074	U		0.074	U		0.074	U		0.74	U	

PROJ_NO: 03953	NSAMPLE	IA134-C-12			IADUP1-12			IADUP2-12		
SDG: H2B230469	LAB_ID	H2B230469002			H2B230469013			H2B230469007		
FRACTION: OV	SAMP_DATE	2/21/2012			2/21/2012			2/21/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS									
	DUP_OF				IA060-C-12			IA063-B-12		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.59			0.17	J	P	0.13	U	
1,1,2-TRICHLOROETHANE		0.11	U		0.11	U		0.23	U	
1,1-DICHLOROETHANE		0.07	J	P	0.04	U		0.081	U	
1,1-DICHLOROETHENE		0.052	U		0.052	U		0.1	U	
1,2,3-TRIMETHYLBENZENE		0.39	U		0.39	U		0.79	U	
1,2,4-TRICHLOROBENZENE		0.29	U		0.29	U		0.58	U	
1,2,4-TRIMETHYLBENZENE		0.21	J	P	0.27	J	P	0.25	U	
1,2-DICHLOROETHANE		0.077	U		0.077	U		0.15	U	
1,3,5-TRIMETHYLBENZENE		0.13	U		0.13	U		0.26	U	
BENZENE		0.64			0.63			0.71		
CARBON TETRACHLORIDE		0.46	J	P	0.54			0.29	J	P
CHLORODIFLUOROMETHANE		52			15			31		
CHLOROFORM		0.14	J	P	0.14	J	P	0.22	J	P
CIS-1,2-DICHLOROETHENE		0.095	U		0.095	U		0.19	U	
DICHLORODIFLUOROMETHANE		2.5			2.5			2.8		
ETHYLBENZENE		0.6			0.47			2.4		
METHYL TERT-BUTYL ETHER		0.25	U		0.25	U		0.49	U	
METHYLENE CHLORIDE		4.5	J	C	2.4	J	C	24	J	C
NAPHTHALENE		0.47	J	P	3.3	J	G	0.38	U	
TETRACHLOROETHENE		0.11	U		0.11	U		0.22	U	
TOLUENE		7.4			3.3			120		
TOTAL XYLENES		3.1			2.6			10		
TRANS-1,2-DICHLOROETHENE		0.079	U		0.079	U		0.16	U	
TRICHLOROETHENE		0.27			0.13	J	P	0.24	J	P
VINYL CHLORIDE		0.074	U		0.093	J	P	0.15	U	

Appendix B

Results as Reported by the Laboratory

Tetra Tech, Inc

Client Sample ID: IA050-C-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 008 **Work Order #** MQ2371AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/07/2012
Prep Batch #.....: 2066141 **Analysis Time....:** 00:57
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.22**	**0.080**	**0.023**	**0.69**	**0.26**	**0.073**
Carbon tetrachloride	**0.092**	**0.080**	**0.015**	**0.58**	**0.50**	**0.094**
Chlorodifluoromethane	**4.7**	**0.080**	**0.015**	**17**	**0.28**	**0.053**
Chloroform	**0.036 J**	**0.080**	**0.015**	**0.17 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.56**	**0.080**	**0.027**	**2.7**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.043 J**	**0.080**	**0.027**	**0.19 J**	**0.35**	**0.12**
Methylene chloride	**0.42 B**	**0.20**	**0.018**	**1.5 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.93**	**0.080**	**0.021**	**3.5**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.12 J**	**0.16**	**0.024**	**0.53 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA051-C-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 011 **Work Order #** MQ24E1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012
Prep Date.....: 03/06/2012
Prep Batch #.....: 2066141
Dilution Factor.: 1

Date Received..: 02/23/2012
Analysis Time....: 03/07/2012
Analysis Time....: 05:17
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.18**	**0.080**	**0.023**	**0.58**	**0.26**	**0.073**
Carbon tetrachloride	**0.070 J**	**0.080**	**0.015**	**0.44 J**	**0.50**	**0.094**
Chlorodifluoromethane	**7.5**	**0.080**	**0.015**	**27**	**0.28**	**0.053**
Chloroform	**0.036 J**	**0.080**	**0.015**	**0.18 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.48**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.058 J**	**0.080**	**0.027**	**0.25 J**	**0.35**	**0.12**
Methylene chloride	**0.28 B**	**0.20**	**0.018**	**0.98 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.038 J**	**0.20**	**0.036**	**0.20 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**1.2**	**0.080**	**0.021**	**4.5**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.033 J**	**0.080**	**0.025**	**0.16 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.26**	**0.16**	**0.024**	**1.1**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA060-C-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 005 **Work Order #** MQ23V1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2066141 **Analysis Time....:** 22:15
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.18**	**0.080**	**0.023**	**0.56**	**0.26**	**0.073**
Carbon tetrachloride	**0.074 J**	**0.080**	**0.015**	**0.47 J**	**0.50**	**0.094**
Chlorodifluoromethane	**3.5**	**0.080**	**0.015**	**12**	**0.28**	**0.053**
Chloroform	**0.025 J**	**0.080**	**0.015**	**0.12 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.46**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.092**	**0.080**	**0.027**	**0.40**	**0.35**	**0.12**
Methylene chloride	**0.48 B**	**0.20**	**0.018**	**1.7 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.044 J**	**0.20**	**0.036**	**0.23 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.79**	**0.080**	**0.021**	**3.0**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.024 J**	**0.080**	**0.012**	**0.13 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.023 J**	**0.040**	**0.014**	**0.12 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.028 J**	**0.080**	**0.025**	**0.14 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.51**	**0.16**	**0.024**	**2.2**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA100-B-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 016 **Work Order #** MQ24N1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/07/2012
Prep Batch #.....: 2066125 **Analysis Time....:** 04:38
Dilution Factor.: 5 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.26 J**	**0.40**	**0.12**	**0.81 J**	**1.3**	**0.37**
Carbon tetrachloride	ND	0.40	0.075	ND	2.5	0.47
Chlorodifluoromethane	**13**	**0.40**	**0.075**	**45**	**1.4**	**0.27**
Chloroform	ND	0.40	0.075	ND	2.0	0.37
Dichlorodifluoromethane	**0.52**	**0.40**	**0.14**	**2.6**	**2.0**	**0.67**
1,1-Dichloroethane	ND	0.40	0.050	ND	1.6	0.20
1,2-Dichloroethane	ND	0.40	0.095	ND	1.6	0.38
cis-1,2-Dichloroethene	ND	0.40	0.12	ND	1.6	0.48
trans-1,2-Dichloroethene	ND	0.40	0.10	ND	1.6	0.40
1,1-Dichloroethene	ND	0.40	0.065	ND	1.6	0.26
Ethylbenzene	**1.3**	**0.40**	**0.14**	**5.5**	**1.7**	**0.59**
Methylene chloride	**1.6 B**	**1.0**	**0.090**	**5.6 B**	**3.5**	**0.31**
Methyl tert-butyl ether	ND	2.0	0.34	ND	7.2	1.2
Naphthalene	ND	1.0	0.18	ND	5.2	0.94
Tetrachloroethene	ND	0.40	0.080	ND	2.7	0.54
Toluene	**78**	**0.40**	**0.10**	**290**	**1.5**	**0.40**
1,2,4-Trichlorobenzene	ND	2.0	0.20	ND	15	1.4
1,1,1-Trichloroethane	ND	0.40	0.060	ND	2.2	0.33
1,1,2-Trichloroethane	ND	0.40	0.10	ND	2.2	0.57
Trichlorocthene	ND	0.20	0.070	ND	1.1	0.38
1,2,3-Trimethylbenzene	ND	0.40	0.40	ND	2.0	2.0
1,2,4-Trimethylbenzene	**0.14 J**	**0.40**	**0.12**	**0.69 J**	**2.0**	**0.61**
1,3,5-Trimethylbenzene	ND	0.40	0.13	ND	2.0	0.64
Vinyl chloride	ND	0.40	0.14	ND	1.0	0.37
Xylenes (total)	**5.8**	**0.80**	**0.12**	**25**	**3.5**	**0.52**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA103-C-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 012 **Work Order #** MQ24F1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012
Prep Date.....: 03/06/2012
Prep Batch #.....: 2066141
Dilution Factor.: 1

Date Received..: 02/23/2012
Analysis Time....: 03/07/2012
Analysis Time....: 06:11
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.080**	**0.023**	**0.67**	**0.26**	**0.073**
Carbon tetrachloride	**0.085**	**0.080**	**0.015**	**0.54**	**0.50**	**0.094**
Chlorodifluoromethane	**7.8**	**0.080**	**0.015**	**27**	**0.28**	**0.053**
Chloroform	**0.052 J**	**0.080**	**0.015**	**0.25 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.51**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.048 J**	**0.080**	**0.027**	**0.21 J**	**0.35**	**0.12**
Methylene chloride	**0.59 B**	**0.20**	**0.018**	**2.1 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.64**	**0.080**	**0.021**	**2.4**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.033 J**	**0.040**	**0.014**	**0.18 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.033 J**	**0.080**	**0.025**	**0.16 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.19**	**0.16**	**0.024**	**0.84**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA105-7-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 018 **Work Order #** MQ24Q1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/07/2012 **Analysis Time....:** 03/07/2012
Prep Batch #.....: 2067130 **Analysis Time....:** 19:51
Dilution Factor.: 124.5 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	10	2.9	ND	32	9.1
Carbon tetrachloride	ND	10	1.9	ND	63	12
Chlorodifluoromethane	ND	10	1.9	ND	35	6.6
Chloroform	ND	10	1.9	ND	49	9.1
Dichlorodifluoromethane	ND	10	3.4	ND	49	17
1,1-Dichloroethane	ND	10	1.2	ND	40	5.0
1,2-Dichloroethane	ND	10	2.4	ND	40	9.6
cis-1,2-Dichloroethene	ND	10	3.0	ND	39	12
trans-1,2-Dichloroethene	ND	10	2.5	ND	39	9.9
1,1-Dichloroethene	ND	10	1.6	ND	39	6.4
Ethylbenzene	**7.4 J**	**10**	**3.4**	**32 J**	**43**	**15**
Methylene chloride	**4.6 J B**	**25**	**2.2**	**16 J B**	**86**	**7.8**
Methyl tert-butyl ether	ND	50	8.5	ND	180	31
Naphthalene	ND	25	4.5	ND	130	23
Tetrachloroethene	ND	10	2.0	ND	68	14
Toluene	**590**	**10**	**2.6**	**2200**	**38**	**9.9**
1,2,4-Trichlorobenzene	ND	50	4.9	ND	370	36
1,1,1-Trichloroethane	ND	10	1.5	ND	54	8.2
1,1,2-Trichloroethane	ND	10	2.6	ND	54	14
Trichloroethene	ND	5.0	1.7	ND	27	9.4
1,2,3-Trimethylbenzene	ND	10	10	ND	49	49
1,2,4-Trimethylbenzene	ND	10	3.1	ND	49	15
1,3,5-Trimethylbenzene	ND	10	3.2	ND	49	16
Vinyl chloride	ND	10	3.6	ND	25	9.2
Xylenes (total)	**41**	**20**	**3.0**	**180**	**86**	**13**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA111-C-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 004 **Work Order #** MQ23R1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/07/2012 **Analysis Time....:** 03/07/2012
Prep Batch #.....: 2067130 **Analysis Time....:** 18:07
Dilution Factor.: 2.5 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.16 J**	**0.20**	**0.058**	**0.52 J**	**0.64**	**0.18**
Carbon tetrachloride	**0.057 J**	**0.20**	**0.038**	**0.36 J**	**1.3**	**0.24**
Chlorodifluoromethane	**26**	**0.20**	**0.038**	**91**	**0.71**	**0.13**
Chloroform	ND	0.20	0.038	ND	0.98	0.18
Dichlorodifluoromethane	**0.48**	**0.20**	**0.068**	**2.4**	**0.99**	**0.33**
1,1-Dichloroethane	ND	0.20	0.025	ND	0.81	0.10
1,2-Dichloroethane	ND	0.20	0.048	ND	0.81	0.19
cis-1,2-Dichloroethene	**0.22**	**0.20**	**0.060**	**0.88**	**0.79**	**0.24**
trans-1,2-Dichloroethene	ND	0.20	0.050	ND	0.79	0.20
1,1-Dichloroethene	ND	0.20	0.032	ND	0.79	0.13
Ethylbenzene	**0.13 J**	**0.20**	**0.068**	**0.56 J**	**0.87**	**0.29**
Methylene chloride	**1.1 B**	**0.50**	**0.045**	**3.9 B**	**1.7**	**0.16**
Methyl tert-butyl ether	ND	1.0	0.17	ND	3.6	0.61
Naphthalene	ND	0.50	0.090	ND	2.6	0.47
Tetrachloroethene	ND	0.20	0.040	ND	1.4	0.27
Toluene	**2.2**	**0.20**	**0.052**	**8.4**	**0.75**	**0.20**
1,2,4-Trichlorobenzene	ND	1.0	0.098	ND	7.4	0.72
1,1,1-Trichloroethane	**0.035 J**	**0.20**	**0.030**	**0.19 J**	**1.1**	**0.16**
1,1,2-Trichloroethane	ND	0.20	0.052	ND	1.1	0.29
Trichloroethene	**0.25**	**0.10**	**0.035**	**1.4**	**0.54**	**0.19**
1,2,3-Trimethylbenzene	ND	0.20	0.20	ND	0.98	0.98
1,2,4-Trimethylbenzene	ND	0.20	0.062	ND	0.98	0.31
1,3,5-Trimethylbenzene	ND	0.20	0.065	ND	0.98	0.32
Vinyl chloride	ND	0.20	0.072	ND	0.51	0.19
Xylenes (total)	**0.62**	**0.40**	**0.060**	**2.7**	**1.7**	**0.26**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA114-C-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 001 **Work Order #** MQ23M1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2066125 **Analysis Time....:** 11:59
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.19**	**0.080**	**0.023**	**0.59**	**0.26**	**0.073**
Carbon tetrachloride	**0.076 J**	**0.080**	**0.015**	**0.48 J**	**0.50**	**0.094**
Chlorodifluoromethane	**15**	**0.080**	**0.015**	**54**	**0.28**	**0.053**
Chloroform	**0.026 J**	**0.080**	**0.015**	**0.13 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.48**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.14**	**0.080**	**0.027**	**0.59**	**0.35**	**0.12**
Methylene chloride	**1.2 B**	**0.20**	**0.018**	**4.2 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.038 J**	**0.20**	**0.036**	**0.20 J**	**1.0**	**0.19**
Tetrachloroethene	**0.016 J**	**0.080**	**0.016**	**0.11 J**	**0.54**	**0.11**
Toluene	**1.8**	**0.080**	**0.021**	**6.8**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.10**	**0.080**	**0.012**	**0.57**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.043**	**0.040**	**0.014**	**0.23**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.046 J**	**0.080**	**0.025**	**0.22 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.69**	**0.16**	**0.024**	**3.0**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA122-B-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 017 **Work Order #** MQ24P1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/07/2012 **Analysis Time....:** 03/08/2012
Prep Batch #.....: 2067130 **Analysis Time....:** 06:12
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.23 J**	**0.80**	**0.23**	**0.72 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**15**	**0.80**	**0.15**	**54**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.51 J**	**0.80**	**0.27**	**2.5 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**0.64 J**	**0.80**	**0.27**	**2.8 J**	**3.5**	**1.2**
Methylene chloride	**1.5 J B**	**2.0**	**0.18**	**5.3 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**53**	**0.80**	**0.21**	**200**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	ND	0.40	0.14	ND	2.1	0.75
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**2.9**	**1.6**	**0.24**	**13**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA123-Z-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 019 **Work Order #** MQ24R1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/07/2012 **Analysis Time....:** 03/07/2012
Prep Batch #.....: 2067130 **Analysis Time....:** 20:43
Dilution Factor.: 126.4 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	10	2.9	ND	32	9.3
Carbon tetrachloride	ND	10	1.9	ND	64	12
Chlorodifluoromethane	ND	10	1.9	ND	36	6.7
Chloroform	ND	10	1.9	ND	49	9.3
Dichlorodifluoromethane	ND	10	3.4	ND	50	17
1,1-Dichloroethane	ND	10	1.3	ND	41	5.1
1,2-Dichloroethane	ND	10	2.4	ND	41	9.7
cis-1,2-Dichloroethene	ND	10	3.0	ND	40	12
trans-1,2-Dichloroethene	ND	10	2.5	ND	40	10
1,1-Dichloroethene	ND	10	1.6	ND	40	6.5
Ethylbenzene	**8.6 J**	**10**	**3.4**	**37 J**	**44**	**15**
Methylene chloride	**4.7 J B**	**25**	**2.3**	**16 J B**	**88**	**7.9**
Methyl tert-butyl ether	ND	51	8.6	ND	180	31
Naphthalene	ND	25	4.6	ND	130	24
Tetrachloroethene	ND	10	2.0	ND	69	14
Toluene	**690**	**10**	**2.7**	**2600**	**38**	**10**
1,2,4-Trichlorobenzene	ND	51	4.9	ND	380	37
1,1,1-Trichloroethane	ND	10	1.5	ND	55	8.3
1,1,2-Trichloroethane	ND	10	2.7	ND	55	14
Trichloroethene	ND	5.1	1.8	ND	27	9.5
1,2,3-Trimethylbenzene	ND	10	10	ND	50	50
1,2,4-Trimethylbenzene	ND	10	3.2	ND	50	16
1,3,5-Trimethylbenzene	ND	10	3.3	ND	50	16
Vinyl chloride	ND	10	3.7	ND	26	9.4
Xylenes (total)	**47**	**20**	**3.0**	**200**	**88**	**13**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA125-C-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 010 **Work Order #** MQ24C1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/07/2012
Prep Batch #.....: 2066141 **Analysis Time....:** 02:42
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.080**	**0.023**	**0.66**	**0.26**	**0.073**
Carbon tetrachloride	**0.083**	**0.080**	**0.015**	**0.52**	**0.50**	**0.094**
Chlorodifluoromethane	**5.6**	**0.080**	**0.015**	**20**	**0.28**	**0.053**
Chloroform	**0.027 J**	**0.080**	**0.015**	**0.13 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.52**	**0.080**	**0.027**	**2.6**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.032 J**	**0.080**	**0.027**	**0.14 J**	**0.35**	**0.12**
Methylene chloride	**0.66 B**	**0.20**	**0.018**	**2.3 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.045 J**	**0.080**	**0.016**	**0.31 J**	**0.54**	**0.11**
Toluene	**0.54**	**0.080**	**0.021**	**2.0**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.016 J**	**0.080**	**0.012**	**0.088 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.10 J**	**0.16**	**0.024**	**0.45 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA126-C-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 009 **Work Order #** MQ2391AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/07/2012
Prep Batch #.....: 2066141 **Analysis Time....:** 01:51
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.080**	**0.023**	**0.66**	**0.26**	**0.073**
Carbon tetrachloride	**0.086**	**0.080**	**0.015**	**0.54**	**0.50**	**0.094**
Chlorodifluoromethane	**1.2**	**0.080**	**0.015**	**4.3**	**0.28**	**0.053**
Chloroform	**0.023 J**	**0.080**	**0.015**	**0.11 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.52**	**0.080**	**0.027**	**2.6**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.039 J**	**0.080**	**0.027**	**0.17 J**	**0.35**	**0.12**
Methylene chloride	**0.25 B**	**0.20**	**0.018**	**0.87 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.61**	**0.080**	**0.021**	**2.3**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.058 J**	**0.080**	**0.012**	**0.32 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.028 J**	**0.080**	**0.025**	**0.14 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.14 J**	**0.16**	**0.024**	**0.61 J**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA127-C-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 015 **Work Order #** MQ24M1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/07/2012
Prep Batch #.....: 2066125 **Analysis Time....:** 03:47
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.14**	**0.080**	**0.023**	**0.45**	**0.26**	**0.073**
Carbon tetrachloride	**0.069 J**	**0.080**	**0.015**	**0.43 J**	**0.50**	**0.094**
Chlorodifluoromethane	**4.2**	**0.080**	**0.015**	**15**	**0.28**	**0.053**
Chloroform	**0.023 J**	**0.080**	**0.015**	**0.11 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.48**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.056 J**	**0.080**	**0.027**	**0.24 J**	**0.35**	**0.12**
Methylene chloride	**0.54 B**	**0.20**	**0.018**	**1.9 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.64**	**0.080**	**0.021**	**2.4**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.013 J**	**0.080**	**0.012**	**0.069 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.049**	**0.040**	**0.014**	**0.26**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.25**	**0.16**	**0.024**	**1.1**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA128-C-12

GC/MS Volatiles

Lot-Sample #	H2B230469 - 014	**Work Order #**	MQ24L2AA	**Matrix.....:**	AIR
Date Sampled...:	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/09/2012	**Analysis Time....:**	03/10/2012		
Prep Batch #.....:	2069094	**Analysis Time....:**	06:55		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.080**	**0.023**	**0.68**	**0.26**	**0.073**
Carbon tetrachloride	**0.078 J**	**0.080**	**0.015**	**0.49 J**	**0.50**	**0.094**
Chlorodifluoromethane	**7.4**	**0.080**	**0.015**	**26**	**0.28**	**0.053**
Chloroform	**0.040 J**	**0.080**	**0.015**	**0.20 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.68**	**0.080**	**0.027**	**3.3**	**0.40**	**0.13**
1,1-Dichloroethane	**0.013 J**	**0.080**	**0.010**	**0.051 J**	**0.32**	**0.040**
1,2-Dichloroethane	**0.025 J**	**0.080**	**0.019**	**0.10 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.13**	**0.080**	**0.027**	**0.55**	**0.35**	**0.12**
Methylene chloride	**8.9 B**	**0.20**	**0.018**	**31 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.022 J**	**0.080**	**0.016**	**0.15 J**	**0.54**	**0.11**
Toluene	**0.66**	**0.080**	**0.021**	**2.5**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**2.2**	**0.080**	**0.012**	**12**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.13**	**0.040**	**0.014**	**0.68**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.074 J**	**0.080**	**0.025**	**0.36 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	**0.027 J**	**0.080**	**0.026**	**0.13 J**	**0.39**	**0.13**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.68**	**0.16**	**0.024**	**3.0**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	112	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA132-C-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 006 **Work Order #** MQ2301AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2066141 **Analysis Time....:** 23:11
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.24**	**0.080**	**0.023**	**0.77**	**0.26**	**0.073**
Carbon tetrachloride	**0.086**	**0.080**	**0.015**	**0.54**	**0.50**	**0.094**
Chlorodifluoromethane	**5.6**	**0.080**	**0.015**	**20**	**0.28**	**0.053**
Chloroform	**0.028 J**	**0.080**	**0.015**	**0.14 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.52**	**0.080**	**0.027**	**2.6**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.097**	**0.080**	**0.027**	**0.42**	**0.35**	**0.12**
Methylene chloride	**0.55 B**	**0.20**	**0.018**	**1.9 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.052 J**	**0.20**	**0.036**	**0.27 J**	**1.0**	**0.19**
Tetrachloroethene	**0.024 J**	**0.080**	**0.016**	**0.16 J**	**0.54**	**0.11**
Toluene	**1.8**	**0.080**	**0.021**	**6.8**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.017 J**	**0.080**	**0.012**	**0.091 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.015 J**	**0.040**	**0.014**	**0.082 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.072 J**	**0.080**	**0.025**	**0.36 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.46**	**0.16**	**0.024**	**2.0**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA133-C-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 003 **Work Order #** MQ23P1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/07/2012 **Analysis Time....:** 03/07/2012
Prep Batch #.....: 2067130 **Analysis Time....:** 19:00
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.80	0.23	ND	2.6	0.73
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**33**	**0.80**	**0.15**	**120**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.56 J**	**0.80**	**0.27**	**2.8 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	ND	0.80	0.27	ND	3.5	1.2
Methylene chloride	**1.5 J B**	**2.0**	**0.18**	**5.1 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**1.8**	**0.80**	**0.21**	**6.8**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	ND	0.40	0.14	ND	2.1	0.75
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	ND	1.6	0.24	ND	6.9	1.0

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA134-C-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 002 **Work Order #** MQ23N1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2066141 **Analysis Time....:** 19:36
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.20**	**0.080**	**0.023**	**0.64**	**0.26**	**0.073**
Carbon tetrachloride	**0.073 J**	**0.080**	**0.015**	**0.46 J**	**0.50**	**0.094**
Chlorodifluoromethane	**15**	**0.080**	**0.015**	**52**	**0.28**	**0.053**
Chloroform	**0.028 J**	**0.080**	**0.015**	**0.14 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.50**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	**0.017 J**	**0.080**	**0.010**	**0.070 J**	**0.32**	**0.040**
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.14**	**0.080**	**0.027**	**0.60**	**0.35**	**0.12**
Methylene chloride	**1.3 B**	**0.20**	**0.018**	**4.5 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.089 J**	**0.20**	**0.036**	**0.47 J**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**2.0**	**0.080**	**0.021**	**7.4**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.11**	**0.080**	**0.012**	**0.59**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.051**	**0.040**	**0.014**	**0.27**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.042 J**	**0.080**	**0.025**	**0.21 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.70**	**0.16**	**0.024**	**3.1**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: ~~IADUP-2-12~~ IADUP1-12 AC 3/26/12

GC/MS Volatiles

Lot-Sample # H2B230469 - 013 **Work Order #** MQ24J1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/07/2012
Prep Batch #.....: 2066141 **Analysis Time....:** 07:04
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.20**	**0.080**	**0.023**	**0.63**	**0.26**	**0.073**
Carbon tetrachloride	**0.086**	**0.080**	**0.015**	**0.54**	**0.50**	**0.094**
Chlorodifluoromethane	**4.2**	**0.080**	**0.015**	**15**	**0.28**	**0.053**
Chloroform	**0.028 J**	**0.080**	**0.015**	**0.14 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.51**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.11**	**0.080**	**0.027**	**0.47**	**0.35**	**0.12**
Methylene chloride	**0.68 B**	**0.20**	**0.018**	**2.4 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.63**	**0.20**	**0.036**	**3.3**	**1.0**	**0.19**
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	**0.89**	**0.080**	**0.021**	**3.3**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.031 J**	**0.080**	**0.012**	**0.17 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.024 J**	**0.040**	**0.014**	**0.13 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.056 J**	**0.080**	**0.025**	**0.27 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	**0.036 J**	**0.080**	**0.029**	**0.093 J**	**0.20**	**0.074**
Xylenes (total)	**0.60**	**0.16**	**0.024**	**2.6**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IADUP2-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 007 **Work Order #** MQ2341AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/07/2012
Prep Batch #.....: 2066141 **Analysis Time....:** 00:01
Dilution Factor.: 2 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.22**	**0.16**	**0.046**	**0.71**	**0.51**	**0.15**
Carbon tetrachloride	**0.046 J**	**0.16**	**0.030**	**0.29 J**	**1.0**	**0.19**
Chlorodifluoromethane	**8.7**	**0.16**	**0.030**	**31**	**0.57**	**0.11**
Chloroform	**0.046 J**	**0.16**	**0.030**	**0.22 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.56**	**0.16**	**0.054**	**2.8**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	ND	0.16	0.026	ND	0.63	0.10
Ethylbenzene	**0.55**	**0.16**	**0.054**	**2.4**	**0.69**	**0.23**
Methylene chloride	**6.8 B**	**0.40**	**0.036**	**24 B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	ND	0.16	0.032	ND	1.1	0.22
Toluene	**32**	**0.16**	**0.042**	**120**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.045 J**	**0.080**	**0.028**	**0.24 J**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	ND	0.16	0.050	ND	0.79	0.25
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**2.3**	**0.32**	**0.048**	**10.0**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Appendix C

Support Documentation

PROJECT NARRATIVE
H2B230469

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

Custody seals were not present.

All sample IDs were revised to remove the dash (-) after the IA portion of the ID, per client request.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

The quantitation for 1,2,3-trimethylbenzene was based on a minimum 5-point calibration curve. The following interim criteria are being used until the method performance for this additional analyte is fully established:

- The initial calibration acceptance criteria is set at 40% RSD. Any compound greater than 40% RSD was changed to a linear or quadratic model with an r2 ≥ 0.990 acceptance criteria.
- There are no criteria for second source standard verification % D. The second source standard was independently prepared from the same parent mixture (as the primary source).
- The continuing calibration verification criteria are set at 50% D. Any compound greater than 50% D must pass the LCS criteria.
- The LCS recovery criteria are set at 20% to 180%.
- A method detection limit study has not been performed. The detection of the analyte is demonstrated by detection of the calibration standard at the reporting limit. No estimated results are reported below the reporting limit.

Cognetti, Ann

From: Samuels, Eric
Sent: Tuesday, March 20, 2012 10:47 AM
To: Cognetti, Ann
Subject: RE: Chain of custody Field Duplicates for Air Samples

According to my field sheet Dup 2 is associated with IA-063B. The field sheet indicates the DUP 2 canister number as 93245 . The other Dup (Marked Dup2) is canister 1316N and associated with IA-060C. That is the one I considered DUP1

From: Cognetti, Ann
Sent: Tuesday, March 20, 2012 10:31 AM
To: Samuels, Eric
Subject: Chain of custody Field Duplicates for Air Samples

Eric,

I am validating air samples for LMC- Middle River. On the attached chain of custodies, I have two field duplicates with similar identifications, IA-DUP-2-12 and IA-DUP2-12. The sample date is the same. The samples have different canisters and results. Which one of these is the field duplicate pair to IA-063-B-12? You sent an email to Joe identifying it as IA-DUP2-12. I want to verify the correct sample in my validation.

Thanks,
Ann << File: COCFielddups-20032012.pdf >>

Ann Cognetti | Environmental Scientist/ Chemist
Direct: 412.921.8862 | Main: 412.921.7090 | Personal Fax: 412.921.4040
ann.cognetti@tetratech.com

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661 Anderson Dr | Pittsburgh, Pa. 15220 | www.tetratech.com

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H2B230469

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	**Phone:** (770) 413-0965		
Address: 2171 W Park Ct. Ste E	**Site Contact:** (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	**TAL Contact:**		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-DUP-2-12	2/2/12	—	—	-29.1	-5	K112	1316N	X											
IA-128-C-12		0935	1733	-30	-5	K316	A281	X											
IA-127-C-12		0941	1732	-29	-4	K285	1405	X											
IA-100-B-12		0918	1700	-30	-6	K324	6123	X											
IA-102-B-12		0931	1702	-30	-6	K103	34001267	X											
IA-105-7-12		0944	1705	-30	-8	K320	34000825	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2/23/12 940
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

1-12B230469

Canister Samples Chain of Custody Record

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Rick Samuels	Sampled By: RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	Analysis Turnaround Time		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-DUP2-12	2/21/12			-28.8	-5	K319	93245	X											
IA-050-C-12		0948	1718	-28.9	-4	K166	93239	X											
IA-126-C-12		0950	1719	-28.9	0	K408	12878	X											
IA-125-C-12		0951	1720	-28.9	0	K291	03841	X											
IA-051-C-12		0954	1722	-28.9	-5	K094	93444	X											
IA-103-C-12		1000	1735	-28.8	-4	K246	51489	X											

Sampled by: RS

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:	2/23/12 940
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by:	
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B230469

Canister Samples Chain of Custody Record

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	**Phone:** (770) 413-0965		
Address: 2171 W Park Ct. Ste E	**Site Contact:** (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	**TAL Contact:**		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) √		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-123-Z-12	2/21/12	0945	1706	-30	-5	K261	3400263	X											
								X											
								X											
								X											
								X											
								X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by: 2/23/12 940
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

1-72B230464

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	**Phone:** (770) 413-0965		
Address: 2171 W Park Ct. Ste E	**Site Contact:** (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	**TAL Contact:**		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-114-C-12	2/21/12	0901	1724	-28.9	-4	K309	93038	X								X			
IA-134-C-12		0907	1725	-28.9	-3	K095	1362N	X								X			
IA-133-C-12		0908	1729	-28.7	-1	K399	11370	X								X			
IA-111-C-12		0913	1730	-28.9	-4	K343B	12298	X								X			
IA-060-C-12		0920	1730	-29.	-5	K485	04507	X								X			
IA-132-C-12		0933	1731	-28.7	-5	K218	02306	X								X			

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

10 Boxes Rec'd @ Ambient Temp 21°
with out custody Seals
[illegible] 2/23/12

10 Boxes Fedex #
7932 5888 2503 M

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2/22/12 1400	Canisters Received by:	
Samples Relinquished by:	Date/Time: 2/22/12 1620	Received by:	2/23/12 940
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: 42823469

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	NA
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?		✓		☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?			✓	☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?	✓				

Quote #: 83292 PM Instructions: NA

Sample Receiving Associate: _____ Date: 2/23/12

QA026R22.doc, 012811

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2B230469*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
*KS 2/25/12	NA	29.11	MQ23M	93038 ✓	-3.1	–												9714
↓	↓	↓	MQ23N	1362N ✓	-2.4	–												↓
			MQ23P	11370 ✓	-3.7	–												
			MQ23R	12298 ✓	-3.1	–												↓
			MQ23V	04307 ✓	-3.9	–												9709
			MQ230	02306 ✓	-3.7	–												9715
		DUP2	MQ234	93245 ✓	-4.5	–												↓
			MQ237	93239 ✓	-5.5	–												↓
			MQ239	1287N ✓	-4.3	–												9713
			MQ24C	03841 ✓	-1.8	–												9678
			MQ24E	93244 ✓	-4.7	–												↓
			MQ24F	S1489 ✓	-4.3	–												9709
		DUP1	MQ24J	1316N ✓	-3.1	–												9700
			MQ24L	A281 ✓	-4.7	–												9715
			MQ24M	1405 ✓	-3.5	–												9709
			MQ24N	6623 ✓	-4.9	–												9703
			MQ24P	9722B ✓	-5.5	–												9711
			MQ24Q	9709B	-5.6	–	KS 3/7/12	I	29.31	-6.0	30.8	31.0						↓
↓	↓	↓	MQ24R	A-269	-5.6	–	↓	I	↓	-6.1	30.9	31.4						↓

SAMPLE SUMMARY

H2B230469

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MQ23M	001	IA114-C-12	02/21/12	17:24
MQ23N	002	IA134-C-12	02/21/12	17:25
MQ23P	003	IA133-C-12	02/21/12	17:29
MQ23R	004	IA111-C-12	02/21/12	17:30
MQ23V	005	IA060-C-12	02/21/12	17:30
MQ230	006	IA132-C-12	02/21/12	17:31
MQ234	007	IADUP2-12	02/21/12	
MQ237	008	IA050-C-12	02/21/12	17:18
MQ239	009	IA126-C-12	02/21/12	17:19
MQ24C	010	IA125-C-12	02/21/12	17:20
MQ24E	011	IA051-C-12	02/21/12	17:22
MQ24F	012	IA103-C-12	02/21/12	17:25
MQ24J	013	~~IADUP-2-12~~ IADUP1-12 AC 3/20/12	02/21/12	
MQ24L	014	IA128-C-12	02/21/12	17:33
MQ24M	015	IA127-C-12	02/21/12	17:32
MQ24N	016	IA100-B-12	02/21/12	17:00
MQ24P	017	IA122-B-12	02/21/12	17:02
MQ24Q	018	IA105-7-12	02/21/12	17:05
MQ24R	019	IA123-Z-12	02/21/12	17:06

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

ANALYTICAL METHODS SUMMARY

H2B230469

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

HOLDTIME

SDG H2B230469

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	IA125-C-12	H2B230469010	NM	2/21/2012	3/6/2012	3/7/2012	14	1	15
OV	UG/M3	IA051-C-12	H2B230469011	NM	2/21/2012	3/6/2012	3/7/2012	14	1	15
OV	UG/M3	IA060-C-12	H2B230469005	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14
OV	UG/M3	IA100-B-12	H2B230469016	NM	2/21/2012	3/6/2012	3/7/2012	14	1	15
OV	UG/M3	IA103-C-12	H2B230469012	NM	2/21/2012	3/6/2012	3/7/2012	14	1	15
OV	UG/M3	IA105-7-12	H2B230469018	NM	2/21/2012	3/7/2012	3/7/2012	15	0	15
OV	UG/M3	IA111-C-12	H2B230469004	NM	2/21/2012	3/7/2012	3/7/2012	15	0	15
OV	UG/M3	IA114-C-12	H2B230469001	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14
OV	UG/M3	IA050-C-12	H2B230469008	NM	2/21/2012	3/6/2012	3/7/2012	14	1	15
OV	UG/M3	IA123-Z-12	H2B230469019	NM	2/21/2012	3/7/2012	3/7/2012	15	0	15
OV	UG/M3	IADUP2-12	H2B230469007	NM	2/21/2012	3/6/2012	3/7/2012	14	1	15
OV	UG/M3	IA126-C-12	H2B230469009	NM	2/21/2012	3/6/2012	3/7/2012	14	1	15
OV	UG/M3	IA127-C-12	H2B230469015	NM	2/21/2012	3/6/2012	3/7/2012	14	1	15
OV	UG/M3	IA128-C-12	H2B230469014	NM	2/21/2012	3/9/2012	3/10/2012	17	1	18
OV	UG/M3	IA132-C-12	H2B230469006	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	IA133-C-12	H2B230469003	NM	2/21/2012	3/7/2012	3/7/2012	15	0	15
OV	UG/M3	IA134-C-12	H2B230469002	NM	2/21/2012	3/6/2012	3/6/2012	14	0	14
OV	UG/M3	IADUP-2-12	H2B230469013	NM	2/21/2012	3/6/2012	3/7/2012	14	1	15
OV	UG/M3	IA122-B-12	H2B230469017	NM	2/21/2012	3/7/2012	3/8/2012	15	1	16

LMC-MIDDLE RIVER
AIR DATA
H2B230469

FRACTION	CHEMICAL	IA060-C-12	UNITS	IADUP1-12	RPD	D
OV	1,1,1-TRICHLOROETHANE	0.13 J	UG/M3	0.17 J	26.67	0.04
OV	1,2,4-TRIMETHYLBENZENE	0.14 J	UG/M3	0.27 J	63.41	0.13 ✓
OV	BENZENE	0.56	UG/M3	0.63	11.76	0.07
OV	CARBON TETRACHLORIDE	0.47 J	UG/M3	0.54	13.86	0.07
OV	CHLORODIFLUOROMETHANE	12	UG/M3	15	22.22	3.00
OV	CHLOROFORM	0.12 J	UG/M3	0.14 J	15.38	0.02
OV	DICHLORODIFLUOROMETHANE	2.3	UG/M3	2.5	8.33	0.20
OV	ETHYLBENZENE	0.4	UG/M3	0.47	16.09	0.07
OV	METHYLENE CHLORIDE	1.7 B	UG/M3	2.4 J	34.15	0.70
OV	NAPHTHALENE	0.23 J	UG/M3	3.3	173.94	3.07
OV	TOLUENE	3	UG/M3	3.3	9.52	0.30
OV	TOTAL XYLENES	2.2	UG/M3	2.6	16.67	0.40
OV	TRICHLOROETHENE	0.12 J	UG/M3	0.13 J	8.00	0.01
OV	VINYL CHLORIDE	ND	UG/M3	0.093 J	200.00	0.09

Current RPD Quality Control Limit: 50 %.
Shaded cells indicate RPDs that exceed the applicable quality control limit.

LMC-MIDDLE RIVER
AIR DATA
H2B230467 AND H2B230469

FRACTION	CHEMICAL	IA063-B-12	UNITS	IADUP2-12	RPD	D
OV	1,2,4-TRIMETHYLBENZENE	0.4 J	UG/M3	ND	200.00	0.40 ✓
OV	BENZENE	0.63 J	UG/M3	0.71	11.94	0.08
OV	CARBON TETRACHLORIDE	0.47 J	UG/M3	0.29 J	47.37	0.18
OV	CHLORODIFLUOROMETHANE	30	UG/M3	31	3.28	1.00
OV	CHLOROFORM	0.34 J	UG/M3	0.22 J	42.86	0.12
OV	DICHLORODIFLUOROMETHANE	2.4	UG/M3	2.8	15.38	0.40
OV	ETHYLBENZENE	2.7	UG/M3	2.4	11.76	0.30
OV	METHYLENE CHLORIDE	21	UG/M3	24 J	13.33	3.00
OV	NAPHTHALENE	0.43 B	UG/M3	ND	200.00	0.43 ✓
OV	TOLUENE	120	UG/M3	120	0.00	0.00
OV	TOTAL XYLENES	13	UG/M3	10	26.09	3.00
OV	TRICHLOROETHENE	0.24 J	UG/M3	0.24 J	0.00	0.00

Current RPD Quality Control Limit: 30 %.
Shaded cells indicate RPDs that exceed the applicable quality control limit.

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	2/24/12	Instrument::	MS	ICAL Batch/Scan Name:	J022412I	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad		✓			✓
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓		acetaldehyde 64% quad 1-methylnaph 50% area 2-methylnaph 50% linear	✓
11. If curves were used, is correlation coefficient ≥0.990?		✓			✓
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.		✓			✓
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).		✓			✓
14. Is the "Y" intercept less than the RL for each curve?		✓			✓
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?	✓				✓
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			-
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)		✓		ICV 257% acetaldehyd.	✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 2/27/12	2nd Level Reviewer :	Date: 2/27/12
Comments:		Comments: OK for lower NY RL's	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Inst: MJ

Analyst: HMC Qtims Batch: ICAL

Date: 2/24/12 ICAL Batch: J022412I Target Batch: J022412F IS #1 Area: 668304

Surr/IS ID & Vol.: 40mL V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1418	✓	fluo	JBFBB24	—	16	100	1	
1448	✓	MDL ✓	JMDLB24	CX2331	1	50		
1541	✓	ICAL 1	J1CB241	↓	1	100		
1633	✓	2	2	↓	1	200		
1726	✓	3	3	CX2329	3	100		
1818	✓	4	4	↓	3	200		
1909	✓	5	5	CX2327	5	100		
1959	✓	6	6	↓	5	200		
2050	✓	7	7	CX2326	6			
2144	✓	8	8	CX2325	7			
2237	✓	9	9	CX2324	8			
2333	OK	blk	blk1	—	16	200		
0025	✓	ICV	J1CVB24	CX2321	9	100		
0120	OK	LCS	LCS	↓	9	200		
0215	OK	Blk	Blk	—	16	500		

2/25/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 2/25/12

Data File: /ohem/goms/mj.i/J022412I.b/jbfbb24.d

Date : 24-FEB-2012 14:18

Client ID: BFB

Instrument: mj.i

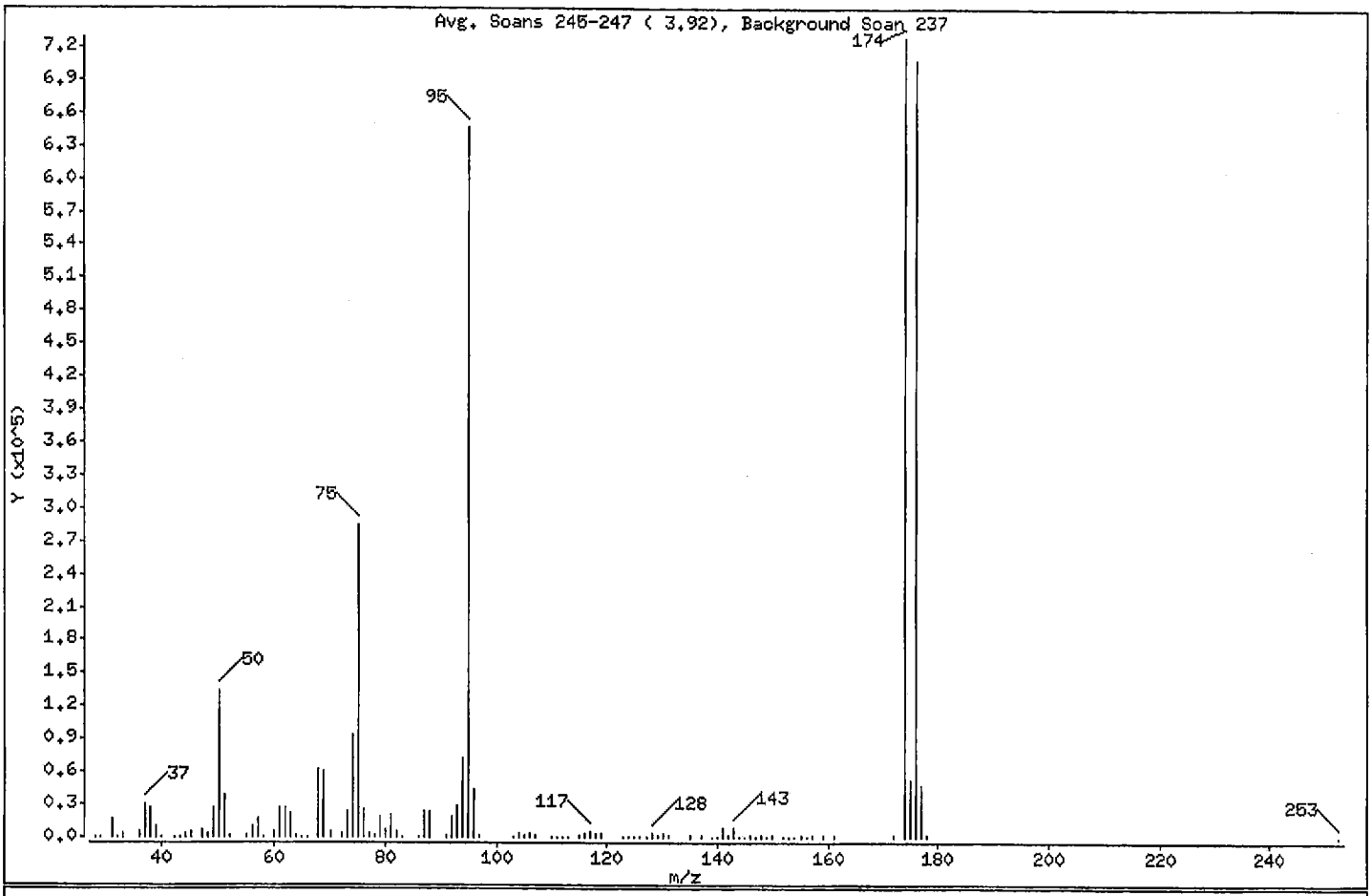
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.63
75	30.00 - 60.00% of mass 95	44.19
96	5.00 - 9.00% of mass 95	6.80
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	112.74
175	5.00 - 9.00% of mass 174	8.01 (7.11)
176	95.00 - 101.00% of mass 174	109.68 (97.28)
177	5.00 - 9.00% of mass 176	7.38 (6.73)

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Calibration File Names:
Level 1: /var/chem/gcms/mj.i/J022412I.b/jicb241.d
Level 2: /var/chem/gcms/mj.i/J022412I.b/jicb242.d
Level 3: /var/chem/gcms/mj.i/J022412I.b/jicb243.d
Level 4: /var/chem/gcms/mj.i/J022412I.b/jicb244.d
Level 5: /var/chem/gcms/mj.i/J022412I.b/jicb245.d
Level 6: /var/chem/gcms/mj.i/J022412I.b/jicb246.d
Level 7: /var/chem/gcms/mj.i/J022412I.b/jicb247.d
Level 8: /var/chem/gcms/mj.i/J022412I.b/jicb248.d
Level 9: /var/chem/gcms/mj.i/J022412I.b/jicb249.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
5 Chlorodifluoromethane	+++++	0.49172	0.54130	0.45303	0.46380	0.39994					
	0.43285	0.42942	0.41529				AVRG		0.45342		10.07605
6 Propene	+++++	+++++	1.66930	1.38699	1.44925	1.19872					
	1.27470	1.19883	1.09478				AVRG		1.32465		14.62600
7 Dichlorodifluoromethane	4.25361	4.45237	5.25552	4.50389	4.78518	4.02026					
	4.31974	4.14826	3.77803				AVRG		4.39076		9.91220

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Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
8 Chloromethane	+++++	0.56562	0.53084	0.45297	0.43322	0.30746					
	0.32328	0.31659	0.29445				AVRG		0.40306		26.67746
9 1,2-Dichlorotetrafluoroethane	3.47913	3.33484	4.07171	3.48255	3.62297	2.86596					
	3.10138	3.00853	2.80653				AVRG		3.30818		12.28879
10 Methanol	+++++	+++++	+++++	+++++	0.31373	0.22908					
	0.21558	0.20479	0.15312				AVRG		0.22326		26.05776
11 - acetaldehyde	+++++	+++++	57069	124796	92790	183719					
	357604	742680	1319839				QUAD	0.000e+00	7.37380	0.92357	0.99544
12 Vinyl Chloride	1.38915	1.31603	1.53947	1.25688	1.28167	0.98716					
	1.06677	1.05730	1.04808				AVRG		1.21583		15.34919
13 n-Butane	+++++	+++++	2.59775	2.06406	2.01262	1.45446					
	1.59762	1.60243	1.48603				AVRG		1.83071		22.77122
14 1,3-Butadiene	0.97780	1.05225	1.18451	0.92176	0.95290	0.73073					
	0.80167	0.81047	0.78291				AVRG		0.91278		16.06524

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
15 Bromomethane	+++++	1.24636	1.56620	1.20030	1.27602	1.01825	AVRG		1.21493		13.38361
	1.13471	1.14278	1.13478								
16 Chloroethane	+++++	0.60275	0.69521	0.52583	0.52606	0.41793	AVRG		0.52204		17.08219
	0.46759	0.47303	0.46792								
17 - ethanol	+++++	+++++	0.62538	0.57262	0.50742	0.36745	AVRG		0.46393		23.06485
	0.41793	0.41610	0.34058								
18 Vinyl Bromide	1.40005	1.44249	1.78912	1.43414	1.52716	1.21058	AVRG		1.40412		12.75460
	1.22126	1.32531	1.28698								
19 2-methyl butane	2.26421	2.27764	2.66309	2.19823	2.25291	1.73751	AVRG		2.05391		17.64042
	1.54915	1.84090	1.70159								
20 Trichlorofluoromethane	4.54687	4.59736	5.68445	4.70392	5.02213	4.06894	AVRG		4.62094		10.57026
	4.22439	4.45967	4.28075								
21 Acrolein	+++++	+++++	0.50435	0.48876	0.28282	0.28562	AVRG		0.36578		26.61529
	0.27038	0.35626	0.37224								

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Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
22 Acetonitrile	+++++ / 0.39792	+++++ / 0.49914	+++++ / 0.50168	0.68766	0.43717	0.37429	AVRG		0.48298		23.36132
23 Acetone	+++++ / 0.38764	+++++ / 0.48512	+++++ / 0.42300	+++++	0.54163	0.40181	AVRG		0.44784		14.36112
24 Isopropyl alcohol	+++++ / 1.38088	+++++ / 1.61098	2.00490 / 1.39553	1.85208	1.88013	1.26029	AVRG		1.62640		17.86297
25 Pentane	+++++ / 0.14791	0.20331 / 0.18234	0.23013 / 0.17142	0.20814	0.21444	0.14076	AVRG		0.18731		17.18904
26 Ethyl Ether	1.52554 / 1.26765	1.71302 / 1.57225	1.60662 / 1.52379	1.96532	1.31278	1.09342	AVRG		1.50893		17.11131
27 1,1-Dichloroethene	1.16604 / 0.98007	1.03637 / 1.13154	1.25377 / 1.07013	1.22302	1.23950	0.91555	AVRG		1.11289		10.79404
28 tert-butanol	+++++ / 1.75378	2.00266 / 1.91252	1.99815 / 1.68488	1.97389	2.10238	1.56311	AVRG		1.87392		9.93164

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
29 Acrylonitrile	0.86026	0.78947	0.78231	1.02047	0.56929	0.57365					
	0.64817	0.81659	0.78698				AVRG		0.76080		18.97880
30 1,1,2-Trichlorotrifluoroethan	2.66034	2.45488	3.05640	2.83943	2.62254	2.20416					
	2.35700	2.62043	2.35648				AVRG		2.57463		10.28081
31 Methylene Chloride	+++++	+++++	1.30930	1.19931	0.95160	0.79588					
	0.83154	0.95961	0.80502				AVRG		0.97889		20.61403
32 3-Chloropropene	+++++	1.38131	1.62338	1.53538	1.29021	1.20682					
	1.35002	1.51483	1.30148				AVRG		1.40043		10.21812
33 Carbon Disulfide	4.63103	3.94183	3.77799	3.71051	3.29551	2.72547					
	2.89644	3.39404	2.83886				AVRG		3.46796		17.77860
34 trans-1,2-Dichloroethene	1.48326	1.20830	1.52190	1.42151	1.29243	1.10564					
	1.15494	1.29706	1.16163				AVRG		1.29408		11.71028
35 - 2-Methyl Pentane	4.04437	3.53636	4.09988	3.94681	3.27418	2.89108					
	2.99495	3.42888	2.74643				AVRG		3.44033		14.80309

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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
36 Methyl-t-Butyl Ether	2.02724	2.36109	2.43800	2.87213	1.93559	1.85539					
	2.07165	2.34643	2.17972				AVRG		2.23192		14.00842
37 1,1-Dichloroethane	2.46888	2.15426	2.70228	2.32353	1.95539	1.87631					
	1.92131	2.18808	1.91699				AVRG		2.16745		13.20072
38 Vinyl Acetate	2.66263	2.89238	2.77346	3.17228	1.83990	2.14332					
	2.39004	2.91918	2.65791				AVRG		2.60568		15.95290
39 2-Butanone	+++++	+++++	0.35090	0.38322	0.30600	0.26607					
	0.28377	0.33804	0.28497				AVRG		0.31614		13.43078
40 Hexane	1.37636	1.13606	1.33387	1.08476	1.03252	0.93208					
	0.96308	1.11090	0.95109				AVRG		1.10230		14.56966
41 cis 1,2-Dichloroethene	1.34687	1.14345	1.47606	1.20372	1.09258	1.02877					
	1.07598	1.19505	1.08993				AVRG		1.18360		12.20505
42 Ethyl acetate	1.97526	2.37158	2.18666	2.49223	2.03955	1.83169					
	1.96241	2.30701	2.00588				AVRG		2.13025		10.34766

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
43 Chloroform	2.96384	2.70028	3.38661	2.74611	2.43221	2.27919					
	2.36123	2.54899	2.41328				AVRG		2.64797		13.26735
44 Tetrahydrofuran	+++++	+++++	1.18756	1.23190	0.94315	0.88870					
	0.98217	1.00829	1.03270				AVRG		1.03921		12.12530
45 1,1,1-Trichloroethane	3.28187	3.09045	3.91874	3.24602	2.89996	2.80930					
	2.96916	2.92613	2.93433				AVRG		3.11955		10.87484
46 1,2-Dichloroethane	0.48675	0.45436	0.55703	0.46971	0.44243	0.40319					
	0.46263	0.56258	0.48110				AVRG		0.47997		10.71930
47 1-Butanol	+++++	+++++	0.11087	0.09308	0.12516	0.09351					
	0.11382	0.13207	0.10243				AVRG		0.11014		13.60766
48 Benzene	0.89191	0.75777	0.87171	0.68762	0.61693	0.55614					
	0.61483	0.73998	0.64220				AVRG		0.70879		16.46069
49 Cyclohexane	0.12775	0.11317	0.14415	0.11017	0.13101	0.10512					
	0.11015	0.13038	0.11218				AVRG		0.12046		10.95488

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Target Version : 3.50
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Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.81632	0.81825	0.88397	0.72980	0.86389	0.74172	AVRG		0.86368		12.35610
	0.90259	1.07989	0.93671								
51 - 2,3-dimethylpentane	0.15004	0.13849	0.17845	0.14459	0.14823	0.12733	AVRG		0.14782		10.58203
	0.13418	0.16505	0.14402								
52 - Thiophene	0.45778	0.42216	0.50932	0.40577	0.39304	0.35531	AVRG		0.42227		11.37693
	0.37971	0.46753	0.40985								
53 2,2,4-trimethylpentane	1.48798	1.33706	1.66668	1.32562	1.37741	1.15101	AVRG		1.36370		11.76873
	1.20552	1.47546	1.24658								
54 Heptane	0.27173	0.25940	0.28338	0.23042	0.24443	0.19986	AVRG		0.24296		11.76410
	0.20765	0.26120	0.22859								
55 1,2-Dichloropropane	0.26848	0.25540	0.28944	0.26281	0.23272	0.20412	AVRG		0.25097		10.42774
	0.23041	0.27337	0.24201								
56 Trichloroethene	0.49714	0.47048	0.60173	0.46733	0.53097	0.42598	AVRG		0.50173		11.11940
	0.45893	0.56701	0.49602								

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Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
180 ~ 2-nitropropane	0.31623	0.47841	0.42469	0.53315	0.45447	0.41860					
	0.49794	0.65907	0.56253				AVRG		0.48279		20.22257
57 Dibromomethane	0.39915	0.36207	0.45482	0.36311	0.39086	0.33030					
	0.35189	0.43540	0.38484				AVRG		0.38583		10.34122
58 Bromodichloromethane	0.65151	0.64184	0.77774	0.69104	0.70164	0.58895					
	0.65545	0.82384	0.72605				AVRG		0.69534		10.42002
59 1,4-dioxane	+++++	0.06027	0.07087	0.07568	0.09460	0.07264					
	0.08016	0.09414	0.07968				AVRG		0.07850		14.76842
60 Methyl Methacrylate	0.22848	0.32505	0.28850	0.33269	0.31107	0.27121					
	0.30614	0.39818	0.35221				AVRG		0.31261		15.53386
61 ~ methyl cyclohexane	0.46309	0.41812	0.52503	0.42773	0.45811	0.38396					
	0.40386	0.49294	0.42413				AVRG		0.44411		10.09161
62 4-Methyl-2-pentanone	0.43173	0.50829	0.47804	0.49783	0.62926	0.48751					
	0.53995	0.67346	0.55753				AVRG		0.53374		14.33485

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
63 cis-1,3-Dichloropropene	0.33834	0.34744	0.41171	0.39088	0.35514	0.31549					
	0.36007	0.44825	0.40165				AVRG		0.37433		11.14967
64 trans-1,3-Dichloropropene	0.37303	0.38904	0.44367	0.42839	0.39362	0.37043					
	0.44291	0.50005	0.45092				AVRG		0.42134		10.21522
65 Toluene	0.90830	0.91480	1.00066	0.94386	0.75057	0.72598					
	0.83864	0.93682	0.83516				AVRG		0.87276		10.53259
66 1,1,2-Trichloroethane	0.26523	0.26642	0.32223	0.28037	0.25953	0.22325					
	0.25823	0.28524	0.25809				AVRG		0.26873		9.90180
67 - 2-methyl thiophene	0.80312	0.78184	0.90172	0.84880	0.68896	0.66345					
	0.75723	0.84661	0.76307				AVRG		0.78387		9.78516
68 - 3-methyl thiophene	0.77394	0.79984	0.92506	0.83755	0.70887	0.66337					
	0.76097	0.85108	0.76352				AVRG		0.78713		9.90958
69 2-Hexanone	0.21080	0.25373	0.21134	0.23176	0.29538	0.22171					
	0.25531	0.28358	0.23621				AVRG		0.24442		12.36200

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
70 Octane	0.31488	0.31119	0.33448	0.30066	0.30314	0.24672					
	0.28038	0.31004	0.27335				AVRG		0.29721		8.83025
71 Dibromochloromethane	0.71603	0.73561	0.86813	0.81415	0.83229	0.72362					
	0.87427	1.00378	0.89541				AVRG		0.82926		11.38903
72 1,2-Dibromoethane	0.59707	0.59943	0.66343	0.64305	0.57593	0.52340					
	0.59543	0.66121	0.60556				AVRG		0.60717		7.28880
73 Tetrachloroethene	0.54410	0.52167	0.62414	0.51136	0.52058	0.42825					
	0.45707	0.52295	0.48491				AVRG		0.51278		10.82594
74 Chlorobenzene	0.81478	0.83431	0.95953	0.84079	0.77255	0.67379					
	0.76198	0.84460	0.77539				AVRG		0.80864		9.63481
75 ~ 2,3-dimethylheptane	1.05065	1.13997	1.26359	1.11183	1.05981	0.86925					
	1.02144	1.07425	0.84151				AVRG		1.04803		12.40157
76 Ethylbenzene	0.97108	1.11273	1.14523	1.15512	0.93219	0.88744					
	1.05557	1.17509	1.04554				AVRG		1.05333		9.85399

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
77 ~ 2-ethyl thiophene	0.79638	0.92747	1.01024	0.98339	0.82945	0.78348					
	0.92758	1.03419	0.93347				AVRG		0.91396		10.03458
78 m&p-Xylene	0.72594	0.87293	0.89724	0.90591	0.76203	0.68959					
	0.81996	0.91339	0.79666				AVRG		0.82041		10.07228
79 Nonane	0.56617	0.63265	0.67111	0.64368	0.60097	0.50011					
	0.60688	0.64962	0.54404				AVRG		0.60169		9.24807
80 Bromoform	+++++	0.53683	0.62069	0.61211	0.65977	0.58920					
	0.73153	0.85554	0.80483				AVRG		0.67631		16.41011
81 Styrene	0.47998	0.54135	0.60168	0.64834	0.59992	0.54761					
	0.65340	0.74922	0.69516				AVRG		0.61296		13.59954
82 o-Xylene	0.78230	0.91228	0.93412	0.95326	0.80235	0.70069					
	0.85291	0.96543	0.84812				AVRG		0.86127		10.30000
M 83 Xylene (total)	0.74474	0.88605	0.90953	0.92169	0.77547	0.69329					
	0.83094	0.93074	0.81381				AVRG		0.83403		10.12698

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TestAmerica Knoxville

INITIAL CALIBRATION DATA

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
84 1,1,2,2-Tetrachloroethane	0.44960	0.55035	0.57765	0.60960	0.60527	0.48142					
	0.57483	0.63514	0.54679				AVRG		0.55896		10.82859
85 1,2,3-Trichloropropane	0.14994	0.18847	0.19921	0.21021	0.20240	0.16106					
	0.19303	0.21999	0.19799				AVRG		0.19137		11.75368
86 Cumene	1.14910	1.30660	1.29613	1.35501	1.17715	1.00568					
	1.21899	1.36615	1.18240				AVRG		1.22858		9.38827
87 n-Propylbenzene	0.28102	0.34829	0.34367	0.37515	0.35463	0.29176					
	0.35029	0.40431	0.37193				AVRG		0.34678		11.25411
88 2-chlorotoluene	0.32887	0.37732	0.42022	0.40958	0.38190	0.32659					
	0.38727	0.43014	0.39633				AVRG		0.38425		9.49147
89 4-Ethyltoluene	0.90823	1.19723	1.10911	1.26462	1.22732	0.97228					
	1.16124	1.30162	1.13360				AVRG		1.14169		11.41265
90 1,3,5-Trimethylbenzene	0.42171	0.58856	0.55825	0.64428	0.61417	0.48712					
	0.58430	0.67106	0.61409				AVRG		0.57595		13.56806

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

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Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
91 Alpha-Methylstyrene	0.29654	0.43107	0.39270	0.47798	0.51059	0.41893					
	0.51441	0.58434	0.53416				AVRG		0.46230		18.81514
92 Decane	0.52689	0.70900	0.57650	0.70590	0.62891	0.55225					
	0.68181	0.73177	0.61792				AVRG		0.63677		11.68848
93 tert-butylbenzene	0.86936	1.14998	1.08095	1.21191	1.15739	0.91117					
	1.11139	1.27172	1.11949				AVRG		1.09815		11.93825
94 1,2,4-Trimethylbenzene	0.63808	0.92324	0.84904	1.01139	1.00035	0.77334					
	0.92318	1.03647	0.91723				AVRG		0.89692		14.19243
95 sec-butylbenzene	0.97360	1.36922	1.25868	1.43084	1.35564	1.07118					
	1.28661	1.43076	1.22185				AVRG		1.26649		12.44968
96 1,3-Dichlorobenzene	0.67627	0.72915	0.78339	0.77768	0.80006	0.66126					
	0.79322	0.90216	0.82636				AVRG		0.77217		9.66536
97 Benzyl Chloride	0.48915	0.62813	0.62071	0.74151	0.86711	0.69165					
	0.81550	0.92981	0.81892				AVRG		0.73361		19.02026

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Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
98 1,4-Dichlorobenzene	0.65766	0.70552	0.73260	0.74080	0.79783	0.65030					
	0.77499	0.87612	0.80973				AVRG		0.74951		9.80630
99 p-Cymene	0.79933	1.17192	1.04379	1.27055	1.28021	0.99214					
	1.18987	1.34755	1.16305				AVRG		1.13982		14.90785
100 ~ 1,2,3- Trimethylbenzene	0.54045	0.76856	0.71967	0.83043	0.83053	0.64108					
	0.75095	0.84230	0.73922				AVRG		0.74035		13.31933
101 ~ n-butylcyclohexane	0.60967	0.69912	0.76981	0.71216	0.66845	0.56629					
	0.68259	0.73915	0.63152				AVRG		0.67542		9.52966
102 ~ Indane	0.67704	0.89234	0.85193	0.92207	0.92199	0.72159					
	0.84618	0.94488	0.83640				AVRG		0.84605		10.86802
103 1,2-Dichlorobenzene	0.60308	0.68419	0.68586	0.71405	0.72968	0.59410					
	0.70585	0.79774	0.72474				AVRG		0.69325		9.11253
104 n-butylbenzene	0.63620	0.91028	0.80962	0.98252	1.03514	0.79397					
	0.91481	1.02198	0.87937				AVRG		0.88710		14.27038

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
105 - Indene	0.42494	0.56255	0.54502	0.64294	0.69331	0.54723					
	0.64501	0.72413	0.65523				AVRG		0.60448		15.33155
106 Undecane	0.44671	0.46749	0.46166	0.46632	0.69625	0.47869					
	0.55199	0.65701	0.56930				AVRG		0.53283		17.29415
107 - 1,2-dimethyl-4-ethylenzene	0.64022	0.85704	0.78669	0.93851	1.06542	0.81921					
	0.95512	1.07230	0.89848				AVRG		0.89255		15.32988
108 - 1,2,4,5-tetramethylbenzene	0.62989	0.69269	0.69324	0.81188	1.04509	0.80324					
	0.92397	1.04306	0.82660				AVRG		0.82996		18.03023
109 - 1,2,3,5-tetramethylbenzene	0.50194	0.51758	0.53429	0.61625	0.55088	0.61155					
	0.70445	0.79706	0.63641				AVRG		0.60782		15.82905
110 - 1,2,3,4-tetramethylbenzene	0.56262	0.53269	0.53922	0.58098	0.82452	0.65244					
	0.75051	0.85255	0.60535				AVRG		0.65565		18.81371
111 Dodecane	+++++	+++++	0.36318	0.36712	0.59208	0.47866					
	0.51089	0.57134	0.35131				AVRG		0.46208		22.09855

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Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
112 1,2,4-Trichlorobenzene	0.32830	0.27710	0.26331	0.26825	0.37597	0.33780					
	0.40005	0.44971	0.26855				AVRG		0.32989		20.40503
113 Napthalene	0.62721	0.54774	0.50673	0.54036	0.83392	0.76723					
	0.88639	0.94167	0.57039				AVRG		0.69129		24.15351
114 - benzo(b) thiophene	0.36915	0.34044	0.28736	0.30096	0.46056	0.45550					
	0.53555	0.57109	0.33863				AVRG		0.40658		25.31728
115 Hexachlorobutadiene	0.32090	0.32809	0.28699	0.35046	0.36684	0.32158					
	0.39442	0.46258	0.30611				AVRG		0.34866		15.36074
116 1,2,3-trichlorobenzene	0.21298	0.20298	0.18389	0.17443	0.26068	0.24867					
	0.28713	0.31449	0.18612				AVRG		0.23015		21.64384
117 - 2-Methylnaphthalene	+++++	+++++	7243	26806	111260	420444					
	721089	1506333	3116939				LINR	0.000e+00	0.05582		0.99329
118 - 1-Methylnaphthalene	+++++	+++++	5432	22831	91352	343836					
	562994	1212752	2590476				LINR	0.000e+00	0.04591		0.99480

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.65779	0.66228	0.65642	0.66845	0.71574	0.67488					
	0.70337	0.75601	0.71024				AVRG		0.68946		4.92703

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Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/6/12	CCAL Batch/ Scan Name:	J030612	Instrument:	MJ	ICAL Batch/ Scan Name:	J022412 5	Scanned

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ falled for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓		Acetone 36- 2-butanone 37- 1-butanol 32- 1,4-DFB 31- 2-hexanone 33- Under 33-	✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		□ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				NA
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected Acetone ↓41 OK J030512	✓
13. If criteria were not met, was a NCM generated, approved by superviser, and copy included in folder?	✓				NA
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 3/6/12	2nd Level Reviewer :	Date: 3/7/12
Comments:		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MJ

Analyst: HMT Qtims Batch: 2066125 (MQ9FL)

Date: 3/6/12 ICAL Batch: J022412I Target Batch: J030612 IS #1 Area: 411288

Surr/IS ID & Vol.: 40MC V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0846	✓	tune	JBFBC06	-	16	100	1	acrolein 2-butanone 1-butanol 1,4-DXN 2-hexanone undecane
0916	✓	CCV	CCV	CX2322	15			
0916	✓	LCS	LCS					Acetone ↓41 ok J030512
1013	✓	Blk	Flush	-	16	500		
1105	✓		JBlkC06	-				
1159	✓	H2B230469	MQ23M1AA	9303B	1	500	1	tetra
1251	✓	H2B230467	MQ22R1AA	93009	2	500	1	
~~1314~~ 3/6/12	13:49 ✓		22T	0104	3			
1436	✓		22V	0174	4	250		
1527	(E)		22W	6360	5	250		(E) tol RR 100mL
1620	✓		22X	12626	6	500		
1716	✓		220	1366	7			
1807	✓		221	1137	8			
1900	(E)		222	11407	9			(E) chlorodifluoro
1953	✓		223	04413	10			
2046	(E)		224	34001261	11			(E) chlorodifluoro RR 20mL
2140	RR40?		225	34001268	12			
~~2321~~ 3/7/12	2231 ✓		226	04748	13			
2326	✓		227	12168	14			tg 34001266
0019	✓		229	62359N	15			
0112	dup		229D		15			
0204	✓		23C1AA	1377	1			
0256	✓		23D1AA	1133	2			
0347	✓	H2B230469	24M	1405	3	500		
0438	✓		24N	6623	4	100		
0618	(E)		24P	9722B	6	250		tag 34001267 E tol RR 50mL
0529	✓	H2B230467	22WR	6360	5	100		
0800	✓	Lot ✓	9767	1009N	7	500		
0857	out sick	tm	9768	6596	8			
0708	✓	H2B230467	MQ222R	11407	9	250	1	

Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/7/12

MS027r16.DOC, 051210

Data File: /chem/gcms/mj.i/J030612.b/jbfbo06.d

Date : 06-MAR-2012 08:46

Client ID: BFB

Instrument: mj.i

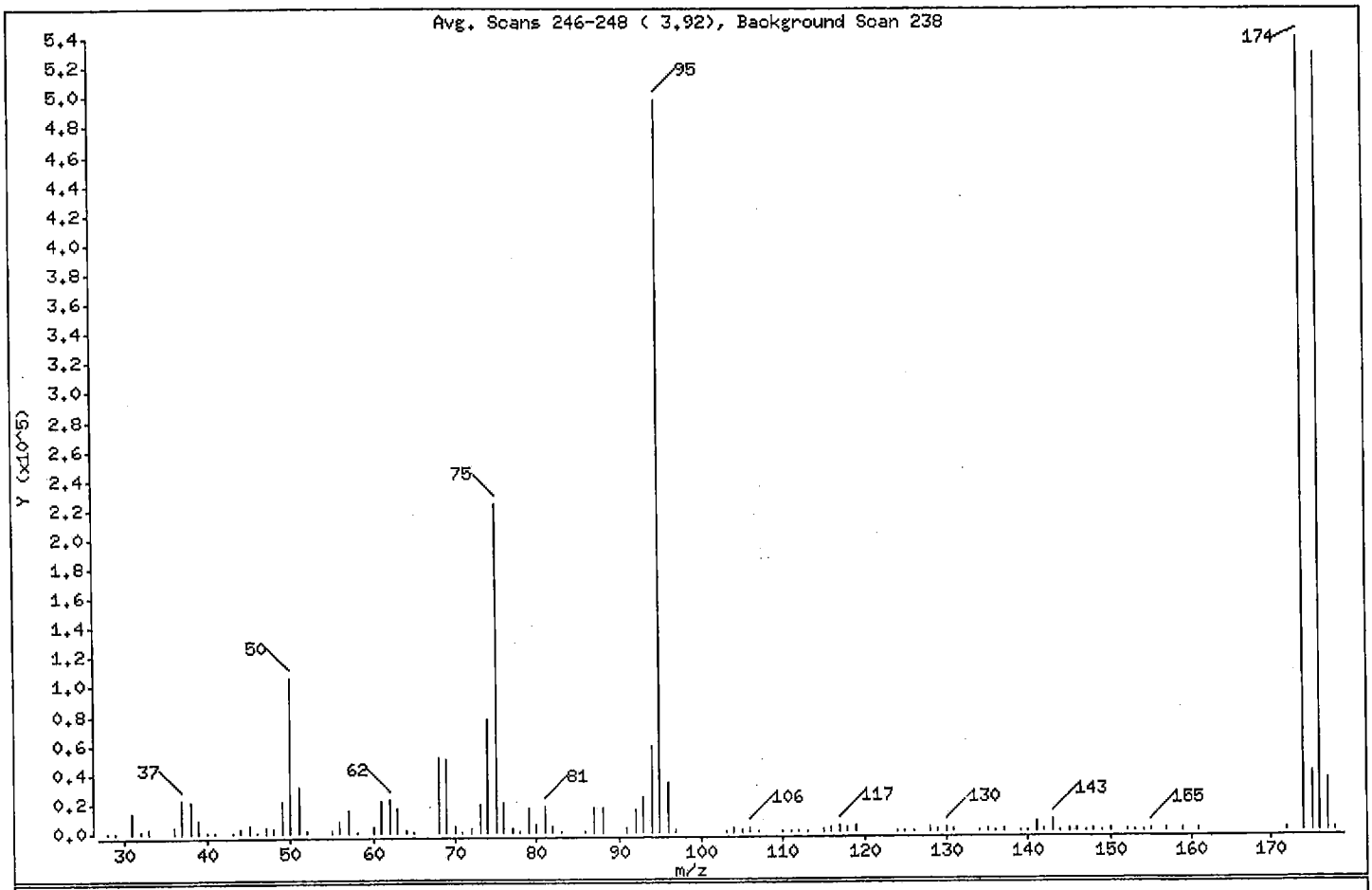
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	21.30
75	30.00 - 60.00% of mass 95	44.99
96	5.00 - 9.00% of mass 95	6.83
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	108.60
175	5.00 - 9.00% of mass 174	7.94 (7.31)
176	95.00 - 101.00% of mass 174	106.35 (97.93)
177	5.00 - 9.00% of mass 176	6.96 (6.54)

Data File: /var/chem/gcms/mj.i/J030612.b/jccvc06.d
Report Date: 06-Mar-2012 12:51

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /var/chem/gcms/mj.i/J030612.b/TO15.m

Injection Date: 06-MAR-2012 09:16
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 4-Bromofluorobenzene	0.68946	0.74417	0.74417	0.000	-7.93388	30.00000	Averaged	
5 Chlorodifluoromethane	0.45342	0.57255	0.57255	0.000	-26.27412	30.00000	Averaged	
6 Propene	1.32465	1.49526	1.49526	0.000	-12.87962	30.00000	Averaged	
7 Dichlorodifluoromethane	4.39076	5.49209	5.49209	0.000	-25.08280	30.00000	Averaged	
8 Chloromethane	0.40306	0.40198	0.40198	0.000	0.26752	30.00000	Averaged	
9 1,2-Dichlorotetrafluoroetha	3.30818	3.98611	3.98611	0.000	-20.49268	30.00000	Averaged	
10 Methanol	0.22326	0.23116	0.23116	0.000	-3.53700	30.00000	Averaged	
11 ~ acetaldehyde	8.98107	10.12000	0.11608	0.000	11.25421	30.00000	Quadratic	
12 Vinyl Chloride	1.21583	1.31172	1.31172	0.000	-7.88637	30.00000	Averaged	
13 n-Butane	1.83071	1.88066	1.88066	0.000	-2.72847	30.00000	Averaged	
14 1,3-Butadiene	0.91278	0.95950	0.95950	0.000	-5.11868	30.00000	Averaged	
15 Bromomethane	1.21493	1.44904	1.44904	0.000	-19.26988	30.00000	Averaged	
16 Chloroethane	0.52204	0.57017	0.57017	0.000	-9.21934	30.00000	Averaged	
17 ~ ethanol	0.46393	0.29754	0.29754	0.000	35.86455 NT	30.00000	Averaged	<- 50 OK
18 Vinyl Bromide	1.40412	1.18229	1.18229	0.000	15.79830	30.00000	Averaged	
19 2-methyl butane	2.05391	1.63352	1.63352	0.000	20.46782	30.00000	Averaged	
20 Trichlorofluoromethane	4.62094	5.25062	5.25062	0.000	-13.62663	30.00000	Averaged	
21 Acrolein	0.36578	0.23423	0.23423	0.000	35.96426 NT	30.00000	Averaged	<- 60-140
22 Acetonitrile	0.48298	0.33592	0.33592	0.000	30.44738 NT	30.00000	Averaged	<- OK
23 Acetone	0.44784	0.26608	0.26608	0.000	40.58568 NT	30.00000	Averaged	<-
24 Isopropyl alcohol	1.62640	1.13810	1.13810	0.000	30.02327 NT	30.00000	Averaged	<- OK OK J030712
25 Pentane	0.18731	0.14283	0.14283	0.000	23.74747	30.00000	Averaged	
26 Ethyl Ether	1.50893	1.16326	1.16326	0.000	22.90821	30.00000	Averaged	
27 1,1-Dichloroethene	1.11289	0.98129	0.98129	0.000	11.82523	30.00000	Averaged	
28 tert-butanol	1.87392	1.51233	1.51233	0.000	19.29605	30.00000	Averaged	
29 Acrylonitrile	0.76080	0.53309	0.53309	0.000	29.92967	30.00000	Averaged	
30 1,1,2-Trichlorotrifluoroeth	2.57463	2.57807	2.57807	0.000	-0.13365	30.00000	Averaged	
31 Methylene Chloride	0.97889	0.82969	0.82969	0.000	15.24201	30.00000	Averaged	
32 3-Chloropropene	1.40043	1.51635	1.51635	0.000	-8.27743	30.00000	Averaged	
33 Carbon Disulfide	3.46796	2.79259	2.79259	0.000	19.47454	30.00000	Averaged	
34 trans-1,2-Dichloroethene	1.29408	1.14510	1.14510	0.000	11.51188	30.00000	Averaged	
35 ~ 2-Methyl Pentane	3.44033	3.03899	3.03899	0.000	11.66568	30.00000	Averaged	
36 Methyl-t-Butyl Ether	2.23192	1.85624	1.85624	0.000	16.83188	30.00000	Averaged	
37 1,1-Dichloroethane	2.16745	2.07266	2.07266	0.000	4.37334	30.00000	Averaged	
38 Vinyl Acetate	2.60568	2.03894	2.03894	0.000	21.75033	30.00000	Averaged	

Data File: /var/chem/gcms/mj.i/J030612.b/jccvc06.d
Report Date: 06-Mar-2012 12:51

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /var/chem/gcms/mj.i/J030612.b/TO15.m

Injection Date: 06-MAR-2012 09:16
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
39 2-Butanone	0.31614	0.19983	0.19983	0.000	36.78948 NT	30.00000	Averaged	<-60-140
40 Hexane	1.10230	0.97138	0.97138	0.000	11.87690	30.00000	Averaged	
41 cis 1,2-Dichloroethene	1.18360	1.06503	1.06503	0.000	10.01740	30.00000	Averaged	
42 Ethyl acetate	2.13025	1.60955	1.60955	0.000	24.44334	30.00000	Averaged	
43 Chloroform	2.64797	2.68876	2.68876	0.000	-1.54060	30.00000	Averaged	
44 Tetrahydrofuran	1.03921	0.79207	0.79207	0.000	23.78125	30.00000	Averaged	
45 1,1,1-Trichloroethane	3.11955	3.53659	3.53659	0.000	-13.36853	30.00000	Averaged	
46 1,2-Dichloroethane	0.47997	0.52062	0.52062	0.000	-8.46886	30.00000	Averaged	
47 1-Butanol	0.11014	0.07504	0.07504	0.000	31.86664 NT	30.00000	Averaged	<-60-140
48 Benzene	0.70879	0.55920	0.55920	0.000	21.10511	30.00000	Averaged	
49 Cyclohexane	0.12046	0.10270	0.10270	0.000	14.73950	30.00000	Averaged	
50 Carbon Tetrachloride	0.86368	1.06567	1.06567	0.000	-23.38652	30.00000	Averaged	
51 ~ 2,3-dimethylpentane	0.14782	0.12451	0.12451	0.000	15.76992	30.00000	Averaged	
52 ~ Thiophene	0.42227	0.35791	0.35791	0.000	15.24263	30.00000	Averaged	
53 2,2,4-trimethylpentane	1.36370	1.13330	1.13330	0.000	16.89571	30.00000	Averaged	
54 Heptane	0.24296	0.18225	0.18225	0.000	24.98978	30.00000	Averaged	
55 1,2-Dichloropropane	0.25097	0.19174	0.19174	0.000	23.60168	30.00000	Averaged	
56 Trichloroethene	0.50173	0.45740	0.45740	0.000	8.83712	30.00000	Averaged	
180 ~ 2-nitropropane	0.48279	0.43183	0.43183	0.000	10.55426	30.00000	Averaged	
57 Dibromomethane	0.38583	0.36269	0.36269	0.000	5.99683	30.00000	Averaged	
58 Bromodichloromethane	0.69534	0.66741	0.66741	0.000	4.01705	30.00000	Averaged	
59 1,4-dioxane	0.07850	0.05429	0.05429	0.000	30.84603 NT	30.00000	Averaged	<-60-140
60 Methyl Methacrylate	0.31261	0.24441	0.24441	0.000	21.81661	30.00000	Averaged	
61 ~ methyl cyclohexane	0.44411	0.38115	0.38115	0.000	14.17644	30.00000	Averaged	
62 4-Methyl-2-pentanone	0.53374	0.40581	0.40581	0.000	23.96871	30.00000	Averaged	
63 cis-1,3-Dichloropropene	0.37433	0.30258	0.30258	0.000	19.16799	30.00000	Averaged	
64 trans-1,3-Dichloropropene	0.42134	0.36467	0.36467	0.000	13.44999	30.00000	Averaged	
65 Toluene	0.87276	0.67215	0.67215	0.000	22.98512	30.00000	Averaged	
66 1,1,2-Trichloroethane	0.26873	0.20726	0.20726	0.000	22.87469	30.00000	Averaged	
67 ~ 2-methyl thiophene	0.78387	0.59372	0.59372	0.000	24.25721	30.00000	Averaged	
68 ~ 3-methyl thiophene	0.78713	0.59657	0.59657	0.000	24.21010	30.00000	Averaged	
69 2-Hexanone	0.24442	0.16450	0.16450	0.000	32.69726 NT	30.00000	Averaged	<-60-140
70 Octane	0.29721	0.22267	0.22267	0.000	25.07989	30.00000	Averaged	
71 Dibromochloromethane	0.82926	0.77204	0.77204	0.000	6.90012	30.00000	Averaged	
72 1,2-Dibromoethane	0.60717	0.50131	0.50131	0.000	17.43495	30.00000	Averaged	

Data File: /var/chem/gcms/mj.i/J030612.b/jccvc06.d
Report Date: 06-Mar-2012 12:51

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /var/chem/gcms/mj.i/J030612.b/TO15.m

Injection Date: 06-MAR-2012 09:16
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 Tetrachloroethene	0.51278	0.43274	0.43274	0.000	15.60844	30.00000	Averaged
74 Chlorobenzene	0.80864	0.62639	0.62639	0.000	22.53776	30.00000	Averaged
75 ~ 2,3-dimethylheptane	1.04803	0.88931	0.88931	0.000	15.14533	30.00000	Averaged
76 Ethylbenzene	1.05333	0.84795	0.84795	0.000	19.49863	30.00000	Averaged
77 ~ 2-ethyl thiophene	0.91396	0.75742	0.75742	0.000	17.12733	30.00000	Averaged
78 m&p-Xylene	0.82041	0.66955	0.66955	0.000	18.38756	30.00000	Averaged
79 Nonane	0.60169	0.47761	0.47761	0.000	20.62232	30.00000	Averaged
80 Bromoform	0.67631	0.56182	0.56182	0.000	16.92881	30.00000	Averaged
81 Styrene	0.61296	0.46661	0.46661	0.000	23.87662	30.00000	Averaged
82 o-Xylene	0.86127	0.68901	0.68901	0.000	20.00140	30.00000	Averaged
M 83 Xylene (total)	0.83403	0.67604	0.67604	0.000	18.94322	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.55896	0.40761	0.40761	0.000	27.07752	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19137	0.15516	0.15516	0.000	18.92079	30.00000	Averaged
86 Cumene	1.22858	0.98806	0.98806	0.000	19.57738	30.00000	Averaged
87 n-Propylbenzene	0.34678	0.26524	0.26524	0.000	23.51297	30.00000	Averaged
88 2-chlorotoluene	0.38425	0.30687	0.30687	0.000	20.13683	30.00000	Averaged
89 4-Ethyltoluene	1.14169	0.88184	0.88184	0.000	22.76040	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57595	0.44157	0.44157	0.000	23.33191	30.00000	Averaged
91 Alpha-Methylstyrene	0.46230	0.35988	0.35988	0.000	22.15371	30.00000	Averaged
92 Decane	0.63677	0.50674	0.50674	0.000	20.42056	30.00000	Averaged
93 tert-butylbenzene	1.09815	0.88976	0.88976	0.000	18.97645	30.00000	Averaged
94 1,2,4-Trimethylbenzene	0.89692	0.71796	0.71796	0.000	19.95295	30.00000	Averaged
95 sec-butylbenzene	1.26649	1.02130	1.02130	0.000	19.35931	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77217	0.59734	0.59734	0.000	22.64088	30.00000	Averaged
97 Benzyl Chloride	0.73361	0.56586	0.56586	0.000	22.86643	30.00000	Averaged
98 1,4-Dichlorobenzene	0.74951	0.55710	0.55710	0.000	25.67070	30.00000	Averaged
99 p-Cymene	1.13982	0.92111	0.92111	0.000	19.18864	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.74035	0.58227	0.58227	0.000	21.35268	30.00000	Averaged
101 ~ n-butylcyclohexane	0.67542	0.54467	0.54467	0.000	19.35860	30.00000	Averaged
102 ~ Indane	0.84605	0.64327	0.64327	0.000	23.96752	30.00000	Averaged
103 1,2-Dichlorobenzene	0.69325	0.53367	0.53367	0.000	23.01942	30.00000	Averaged
104 n-butylbenzene	0.88710	0.68449	0.68449	0.000	22.83939	30.00000	Averaged
105 ~ Indene	0.60448	0.45855	0.45855	0.000	24.14211	30.00000	Averaged
106 Undecane	0.53283	0.35502	0.35502	0.000	33.37020 NT	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.89255	0.69142	0.69142	0.000	22.53513	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.82996	0.64762	0.64762	0.000	21.96941	30.00000	Averaged

< 60-140

Data File: /var/chem/gcms/mj.i/J030612.b/jccvc06.d
Report Date: 06-Mar-2012 12:51

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /var/chem/gcms/mj.i/J030612.b/TO15.m

Injection Date: 06-MAR-2012 09:16
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
109 ~ 1,2,3,5-tetramethylbenzen	0.60782	0.50473	0.50473	0.000	16.96074	30.00000	Averaged
110 ~ 1,2,3,4-tetramethylbenzen	0.65565	0.51973	0.51973	0.000	20.73070	30.00000	Averaged
111 Dodecane	0.46208	0.32586	0.32586	0.000	29.48080	30.00000	Averaged
112 1,2,4-Trichlorobenzene	0.32989	0.24486	0.24486	0.000	25.77669	30.00000	Averaged
113 Napthalene	0.69129	0.54448	0.54448	0.000	21.23733	30.00000	Averaged
114 ~ benzo(b) thiophene	0.40658	0.32599	0.32599	0.000	19.82160	30.00000	Averaged
115 Hexachlorobutadiene	0.34866	0.28629	0.28629	0.000	17.88968	30.00000	Averaged
116 1,2,3-trichlorobenzene	0.23015	0.19084	0.19084	0.000	17.08233	30.00000	Averaged
117 ~ 2-Methylnaphthalene	10.48536	12.50000	0.04682	0.000	16.11714	50.00000	Linear
118 ~ 1-Methylnaphthalene	10.61167	12.50000	0.03897	0.000	15.10666	50.00000	Linear

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C060000 - 125B **Work Order #** MQ9FL1AA **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	11:05
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.045 J**	**0.20**	**0.018**	**0.16 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/1/12	Instrument::	ME	ICAL Batch/Scan Name:	ED301127	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad		✓			✓
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓		Acetone = 34%, Dodecane = 33%	✓
11. If curves were used, is correlation coefficient ≥0.990?		✓			✓
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.		✓			✓
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).		✓			✓
14. Is the "Y" intercept less than the RL for each curve?		✓			✓
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?		✓		3/6/12	✓
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			✓
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)			✓	Acetone, 1,2,3-TCLPB	✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 3/2/12	2nd Level Reviewer :	Date: 3/5/12
Comments: Chloroform: Upper limit is 9ppb for the following compounds: CH2Cl2, O.K. for the lower R.L. DVS		Comments:	

Invalid for Acetone, 1,2,3-TCLPB

120301

TA-Knoxville
TO-14 Autosampler Log

Sample	Position/Volume	Date	Time
BFB	16 - 100 mL	3/1/2012	12:13:15 PM
blk	16 - 501 mL	3/1/2012	12:52:21 PM
MDL	1 - 51 mL	3/1/2012	1:51:59 PM
ICAL1	1 - 101 mL	3/1/2012	2:55:30 PM
ICAL02	1 - 201 mL	3/1/2012	3:50:07 PM
ICAL03	2 - 201 mL	3/1/2012	4:45:20 PM
ICAL04	3 - 201 mL	3/1/2012	5:40:10 PM
ICAL05	4 - 202 mL	3/1/2012	6:34:42 PM
ICAL06	5 - 200 mL	3/1/2012	7:29:12 PM
ICAL07	6 - 200 mL	3/1/2012	8:26:02 PM
ICAL08	7 - 201 mL	3/1/2012	9:23:17 PM
ICAL09	8 - 201 mL	3/1/2012	10:23:22 PM
BLK	16 - 200 mL	3/1/2012	11:20:35 PM
ICV	9 - 100 mL	3/2/2012	12:18:48 AM
LCS	9 - 201 mL	3/2/2012	1:20:23 AM
BLK	16 - 500 mL	3/2/2012	7:36:06 AM
blk10	10 - 501 mL	3/2/2012	8:40:45 AM

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: [illegible] Qtims Batch: ICAL

Date: 3/1/12 ICAL Batch: ED301121 Target Batch: NA IS #1 Area: 232168

Surr/IS ID & Vol.: V425 40mL System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☒ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1213	Y	Pmm	EBSBC01	—	16	100	1	
1252	N	BLK	BLK1	—	16	500		
1352	N	MOLV	MOLCHK	CX-2331	1	50		
1455	Y	ICAL1 3/1/12 3/3/12	~~EICC01~~ EICC011		1	100		
1550		2	EICC012		1	200		
1645		3	3	~~CX-2330~~ CX-2330	2			3/1/12
1740		4	4	CX-2329	3			
1834		5	5	CX-2328	4			
1929		6	6	CX-2327	5			
2026		7	7	CX-2326	6			
2123		8	8	CX-2325	7			
2223		9	9	CX-2324	8			
2320	N	BLK2	BLK2	—	16	200		
0018	N	ICV	EICVC01	CX-2321	9	100		
0120	N	LCS	ELCSC01	↓	9	200		
0736	N	BLK	BLK3	—	16	500		
0840	~~N~~ Y	Lot ✓	9754	6683	10			
Aborted	N	Lot 9750	6508 →		11			STD can 3/2/12
		Lot 9747	6520 →		12			
			9202 →		13			
			7489 →		14			
			12521 →	3/1/12	15			
		Lot 9751	1369 →	3/3/12	STD			STD CAN (POS1)
		Lot 9752	6383 →		2			
				3/2/12				

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [illegible] Date: 3/2/12

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Inst: ME

Analyst: [signature] Qtims Batch: _____

Date: 3/2/12 ICAL Batch: E030212 Target Batch: _____ IS #1 Area: 327381

Surr/IS ID & Vol.: V425 40mL System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☐ Daily _____

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1004	Y	Tune	E030212	—	16	100	1	
1057	Y	CCV	E030212	CX-2321	15	100	1	2nd Source

3/2/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/2/12

Data File: /chem/gcms/me.i/E030112I.b/ebfbo01.d

Date : 01-MAR-2012 12:13

Client ID: BFB

Instrument: me.i

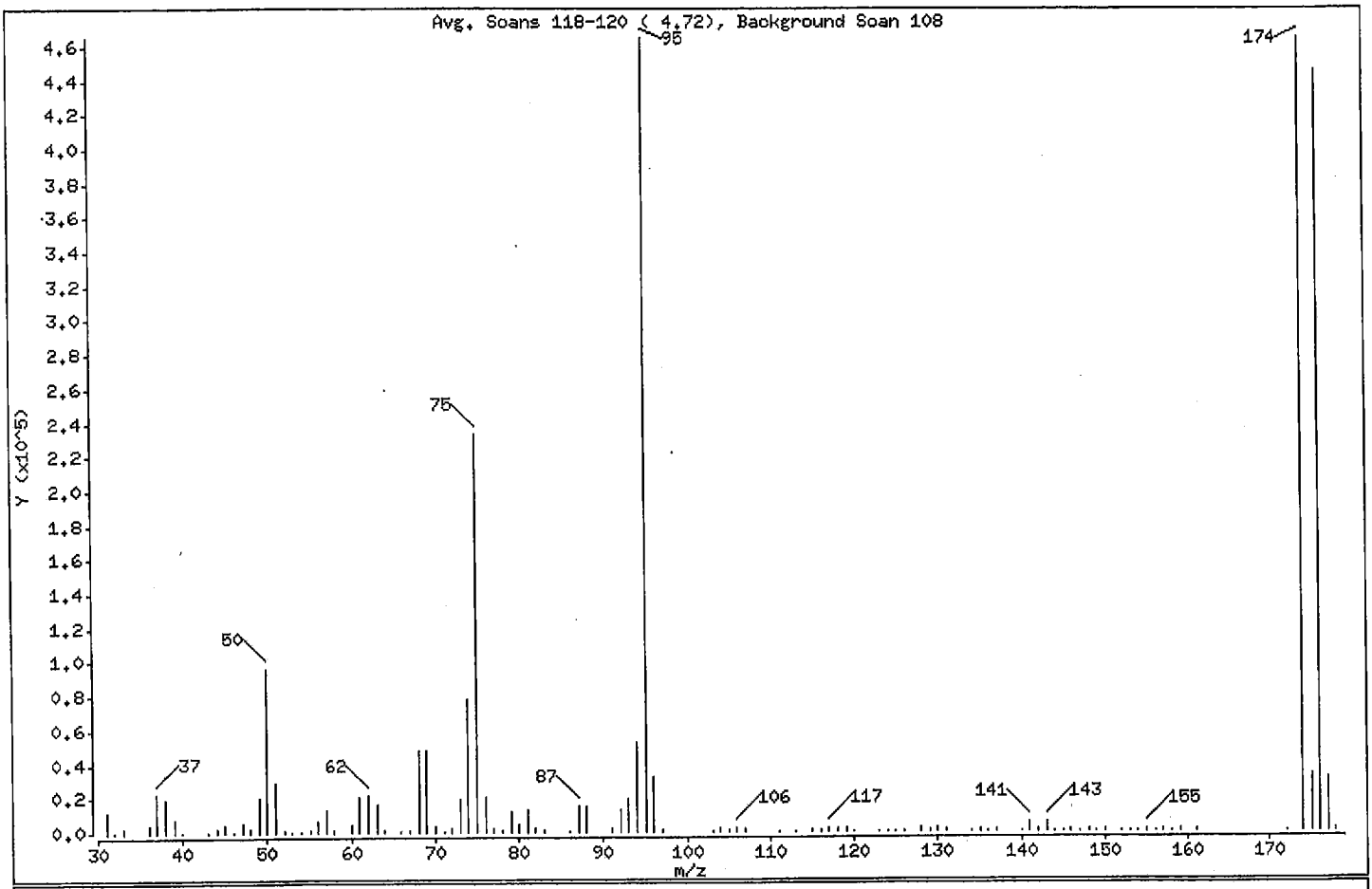
Sample Info: BFB,,3,,,BFB

Operator: 22980

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.65
75	30.00 - 60.00% of mass 95	50.21
96	5.00 - 9.00% of mass 95	6.82
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	100.00
175	5.00 - 9.00% of mass 174	7.23 (7.23)
176	95.00 - 101.00% of mass 174	95.79 (95.79)
177	5.00 - 9.00% of mass 176	6.58 (6.87)

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Calibration File Names:
Level 1: /var/chem/gcms/me.i/E030112I.b/eicc011.d
Level 2: /var/chem/gcms/me.i/E030112I.b/eicc012.d
Level 3: /var/chem/gcms/me.i/E030112I.b/eicc013.d
Level 4: /var/chem/gcms/me.i/E030112I.b/eicc014.d
Level 5: /var/chem/gcms/me.i/E030112I.b/eicc015.d
Level 6: /var/chem/gcms/me.i/E030112I.b/eicc016.d
Level 7: /var/chem/gcms/me.i/E030112I.b/eicc017.d
Level 8: /var/chem/gcms/me.i/E030112I.b/eicc018.d
Level 9: /var/chem/gcms/me.i/E030112I.b/eicc019.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
M 5 Xylene (total)	0.89170	1.09383	1.16276	1.03808	1.11300	0.97030					
	0.94635	0.96846	0.92931				AVRG		1.01264		9.20807
6 Chlorodifluoromethane	+++++	0.87357	0.64955	0.54868	0.51653	0.52863					
	0.47805	0.46565	0.41830				AVRG		0.55987		25.71091
7 Propene	+++++	+++++	1.71047	1.48694	1.60516	1.58241					
	1.34117	1.24527	1.08331				AVRG		1.43639		15.50870

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
10 Dichlorodifluoromethane	5.01574	5.81111	5.31139	4.71907	4.93224	5.20906					
	4.43004	4.18993	3.81244				AVRG		4.82567		12.69028
9 Chloromethane	+++++	0.62756	0.63992	0.52123	0.52161	0.54915					
	0.46243	0.43814	0.38750				AVRG		0.51844		16.99711
11 1,2-Dichlorotetrafluoroethane	3.24301	3.53067	2.74501	2.64147	2.69905	2.76148					
	2.43265	2.23109	2.31643				AVRG		2.73343		15.42683
8 ~ acetaldehyde	+++++	+++++	+++++	52994	122254	110369					
	208810	454487	786257				QUAD	0.000e+00	4.05775	1.68267	0.99140
12 Methanol	+++++	+++++	+++++	0.49468	0.31095	0.31593					
	0.23149	0.19587	+++++				AVRG		0.30978		37.27321 <-
13 Vinyl Chloride	1.62055	1.76455	1.73335	1.51868	1.63996	1.73980					
	1.47718	1.44502	1.31719				AVRG		1.58403		9.72451
14 n-Butane	+++++	+++++	3.32048	2.46995	2.50382	2.62897					
	2.15745	2.13803	1.90110				AVRG		2.44569		18.86435

M ✓ NT

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
15 1,3-Butadiene	1.27522	1.36639	1.24382	1.13583	1.17033	1.21436					
	1.06497	1.05261	0.96294				AVRG		1.16516		10.75810
16 Bromomethane	1.83976	1.93665	1.78367	1.51919	1.48156	1.56504					
	1.40593	1.35812	1.26275				AVRG		1.57252		14.73361
18 Chloroethane	0.61696	0.79320	0.73103	0.68032	0.67210	0.70241					
	0.60615	0.63356	0.60139				AVRG		0.67079		9.57211
17 ~ ethanol	+++++	+++++	26299	40235	110475	215202					
	404097	755742	1152858				QUAD	0.000e+00	1.50978	1.14482	0.99266
19 Vinyl Bromide	1.33304	1.60967	1.53467	1.40196	1.40185	1.46058					
	1.29880	1.26736	1.20446				AVRG		1.39027		9.36019
20 2-methyl butane	+++++	2.41225	2.29033	1.83910	1.71099	1.72755					
	1.56071	1.54230	1.42972				AVRG		1.81412		19.64602
21 Trichlorofluoromethane	+++++	5.52148	5.22135	4.74926	4.70967	4.82927					
	4.33895	4.16130	3.91574				AVRG		4.68088		11.41515

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
22 Acrolein	+++++ / 0.35477	+++++ / 0.38647	0.46772 / 0.34083	0.41383	0.41999	0.37112	AVRG		0.39353		11.09982
23 Acetonitrile	+++++ / 0.39959	+++++ / 0.40031	0.40766 / 0.37174	0.42482	0.43711	0.39449	AVRG		0.40510		5.23526
24 Acetone	+++++ / 0.47367	+++++ / +++++	1.22270 / +++++	1.13227	1.09730	0.57920	AVRG		0.90103		38.51292 NT <-NA
25 Pentane	+++++ / 0.18566	+++++ / 0.18586	0.25240 / 0.17681	0.20276	0.20426	0.20794	AVRG		0.20224		12.35066
26 Isopropyl alcohol	+++++ / 1.07275	+++++ / 1.08655	1.71855 / 0.94172	1.19942	1.45401	1.53924	AVRG		1.28746		22.21312
27 Ethyl Ether	+++++ / 1.09903	+++++ / 1.12473	1.28548 / 1.05731	1.17391	1.19946	1.11737	AVRG		1.15104		6.56469
28 1,1-Dichloroethene	1.25965 / 1.05807	1.42486 / 1.03955	1.28227 / 0.96390	1.17416	1.18285	1.18625	AVRG		1.17462		11.95949

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
29 Acrylonitrile	+++++	+++++	1.01964	0.97588	0.97514	0.85492					
	0.88770	0.89997	0.80638				AVRG		0.91709		8.28294
30 1,1,2-Trichlorotrifluoroethan	2.50342	3.06484	2.93375	2.61820	2.65385	2.64879					
	2.33387	2.32592	2.15620				AVRG		2.58209		11.31124
31 tert-butanol	+++++	+++++	2.47722	2.01674	2.28323	2.58907					
	1.69723	1.77687	1.73935				AVRG		2.08282		17.71274
32 Methylene Chloride	+++++	+++++	1.97027	1.23869	1.15509	1.12692					
	0.96630	0.96466	+++++				AVRG		1.23699		30.33376
33 3-Chloropropene	+++++	1.62590	1.67747	1.34428	1.52440	1.37681					
	1.33223	1.33518	1.18205				AVRG		1.42479		11.81956
34 Carbon Disulfide	+++++	+++++	4.84971	4.35517	4.53532	4.62214					
	4.03375	3.81538	3.32309				AVRG		4.21922		12.53691
35 trans-1,2-Dichloroethene	1.39690	1.62844	1.58130	1.39356	1.46551	1.45412					
	1.26697	1.27855	1.16992				AVRG		1.40392		10.61208

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
36 ~ 2-Methyl Pentane	4.04837	4.57066	4.53802	4.01267	4.01393	4.00220					
	3.51287	3.43894	3.00970				AVRG		3.90526		13.02483
37 Methyl-t-Butyl Ether	+++++	3.45753	3.48100	3.33509	3.38823	3.24169					
	3.10006	3.09439	2.90747				AVRG		3.25068		6.22749
38 1,1-Dichloroethane	2.69086	3.07403	3.08842	2.77819	2.89303	2.85449					
	2.55637	2.54623	2.32120				AVRG		2.75587		9.23130
39 Vinyl Acetate	+++++	+++++	3.53210	3.61162	3.66887	3.21008					
	3.45950	3.46223	3.12515				AVRG		3.43851		5.85474
40 Hexane	+++++	+++++	1.61216	1.35902	1.35141	1.33195					
	1.16486	1.14824	1.02909				AVRG		1.28525		14.82233
41 2-Butanone	+++++	+++++	0.62454	0.53762	0.58390	0.51744					
	0.46507	0.46365	0.41693				AVRG		0.51559		14.16587
42 cis 1,2-Dichloroethene	1.30858	1.57564	1.50547	1.37184	1.44706	1.41302					
	1.25475	1.25352	1.13162				AVRG		1.36239		10.22876

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
43 Ethyl acetate	+++++	+++++	3.09417	2.94489	3.02182	2.90839					
	2.78243	2.79484	2.53942				AVRG		2.86942		6.41004
44 Chloroform	3.30115	3.66619	3.69125	3.30439	3.44731	3.38367					
	3.04011	3.04701	2.76100				AVRG		3.29356		9.21930
45 Tetrahydrofuran	+++++	+++++	1.83526	1.47815	1.53747	1.42766					
	1.40120	1.38975	1.29615				AVRG		1.48081		11.70992
46 1,1,1-Trichloroethane	+++++	4.14238	4.05949	3.66487	3.82780	3.77855					
	3.38559	3.37396	3.06540				AVRG		3.66226		10.03352
47 1,2-Dichloroethane	0.40749	0.56000	0.54072	0.47303	0.50580	0.49943					
	0.43540	0.44427	0.41299				AVRG		0.47546		11.52169
48 Cyclohexane	+++++	0.22784	0.19167	0.15190	0.15605	0.15658					
	0.12509	0.12665	0.11654				AVRG		0.15654		23.92950
49 Benzene	0.89962	1.00542	0.98285	0.81323	0.86000	0.82412					
	0.71002	0.73050	0.67183				AVRG		0.83307		14.03901

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	4 Level 7	8 Level 8	16 Level 9									
104 n-butylbenzene	+++++	1.18481	1.14863	1.06696	1.22229	1.13443						
	1.05813	1.06807	1.02511				AVRG		1.11355		6.23108	
106 Undecane	0.58230	0.81520	0.77268	0.54871	0.64061	0.70239						
	0.69721	0.75418	0.72222				AVRG		0.69283		12.68609	
107 ~ 1,2-dimethyl-4-ethylenzene	+++++	1.00258	0.98765	0.92575	1.05655	1.00406						
	0.92098	0.93076	0.91019				AVRG		0.96732		5.44845	
108 ~ 1,2,4,5-tetramethylbenzene	+++++	1.07704	0.94751	0.76886	0.94198	0.95357						
	0.90496	0.90762	0.87674				AVRG		0.92229		9.35219	
109 ~ 1,2,3,5-tetramethylbenzene	+++++	0.81415	0.73482	0.58272	0.71295	0.71817						
	0.67586	0.66964	0.64421				AVRG		0.69406		9.86694	
110 ~ 1,2,3,4-tetramethylbenzene	+++++	0.91097	0.83330	0.64209	0.74005	0.77639						
	0.71684	0.68259	0.63253				AVRG		0.74184		12.90956	
111 Dodecane	+++++	+++++	+++++	0.46376	0.56754	0.71115						
	0.36577	0.32733	0.33380				AVRG		0.46156		33.14844	<- NT

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.72507	0.92693	0.91648	0.60875	0.84519	0.65455					
	0.70267	0.71459	0.66871				AVRG		0.75144		15.45145
51 1-Butanol	+++++	+++++	+++++	0.09425	0.10580	0.11815					
	0.07197	0.07370	0.06757				AVRG		0.08857		23.36764
52 ~ 2,3-dimethylpentane	0.18149	0.23286	0.22066	0.17979	0.19370	0.19546					
	0.15639	0.16221	0.14861				AVRG		0.18569		15.28481
53 ~ Thiophene	0.51089	0.57679	0.55308	0.46419	0.49523	0.47881					
	0.41166	0.42894	0.39037				AVRG		0.47889		13.09207
54 2,2,4-trimethylpentane	1.49669	1.87249	1.84026	1.50989	1.63555	1.61972					
	1.33141	1.36727	1.22693				AVRG		1.54447		14.29854
55 Heptane	0.33876	0.39508	0.36133	0.29696	0.32101	0.31862					
	0.26016	0.27097	0.24781				AVRG		0.31230		15.56112
56 1,2-Dichloropropane	0.29696	0.36552	0.37921	0.32666	0.34896	0.33072					
	0.28643	0.29043	0.26220				AVRG		0.32079		12.29447

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
57 Trichloroethene	0.37442	0.47737	0.47657	0.38841	0.42763	0.42647					
	0.33914	0.35208	0.32864				AVRG		0.39897		14.06319
180 2-Nitropropene	0.30860	0.50263	0.52451	0.47324	0.56252	0.52357					
	0.50892	0.53458	0.45055				AVRG		0.48768		15.34043
58 Dibromomethane	0.36879	0.43441	0.45861	0.37809	0.41584	0.40989					
	0.34443	0.35588	0.32738				AVRG		0.38815		11.32785
59 Bromodichloromethane	0.65448	0.84584	0.84404	0.71498	0.80477	0.78739					
	0.67865	0.70229	0.64171				AVRG		0.74157		10.79102
60 1,4-dioxane	+++++	+++++	0.08687	0.06435	0.08797	0.11175					
	0.07641	0.06932	0.04975				AVRG		0.07806		25.51089
61 Methyl Methacrylate	+++++	0.38717	0.38692	0.36385	0.39476	0.38460					
	0.34148	0.36270	0.33623				AVRG		0.36971		6.00693
62 ~ methyl cyclohexane	0.51488	0.62531	0.60703	0.49879	0.54564	0.53948					
	0.43957	0.45119	0.41479				AVRG		0.51519		14.10472

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
63 cis-1,3-Dichloropropene	0.42253 / 0.44091	0.54464 / 0.45995	0.54153 / 0.42525	0.47687	0.51931	0.50617	AVRG		0.48191		9.95258
64 4-Methyl-2-pentanone	+++++ / 0.55720	0.78797 / 0.58083	0.71797 / 0.50989	0.61062	0.67852	0.69752	AVRG		0.64256		14.51142
65 trans-1,3-Dichloropropene	0.44553 / 0.51042	0.55744 / 0.53980	0.57300 / 0.52297	0.51465	0.57189	0.53688	AVRG		0.53029		7.39500
66 Toluene	+++++ / 0.95370	1.25615 / 0.97944	1.27108 / 0.94196	1.07841	1.11783	1.03532	AVRG		1.07924		11.93228
67 1,1,2-Trichloroethane	0.30487 / 0.29504	0.37537 / 0.30172	0.37089 / 0.29121	0.33401	0.34887	0.32639	AVRG		0.32760		9.78576
68 ~ 2-methyl thiophene	0.83981 / 0.80929	1.02268 / 0.83384	1.01081 / 0.79966	0.89359	0.96108	0.89187	AVRG		0.89585		9.44784
70 ~ 3-methyl thiophene	0.82653 / 0.81771	1.03875 / 0.84132	0.99737 / 0.80994	0.90272	0.96761	0.90523	AVRG		0.90080		9.37502

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
69 2-Hexanone	+++++	+++++	0.33587	0.29382	0.33488	0.32036					
	0.28117	0.29136	0.27264				AVRG		0.30430		8.48995
71 Octane	0.38634	0.46715	0.40952	0.35519	0.38244	0.36601					
	0.30976	0.31894	0.30741				AVRG		0.36697		14.20171
72 Dibromochloromethane	0.66080	0.79145	0.78898	0.68752	0.80854	0.77162					
	0.71032	0.75147	0.73358				AVRG		0.74492		6.81309
73 1,2-Dibromoethane	0.51321	0.65144	0.64660	0.57204	0.63979	0.59865					
	0.54484	0.56980	0.54721				AVRG		0.58706		8.50682
74 Tetrachloroethene	0.45911	0.52512	0.51534	0.44528	0.47354	0.45646					
	0.38629	0.40542	0.39680				AVRG		0.45149		10.92713
75 Chlorobenzene	0.75125	0.93113	0.91758	0.80914	0.87529	0.82815					
	0.75030	0.77766	0.75499				AVRG		0.82172		8.67917
76 ~ 2,3-dimethylheptane	1.20012	1.46261	1.42793	1.20541	1.29775	1.22575					
	1.03849	1.03011	0.92317				AVRG		1.20126		15.08611

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
77 Ethylbenzene	1.14728	1.43196	1.46785	1.31891	1.41172	1.25301					
	1.20530	1.23499	1.18222				AVRG		1.29481		9.08833
79 ~ 2-ethyl thiophene	0.95114	1.15827	1.19497	1.06486	1.16109	1.05607					
	0.99591	1.02150	0.98407				AVRG		1.06532		8.20218
78 m&p-Xylene	0.87498	1.08061	1.14597	1.02302	1.10462	0.96477					
	0.93835	0.96368	0.92747				AVRG		1.00261		9.09166
80 Nonane	+++++	0.97116	0.89565	0.77039	0.84127	0.79379					
	0.67943	0.68585	0.62849				AVRG		0.78325		14.93580
81 Bromoform	+++++	0.75387	0.73961	0.67205	0.85216	0.81217					
	0.79856	0.87144	0.89548				AVRG		0.79942		9.36501
82 Styrene	0.57827	0.69391	0.73078	0.68016	0.74819	0.66392					
	0.65988	0.69057	0.70119				AVRG		0.68299		7.11936
83 o-Xylene	0.92515	1.12027	1.19635	1.06820	1.12976	0.98136					
	0.96234	0.97803	0.93298				AVRG		1.03272		9.51308

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
84 1,1,2,2-Tetrachloroethane	0.60366	0.74975	0.80384	0.69922	0.77893	0.69995					
	0.65124	0.66475	0.63886				AVRG		0.69891		9.61365
85 1,2,3-Trichloropropane	0.15325	0.21524	0.20487	0.19642	0.21623	0.19102					
	0.18488	0.19055	0.18342				AVRG		0.19288		9.92972
86 Cumene	1.26510	1.55679	1.60028	1.43539	1.53207	1.35017					
	1.30880	1.34281	1.32101				AVRG		1.41249		8.68871
87 n-Propylbenzene	0.28146	0.36717	0.38280	0.34527	0.38218	0.33995					
	0.33493	0.34690	0.35022				AVRG		0.34788		8.75619
88 2-chlorotoluene	0.31668	0.38516	0.40106	0.36043	0.38914	0.36115					
	0.33030	0.33727	0.33178				AVRG		0.35700		8.38006
89 4-Ethyltoluene	1.17840	1.48531	1.42399	1.28957	1.43491	1.27611					
	1.24452	1.28490	1.26537				AVRG		1.32034		7.76827
90 1,3,5-Trimethylbenzene	0.47559	0.62275	0.63963	0.58669	0.62993	0.56044					
	0.53878	0.56031	0.56934				AVRG		0.57594		8.95029

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
91 Alpha-Methylstyrene	+++++	+++++	0.51507	0.48356	0.54644	0.49253					
	0.49853	0.51506	0.52097				AVRG		0.51031		4.10642
92 Decane	+++++	0.90317	0.80722	0.83654	0.93283	0.81936					
	0.78703	0.78372	0.73306				AVRG		0.82537		7.90718
93 tert-butylbenzene	0.97105	1.21980	1.27300	1.13588	1.21890	1.09740					
	1.04635	1.08895	1.10973				AVRG		1.12901		8.39496
94 1,2,4-Trimethylbenzene	+++++	1.12276	1.13465	1.03455	1.12712	1.01812					
	0.98344	1.01909	1.01428				AVRG		1.05675		5.76271
95 sec-butylbenzene	1.29905	1.67340	1.68622	1.52122	1.64219	1.46902					
	1.41635	1.46970	1.48148				AVRG		1.51762		8.47107
96 1,3-Dichlorobenzene	+++++	0.78415	0.78928	0.69443	0.81096	0.74220					
	0.72671	0.77969	0.83545				AVRG		0.77036		6.00555
97 Benzyl Chloride	+++++	0.78007	0.82650	0.71788	0.87276	0.83977					
	0.84251	0.88263	0.86854				AVRG		0.82883		6.67126

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
98 1,4-Dichlorobenzene	+++++	0.72029	0.72534	0.64288	0.74603	0.69011					
	0.68378	0.71983	0.74568				AVRG		0.70924		4.93987
99 p-Cymene	+++++	1.35877	1.37219	1.22671	1.34239	1.24114					
	1.16056	1.19156	1.17869				AVRG		1.25900		6.83054
100 ~ 1,2,3- Trimethylbenzene	0.75615	0.95241	0.96132	0.87801	0.94972	0.85939					
	0.81491	0.83231	0.79247				AVRG		0.86630		8.65439
101 ~ n-butylcyclohexane	0.76377	0.97856	1.02685	0.88726	0.95903	0.87826					
	0.77066	0.76881	0.74032				AVRG		0.86372		12.45188
102 1,2-Dichlorobenzene	+++++	0.70374	0.72373	0.65523	0.74512	0.67182					
	0.65297	0.68041	0.71167				AVRG		0.69309		4.80408
103 ~ Indane	0.74379	0.92725	0.98988	0.88062	0.95984	0.85555					
	0.83544	0.86126	0.88331				AVRG		0.88188		8.23048
105 ~ Indene	+++++	0.61304	0.63449	0.58573	0.67662	0.61778					
	0.60342	0.60052	0.59270				AVRG		0.61554		4.71036

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
112 1,2,4-Trichlorobenzene	+++++	0.38811	0.36751	0.26074	0.36222	0.40109					
	0.32774	0.28376	0.27119				AVRG		0.33280		16.54063
113 Napthalene	+++++	+++++	0.64582	0.48239	0.65188	0.72008					
	0.56635	0.48589	0.44275				AVRG		0.57074		18.36662
114 ~ benzo(b) thiophene	+++++	0.36708	0.35495	0.25107	0.34542	0.41376					
	0.28610	0.23993	0.22563				AVRG		0.31049		22.23667
115 Hexachlorobutadiene	+++++	0.76072	0.72019	0.65254	0.70432	0.67746					
	0.59916	0.53483	0.50683				AVRG		0.64451		14.00099
116 1,2,3-trichlorobenzene	+++++	0.34786	0.36486	0.22566	0.29399	0.37796					
	0.20029	0.16978	+++++				AVRG		0.28291		29.92058
117 ~ 2-Methylnaphthalene	0.03655	0.05365	0.04241	0.03641	0.05240	0.07341					
	0.03290	0.02784	0.02523				AVRG		0.04231		35.99208 NT
118 ~ 1-Methylnaphthalene	0.03621	0.05874	0.04753	0.03898	0.05101	0.06910					
	0.02955	0.02384	0.02015				AVRG		0.04168		39.15138 NT

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.70541	0.72092	0.72681	0.71745	0.73292	0.74739					
	0.73599	0.72693	0.73365				AVRG		0.72750		1.66087

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/6/12	CCAL Batch/ Scan Name:	ED30612	Instrument:	ME	ICAL Batch/ Scan Name:	ED30112S	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓		#11 +35	✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		□ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				NA
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene • 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 3/6/12	2nd Level Reviewer :	Date: 3/7/12
Comments:		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: thk Qtims Batch: 2066141 (MQ9GW)

Date: 3/6/12 ICAL Batch: E030112I Target Batch: E30612 IS #1 Area: 267101

Surr/IS ID & Vol.: 40MCV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☒Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0958	✓	tune	EBFBC06	—	16	100	1	
1033	✓	CCV	CCV	CV2323	15			#11 35+
1033	✓	LCS	LCS					
1234	OK	BLK	Flush	—	16	500		
1332	✓		EBLKC06	—				
1425	✓	H2B230465	MQ20N1AA	L5178	1	50	1	
1517	✓		20X	L5122	2	86	1.72	1
1609	✓		200	L5169	3	50	1	
1659	✓		201	L8182	4	50	1	3/6/12 LL
1750	✓		208	L5104	5	20	3.07	76.75
1841	✓	H2B230466	MQ2152AA	L5163	6	11	150.0	10mL VCL
1936	✓	H2B230469	MQ23N1AA	1362N	7	500	1	
2029	E		23P	11370	8			E chlorodifluoro RR 200m
2123	E		23R	12298	9			" " RR 200m
2215	✓		23V	04307	10			
2311	✓		230	02306	11			
0001	✓		234	93245	12	250		
0057	✓		237	93239	13	500		
0151	✓		239	1287N	14			
0242	✓		24C	03841	15			
0334	tune		24CD	03841	15			
0423	✓	H2B230465	MQ2031AA	LA7072	1	218.	4.36	MQ2031AA
0517	✓	H2B230469	MQ24E1AA 3/6/12 LL	93244	2	500	1	
0611	✓		4F	S1489	3			
0704	✓		4J	1316N	4			
0757	✓		4L	A281	5			
0847	✓	lot 9763	B003 →		6			STD can
	MS	9761	1006 →		7			
		9759	5506 →		16			

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/7/12

Data File: /chem/gcms/me.i/E030612.b/ebfbc06.d

Date : 06-MAR-2012 09:58

Client ID: BFB

Instrument: me.i

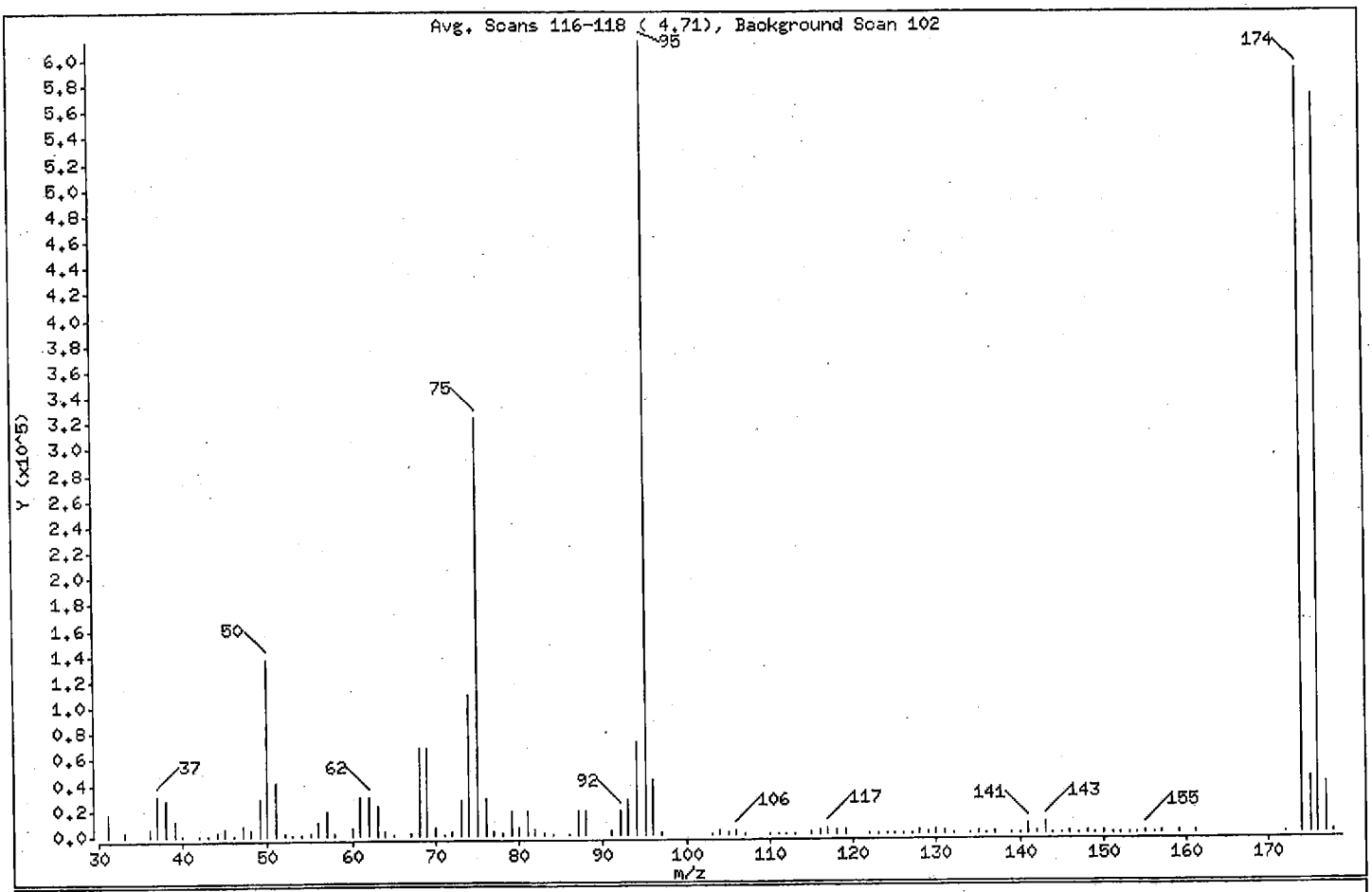
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.40
75	30.00 - 60.00% of mass 95	52.61
96	5.00 - 9.00% of mass 95	6.79
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	96.41
175	5.00 - 9.00% of mass 174	6.80 (7.06)
176	95.00 - 101.00% of mass 174	93.21 (96.69)
177	5.00 - 9.00% of mass 176	6.15 (6.60)

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.72750	0.72384	0.72384	0.000	0.50231	30.00000	Averaged
M 5 Xylene (total)	1.01264	1.07079	1.07079	0.000	-5.74173	30.00000	Averaged
6 Chlorodifluoromethane	0.55987	0.59602	0.59602	0.000	-6.45619	30.00000	Averaged
7 Propene	1.43639	1.60311	1.60311	0.000	-11.60652	30.00000	Averaged
10 Dichlorodifluoromethane	4.82567	5.63028	5.63028	0.000	-16.67358	30.00000	Averaged
9 Chloromethane	0.51844	0.55971	0.55971	0.000	-7.96142	30.00000	Averaged
11 1,2-Dichlorotetrafluoroetha	2.73343	3.69723	3.69723	0.000	-35.25980 NT	30.00000	Averaged <- 60.140
8 ~ acetaldehyde	8.41568	10.12000	0.17339	0.000	16.84115	30.00000	Quadratic
12 Methanol	0.30978	0.30903	0.30903	0.000	0.24164	30.00000	Averaged
13 Vinyl Chloride	1.58403	1.78929	1.78929	0.000	-12.95824	30.00000	Averaged
14 n-Butane	2.44569	2.69073	2.69073	0.000	-10.01945	30.00000	Averaged
15 1,3-Butadiene	1.16516	1.31950	1.31950	0.000	-13.24591	30.00000	Averaged
16 Bromomethane	1.57252	1.69076	1.69076	0.000	-7.51936	30.00000	Averaged
18 Chloroethane	0.67079	0.76123	0.76123	0.000	-13.48253	30.00000	Averaged
17 ~ ethanol	9.77333	10.44000	0.36147	0.000	6.38573	30.00000	Quadratic
19 Vinyl Bromide	1.39027	1.55220	1.55220	0.000	-11.64788	30.00000	Averaged
20 2-methyl butane	1.81412	1.92324	1.92324	0.000	-6.01490	30.00000	Averaged
21 Trichlorofluoromethane	4.68088	5.40516	5.40516	0.000	-15.47308	30.00000	Averaged
22 Acrolein	0.39353	0.44381	0.44381	0.000	-12.77483	30.00000	Averaged
23 Acetonitrile	0.40510	0.44540	0.44540	0.000	-9.94676	30.00000	Averaged
24 Acetone	0.90103	0.57167	0.57167	0.000	36.55348 NT	30.00000	Averaged <- MP
25 Pentane	0.20224	0.22026	0.22026	0.000	-8.91182	30.00000	Averaged
26 Isopropyl alcohol	1.28746	1.40893	1.40893	0.000	-9.43439	30.00000	Averaged
27 Ethyl Ether	1.15104	1.32695	1.32695	0.000	-15.28269	30.00000	Averaged
28 1,1-Dichloroethene	1.17462	1.26259	1.26259	0.000	-7.48930	30.00000	Averaged
29 Acrylonitrile	0.91709	1.00163	1.00163	0.000	-9.21806	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.58209	2.76235	2.76235	0.000	-6.98082	30.00000	Averaged
31 tert-butanol	2.08282	2.35445	2.35445	0.000	-13.04133	30.00000	Averaged
32 Methylene Chloride	1.23699	1.14230	1.14230	0.000	7.65433	30.00000	Averaged
33 3-Chloropropene	1.42479	1.46341	1.46341	0.000	-2.71033	30.00000	Averaged
34 Carbon Disulfide	4.21922	4.64968	4.64968	0.000	-10.20223	30.00000	Averaged
35 trans-1,2-Dichloroethene	1.40392	1.44393	1.44393	0.000	-2.84997	30.00000	Averaged
36 ~ 2-Methyl Pentane	3.90526	4.02090	4.02090	0.000	-2.96116	30.00000	Averaged
37 Methyl-t-Butyl Ether	3.25068	3.71051	3.71051	0.000	-14.14545	30.00000	Averaged
38 1,1-Dichloroethane	2.75587	2.88294	2.88294	0.000	-4.61068	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 Vinyl Acetate	3.43851	3.87386	3.87386	0.000	-12.66114	30.00000	Averaged
40 Hexane	1.28525	1.29831	1.29831	0.000	-1.01658	30.00000	Averaged
41 2-Butanone	0.51559	0.52405	0.52405	0.000	-1.64031	30.00000	Averaged
42 cis 1,2-Dichloroethene	1.36239	1.36227	1.36227	0.000	0.00887	30.00000	Averaged
43 Ethyl acetate	2.86942	3.27052	3.27052	0.000	-13.97845	30.00000	Averaged
44 Chloroform	3.29356	3.41907	3.41907	0.000	-3.81055	30.00000	Averaged
45 Tetrahydrofuran	1.48081	1.57105	1.57105	0.000	-6.09443	30.00000	Averaged
46 1,1,1-Trichloroethane	3.66226	3.85065	3.85065	0.000	-5.14419	30.00000	Averaged
47 1,2-Dichloroethane	0.47546	0.49858	0.49858	0.000	-4.86237	30.00000	Averaged
48 Cyclohexane	0.15654	0.14031	0.14031	0.000	10.36727	30.00000	Averaged
49 Benzene	0.83307	0.78432	0.78432	0.000	5.85187	30.00000	Averaged
50 Carbon Tetrachloride	0.75144	0.75639	0.75639	0.000	-0.65926	30.00000	Averaged
51 1-Butanol	0.08857	0.09537	0.09537	0.000	-7.67549	30.00000	Averaged
52 ~ 2,3-dimethylpentane	0.18569	0.18047	0.18047	0.000	2.80841	30.00000	Averaged
53 ~ Thiophene	0.47889	0.45254	0.45254	0.000	5.50191	30.00000	Averaged
54 2,2,4-trimethylpentane	1.54447	1.50093	1.50093	0.000	2.81870	30.00000	Averaged
55 Heptane	0.31230	0.29235	0.29235	0.000	6.38976	30.00000	Averaged
56 1,2-Dichloropropane	0.32079	0.32274	0.32274	0.000	-0.60761	30.00000	Averaged
57 Trichloroethene	0.39897	0.37222	0.37222	0.000	6.70444	30.00000	Averaged
180 2-Nitropropene	0.48768	0.61450	0.61450	0.000	-26.00454	25.00000	Averaged
58 Dibromomethane	0.38815	0.37568	0.37568	0.000	3.21112	30.00000	Averaged
59 Bromodichloromethane	0.74157	0.75284	0.75284	0.000	-1.51880	30.00000	Averaged
60 1,4-dioxane	0.07806	0.08179	0.08179	0.000	-4.77753	30.00000	Averaged
61 Methyl Methacrylate	0.36971	0.39646	0.39646	0.000	-7.23523	30.00000	Averaged
62 ~ methyl cyclohexane	0.51519	0.49093	0.49093	0.000	4.70860	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.48191	0.47819	0.47819	0.000	0.77190	30.00000	Averaged
64 4-Methyl-2-pentanone	0.64256	0.58921	0.58921	0.000	8.30375	30.00000	Averaged
65 trans-1,3-Dichloropropene	0.53029	0.57911	0.57911	0.000	-9.20647	30.00000	Averaged
66 Toluene	1.07924	1.10036	1.10036	0.000	-1.95703	30.00000	Averaged
67 1,1,2-Trichloroethane	0.32760	0.34334	0.34334	0.000	-4.80503	30.00000	Averaged
68 ~ 2-methyl thiophene	0.89585	0.92657	0.92657	0.000	-3.42995	30.00000	Averaged
70 ~ 3-methyl thiophene	0.90080	0.93019	0.93019	0.000	-3.26278	30.00000	Averaged
69 2-Hexanone	0.30430	0.30289	0.30289	0.000	0.46370	30.00000	Averaged
71 Octane	0.36697	0.36701	0.36701	0.000	-0.01083	30.00000	Averaged
72 Dibromochloromethane	0.74492	0.78690	0.78690	0.000	-5.63585	30.00000	Averaged

<- 17

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 1,2-Dibromoethane	0.58706	0.59431	0.59431	0.000	-1.23354	30.00000	Averaged
74 Tetrachloroethene	0.45149	0.46022	0.46022	0.000	-1.93573	30.00000	Averaged
75 Chlorobenzene	0.82172	0.82855	0.82855	0.000	-0.83063	30.00000	Averaged
76 ~ 2,3-dimethylheptane	1.20126	1.24633	1.24633	0.000	-3.75211	30.00000	Averaged
77 Ethylbenzene	1.29481	1.36017	1.36017	0.000	-5.04849	30.00000	Averaged
79 ~ 2-ethyl thiophene	1.06532	1.11173	1.11173	0.000	-4.35662	30.00000	Averaged
78 m&p-Xylene	1.00261	1.06707	1.06707	0.000	-6.42937	30.00000	Averaged
80 Nonane	0.78325	0.80633	0.80633	0.000	-2.94552	30.00000	Averaged
81 Bromoform	0.79942	0.78407	0.78407	0.000	1.92021	30.00000	Averaged
82 Styrene	0.68299	0.68911	0.68911	0.000	-0.89593	30.00000	Averaged
83 o-Xylene	1.03272	1.07822	1.07822	0.000	-4.40654	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.69891	0.70264	0.70264	0.000	-0.53391	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19288	0.19957	0.19957	0.000	-3.46821	30.00000	Averaged
86 Cumene	1.41249	1.45570	1.45570	0.000	-3.05884	30.00000	Averaged
87 n-Propylbenzene	0.34788	0.35637	0.35637	0.000	-2.44060	30.00000	Averaged
88 2-chlorotoluene	0.35700	0.34272	0.34272	0.000	3.99901	30.00000	Averaged
89 4-Ethyltoluene	1.32034	1.34246	1.34246	0.000	-1.67505	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57594	0.57394	0.57394	0.000	0.34781	30.00000	Averaged
91 Alpha-Methylstyrene	0.51031	0.47751	0.47751	0.000	6.42668	30.00000	Averaged
92 Decane	0.82537	0.89856	0.89856	0.000	-8.86869	30.00000	Averaged
93 tert-butylbenzene	1.12901	1.11943	1.11943	0.000	0.84787	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.05675	1.02791	1.02791	0.000	2.72952	30.00000	Averaged
95 sec-butylbenzene	1.51762	1.47207	1.47207	0.000	3.00174	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77036	0.69095	0.69095	0.000	10.30844	30.00000	Averaged
97 Benzyl Chloride	0.82883	0.79915	0.79915	0.000	3.58159	30.00000	Averaged
98 1,4-Dichlorobenzene	0.70924	0.64195	0.64195	0.000	9.48764	30.00000	Averaged
99 p-Cymene	1.25900	1.20177	1.20177	0.000	4.54539	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.86630	0.83069	0.83069	0.000	4.11082	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86372	0.83234	0.83234	0.000	3.63356	30.00000	Averaged
102 1,2-Dichlorobenzene	0.69309	0.60859	0.60859	0.000	12.19172	30.00000	Averaged
103 ~ Indane	0.88188	0.81388	0.81388	0.000	7.71111	30.00000	Averaged
105 ~ Indene	0.61554	0.54406	0.54406	0.000	11.61211	30.00000	Averaged
104 n-butylbenzene	1.11355	1.06436	1.06436	0.000	4.41796	30.00000	Averaged
106 Undecane	0.69283	0.61069	0.61069	0.000	11.85553	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96732	0.87336	0.87336	0.000	9.71320	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.92229	0.82040	0.82040	0.000	11.04757	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030612.b/eccvc06.d
Report Date: 06-Mar-2012 12:28

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc06.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E030612.b/TO15S.m

Injection Date: 06-MAR-2012 10:33
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.69406	0.62007	0.62007	0.000	10.66071	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.74184	0.63848	0.63848	0.000	13.93391	30.00000	Averaged	
111 Dodecane	0.46156	0.36123	0.36123	0.000	21.73714	30.00000	Averaged	
112 1,2,4-Trichlorobenzene	0.33280	0.25694	0.25694	0.000	22.79337	30.00000	Averaged	
113 Napthalene	0.57074	0.43312	0.43312	0.000	24.11320	30.00000	Averaged	
114 ~ benzo(b) thiophene	0.31049	0.20132	0.20132	0.000	35.16265 NT	30.00000	Averaged	<- OK
115 Hexachlorobutadiene	0.64451	0.55707	0.55707	0.000	13.56574	30.00000	Averaged	
116 1,2,3-trichlorobenzene	0.28291	0.14089	0.14089	0.000	50.19976 NT	30.00000	Averaged	<- NT
117 ~ 2-Methylnaphthalene	0.04231	0.02288	0.02288	0.000	45.91968 NT	50.00000	Averaged	
118 ~ 1-Methylnaphthalene	0.04168	0.02153	0.02153	0.000	48.33553 NT	50.00000	Averaged	

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C060000 - 141B **Work Order #** MQ9GW1AA **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	13:32
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.050 J**	**0.20**	**0.018**	**0.17 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	3/7/12	CCAL Batch/ Scan Name:	E030712	Instrument:	ME	ICAL Batch/ Scan Name:	E030112I	Scanned

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓			✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		□ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓	✓		3/7/12 Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓	✓			NA
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 3/7/12	2nd Level Reviewer :	Date: 3/8/12
Comments:		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: HMT Qtims Batch: 2067130 (MQRAAQ)

Date: 3/7/12 ICAL Batch: E030712 Target Batch: E030112I IS #1 Area: 254614

Surr/IS ID & Vol.: 40mL V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0934	✓	tune	EBFBC07	-	16	100	1	
1006	✓	CCV	CCV	CX2323	15			
1006	✓	LCS	LCS					
1110	✓	Blk	Flush	-	16	500		
1200	✓		EBlkC07	-				
1249	E	H2B240437	MQ3J01AA	7786	1	250		tetra RR tol 25mL
1338	elevr		3KL	6669	2	50		
1432	E		3KO	7492	3	~~500~~ 250 3/7/12		E tol RR 50mL
1522	E	H2B230467	MQ2241AA	34001261	4	20	1	E #6 RR 10mL
1621	✓		225	34001268	5	500	1	
1713	E	H2B230469	MQ23P1AA	34001267	6	200	1	E tol RR 50mL
1807	✓		23R	12298	7	200		WO# MQ24P1AA
1900	RR 200mL	ok ✓ 50mL	24P	11370	8	~~50~~ 3/7/12		~~200mL~~ 50mL WO# MQ23P1AA
1951	✓		24Q	34000825	9	~~200~~	12.45	50 pos 8 50mL
2043	✓		24R	34001263	10	~~200~~	12.64	50
2137	E	H2B240437	MQ3KF1AA	12162	11	~~250~~ 200	1	200mL RR tol 100
2231	E		3KK	04306	12	250	1	RR100mL
2323	E		3KM	6366	13	200	1	RR100mL
0013	✓		3KP	4497N	14	11	3.6	10mL 16364
0103	✓		3KV	1520	15	11	1	10mL
0153	✓		3J0R	7786	1	~~25~~ 26mL		3/4/12
0249	E		3KW1AA	0179	2	500	1	RR 200mL
0337	✓		MQ3K0R	7492	3	50	1	
0428	✓	H2B230467	224R	34001261	4	11	1	10mL
0522	✓	H2B240437	MQ3KX1AA	0001	5	500		
0612	✓	H2B230469	23PR	34001267	6	50		WO# MQ24PR 3/7/12
0702	dup		24PD		6			
0756	✓	lot ✓	9769	1486	7	500	1	
0850	✓		9770	7510	8			

*Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Not Needed. H2B230469 MQ23PR 11370 8

Analyst: [signature] Date: 3/8/12

MS027r16.DOC, 051210

Data File: /chem/gcms/me.i/E030712.b/ebfb007.d

Date : 07-MAR-2012 09:34

Client ID: BFB

Instrument: me.i

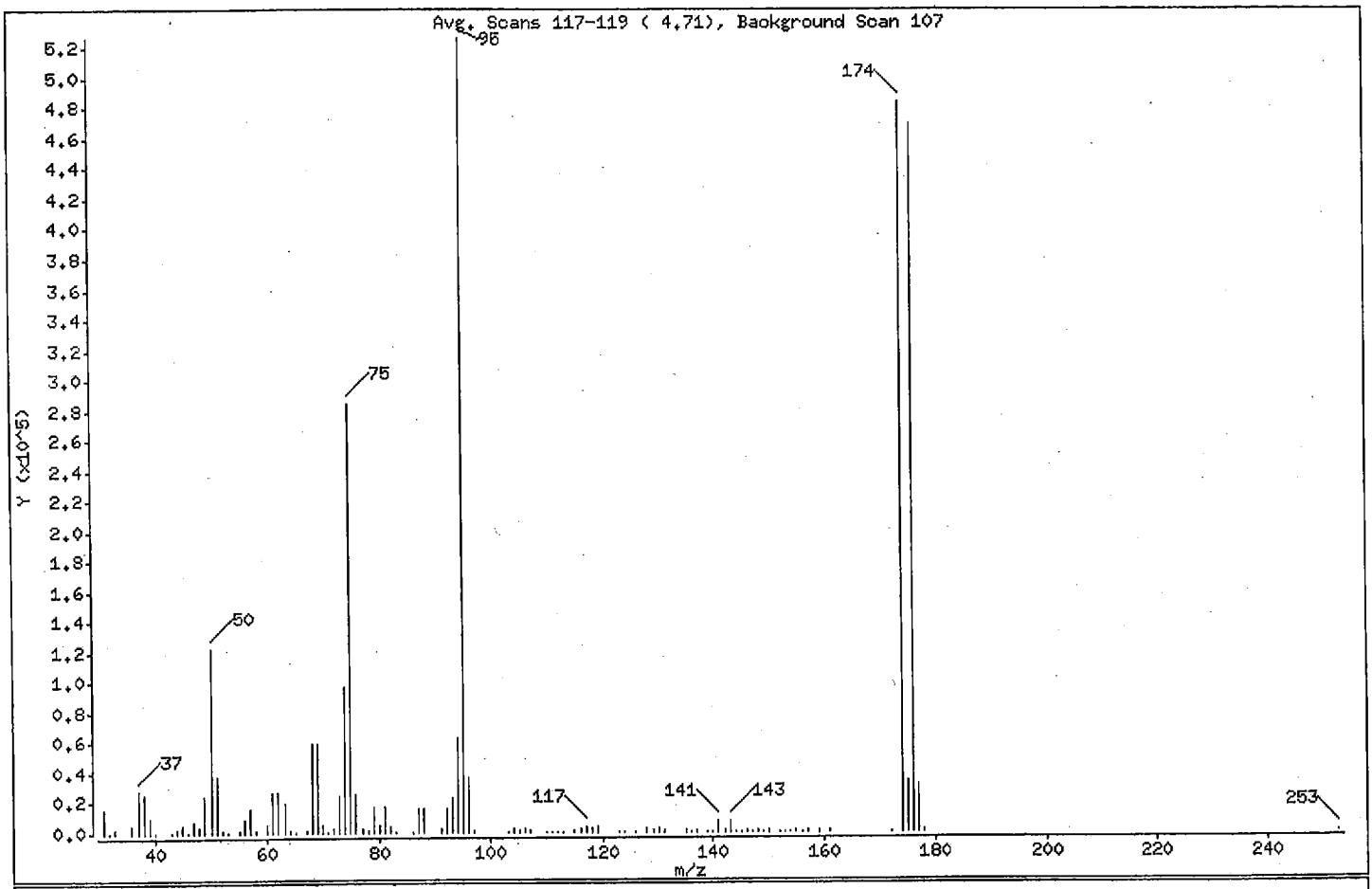
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundanoe	100.00
50	15.00 - 40.00% of mass 95	23.27
75	30.00 - 60.00% of mass 95	53.94
96	5.00 - 9.00% of mass 95	6.92
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	91.84
175	5.00 - 9.00% of mass 174	6.46 (7.03)
176	95.00 - 101.00% of mass 174	89.26 (97.20)
177	5.00 - 9.00% of mass 176	5.91 (6.62)

Data File: /var/chem/gcms/me.i/E030712.b/eccvc07.d
Report Date: 07-Mar-2012 12:33

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc07.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030712.b/TO155.m

Injection Date: 07-MAR-2012 10:06
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.72750	0.74037	0.74037	0.000	-1.77014	30.00000	Averaged
M 5 Xylene (total)	1.01264	1.15897	1.15897	0.000	-14.44950	30.00000	Averaged
6 Chlorodifluoromethane	0.55987	0.54805	0.54805	0.000	2.11132	30.00000	Averaged
7 Propene	1.43639	1.66680	1.66680	0.000	-16.04055	30.00000	Averaged
10 Dichlorodifluoromethane	4.82567	5.60197	5.60197	0.000	-16.08697	30.00000	Averaged
9 Chloromethane	0.51844	0.54718	0.54718	0.000	-5.54341	30.00000	Averaged
11 1,2-Dichlorotetrafluoroetha	2.73343	3.01514	3.01514	0.000	-10.30625	30.00000	Averaged
8 ~ acetaldehyde	8.84339	10.12000	0.18099	0.000	12.61472	30.00000	Quadratic
12 Methanol	0.30978	0.30825	0.30825	0.000	0.49424	30.00000	Averaged
13 Vinyl Chloride	1.58403	1.68807	1.68807	0.000	-6.56831	30.00000	Averaged
14 n-Butane	2.44569	2.50495	2.50495	0.000	-2.42300	30.00000	Averaged
15 1,3-Butadiene	1.16516	1.21841	1.21841	0.000	-4.56971	30.00000	Averaged
16 Bromomethane	1.57252	1.59456	1.59456	0.000	-1.40139	30.00000	Averaged
18 Chloroethane	0.67079	0.73812	0.73812	0.000	-10.03709	30.00000	Averaged
17 ~ ethanol	9.57044	10.44000	0.35615	0.000	8.32913	30.00000	Quadratic
19 Vinyl Bromide	1.39027	1.48278	1.48278	0.000	-6.65446	30.00000	Averaged
20 2-methyl butane	1.81412	1.77243	1.77243	0.000	2.29823	30.00000	Averaged
21 Trichlorofluoromethane	4.68088	5.27888	5.27888	0.000	-12.77547	30.00000	Averaged
22 Acrolein	0.39353	0.46763	0.46763	0.000	-18.82713	30.00000	Averaged
23 Acetonitrile	0.40510	0.47725	0.47725	0.000	-17.80970	30.00000	Averaged
24 Acetone	0.90103	0.59870	0.59870	0.000	33.55403 NT	30.00000	Averaged <- NA
25 Pentane	0.20224	0.21048	0.21048	0.000	-4.07464	30.00000	Averaged
26 Isopropyl alcohol	1.28746	1.38837	1.38837	0.000	-7.83785	30.00000	Averaged
27 Ethyl Ether	1.15104	1.31530	1.31530	0.000	-14.27054	30.00000	Averaged
28 1,1-Dichloroethene	1.17462	1.24345	1.24345	0.000	-5.85945	30.00000	Averaged
29 Acrylonitrile	0.91709	1.10446	1.10446	0.000	-20.43110	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.58209	2.85184	2.85184	0.000	-10.44679	30.00000	Averaged
31 tert-butanol	2.08282	2.45657	2.45657	0.000	-17.94457	30.00000	Averaged
32 Methylene Chloride	1.23699	1.18936	1.18936	0.000	3.84999	30.00000	Averaged
33 3-Chloropropene	1.42479	1.58384	1.58384	0.000	-11.16272	30.00000	Averaged
34 Carbon Disulfide	4.21922	4.35757	4.35757	0.000	-3.27889	30.00000	Averaged
35 trans-1,2-Dichloroethene	1.40392	1.50630	1.50630	0.000	-7.29228	30.00000	Averaged
36 ~ 2-Methyl Pentane	3.90526	4.31956	4.31956	0.000	-10.60885	30.00000	Averaged
37 Methyl-t-Butyl Ether	3.25068	3.92660	3.92660	0.000	-20.79293	30.00000	Averaged
38 1,1-Dichloroethane	2.75587	3.11515	3.11515	0.000	-13.03670	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030712.b/eccvc07.d
Report Date: 07-Mar-2012 12:33

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc07.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030712.b/TO155.m

Injection Date: 07-MAR-2012 10:06
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 Vinyl Acetate	3.43851	4.25389	4.25389	0.000	-23.71309	30.00000	Averaged
40 Hexane	1.28525	1.39540	1.39540	0.000	-8.57031	30.00000	Averaged
41 2-Butanone	0.51559	0.56523	0.56523	0.000	-9.62721	30.00000	Averaged
42 cis 1,2-Dichloroethene	1.36239	1.47236	1.47236	0.000	-8.07226	30.00000	Averaged
43 Ethyl acetate	2.86942	3.59262	3.59262	0.000	-25.20373	30.00000	Averaged
44 Chloroform	3.29356	3.67619	3.67619	0.000	-11.61728	30.00000	Averaged
45 Tetrahydrofuran	1.48081	1.77051	1.77051	0.000	-19.56375	30.00000	Averaged
46 1,1,1-Trichloroethane	3.66226	4.16285	4.16285	0.000	-13.66902	30.00000	Averaged
47 1,2-Dichloroethane	0.47546	0.53351	0.53351	0.000	-12.20967	30.00000	Averaged
48 Cyclohexane	0.15654	0.14741	0.14741	0.000	5.83493	30.00000	Averaged
49 Benzene	0.83307	0.83432	0.83432	0.000	-0.15099	30.00000	Averaged
50 Carbon Tetrachloride	0.75144	0.80981	0.80981	0.000	-7.76746	30.00000	Averaged
51 1-Butanol	0.08857	0.10460	0.10460	0.000	-18.09469	30.00000	Averaged
52 ~ 2,3-dimethylpentane	0.18569	0.19037	0.19037	0.000	-2.52197	30.00000	Averaged
53 ~ Thiophene	0.47889	0.48369	0.48369	0.000	-1.00287	30.00000	Averaged
54 2,2,4-trimethylpentane	1.54447	1.60708	1.60708	0.000	-4.05389	30.00000	Averaged
55 Heptane	0.31230	0.30952	0.30952	0.000	0.88895	30.00000	Averaged
56 1,2-Dichloropropane	0.32079	0.34686	0.34686	0.000	-8.12753	30.00000	Averaged
57 Trichloroethene	0.39897	0.39776	0.39776	0.000	0.30403	30.00000	Averaged
180 2-Nitropropene	0.48768	0.66138	0.66138	0.000	-35.61767NT	25.00000	Averaged
58 Dibromomethane	0.38815	0.40974	0.40974	0.000	-5.56234	30.00000	Averaged
59 Bromodichloromethane	0.74157	0.82020	0.82020	0.000	-10.60306	30.00000	Averaged
60 1,4-dioxane	0.07806	0.08770	0.08770	0.000	-12.35568	30.00000	Averaged
61 Methyl Methacrylate	0.36971	0.43902	0.43902	0.000	-18.74690	30.00000	Averaged
62 ~ methyl cyclohexane	0.51519	0.51926	0.51926	0.000	-0.79050	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.48191	0.51126	0.51126	0.000	-6.09109	30.00000	Averaged
64 4-Methyl-2-pentanone	0.64256	0.64442	0.64442	0.000	-0.28941	30.00000	Averaged
65 trans-1,3-Dichloropropene	0.53029	0.63240	0.63240	0.000	-19.25712	30.00000	Averaged
66 Toluene	1.07924	1.19105	1.19105	0.000	-10.36086	30.00000	Averaged
67 1,1,2-Trichloroethane	0.32760	0.37083	0.37083	0.000	-13.19649	30.00000	Averaged
68 ~ 2-methyl thiophene	0.89585	0.99950	0.99950	0.000	-11.57048	30.00000	Averaged
70 ~ 3-methyl thiophene	0.90080	0.99221	0.99221	0.000	-10.14835	30.00000	Averaged
69 2-Hexanone	0.30430	0.32730	0.32730	0.000	-7.55794	30.00000	Averaged
71 Octane	0.36697	0.39197	0.39197	0.000	-6.81293	30.00000	Averaged
72 Dibromochloromethane	0.74492	0.84238	0.84238	0.000	-13.08319	30.00000	Averaged

<-OK SD 1.10

Data File: /var/chem/gcms/me.i/E030712.b/eccvc07.d
Report Date: 07-Mar-2012 12:33

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc07.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030712.b/TO155.m

Injection Date: 07-MAR-2012 10:06
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 1,2-Dibromoethane	0.58706	0.63954	0.63954	0.000	-8.93806	30.00000	Averaged
74 Tetrachloroethene	0.45149	0.48345	0.48345	0.000	-7.08061	30.00000	Averaged
75 Chlorobenzene	0.82172	0.87965	0.87965	0.000	-7.05003	30.00000	Averaged
76 ~ 2,3-dimethylheptane	1.20126	1.35459	1.35459	0.000	-12.76393	30.00000	Averaged
77 Ethylbenzene	1.29481	1.48529	1.48529	0.000	-14.71130	30.00000	Averaged
79 ~ 2-ethyl thiophene	1.06532	1.20620	1.20620	0.000	-13.22363	30.00000	Averaged
78 m&p-Xylene	1.00261	1.15680	1.15680	0.000	-15.37940	30.00000	Averaged
80 Nonane	0.78325	0.86716	0.86716	0.000	-10.71310	30.00000	Averaged
81 Bromoform	0.79942	0.84315	0.84315	0.000	-5.47042	30.00000	Averaged
82 Styrene	0.68299	0.74399	0.74399	0.000	-8.93141	30.00000	Averaged
83 o-Xylene	1.03272	1.16329	1.16329	0.000	-12.64391	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.69891	0.76630	0.76630	0.000	-9.64239	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19288	0.22173	0.22173	0.000	-14.95817	30.00000	Averaged
86 Cumene	1.41249	1.57481	1.57481	0.000	-11.49167	30.00000	Averaged
87 n-Propylbenzene	0.34788	0.38491	0.38491	0.000	-10.64524	30.00000	Averaged
88 2-chlorotoluene	0.35700	0.37397	0.37397	0.000	-4.75492	30.00000	Averaged
89 4-Ethyltoluene	1.32034	1.45310	1.45310	0.000	-10.05526	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57594	0.62045	0.62045	0.000	-7.72854	30.00000	Averaged
91 Alpha-Methylstyrene	0.51031	0.52426	0.52426	0.000	-2.73319	30.00000	Averaged
92 Decane	0.82537	0.98212	0.98212	0.000	-18.99267	30.00000	Averaged
93 tert-butylbenzene	1.12901	1.22569	1.22569	0.000	-8.56391	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.05675	1.13417	1.13417	0.000	-7.32614	30.00000	Averaged
95 sec-butylbenzene	1.51762	1.63313	1.63313	0.000	-7.61092	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77036	0.75076	0.75076	0.000	2.54335	30.00000	Averaged
97 Benzyl Chloride	0.82883	0.88664	0.88664	0.000	-6.97516	30.00000	Averaged
98 1,4-Dichlorobenzene	0.70924	0.69888	0.69888	0.000	1.46110	30.00000	Averaged
99 p-Cymene	1.25900	1.31910	1.31910	0.000	-4.77361	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.86630	0.91695	0.91695	0.000	-5.84643	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86372	0.90823	0.90823	0.000	-5.15246	30.00000	Averaged
102 1,2-Dichlorobenzene	0.69309	0.67904	0.67904	0.000	2.02710	30.00000	Averaged
103 ~ Indane	0.88188	0.89280	0.89280	0.000	-1.23737	30.00000	Averaged
105 ~ Indene	0.61554	0.60144	0.60144	0.000	2.29068	30.00000	Averaged
104 n-butylbenzene	1.11355	1.19149	1.19149	0.000	-6.99894	30.00000	Averaged
106 Undecane	0.69283	0.73827	0.73827	0.000	-6.55796	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96732	0.97897	0.97897	0.000	-1.20484	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.92229	0.92250	0.92250	0.000	-0.02334	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030712.b/eccvc07.d
Report Date: 07-Mar-2012 12:33

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc07.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030712.b/TO155.m

Injection Date: 07-MAR-2012 10:06
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
109 ~ 1,2,3,5-tetramethylbenzen	0.69406	0.69392	0.69392	0.000	0.02020	30.00000	Averaged
110 ~ 1,2,3,4-tetramethylbenzen	0.74184	0.72405	0.72405	0.000	2.39829	30.00000	Averaged
111 Dodecane	0.46156	0.58823	0.58823	0.000	-27.44310	30.00000	Averaged
112 1,2,4-Trichlorobenzene	0.33280	0.34070	0.34070	0.000	-2.37645	30.00000	Averaged
113 Napthalene	0.57074	0.56313	0.56313	0.000	1.33409	30.00000	Averaged
114 ~ benzo(b) thiophene	0.31049	0.31969	0.31969	0.000	-2.96373	30.00000	Averaged
115 Hexachlorobutadiene	0.64451	0.61906	0.61906	0.000	3.94843	30.00000	Averaged
116 1,2,3-trichlorobenzene	0.28291	0.32057	0.32057	0.000	-13.30849	30.00000	Averaged
117 ~ 2-Methylnaphthalene	0.04231	0.04470	0.04470	0.000	-5.63682	50.00000	Averaged
118 ~ 1-Methylnaphthalene	0.04168	0.04171	0.04171	0.000	-0.06995	50.00000	Averaged

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C070000 - 130B **Work Order #** MRAAQ1AA **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	12:00
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.049 J**	**0.20**	**0.018**	**0.17 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	12/16/11	Instrument::	MG	ICAL Batch/Scan Name:	G121611I	Scanned ☐

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad		✓			✓
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓		acetaldehyde 43% RSD	✓
11. If curves were used, is correlation coefficient ≥0.990?		✓			✓
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.		✓		123 TCBZ quad	✓
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).		✓			✓
14. Is the "Y" intercept less than the RL for each curve?		✓			✓
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?	✓				NA
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			✓
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3-, 1,4-, and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)		✓		Dodecane 161%	✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?		✓		123 TCBZ 133% all others 70-130	✓
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 12/19/11	2nd Level Reviewer :	Date: 12/21/11
Comments:		Comments:	
UR · 4ppbv Dodecane, 123 TCBZ			
acetaldehyde not valid 90 RSD 43%			

O.K for Low level 12/21/11
NV state.

111216.ZZZ

TA-Knoxville
TO-14 Autosampler Log

Sample	Position/Volume	Date	Time
BFB	16 - 101 mL	12/16/2011	11:17:56 AM
ICAL	1 - 50 mL	12/16/2011	11:48:07 AM
ICAL	1 - 102 mL	12/16/2011	12:39:49 PM
ICAL	1 - 201 mL	12/16/2011	1:30:40 PM
IC01	2 - 201 mL	12/16/2011	2:28:50 PM
IC02	3 - 201 mL	12/16/2011	3:23:18 PM
IC03	4 - 201 mL	12/16/2011	4:17:01 PM
IC04	5 - 201 mL	12/16/2011	5:10:33 PM
IC05	6 - 201 mL	12/16/2011	6:04:22 PM
IC06	7 - 202 mL	12/16/2011	6:58:27 PM
IC07	8 - 201 mL	12/16/2011	7:51:30 PM
blk	16 - 202 mL	12/16/2011	8:44:25 PM
icv	9 - 101 mL	12/16/2011	9:35:02 PM
lcs	9 - 201 mL	12/16/2011	10:26:04 PM
blk	16 - 501 mL	12/16/2011	11:22:07 PM
blk	16 - 501 mL	12/17/2011	12:17:15 AM

Data File: /var/chem/gcms/mj.i/J030612.b/mq23m1aa.d
Report Date: 07-Mar-2012 10:38

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq23m1aa.d
Lab Smp Id: MQ23M1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-114-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	461934	12.31
2 1,4-Difluorobenze	1644806	978660	2310952	1845006	12.17
3 Chlorobenzene-d5	1504811	895363	2114259	1553297	3.22

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.08	0.05
2 1,4-Difluorobenze	11.25	10.92	11.58	11.25	0.00
3 Chlorobenzene-d5	15.96	15.63	16.29	15.96	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030712.b/mq24pr.d
Report Date: 08-Mar-2012 11:21

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq24pr.d
Lab Smp Id: MQ24P1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030712.b/TO155.m
Misc Info: E030712,TO155,tetra.sub,,

Calibration Date: 07-MAR-2012
Calibration Time: 10:06
Client Smp ID: IA122-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	254614	151495	357733	255660	0.41
2 1,4-Difluorobenze	1281072	762238	1799906	1307054	2.03
3 Chlorobenzene-d5	1078501	641708	1515294	1071098	-0.69

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.19	0.13
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	0.00
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030712.b/mq24r1aa.d
Report Date: 08-Mar-2012 15:43

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq24r1aa.d
Lab Smp Id: MQ24R1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030712.b/TO155.m
Misc Info: E030712,TO155,tetra.sub,,

Calibration Date: 07-MAR-2012
Calibration Time: 10:06
Client Smp ID: IA123-Z-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	254614	151495	357733	229792	-9.75
2 1,4-Difluorobenze	1281072	762238	1799906	1150919	-10.16
3 Chlorobenzene-d5	1078501	641708	1515294	945377	-12.34

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq24c1aa.d
Report Date: 07-Mar-2012 11:23

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq24c1aa.d
Lab Smp Id: MQ24C1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO15S.m
Misc Info: E030612,TO15S,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: IA-125-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	229297	-14.15
2 1,4-Difluorobenze	1341010	797901	1884119	1179189	-12.07
3 Chlorobenzene-d5	1134838	675229	1594447	1032104	-9.05

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.10
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq2391aa.d
Report Date: 07-Mar-2012 11:23

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2391aa.d
Lab Smp Id: MQ2391AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: IA-126-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	224473	-15.96
2 1,4-Difluorobenze	1341010	797901	1884119	1108399	-17.35
3 Chlorobenzene-d5	1134838	675229	1594447	963963	-15.06

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq24m1aa.d
Report Date: 07-Mar-2012 10:38

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq24m1aa.d
Lab Smp Id: MQ24M1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-127-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	448219	8.98
2 1,4-Difluorobenze	1644806	978660	2310952	1963534	19.38
3 Chlorobenzene-d5	1504811	895363	2114259	1733978	15.23

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.08	0.10
2 1,4-Difluorobenze	11.25	10.92	11.58	11.25	0.04
3 Chlorobenzene-d5	15.96	15.63	16.29	15.97	0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G030912.b/mq24lr.d
Report Date: 11-Mar-2012 14:28

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mq24lr.d
Lab Smp Id: MQ24L2AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G030912.b/TO15.m
Misc Info: G030912,TO15,tetra.sub,,,,

Calibration Date: 09-MAR-2012
Calibration Time: 10:32
Client Smp ID: IA-128-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	227240	135208	319272	181922	-19.94
2 1,4-Difluorobenze	1201529	714910	1688148	961352	-19.99
3 Chlorobenzene-d5	1236117	735490	1736744	995723	-19.45

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.17	7.84	8.50	8.20	0.33
2 1,4-Difluorobenze	10.29	9.96	10.62	10.30	0.16
3 Chlorobenzene-d5	15.11	14.78	15.44	15.11	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq2301aa.d
Report Date: 07-Mar-2012 11:22

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2301aa.d
Lab Smp Id: MQ2301AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: IA-132-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	230561	-13.68
2 1,4-Difluorobenze	1341010	797901	1884119	1140261	-14.97
3 Chlorobenzene-d5	1134838	675229	1594447	978631	-13.76

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.20	0.20
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	0.00
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030712.b/mq23p1aa.d
Report Date: 08-Mar-2012 11:21

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq23p1aa.d
Lab Smp Id: MQ23P1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030712.b/TO155.m
Misc Info: E030712,TO155,tetra.sub,,

Calibration Date: 07-MAR-2012
Calibration Time: 10:06
Client Smp ID: IA133-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	254614	151495	357733	245854	-3.44
2 1,4-Difluorobenze	1281072	762238	1799906	1279151	-0.15
3 Chlorobenzene-d5	1078501	641708	1515294	1041680	-3.41

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	0.00
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq23n1aa.d
Report Date: 07-Mar-2012 11:23

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq23n1aa.d
Lab Smp Id: MQ23N1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: IA-134-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	234950	-12.04
2 1,4-Difluorobenze	1341010	797901	1884119	1149569	-14.28
3 Chlorobenzene-d5	1134838	675229	1594447	930045	-18.05

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.20	0.20
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	0.00
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq24j1aa.d
Report Date: 07-Mar-2012 11:24

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq24j1aa.d
Lab Smp Id: MQ24J1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: IA ~~DUP-2-12~~ DUP1-12 AC 3/20/12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	225083	-15.73
2 1,4-Difluorobenze	1341010	797901	1884119	1136057	-15.28
3 Chlorobenzene-d5	1134838	675229	1594447	973770	-14.19

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.19	0.13
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq2341aa.d
Report Date: 07-Mar-2012 11:22

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2341aa.d
Lab Smp Id: MQ2341AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: IA-DUP2-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	220063	-17.61
2 1,4-Difluorobenze	1341010	797901	1884119	1195058	-10.88
3 Chlorobenzene-d5	1134838	675229	1594447	1069953	-5.72

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.20	0.26
2 1,4-Difluorobenze	10.33	10.00	10.66	10.34	0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

TETRA TECH **CALCULATION WORKSHEET** PAGE 1 OF 1

CLIENT	JOB NUMBER
LMC-Middle River	SDG H2B230469
SUBJECT: Sample Calculation	
BASED ON	DRAWING NUMBER
BY: Lynn Cognetta / CHECKED BY	APPROVED BY / DATE: March 20, 2012

Sample IA 114C-12; Chlorodifluoromethane

$$\frac{800353}{461934} * 1 * \frac{500}{500} * \frac{4\ ppbv}{0.45342} = 15.3\ ppbv$$

$$15.3\ ppbv * \frac{86.479\ l/mole}{24.454\ l/mole} = 54.1\ ug/m^3$$

Sample Calculation 45

Tetra Tech, Inc

Client Sample ID: IA114-C-12

GC/MS Volatiles

Lot-Sample # H2B230469 - 001 **Work Order #** MQ23M1AA **Matrix.....:** AIR

Date Sampled...: 02/21/2012 **Date Received..:** 02/23/2012
Prep Date.....: 03/06/2012 **Analysis Time....:** 03/06/2012
Prep Batch #.....: 2066125 **Analysis Time....:** 11:59
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.19**	**0.080**	**0.023**	**0.59**	**0.26**	**0.073**
Carbon tetrachloride	**0.076 J**	**0.080**	**0.015**	**0.48 J**	**0.50**	**0.094**
Chlorodifluoromethane	**15**	**0.080**	**0.015**	**54**	**0.28**	**0.053**
Chloroform	**0.026 J**	**0.080**	**0.015**	**0.13 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.48**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.14**	**0.080**	**0.027**	**0.59**	**0.35**	**0.12**
Methylene chloride	**1.2 B**	**0.20**	**0.018**	**4.2 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	**0.038 J**	**0.20**	**0.036**	**0.20 J**	**1.0**	**0.19**
Tetrachloroethene	**0.016 J**	**0.080**	**0.016**	**0.11 J**	**0.54**	**0.11**
Toluene	**1.8**	**0.080**	**0.021**	**6.8**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.10**	**0.080**	**0.012**	**0.57**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.043**	**0.040**	**0.014**	**0.23**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.046 J**	**0.080**	**0.025**	**0.22 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.69**	**0.16**	**0.024**	**3.0**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Sample Calculation

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Calibration File Names:
Level 1: /var/chem/gcms/mj.i/J022412I.b/jicb241.d
Level 2: /var/chem/gcms/mj.i/J022412I.b/jicb242.d
Level 3: /var/chem/gcms/mj.i/J022412I.b/jicb243.d
Level 4: /var/chem/gcms/mj.i/J022412I.b/jicb244.d
Level 5: /var/chem/gcms/mj.i/J022412I.b/jicb245.d
Level 6: /var/chem/gcms/mj.i/J022412I.b/jicb246.d
Level 7: /var/chem/gcms/mj.i/J022412I.b/jicb247.d
Level 8: /var/chem/gcms/mj.i/J022412I.b/jicb248.d
Level 9: /var/chem/gcms/mj.i/J022412I.b/jicb249.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
5 Chlorodifluoromethane	+++++	0.49172	0.54130	0.45303	0.46380	0.39994					
	0.43285	0.42942	0.41529				AVRG		0.45342		10.07605
6 Propene	+++++	+++++	1.66930	1.38699	1.44925	1.19872					
	1.27470	1.19883	1.09478				AVRG		1.32465		14.62600
7 Dichlorodifluoromethane	4.25361	4.45237	5.25552	4.50389	4.78518	4.02026					
	4.31974	4.14826	3.77803				AVRG		4.39076		9.91220

Sample Calculation

Data File: /var/chem/gcms/mj.i/J030612.b/mq23m1aa.d
Report Date: 07-Mar-2012 10:38

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/mj.i/J030612.b/mq23m1aa.d
Lab Smp Id: MQ23M1AA Client Smp ID: IA-114-C-12
Inj Date : 06-MAR-2012 11:59
Operator : 7126 Inst ID: mj.i
Smp Info : ,,0,,,
Misc Info : J030612,TO15,tetra.sub,,,
Comment :
Method : /var/chem/gcms/mj.i/J030612.b/TO15.m
Meth Date : 07-Mar-2012 10:27 tajh Quant Type: ISTD
Cal Date : 24-FEB-2012 19:59 Cal File: jicb246.d
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: tetra.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	500.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	CONCENTRATIONS FINAL (ppb(v/v))
* 1 Bromochloromethane	128	9.077	9.072	(1.000)	461934	4.00000	4.000
* 2 1,4-Difluorobenzene	114	11.250	11.251	(1.000)	1845006	4.00000	4.000
* 3 Chlorobenzene-d5	117	15.963	15.963	(1.000)	1553297	4.00000	4.000
$ 4 4-Bromofluorobenzene	95	17.598	17.599	(1.102)	1163754	4.34665	4.347
5 Chlorodifluoromethane	67	3.854	3.849	(0.425)	800353	15.2848	15.28
7 Dichlorodifluoromethane	85	3.918	3.919	(0.432)	243086	0.47940	0.4794
31 Methylene Chloride	84	6.511	6.501	(0.717)	136966	1.21159	1.212
43 Chloroform	83	9.088	9.088	(1.001)	7983	0.02611	0.02610
45 1,1,1-Trichloroethane	97	10.137	10.126	(1.117)	37734	0.10474	0.1047
48 Benzene	78	10.723	10.718	(0.953)	60701	0.18567	0.1857
50 Carbon Tetrachloride	117	10.750	10.751	(0.956)	30362	0.07621	0.07621
56 Trichloroethene	130	11.966	11.966	(1.064)	10000	0.04321	0.04321
65 Toluene	91	14.005	14.005	(0.877)	615648	1.81654	1.816
73 Tetrachloroethene	129	15.145	15.146	(0.949)	3202	0.01608	0.01608
76 Ethylbenzene	91	16.302	16.302	(1.021)	55620	0.13598	0.1360
78 m&p-Xylene	91	16.458	16.463	(1.031)	161890	0.50816	0.5082

TestAmerica Laboratories, Inc. – Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Inst: MG

Analyst: HMT Qtims Batch: ICAL

Date: 12/16/11 ICAL Batch: G121611I Target Batch: G121611S IS #1 Area: 404705

Surr/IS ID & Vol.: 40mLV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1117	✓	tune	GBFBL16	-	16	100	1	
1148	✓	MDL	GMDLL16	CX2316	1	50		
1239	✓	ICAL 1	GICL161		1	100		
1330	✓	2	2		1	200		
1428	✓	3	3	CX2315	2			
1523	✓	4	4	CX2314	3			
1617	✓	5	5	CX2313	4			
1710	✓	6	6	CX2312	5			
1804	✓	7	7	CX2311	6			
1858	✓	8	8	CX2310	7			
1951	✓	9	9	CX2309	8			
2044	N	blk	Blank1	-	16	200		
2135	✓	ICV	GICVL16	CX2306	9	100		
2226	not needed	LCS	GLCSL16		9	200		
2322	N ~~✓~~ 12/19/11	blk	BLANK2	-	16	500		
0017	✓	H	GBIKL16	-				

12/19/11

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 12/19/11

MS027r16.DOC, 051210

Data File: /var/chem/gcms/mg.i/G121611I.b/gbfb116.d

Date : 16-DEC-2011 11:17

Client ID: BFB

Instrument: mg.i

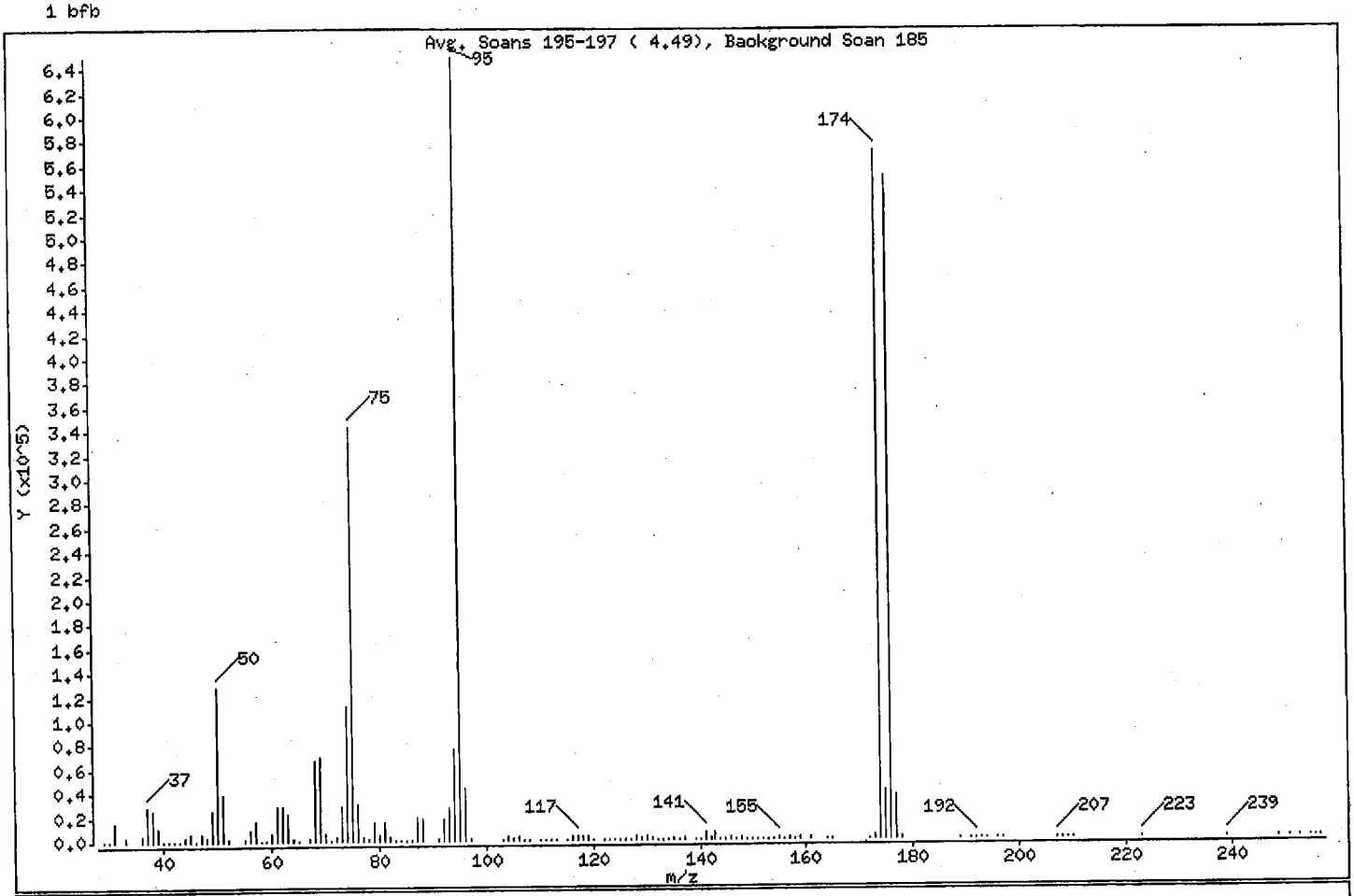
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.70
75	30.00 - 60.00% of mass 95	52.96
96	5.00 - 9.00% of mass 95	6.73
173	Less than 2.00% of mass 174	0.36 (0.41)
174	50.00 - 120.00% of mass 95	87.99
175	5.00 - 9.00% of mass 174	6.25 (7.11)
176	95.00 - 101.00% of mass 174	84.83 (96.40)
177	5.00 - 9.00% of mass 176	5.57 (6.57)

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Calibration File Names:
Level 1: /var/chem/gcms/mg.i/G121611I.b/gicl161.d
Level 2: /var/chem/gcms/mg.i/G121611I.b/gicl162.d
Level 3: /var/chem/gcms/mg.i/G121611I.b/gicl163.d
Level 4: /var/chem/gcms/mg.i/G121611I.b/gicl164.d
Level 5: /var/chem/gcms/mg.i/G121611I.b/gicl165.d
Level 6: /var/chem/gcms/mg.i/G121611I.b/gicl166.d
Level 7: /var/chem/gcms/mg.i/G121611I.b/gicl167.d
Level 8: /var/chem/gcms/mg.i/G121611I.b/gicl168.d
Level 9: /var/chem/gcms/mg.i/G121611I.b/gicl169.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
M 83 Xylene (total)	0.99563	1.10266	0.98912	0.99742	1.01380	0.93697					
	0.95604	0.92856	0.81164				AVRG		0.97020		8.09712
5 Chlorodifluoromethane	0.48906	0.55582	0.46784	0.39678	0.39738	0.39217					
	0.35045	0.33450	0.35528				AVRG		0.41547		17.74523
6 Propene	+++++	+++++	1.44049	1.05829	1.05070	1.05657					
	0.92819	0.85459	0.88078				AVRG		1.03852		18.98866

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
7 Dichlorodifluoromethane	4.23725	4.23567	4.00378	3.85502	3.92088	3.95396					
	3.48686	3.33421	3.51231				AVRG		3.83777		8.48755
8 Chloromethane	0.51212	0.41417	0.42641	0.35502	0.34620	0.35747					
	0.31215	0.31125	0.30526				AVRG		0.37112		18.38919
9 1,2-Dichlorotetrafluoroethane	2.87034	2.63543	2.46388	2.36146	2.41550	2.47281					
	2.19580	2.27084	2.42413				AVRG		2.45669		8.11289
10 Methanol	+++++	+++++	+++++	+++++	0.88172	0.68247					
	0.68712	0.64132	0.50378				AVRG		0.67928		19.92788
11 - acetaldehyde	+++++	+++++	+++++	0.31139	0.18715	0.13462					
	0.17580	0.11397	0.11160				AVRG		0.17242		43.46796 <- NT MA
12 Vinyl Chloride	1.45753	1.52282	1.38090	1.31344	1.28270	1.31375					
	1.18584	1.19161	1.19174				AVRG		1.31559		9.15250
13 n-Butane	2.57521	2.41694	2.16234	1.99139	1.93266	1.94034					
	1.77224	1.73771	1.71070				AVRG		2.02661		14.97888

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
14 1,3-Butadiene	1.16828	1.10205	1.00137	0.94297	0.90346	0.93895					
	0.86535	0.84363	0.84655				AVRG		0.95696		11.94258
15 Bromomethane	1.42293	1.30733	1.24897	1.18414	1.13496	1.20545					
	1.09930	1.14116	1.18974				AVRG		1.21489		8.22309
16 Chloroethane	0.73806	0.73734	0.71544	0.66928	0.61864	0.66426					
	0.61630	0.63421	0.64744				AVRG		0.67122		7.17650
17 - ethanol	+++++	0.60224	0.40580	0.37804	0.35359	0.30915					
	0.33616	0.32426	0.26094				AVRG		0.37127		27.76284
18 Vinyl Bromide	1.46929	1.28968	1.18304	1.14031	1.10039	1.16663					
	1.08836	1.12100	1.19142				AVRG		1.19446		9.99178
19 2-methyl butane	1.69146	1.48392	1.45408	1.35308	1.26701	1.34482					
	1.25855	1.30111	1.29435				AVRG		1.38315		10.10395
20 Trichlorofluoromethane	4.31586	3.97925	3.90200	3.82325	3.78344	3.95690					
	3.60367	3.57514	3.72801				AVRG		3.85194		5.83457

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
21 Acrolein	+++++	+++++	0.51312	0.40107	0.33842	0.32691					
	0.36434	0.36884	0.33554				AVRG		0.37832		17.07567
22 Acetonitrile	+++++	+++++	0.42932	0.33491	0.33037	0.31671					
	0.36922	0.42710	0.38097				AVRG		0.36980		12.36361
25 Pentane	+++++	0.27251	0.26552	0.23241	0.22138	0.23775					
	0.22930	0.23685	0.24201				AVRG		0.24222		7.33065
23 Acetone	+++++	+++++	+++++	+++++	0.55018	0.42073					
	0.57597	0.41117	0.33980				AVRG		0.45957		21.74702
24 Isopropyl alcohol	+++++	+++++	1.43224	1.39041	1.39232	1.17278					
	1.33295	1.22559	1.09040				AVRG		1.29096		10.01789
26 Ethyl Ether	1.45164	1.80901	1.51414	1.47803	1.47538	1.33121					
	1.35828	1.27101	1.15037				AVRG		1.42656		12.96893
27 1,1-Dichloroethene	1.42340	1.18308	1.14031	1.09878	1.07921	1.14719					
	1.04969	1.04602	1.08887				AVRG		1.13962		10.15856

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INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
29 Acrylonitrile	0.90987	1.05511	0.85318	0.85168	0.85283	0.77590					
	0.79814	0.76911	0.69195				AVRG		0.83975		12.23377
30 1,1,2-Trichlorotrifluoroethan	2.80161	2.55944	2.51326	2.45106	2.43251	2.49429					
	2.25517	2.25194	2.37792				AVRG		2.45969		6.79409
28 tert-butanol	+++++	+++++	1.23111	1.56074	1.92595	1.40960					
	1.98310	1.38308	1.52900				AVRG		1.57466		17.85872
31 Methylene Chloride	+++++	+++++	1.35610	1.15655	1.08531	1.07768					
	0.96497	0.94988	0.98053				AVRG		1.08157		13.19279
32 3-Chloropropene	1.41799	1.29208	1.29794	1.25925	1.25332	1.27874					
	1.12368	1.08340	1.11859				AVRG		1.23611		8.69686
33 Carbon Disulfide	4.74820	4.17613	4.16900	3.86124	3.83032	3.98973					
	3.61239	3.54923	3.68700				AVRG		3.95814		9.38177
35 - 2-Methyl Pentane	3.64770	3.33639	3.14163	3.15440	3.06278	3.12114					
	2.74676	2.62471	2.66314				AVRG		3.05541		10.89192

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INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
34 trans-1,2-Dichloroethene	1.65098	1.42102	1.43254	1.39217	1.34925	1.40947					
	1.27077	1.25840	1.30204				AVRG		1.38740		8.53358
36 Methyl-t-Butyl Ether	3.74890	4.38165	3.60953	3.62055	3.62934	3.25980					
	3.45069	3.37135	2.95683				AVRG		3.55874		10.98762
37 1,1-Dichloroethane	2.83409	2.64251	2.50560	2.42235	2.40540	2.47979					
	2.22404	2.17914	2.26241				AVRG		2.43948		8.57336
38 Vinyl Acetate	2.76584	3.52283	3.05261	3.09411	3.24242	2.89265					
	3.06663	2.92637	2.62006				AVRG		3.02039		8.76405
39 2-Butanone	+++++	+++++	0.64244	0.57094	0.56980	0.48191					
	0.55845	0.52624	0.44385				AVRG		0.54195		12.02022
40 Hexane	1.49942	1.32186	1.22915	1.13364	1.10260	1.12914					
	1.00586	0.97983	1.02170				AVRG		1.15813		14.52693
41 cis 1,2-Dichloroethene	1.53637	1.38260	1.33989	1.27838	1.27032	1.34337					
	1.20626	1.19799	1.26544				AVRG		1.31340		7.90726

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INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
42 Ethyl acetate	+++++	3.04851	2.42637	2.52786	2.63927	2.28385					
	2.53612	2.44165	2.03083				AVRG		2.49181		11.72459
43 Chloroform	3.30621	3.14731	3.01665	2.90405	2.86759	2.92864					
	2.66717	2.60676	2.67703				AVRG		2.90238		8.00209
44 Tetrahydrofuran	1.24924	1.54515	1.32251	1.32671	1.38547	1.18509					
	1.28375	1.24532	1.06309				AVRG		1.28959		10.36046
45 1,1,1-Trichloroethane	3.57945	3.37565	3.31487	3.21150	3.19523	3.27745					
	2.93473	2.88957	2.97428				AVRG		3.19475		7.10010
46 1,2-Dichloroethane	0.44371	0.41722	0.41001	0.39460	0.39871	0.40159					
	0.37099	0.36064	0.36081				AVRG		0.39537		6.96927
49 Cyclohexane	0.19210	0.15652	0.14640	0.13744	0.13307	0.14188					
	0.12468	0.12367	0.12726				AVRG		0.14256		15.06830
48 Benzene	0.89010	0.80730	0.77696	0.74398	0.73310	0.74727					
	0.69743	0.68694	0.68409				AVRG		0.75191		8.79928

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INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
50 Carbon Tetrachloride	0.73713	0.65084	0.66107	0.63962	0.63646	0.69268					
	0.60572	0.59244	0.61360				AVRG		0.64773		6.98559
51 - 2,3-dimethylpentane	0.24466	0.18939	0.18757	0.17431	0.17338	0.18408					
	0.16429	0.16126	0.16470				AVRG		0.18263		13.94636
47 1-Butanol	+++++	+++++	0.05693	0.06504	0.08195	0.06116					
	0.07918	0.05582	0.06246				AVRG		0.06608		15.76156
52 - Thiophene	0.53321	0.45494	0.44477	0.41651	0.41819	0.43775					
	0.39566	0.39237	0.39462				AVRG		0.43200		10.24958
53 2,2,4-trimethylpentane	1.49821	1.31492	1.34537	1.24913	1.22794	1.26821					
	1.13548	1.11226	1.10267				AVRG		1.25046		10.17567
54 Heptane	0.37634	0.31830	0.31703	0.28959	0.28844	0.29792					
	0.27095	0.26937	0.26756				AVRG		0.29950		11.52499
55 1,2-Dichloropropane	0.31561	0.29415	0.27520	0.26837	0.27090	0.26448					
	0.25327	0.24703	0.23357				AVRG		0.26917		9.15041

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INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
56 Trichloroethene	0.46166	0.38041	0.36774	0.34412	0.34456	0.36458					
	0.32882	0.32972	0.34050				AVRG		0.36246		11.34917
180 - 2-nitropropane	+++++	+++++	+++++	0.67760	0.57199	0.50924					
	0.54961	0.53366	0.44038				AVRG		0.54708		14.31353
57 Dibromomethane	0.38205	0.34195	0.32850	0.31131	0.31278	0.32927					
	0.29611	0.29360	0.29454				AVRG		0.32112		8.89225
58 Bromodichloromethane	0.73654	0.66222	0.63466	0.62404	0.63573	0.65878					
	0.60232	0.59673	0.58954				AVRG		0.63784		7.06924
60 Methyl Methacrylate	+++++	0.36384	0.29573	0.30785	0.32861	0.29319					
	0.32289	0.31481	0.26198				AVRG		0.31111		9.58224
59 1,4-dioxane	+++++	0.11373	0.09201	0.09567	0.10035	0.09421					
	0.09764	0.09128	0.08198				AVRG		0.09586		9.44566
61 - methyl cyclohexane	0.57069	0.49343	0.49439	0.45808	0.45148	0.47692					
	0.42872	0.42315	0.42946				AVRG		0.46959		9.91899

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End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
63 cis-1,3-Dichloropropene	0.51688	0.47698	0.44623	0.44728	0.44654	0.44054					
	0.42968	0.41947	0.40040				AVRG		0.44711		7.52405
62 4-Methyl-2-pentanone	+++++	0.55565	0.46682	0.45994	0.45943	0.45497					
	0.45630	0.42836	0.40168				AVRG		0.46039		9.58657
64 trans-1,3-Dichloropropene	0.54788	0.54813	0.50836	0.50606	0.52194	0.50565					
	0.50473	0.49815	0.46070				AVRG		0.51129		5.19861
65 Toluene	1.12910	1.09977	0.98270	0.97264	0.98002	0.92365					
	0.92710	0.91374	0.84143				AVRG		0.97446		9.31580
66 1,1,2-Trichloroethane	0.31762	0.32190	0.28710	0.28835	0.29008	0.27694					
	0.27440	0.27297	0.24956				AVRG		0.28655		7.82668
67 - 2-methyl thiophene	0.91835	0.88704	0.79728	0.84632	0.83300	0.78235					
	0.78439	0.77914	0.72080				AVRG		0.81652		7.45359
68 - 3-methyl thiophene	0.91493	0.86130	0.80065	0.81697	0.81464	0.78089					
	0.78090	0.77043	0.71295				AVRG		0.80596		7.11838

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
69 2-Hexanone	+++++	0.30691	0.21558	0.22876	0.23434	0.23324					
	0.24608	0.23333	0.22067				AVRG		0.23986		11.93089
70 Octane	0.41203	0.37963	0.35313	0.33965	0.34372	0.34309					
	0.32291	0.31870	0.30095				AVRG		0.34598		9.64208
71 Dibromochloromethane	0.66836	0.64318	0.60218	0.61853	0.64518	0.64836					
	0.63894	0.63800	0.61209				AVRG		0.63498		3.22762
72 1,2-Dibromoethane	0.59175	0.56665	0.53027	0.53063	0.54582	0.53556					
	0.53021	0.52928	0.49244				AVRG		0.53918		5.11766
73 Tetrachloroethene	0.47659	0.38636	0.38164	0.36453	0.36153	0.36972					
	0.34505	0.34671	0.33668				AVRG		0.37431		11.16608
75 - 2,3-dimethylheptane	1.13261	1.01847	0.92204	0.90346	0.87965	0.84611					
	0.79126	0.73269	0.64385				AVRG		0.87446		16.74443
74 Chlorobenzene	0.90502	0.82887	0.78197	0.76753	0.77945	0.75812					
	0.74637	0.74154	0.69015				AVRG		0.77767		7.78079

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Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
76 Ethylbenzene	1.25479	1.37734	1.25361	1.25304	1.27506	1.18716					
	1.21653	1.19232	1.05493				AVRG		1.22942		7.01635
77 ~ 2-ethyl thiophene	1.01531	1.06793	0.98022	0.98579	1.01313	0.96087					
	0.97198	0.95227	0.85842				AVRG		0.97844		5.83416
78 m&p-Xylene	0.97096	1.08655	0.97589	0.97987	1.00035	0.92615					
	0.94468	0.91976	0.80510				AVRG		0.95659		7.86647
79 Nonane	+++++	0.70712	0.61278	0.62148	0.63092	0.60007					
	0.58452	0.55477	0.49340				AVRG		0.60063		10.28271
80 Bromoform	+++++	0.62359	0.58449	0.61049	0.65721	0.66388					
	0.67947	0.69547	0.65465				AVRG		0.64616		5.74134
81 Styrene	0.62428	0.70266	0.65341	0.72651	0.76532	0.72876					
	0.74326	0.74710	0.67050				AVRG		0.70687		6.75583
82 o-Xylene	1.04491	1.13489	1.01556	1.03251	1.04070	0.95862					
	0.97876	0.94617	0.82473				AVRG		0.99743		8.60183

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Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
84 1,1,2,2-Tetrachloroethane	0.66696	0.77139	0.65774	0.67571	0.70410	0.65355					
	0.67077	0.65242	0.56385				AVRG		0.66850		8.10097
85 1,2,3-Trichloropropane	0.20704	0.25684	0.22137	0.22499	0.23562	0.21405					
	0.22383	0.22064	0.18900				AVRG		0.22149		8.42874
86 Cumene	1.44306	1.67628	1.44982	1.45938	1.48505	1.37975					
	1.42314	1.38629	1.20215				AVRG		1.43388		8.59021
87 n-Propylbenzene	0.32859	0.41187	0.36487	0.37071	0.39804	0.36589					
	0.38769	0.38184	0.33217				AVRG		0.37130		7.47803
88 2-chlorotoluene	0.36106	0.40598	0.35443	0.35295	0.37071	0.35304					
	0.35354	0.34747	0.31319				AVRG		0.35693		6.76449
89 4-Ethyltoluene	1.17383	1.54738	1.31975	1.39265	1.47825	1.35962					
	1.42497	1.40219	1.19110				AVRG		1.36553		8.99498
90 1,3,5-Trimethylbenzene	0.54170	0.72349	0.62256	0.63668	0.67274	0.61980					
	0.65008	0.64451	0.55910				AVRG		0.63007		8.73085

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
91 Alpha-Methylstyrene	+++++	+++++	0.47716	0.52260	0.58545	0.56172					
	0.59256	0.58874	0.51754				AVRG		0.54940		8.07688
92 Decane	+++++	0.63587	0.50127	0.59445	0.72095	0.61293					
	0.68870	0.64798	0.55083				AVRG		0.61912		11.50660
93 tert-butylbenzene	1.05066	1.42598	1.18309	1.20842	1.27555	1.15889					
	1.21642	1.19751	1.04085				AVRG		1.19526		9.65424
94 1,2,4-Trimethylbenzene	+++++	1.25451	1.05408	1.12003	1.18976	1.08924					
	1.14411	1.11975	0.95814				AVRG		1.11620		7.93509
95 sec-butylbenzene	1.36398	1.82814	1.54805	1.60532	1.70704	1.56067					
	1.63047	1.58742	1.35716				AVRG		1.57647		9.47677
96 1,3-Dichlorobenzene	+++++	0.80707	0.69990	0.74626	0.79809	0.76482					
	0.78136	0.77816	0.71872				AVRG		0.76180		4.95022
97 Benzyl Chloride	+++++	1.02657	0.85552	0.95632	1.08486	0.99960					
	1.09430	1.07199	0.90495				AVRG		0.99926		8.77293

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End Cal Date : 16-DEC-2011 19:51
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Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
98 1,4-Dichlorobenzene	+++++	0.78535	0.67427	0.72295	0.78407	0.75480					
	0.77810	0.77779	0.71664				AVRG		0.74925		5.42646
99 p-Cymene	+++++	1.46300	1.18790	1.30107	1.42855	1.27870					
	1.36708	1.33242	1.12820				AVRG		1.31086		8.66143
100 - 1,2,3- Trimethylbenzene	0.81045	1.08422	0.86770	0.94386	1.02357	0.91605					
	0.96320	0.92749	0.78125				AVRG		0.92420		10.40858
101 - n-butylcyclohexane	0.75433	0.94098	0.80872	0.83593	0.88125	0.81506					
	0.80633	0.76429	0.68530				AVRG		0.81024		9.12004
102 - Indane	0.92423	1.10597	0.94862	0.97288	1.05068	0.96819					
	0.99386	0.97102	0.84955				AVRG		0.97611		7.44983
103 1,2-Dichlorobenzene	+++++	0.78637	0.66129	0.69669	0.75666	0.71206					
	0.72415	0.71501	0.65413				AVRG		0.71330		6.22998
104 n-butylbenzene	+++++	1.10854	0.89883	1.06295	1.25622	1.11803					
	1.21407	1.16118	0.96237				AVRG		1.09777		11.01227

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
105 ~ Indene	0.64744	0.76329	0.63339	0.71019	0.80903	0.74451					
	0.78383	0.77719	0.67582				AVRG		0.72719		8.71018
106 Undecane	+++++	+++++	0.37379	0.38443	0.39215	0.46989					
	0.48486	0.54654	0.46435				AVRG		0.44514		14.33353
107 ~ 1,2-dimethyl-4-ethylenzene	+++++	0.95971	0.70528	0.87607	1.09927	1.00357					
	1.11865	1.06618	0.90848				AVRG		0.96715		14.19354
108 ~ 1,2,4,5-tetramethylbenzene	+++++	0.75885	0.60649	0.65425	0.85817	0.85271					
	1.06567	0.95042	0.88361				AVRG		0.82877		18.24913
109 ~ 1,2,3,5-tetramethylbenzene	+++++	0.60392	0.45971	0.50357	0.66205	0.64571					
	0.80393	0.69874	0.65963				AVRG		0.62966		17.27177
110 ~ 1,2,3,4-tetramethylbenzene	+++++	0.66800	0.47132	0.52264	0.63281	0.68005					
	0.83479	0.65986	0.69522				AVRG		0.64559		17.14953
111 Dodecane	+++++	0.42289	0.25333	0.26313	0.30893	0.38906					
	0.30353	+++++	+++++				AVRG		0.32348		21.12813

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
112 1,2,4-Trichlorobenzene	+++++	0.41811	0.25731	0.28934	0.39661	0.38804					
	0.47584	0.29188	0.38300				AVRG		0.36252		20.74169
113 Napthalene	+++++	0.82275	0.52443	0.58394	0.81077	0.82001					
	0.95712	0.66514	0.76362				AVRG		0.74347		19.17641
114 - benzo(b) thiophene	+++++	0.57832	0.35112	0.37051	0.54305	0.53711					
	0.61197	0.40152	0.49299				AVRG		0.48582		20.43236
115 Hexachlorobutadiene	+++++	0.60286	0.30789	0.39526	0.54282	0.44949					
	0.53571	0.33769	0.43512				AVRG		0.45085		23.01228
116 1,2,3-trichlorobenzene	+++++	15461	15940	43611	149208	289865					
	734551	+++++	+++++				QUAD	0.000e+00	3.58150	-1.77001	0.99916
117 - 2-Methylnaphthalene	+++++	+++++	0.05307	0.04931	0.07384	0.08671					
	0.06388	0.04119	0.06388				AVRG		0.06170		25.03043
118 - 1-Methylnaphthalene	+++++	+++++	0.04606	0.04403	0.06305	0.07272					
	0.05282	0.03480	0.05274				AVRG		0.05232		24.00961

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.67375	0.74336	0.73726	0.73794	0.74355	0.74422					
	0.72578	0.71198	0.70096				AVRG		0.72431		3.36012

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

TestAmerica Laboratories, Inc. – Knoxville 65

CANISTER RUN LOG

GCMS Analysis: AIR

Analyst: JMC Qtims Batch: 2069094 (MRCJQ) 2069107 (MRCLD) Inst: MG

Date: 3/9/12 ICAL Batch: 6/21/11I Target Batch: 603012 IS #1 Area: 227240

Surr/IS ID & Vol.: 40mlV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☐ Daily _____

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1003	✓	7UM	GBFBC09	-	16	100	1	
1032	✓	CCV	CCV	CX2323	15			
1032	✓	LCS	LCS					hexa 146 OK 603081C
1128	OK	B14	Flush	-	16	500		
1204	✓		GB14C09	-				
1320	✓	H2B270403	MQ4CX1AA	5854	1	500	1	tetra
1459	✓		4C0	3762	2			
1559	E	RR 10ml	4C1	4627	3			E chlorodifluor & mCL
1655	CO	H2B230469	MQ24L2AA	A281	4	500	1	RR
1747	✓	H2B270403	MQ4A01AA	A7036	5	10	1	10mL
1840	✓		4A1	3746	6	20	1	1
1931	✓		4A2 3/9/12	A7054	7	10	3.41	10mL
2022	✓		4A3 4	A7029	8	10	1	10mL MQ4A41AA
2114	✓		4A7	5860	9		1	10mL
2206	✓		4A8	A7051	10		1	10mL
2257	✓		4A92AA	5873	11	20	1	
2349	✓		4CA2AA	A7033	12	10	1	10mL
0041	✓		4CC1AA	5869	13	20	1	5869
0133	RR 20ml		4CL 3/9/12	4645	14	50	1	
0225	✓		4C0	4632	15	40	1	
0409	N		4CR	A7026	1	10	1	10mL need 1x1
0501	✓		4CT	5872	2	10	3.37	10mL
0317	dup		4C0D	4632	15	40	1	
0555	N	H2B270403	4C1R	4627	3	50		RR 100mL
0655	✓	H2B230469	24LR	A281	4	500		
0752	✓	H2C080405	MRAEC1AA	93026	5	185	325.31	honey 351.69
0845	✓		ED	12810	6	120	3274.19	5456.98
0937	✓		EE	12624	7	160	5151.3	6439.13
1035	✓	Cal ✓	9775	S1497	16	500	1	outside temp RR
1133	✓		9776	6353	STD			

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 3/11/12

Data File: /chem/gcms/ms.i/G030912.b/gbfb09.d

Date : 09-MAR-2012 10:03

Client ID: BFB

Instrument: ms.i

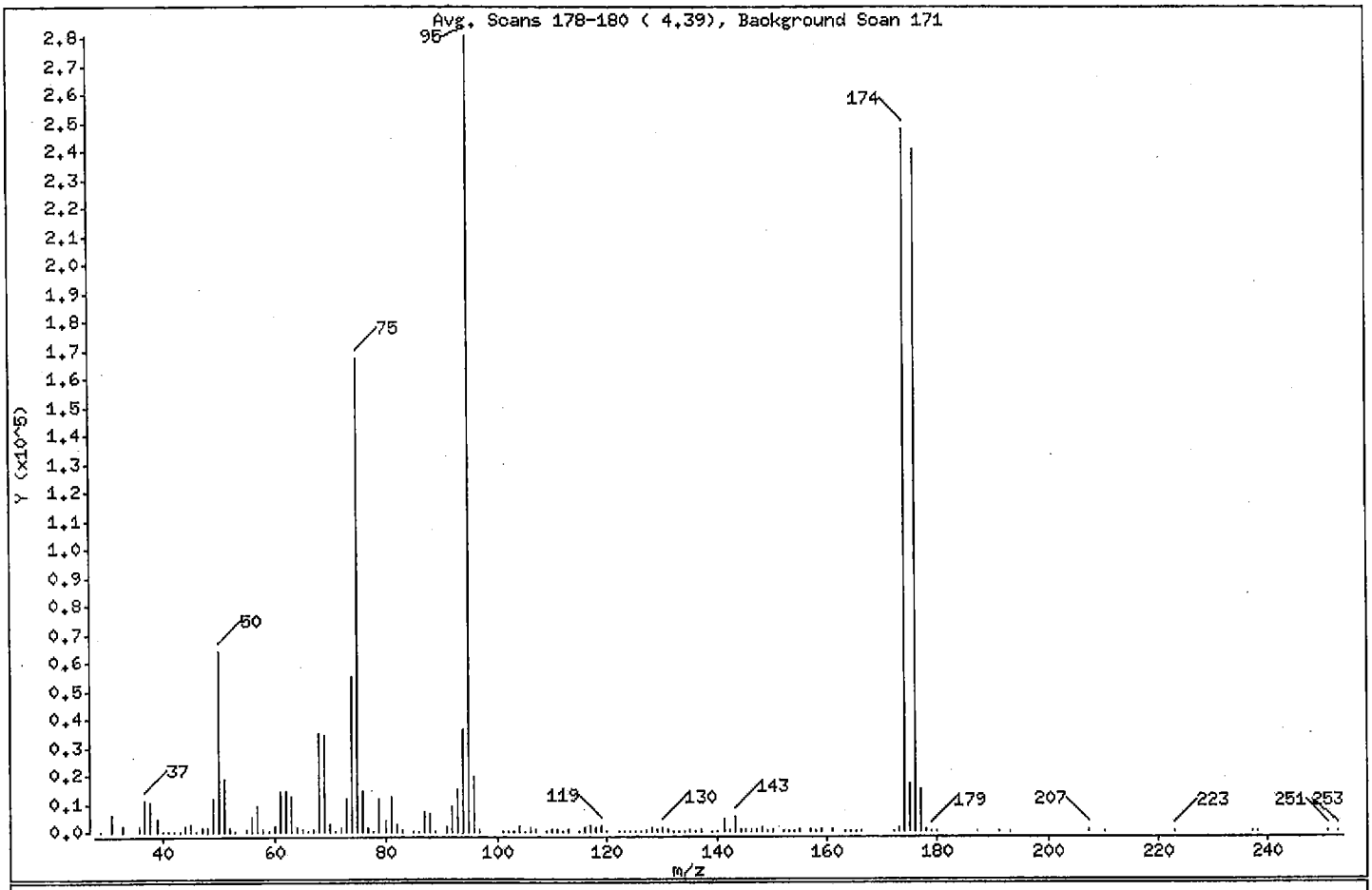
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.66
75	30.00 - 60.00% of mass 95	59.55
96	5.00 - 9.00% of mass 95	6.99
173	Less than 2.00% of mass 174	0.42 (0.47)
174	50.00 - 120.00% of mass 95	88.38
175	5.00 - 9.00% of mass 174	6.02 (6.81)
176	95.00 - 101.00% of mass 174	85.66 (96.92)
177	5.00 - 9.00% of mass 176	5.33 (6.22)

Data File: /var/chem/gcms/mg.i/G030912.b/gccvc09.d
Report Date: 09-Mar-2012 11:26

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvc09.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G030912.b/TO15.m

Injection Date: 09-MAR-2012 10:32
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 4-Bromofluorobenzene	0.72431	0.77826	0.77826	0.000	-7.44832	30.00000	Averaged	
M 83 Xylene (total)	0.97020	0.94317	0.94317	0.000	2.78666	30.00000	Averaged	
5 Chlorodifluoromethane	0.41547	0.51703	0.51703	0.000	-24.44293	30.00000	Averaged	
6 Propene	1.03852	1.05239	1.05239	0.000	-1.33596	30.00000	Averaged	
7 Dichlorodifluoromethane	3.83777	5.00361	5.00361	0.000	-30.37794	30.00000	Averaged	<-OK
8 Chloromethane	0.37112	0.34842	0.34842	0.000	6.11442	30.00000	Averaged	
9 1,2-Dichlorotetrafluoroetha	2.45669	2.44105	2.44105	0.000	0.63669	30.00000	Averaged	
10 Methanol	0.67928	0.20579	0.20579	0.000	69.70534 NT	30.00000	Averaged	<-NC
11 ~ acetaldehyde	0.17242	0.11630	0.11630	0.000	32.55149 NT	30.00000	Averaged	<-NC
12 Vinyl Chloride	1.31559	1.12461	1.12461	0.000	14.51663	30.00000	Averaged	
13 n-Butane	2.02661	1.68367	1.68367	0.000	16.92212	30.00000	Averaged	
14 1,3-Butadiene	0.95696	0.88675	0.88675	0.000	7.33675	30.00000	Averaged	
15 Bromomethane	1.21489	1.03180	1.03180	0.000	15.06996	30.00000	Averaged	
16 Chloroethane	0.67122	0.53278	0.53278	0.000	20.62510	30.00000	Averaged	
17 ~ ethanol	0.37127	0.22894	0.22894	0.000	38.33643 NT	30.00000	Averaged	<-50.0K
18 Vinyl Bromide	1.19446	0.92026	0.92026	0.000	22.95545	30.00000	Averaged	
19 2-methyl butane	1.38315	1.21812	1.21812	0.000	11.93197	30.00000	Averaged	
20 Trichlorofluoromethane	3.85194	3.51956	3.51956	0.000	8.62912	30.00000	Averaged	
21 Acrolein	0.37832	0.30916	0.30916	0.000	18.28055	30.00000	Averaged	
22 Acetonitrile	0.36980	0.32236	0.32236	0.000	12.82964	30.00000	Averaged	
25 Pentane	0.24222	0.20607	0.20607	0.000	14.92307	30.00000	Averaged	
23 Acetone	0.45957	0.46304	0.46304	0.000	-0.75443	30.00000	Averaged	
24 Isopropyl alcohol	1.29096	0.90232	0.90232	0.000	30.10475 NT	30.00000	Averaged	<-OK
26 Ethyl Ether	1.42656	1.12216	1.12216	0.000	21.33848	30.00000	Averaged	
27 1,1-Dichloroethene	1.13962	0.97356	0.97356	0.000	14.57122	30.00000	Averaged	
29 Acrylonitrile	0.83975	0.69978	0.69978	0.000	16.66866	30.00000	Averaged	
30 1,1,2-Trichlorotrifluoroeth	2.45969	2.14687	2.14687	0.000	12.71793	30.00000	Averaged	
28 tert-butanol	1.57466	1.50966	1.50966	0.000	4.12743	30.00000	Averaged	
31 Methylene Chloride	1.08157	0.89275	0.89275	0.000	17.45812	30.00000	Averaged	
32 3-Chloropropene	1.23611	1.06781	1.06781	0.000	13.61543	30.00000	Averaged	
33 Carbon Disulfide	3.95814	3.45392	3.45392	0.000	12.73873	30.00000	Averaged	
35 ~ 2-Methyl Pentane	3.05541	2.89778	2.89778	0.000	5.15899	30.00000	Averaged	
34 trans-1,2-Dichloroethene	1.38740	1.26864	1.26864	0.000	8.56046	30.00000	Averaged	
36 Methyl-t-Butyl Ether	3.55874	3.23459	3.23459	0.000	9.10862	30.00000	Averaged	
37 1,1-Dichloroethane	2.43948	2.24716	2.24716	0.000	7.88391	30.00000	Averaged	

Data File: /var/chem/gcms/mg.i/G030912.b/gccvc09.d
Report Date: 09-Mar-2012 11:26

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvc09.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G030912.b/TO15.m

Injection Date: 09-MAR-2012 10:32
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
38 Vinyl Acetate	3.02039	2.75763	2.75763	0.000	8.69952	30.00000	Averaged
39 2-Butanone	0.54195	0.47978	0.47978	0.000	11.47053	30.00000	Averaged
40 Hexane	1.15813	1.09191	1.09191	0.000	5.71834	30.00000	Averaged
41 cis 1,2-Dichloroethene	1.31340	1.24995	1.24995	0.000	4.83120	30.00000	Averaged
42 Ethyl acetate	2.49181	2.27837	2.27837	0.000	8.56555	30.00000	Averaged
43 Chloroform	2.90238	2.97996	2.97996	0.000	-2.67284	30.00000	Averaged
44 Tetrahydrofuran	1.28959	1.16649	1.16649	0.000	9.54607	30.00000	Averaged
45 1,1,1-Trichloroethane	3.19475	3.79287	3.79287	0.000	-18.72209	30.00000	Averaged
46 1,2-Dichloroethane	0.39537	0.45087	0.45087	0.000	-14.03842	30.00000	Averaged
49 Cyclohexane	0.14256	0.12901	0.12901	0.000	9.50531	30.00000	Averaged
48 Benzene	0.75191	0.69525	0.69525	0.000	7.53525	30.00000	Averaged
50 Carbon Tetrachloride	0.64773	0.73284	0.73284	0.000	-13.14020	30.00000	Averaged
51 ~ 2,3-dimethylpentane	0.18263	0.15820	0.15820	0.000	13.37634	30.00000	Averaged
47 1-Butanol	0.06608	0.05254	0.05254	0.000	20.48836	30.00000	Averaged
52 ~ Thiophene	0.43200	0.38473	0.38473	0.000	10.94301	30.00000	Averaged
53 2,2,4-trimethylpentane	1.25046	1.21707	1.21707	0.000	2.67060	30.00000	Averaged
54 Heptane	0.29950	0.27015	0.27015	0.000	9.79945	30.00000	Averaged
55 1,2-Dichloropropane	0.26917	0.25063	0.25063	0.000	6.89119	30.00000	Averaged
56 Trichloroethene	0.36246	0.36553	0.36553	0.000	-0.84804	30.00000	Averaged
180 ~ 2-nitropropane	0.54708	0.53805	0.53805	0.000	1.65103	30.00000	Averaged
57 Dibromomethane	0.32112	0.33508	0.33508	0.000	-4.34606	30.00000	Averaged
58 Bromodichloromethane	0.63784	0.68819	0.68819	0.000	-7.89457	30.00000	Averaged
60 Methyl Methacrylate	0.31111	0.28569	0.28569	0.000	8.17143	30.00000	Averaged
59 1,4-dioxane	0.09586	0.07596	0.07596	0.000	20.76016	30.00000	Averaged
61 ~ methyl cyclohexane	0.46959	0.45677	0.45677	0.000	2.73074	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.44711	0.42986	0.42986	0.000	3.85885	30.00000	Averaged
62 4-Methyl-2-pentanone	0.46039	0.41855	0.41855	0.000	9.08745	30.00000	Averaged
64 trans-1,3-Dichloropropene	0.51129	0.47396	0.47396	0.000	7.30103	30.00000	Averaged
65 Toluene	0.97446	0.84096	0.84096	0.000	13.70013	30.00000	Averaged
66 1,1,2-Trichloroethane	0.28655	0.25363	0.25363	0.000	11.48737	30.00000	Averaged
67 ~ 2-methyl thiophene	0.81652	0.71728	0.71728	0.000	12.15358	30.00000	Averaged
68 ~ 3-methyl thiophene	0.80596	0.70019	0.70019	0.000	13.12311	30.00000	Averaged
69 2-Hexanone	0.23986	0.19845	0.19845	0.000	17.26535	30.00000	Averaged
70 Octane	0.34598	0.30772	0.30772	0.000	11.05725	30.00000	Averaged
71 Dibromochloromethane	0.63498	0.66480	0.66480	0.000	-4.69621	30.00000	Averaged

Data File: /var/chem/gcms/mg.i/G030912.b/gccvc09.d
Report Date: 09-Mar-2012 11:26

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvc09.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G030912.b/TO15.m

Injection Date: 09-MAR-2012 10:32
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
72 1,2-Dibromoethane	0.53918	0.48060	0.48060	0.000	10.86425	30.00000	Averaged
73 Tetrachloroethene	0.37431	0.37364	0.37364	0.000	0.17910	30.00000	Averaged
75 ~ 2,3-dimethylheptane	0.87446	0.79007	0.79007	0.000	9.65063	30.00000	Averaged
74 Chlorobenzene	0.77767	0.71760	0.71760	0.000	7.72464	30.00000	Averaged
76 Ethylbenzene	1.22942	1.17599	1.17599	0.000	4.34622	30.00000	Averaged
77 ~ 2-ethyl thiophene	0.97844	0.94469	0.94469	0.000	3.44944	30.00000	Averaged
78 m&p-Xylene	0.95659	0.93181	0.93181	0.000	2.59016	30.00000	Averaged
79 Nonane	0.60063	0.59165	0.59165	0.000	1.49625	30.00000	Averaged
80 Bromoform	0.64616	0.64222	0.64222	0.000	0.60900	30.00000	Averaged
81 Styrene	0.70687	0.69014	0.69014	0.000	2.36700	30.00000	Averaged
82 o-Xylene	0.99743	0.96588	0.96588	0.000	3.16280	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.66850	0.62076	0.62076	0.000	7.14180	30.00000	Averaged
85 1,2,3-Trichloropropane	0.22149	0.23171	0.23171	0.000	-4.61473	30.00000	Averaged
86 Cumene	1.43388	1.37789	1.37789	0.000	3.90468	30.00000	Averaged
87 n-Propylbenzene	0.37130	0.40055	0.40055	0.000	-7.87744	30.00000	Averaged
88 2-chlorotoluene	0.35693	0.35829	0.35829	0.000	-0.38034	30.00000	Averaged
89 4-Ethyltoluene	1.36553	1.37710	1.37710	0.000	-0.84755	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.63007	0.65692	0.65692	0.000	-4.26029	30.00000	Averaged
91 Alpha-Methylstyrene	0.54940	0.56574	0.56574	0.000	-2.97525	30.00000	Averaged
92 Decane	0.61912	0.67509	0.67509	0.000	-9.04061	30.00000	Averaged
93 tert-butylbenzene	1.19526	1.23572	1.23572	0.000	-3.38502	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.11620	1.10461	1.10461	0.000	1.03845	30.00000	Averaged
95 sec-butylbenzene	1.57647	1.58472	1.58472	0.000	-0.52320	30.00000	Averaged
96 1,3-Dichlorobenzene	0.76180	0.79779	0.79779	0.000	-4.72447	30.00000	Averaged
97 Benzyl Chloride	0.99926	1.01946	1.01946	0.000	-2.02108	30.00000	Averaged
98 1,4-Dichlorobenzene	0.74925	0.78484	0.78484	0.000	-4.75060	30.00000	Averaged
99 p-Cymene	1.31086	1.35553	1.35553	0.000	-3.40697	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.92420	0.91746	0.91746	0.000	0.72929	30.00000	Averaged
101 ~ n-butylcyclohexane	0.81024	0.74404	0.74404	0.000	8.17049	30.00000	Averaged
102 ~ Indane	0.97611	0.96521	0.96521	0.000	1.11631	30.00000	Averaged
103 1,2-Dichlorobenzene	0.71330	0.74539	0.74539	0.000	-4.49916	30.00000	Averaged
104 n-butylbenzene	1.09777	1.12887	1.12887	0.000	-2.83274	30.00000	Averaged
105 ~ Indene	0.72719	0.73772	0.73772	0.000	-1.44811	30.00000	Averaged
106 Undecane	0.44514	0.35182	0.35182	0.000	20.96576	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96715	1.02347	1.02347	0.000	-5.82304	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.82877	0.83288	0.83288	0.000	-0.49611	30.00000	Averaged

Data File: /var/chem/gcms/mg.i/G030912.b/gccvc09.d
Report Date: 09-Mar-2012 11:26

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvc09.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G030912.b/TO15.m

Injection Date: 09-MAR-2012 10:32
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
109 ~ 1,2,3,5-tetramethylbenzen	0.62966	0.64370	0.64370	0.000	-2.23088	30.00000	Averaged
110 ~ 1,2,3,4-tetramethylbenzen	0.64559	0.61841	0.61841	0.000	4.20869	30.00000	Averaged
111 Dodecane	0.32348	0.24459	0.24459	0.000	24.38910	30.00000	Averaged
112 1,2,4-Trichlorobenzene	0.36252	0.39758	0.39758	0.000	-9.67185	30.00000	Averaged
113 Napthalene	0.74347	0.74351	0.74351	0.000	-0.00462	30.00000	Averaged
114 ~ benzo(b) thiophene	0.48582	0.45838	0.45838	0.000	5.64840	30.00000	Averaged
115 Hexachlorobutadiene	0.45085	0.65751	0.65751	0.000	-45.83572 NT	30.00000	Averaged
116 1,2,3-trichlorobenzene	2.05699	2.00000	0.31108	0.000	-2.84936	30.00000	Quadratic
117 ~ 2-Methylnaphthalene	0.06170	0.06764	0.06764	0.000	-9.62301	30.00000	Averaged
118 ~ 1-Methylnaphthalene	0.05232	0.05248	0.05248	0.000	-0.30507	30.00000	Averaged

<- 60.140 OK 030812

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C090000 - 094B	**Work Order #**	MRCJQ1AA	**Matrix.....:**	AIR
	02/24/2012	**Date Received..:**	02/25/2012		
Prep Date.....:	03/09/2012	**Analysis Time....:**	03/09/2012		
Prep Batch #.....:	2069094	**Analysis Time....:**	12:24		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.044 J**	**0.20**	**0.018**	**0.15 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	111	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Data File: /var/chem/gcms/me.i/E030612.b/mq2371aa.d
Report Date: 07-Mar-2012 11:23

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2371AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA-050-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.927	98.17	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq24e1aa.d
Report Date: 07-Mar-2012 11:24

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ24E1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO15S.m
Misc Info: E030612,TO15S,tetra.sub,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA-051-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.786	94.66	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq23v1aa.d
Report Date: 07-Mar-2012 11:23

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ23V1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA-060-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.898	97.45	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq24n1aa.d
Report Date: 07-Mar-2012 10:38

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230469
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ24N1AA
Client Smp ID: IA-100-B-12
Level: LOW
Operator: 7126
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allnew.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.118	102.95	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq24f1aa.d
Report Date: 07-Mar-2012 11:24

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ24F1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO15S.m
Misc Info: E030612,TO15S,tetra.sub,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA-103-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.968	99.21	70-130

Data File: /var/chem/gcms/me.i/E030712.b/mq24q1aa.d
Report Date: 08-Mar-2012 11:21

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ24Q1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030712.b/TO155.m
Misc Info: E030712,TO155,tetra.sub,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA105-7-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.961	99.02	70-130

Data File: /var/chem/gcms/me.i/E030712.b/mq23r1aa.d
Report Date: 08-Mar-2012 11:21

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ23R1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030712.b/TO155.m
Misc Info: E030712,TO155,tetra.sub,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA111-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.926	98.16	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq23m1aa.d
Report Date: 07-Mar-2012 10:38

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ23M1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA-114-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.347	108.67	70-130

Data File: /var/chem/gcms/me.i/E030712.b/mq24pr.d
Report Date: 08-Mar-2012 11:21

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ24P1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030712.b/TO155.m
Misc Info: E030712,TO155,tetra.sub,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA122-B-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.815	95.38	70-130

Data File: /var/chem/gcms/me.i/E030712.b/mq24r1aa.d
Report Date: 08-Mar-2012 15:43

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ24R1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030712.b/TO155.m
Misc Info: E030712,TO155,tetra.sub,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA123-Z-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.021	100.53	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq24c1aa.d
Report Date: 07-Mar-2012 11:23

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ24C1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA-125-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.887	97.18	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq2391aa.d
Report Date: 07-Mar-2012 11:23

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2391AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA-126-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.020	100.51	70-130

Data File: /var/chem/gcms/mj.i/J030612.b/mq24m1aa.d
Report Date: 07-Mar-2012 10:38

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230469
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ24M1AA
Client Smp ID: IA-127-C-12
Level: LOW
Operator: 7126
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allnew.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.107	102.68	70-130

Data File: /var/chem/gcms/mg.i/G030912.b/mq24lr.d
Report Date: 11-Mar-2012 14:28

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ24L2AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: tetra.sub
Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA-128-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/mg.i/G030912.b/TO15.m
Misc Info: G030912,TO15,tetra.sub,,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.492	112.29	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq2301aa.d
Report Date: 07-Mar-2012 11:22

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Client SDG: H2B230469
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQ2301AA
Client Smp ID: IA-132-C-12
Level: LOW
Operator: 7126
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allplus.spk
Quant Type: ISTD
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.998	99.95	70-130

Data File: /var/chem/gcms/me.i/E030712.b/mq23p1aa.d
Report Date: 08-Mar-2012 11:21

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ23P1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030712.b/TO155.m
Misc Info: E030712,TO155,tetra.sub,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA133-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.902	97.55	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq23n1aa.d
Report Date: 07-Mar-2012 11:23

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ23N1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA-134-C-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.970	99.26	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq24j1aa.d
Report Date: 07-Mar-2012 11:24

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ24J1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA-~~DUP-2-12~~ DUP1-12 AC 3/20/12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	3.942	98.56	70-130

Data File: /var/chem/gcms/me.i/E030612.b/mq2341aa.d
Report Date: 07-Mar-2012 11:22

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech, Inc
Sample Matrix: GAS
Lab Smp Id: MQ2341AA
Level: LOW
Data Type: MS DATA
SpikeList File: allplus.spk
Sublist File: tetra.sub
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Client SDG: H2B230469
Fraction: OTHER
Client Smp ID: IA-DUP2-12
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	4.000	4.028	100.69	70-130

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C060000 - 125C **Work Order #** MQ9FL1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066125	**Analysis Time....:**	09:16
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	3.94	16.0	12.6	79	70 - 130
Carbon tetrachloride	5.00	6.17	31.5	38.8	123	70 - 130
Chlorodifluoromethane	5.00	6.31	17.7	22.3	126	60 - 140
Chloroform	5.00	5.08	24.4	24.8	102	70 - 130
Dichlorodifluoromethane	5.00	6.25	24.7	30.9	125	60 - 140
1,1-Dichloroethane	5.00	4.78	20.2	19.4	96	70 - 130
1,2-Dichloroethane	5.00	5.42	20.2	21.9	108	70 - 130
cis-1,2-Dichloroethene	5.00	4.50	19.8	17.8	90	70 - 130
trans-1,2-Dichloroethene	5.00	4.42	19.8	17.5	88	70 - 130
1,1-Dichloroethene	5.00	4.41	19.8	17.5	88	70 - 130
Ethylbenzene	5.00	4.02	21.7	17.5	80	70 - 130
Methylene chloride	5.00	4.24	17.4	14.7	85	70 - 130
Methyl tert-butyl ether	5.00	4.16	18.0	15.0	83	60 - 140
Naphthalene	5.00	3.94	26.2	20.6	79	40 - 140
Tetrachloroethene	5.00	4.22	33.9	28.6	84	70 - 130
Toluene	5.00	3.85	18.8	14.5	77	70 - 130
1,2,4-Trichlorobenzene	5.00	3.71	37.1	27.5	74	60 - 140
1,1,1-Trichloroethane	5.00	5.67	27.3	30.9	113	70 - 130
1,1,2-Trichloroethane	5.00	3.86	27.3	21.0	77	70 - 130
Trichloroethene	5.00	4.56	26.9	24.5	91	70 - 130
1,2,3-Trimethylbenzene	5.00	4.09	24.6	20.1	82	20 - 180
1,2,4-Trimethylbenzene	5.00	4.00	24.6	19.7	80	70 - 130
1,3,5-Trimethylbenzene	5.00	3.83	24.6	18.8	77	70 - 130
Vinyl chloride	5.00	5.39	12.8	13.8	108	70 - 130
Xylenes (total)	15.0	12.2	65.1	52.8	81	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	108	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C060000 - 141C **Work Order #** MQ9GW1AC **Matrix.....:** AIR

	02/22/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/06/2012	**Analysis Time....:**	03/06/2012
Prep Batch #.....:	2066141	**Analysis Time....:**	10:33
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.71	16.0	15.0	94	70 - 130
Carbon tetrachloride	5.00	5.03	31.5	31.7	101	70 - 130
Chlorodifluoromethane	5.00	5.32	17.7	18.8	106	60 - 140
Chloroform	5.00	5.19	24.4	25.3	104	70 - 130
Dichlorodifluoromethane	5.00	5.83	24.7	28.9	117	60 - 140
1,1-Dichloroethane	5.00	5.23	20.2	21.2	105	70 - 130
1,2-Dichloroethane	5.00	5.24	20.2	21.2	105	70 - 130
cis-1,2-Dichloroethene	5.00	5.00	19.8	19.8	100	70 - 130
trans-1,2-Dichloroethene	5.00	5.14	19.8	20.4	103	70 - 130
1,1-Dichloroethene	5.00	5.37	19.8	21.3	107	70 - 130
Ethylbenzene	5.00	5.25	21.7	22.8	105	70 - 130
Methylene chloride	5.00	4.62	17.4	16.0	92	70 - 130
Methyl tert-butyl ether	5.00	5.71	18.0	20.6	114	60 - 140
Naphthalene	5.00	3.79	26.2	19.9	76	40 - 140
Tetrachloroethene	5.00	5.10	33.9	34.6	102	70 - 130
Toluene	5.00	5.10	18.8	19.2	102	70 - 130
1,2,4-Trichlorobenzene	5.00	3.86	37.1	28.6	77	60 - 140
1,1,1-Trichloroethane	5.00	5.26	27.3	28.7	105	70 - 130
1,1,2-Trichloroethane	5.00	5.24	27.3	28.6	105	70 - 130
Trichloroethene	5.00	4.66	26.9	25.1	93	70 - 130
1,2,3-Trimethylbenzene	5.10	4.99	25.1	24.5	98	20 - 180
1,2,4-Trimethylbenzene	5.00	4.86	24.6	23.9	97	70 - 130
1,3,5-Trimethylbenzene	5.00	4.98	24.6	24.5	100	70 - 130
Vinyl chloride	5.00	5.65	12.8	14.4	113	70 - 130
Xylenes (total)	15.0	15.9	65.1	68.9	106	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C070000 - 130C **Work Order #** MRAAQ1AC **Matrix.....:** AIR

	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	10:06
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	5.01	16.0	16.0	100	70 - 130
Carbon tetrachloride	5.00	5.39	31.5	33.9	108	70 - 130
Chlorodifluoromethane	5.00	4.89	17.7	17.3	98	60 - 140
Chloroform	5.00	5.58	24.4	27.2	112	70 - 130
Dichlorodifluoromethane	5.00	5.80	24.7	28.7	116	60 - 140
1,1-Dichloroethane	5.00	5.65	20.2	22.9	113	70 - 130
1,2-Dichloroethane	5.00	5.61	20.2	22.7	112	70 - 130
cis-1,2-Dichloroethene	5.00	5.40	19.8	21.4	108	70 - 130
trans-1,2-Dichloroethene	5.00	5.36	19.8	21.3	107	70 - 130
1,1-Dichloroethene	5.00	5.29	19.8	21.0	106	70 - 130
Ethylbenzene	5.00	5.74	21.7	24.9	115	70 - 130
Methylene chloride	5.00	4.81	17.4	16.7	96	70 - 130
Methyl tert-butyl ether	5.00	6.04	18.0	21.8	121	60 - 140
Naphthalene	5.00	4.93	26.2	25.9	99	40 - 140
Tetrachloroethene	5.00	5.35	33.9	36.3	107	70 - 130
Toluene	5.00	5.52	18.8	20.8	110	70 - 130
1,2,4-Trichlorobenzene	5.00	5.12	37.1	38.0	102	60 - 140
1,1,1-Trichloroethane	5.00	5.68	27.3	31.0	114	70 - 130
1,1,2-Trichloroethane	5.00	5.66	27.3	30.9	113	70 - 130
Trichloroethene	5.00	4.98	26.9	26.8	100	70 - 130
1,2,3-Trimethylbenzene	5.10	5.50	25.1	27.1	108	20 - 180
1,2,4-Trimethylbenzene	5.00	5.37	24.6	26.4	107	70 - 130
1,3,5-Trimethylbenzene	5.00	5.39	24.6	26.5	108	70 - 130
Vinyl chloride	5.00	5.33	12.8	13.6	107	70 - 130
Xylenes (total)	15.0	17.2	65.1	74.6	114	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample #	H2C090000 - 094C	**Work Order #**	MRCJQ1AC	**Matrix.....:**	AIR
	02/24/2012	**Date Received..:**	02/25/2012		
Prep Date.....:	03/09/2012	**Analysis Time....:**	03/09/2012		
Prep Batch #.....:	2069094	**Analysis Time....:**	10:32		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.62	16.0	14.8	92	70 - 130
Carbon tetrachloride	5.00	5.66	31.5	35.6	113	70 - 130
Chlorodifluoromethane	5.00	6.22	17.7	22.0	124	60 - 140
Chloroform	5.00	5.13	24.4	25.1	103	70 - 130
Dichlorodifluoromethane	5.00	6.52	24.7	32.2	130	60 - 140
1,1-Dichloroethane	5.00	4.61	20.2	18.6	92	70 - 130
1,2-Dichloroethane	5.00	5.70	20.2	23.1	114	70 - 130
cis-1,2-Dichloroethene	5.00	4.76	19.8	18.9	95	70 - 130
trans-1,2-Dichloroethene	5.00	4.57	19.8	18.1	91	70 - 130
1,1-Dichloroethene	5.00	4.27	19.8	16.9	85	70 - 130
Ethylbenzene	5.00	4.78	21.7	20.8	96	70 - 130
Methylene chloride	5.00	4.13	17.4	14.3	83	70 - 130
Methyl tert-butyl ether	5.00	4.54	18.0	16.4	91	60 - 140
Naphthalene	5.00	5.00	26.2	26.2	100	40 - 140
Tetrachloroethene	5.00	4.99	33.9	33.9	100	70 - 130
Toluene	5.00	4.32	18.8	16.3	86	70 - 130
1,2,4-Trichlorobenzene	5.00	5.48	37.1	40.7	110	60 - 140
1,1,1-Trichloroethane	5.00	5.94	27.3	32.4	119	70 - 130
1,1,2-Trichloroethane	5.00	4.43	27.3	24.1	89	70 - 130
Trichloroethene	5.00	5.04	26.9	27.1	101	70 - 130
1,2,3-Trimethylbenzene	5.00	5.16	24.6	25.4	103	20 - 180
1,2,4-Trimethylbenzene	5.00	4.95	24.6	24.3	99	70 - 130
1,3,5-Trimethylbenzene	5.00	5.21	24.6	25.6	104	70 - 130
Vinyl chloride	5.00	4.27	12.8	10.9	85	70 - 130
Xylenes (total)	15.0	14.6	65.1	63.3	97	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Data File: /var/chem/gcms/me.i/E030612.b/mq2371aa.d
Report Date: 07-Mar-2012 11:23

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq2371aa.d
Lab Smp Id: MQ2371AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: IA-050-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	212651	-20.39
2 1,4-Difluorobenze	1341010	797901	1884119	1038414	-22.56
3 Chlorobenzene-d5	1134838	675229	1594447	885298	-21.99

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	0.00
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq24e1aa.d
Report Date: 07-Mar-2012 11:24

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq24e1aa.d
Lab Smp Id: MQ24E1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO15S.m
Misc Info: E030612,TO15S,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: IA-051-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	242617	-9.17
2 1,4-Difluorobenze	1341010	797901	1884119	1274969	-4.92
3 Chlorobenzene-d5	1134838	675229	1594447	1025019	-9.68

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	0.00
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq23v1aa.d
Report Date: 07-Mar-2012 11:23

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq23v1aa.d
Lab Smp Id: MQ23V1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: IA-060-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	265264	-0.69
2 1,4-Difluorobenze	1341010	797901	1884119	1287620	-3.98
3 Chlorobenzene-d5	1134838	675229	1594447	1023546	-9.81

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.19	0.13
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.18	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J030612.b/mq24n1aa.d
Report Date: 07-Mar-2012 10:38

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mq24n1aa.d
Lab Smp Id: MQ24N1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J030612.b/TO15.m
Misc Info: J030612,TO15,tetra.sub,,,

Calibration Date: 06-MAR-2012
Calibration Time: 09:16
Client Smp ID: IA-100-B-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	411288	244716	577860	428875	4.28
2 1,4-Difluorobenze	1644806	978660	2310952	1897598	15.37
3 Chlorobenzene-d5	1504811	895363	2114259	1678142	11.52

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.07	8.74	9.40	9.09	0.20
2 1,4-Difluorobenze	11.25	10.92	11.58	11.26	0.07
3 Chlorobenzene-d5	15.96	15.63	16.29	15.97	0.01

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030612.b/mq24f1aa.d
Report Date: 07-Mar-2012 11:24

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq24f1aa.d
Lab Smp Id: MQ24F1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030612.b/TO155.m
Misc Info: E030612,TO155,tetra.sub,,

Calibration Date: 06-MAR-2012
Calibration Time: 10:33
Client Smp ID: IA-103-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	267101	158925	375277	233371	-12.63
2 1,4-Difluorobenze	1341010	797901	1884119	1108504	-17.34
3 Chlorobenzene-d5	1134838	675229	1594447	922963	-18.67

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.13
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.11
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030712.b/mq24q1aa.d
Report Date: 08-Mar-2012 11:21

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq24q1aa.d
Lab Smp Id: MQ24Q1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030712.b/TO155.m
Misc Info: E030712,TO155,tetra.sub,,

Calibration Date: 07-MAR-2012
Calibration Time: 10:06
Client Smp ID: IA105-7-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	254614	151495	357733	254264	-0.14
2 1,4-Difluorobenze	1281072	762238	1799906	1308350	2.13
3 Chlorobenzene-d5	1078501	641708	1515294	1072927	-0.52

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.17	-0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.32	-0.05
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/me.i/E030712.b/mq23r1aa.d
Report Date: 08-Mar-2012 11:21

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mq23r1aa.d
Lab Smp Id: MQ23R1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/me.i/E030712.b/TO155.m
Misc Info: E030712,TO155,tetra.sub,,

Calibration Date: 07-MAR-2012
Calibration Time: 10:06
Client Smp ID: IA111-C-12
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	254614	151495	357733	263306	3.41
2 1,4-Difluorobenze	1281072	762238	1799906	1374039	7.26
3 Chlorobenzene-d5	1078501	641708	1515294	1096899	1.71

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.18	7.85	8.51	8.18	0.07
2 1,4-Difluorobenze	10.33	10.00	10.66	10.33	0.00
3 Chlorobenzene-d5	15.18	14.85	15.51	15.17	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Tetra Tech, Inc. **INTERNAL CORRESPONDENCE**

TO: **R. SAMUELS** **DATE:** **APRIL 3, 2012**

FROM: **MICHELLE L. ALLEN** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER COMPLEX (MRC)
SDG H2B240437

SAMPLES: 24/Air/VOC

IA015-A-12	IA018-A-12	IA075-A-12
IA076-A-12	IA077-A-12	IA079-A-12
IA093-A-12	IA094-A-12	IA096-A-12
IA097-A-12	IA102-C-12	IA106-A-12
IA107-A-12	IA108-A-12	IA109-A-12
IA110-A-12	IA116-A-12	IA117-A-12
IA118-A-12	IA119-A-12	IA120-A-12
IADUP-3	IADUP-4	IADUP-5

Overview

The sample set for LMC – Middle River Complex, SDG H2B240437 consisted of twenty-four (24) air samples. All twenty-four (24) air samples were analyzed for volatile organic compounds (VOC). Three field duplicate pairs were included in the sample delivery group (SDG): IADUP-3/IA116-A-12, IADUP-4/IA109-A-12, and IADUP-5/IA093-A-12.

The samples were collected by Tetra Tech, Inc. on February 22, 2012 and analyzed by TestAmerica Laboratories, Inc. All analyses were conducted in accordance with EPA Method TO-15 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, blank spike results, internal standard recoveries, field duplicate precision, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major

No major noncompliances were noted.

Minor

- The Percent Differences (%Ds) for 1,2,4-trichlorobenzene and naphthalene from the continuing calibration performed on instrument MG on 03/08/12 @ 10:45 exceeded 30% quality control limit but were less than 50%. Samples IA018-A-12, IA075-A-12, IA093-A-12, IA094-A-12, IA097-A-12, IA106-A-12, IA107-A-12, IA118-A-12, IA120-A-12, IADUP-3, IADUP-4, and IADUP-5 were affected. No action was necessary for 1,2,4-trichlorobenzene because only non-detected results were reported for this compound in the affected samples. The positive results reported for naphthalene in the affected samples were qualified as estimated, (J).

- The following contaminant was detected in the laboratory method blanks at the following maximum concentration:

Compound	Maximum Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)
Methylene Chloride[(1)]	0.14	1.4
Methylene Chloride [(2)]	0.12	1.2
Methylene Chloride [(3)]	0.17	1.7

[1] Maximum concentration detected in a laboratory method blank, affecting all samples associated with preparation batch #2068093.
[2] Maximum concentration detected in a laboratory method blank, affecting all samples associated with preparation batch #2067124.
[3] Maximum concentration detected in a laboratory method blank, affecting all samples associated with preparation batch #2067130.

An action level of 10X the maximum concentration was used for the common laboratory contaminant, methylene chloride, to evaluate for laboratory method blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results reported below the action level were qualified as, (B), due to laboratory method blank contamination.

- The blank spike sample associated with preparation batch #2067124 yielded a Percent Recovery (%R) for 1,2,4-trichlorobenzene below the lower quality control limit. The non-detected results reported for this compound in the affected samples were qualified as biased low, (UL).

- The Relative Percent Differences (RPDs) chlorodifluoromethane, dichlorodifluoromethane, toluene, methylene chloride, trichloroethene, and total xylenes in the field duplicate pair IADUP-3/IA116-A-12 were greater than the 50% quality control limit. The positive results reported for these compounds were qualified as estimated, (J), in the field duplicate pair.

- The RPDs for benzene and toluene in the field duplicate pair, IADUP-4/IA109-A-12, exceeded the 50% quality control limit. The positive results reported for these compounds were qualified as estimated, (J), in the field duplicate pair. In addition, tetrachloroethene was detected below the Limit of Quantitation (LOQ) in the environmental sample, IA109-A-12, but above the LOQ in the field duplicate sample, IADUP-4. Conversely, ethylbenzene and total xylenes were detected below the LOQ in the field duplicate sample but above the LOQ in the associated environmental sample. The differences between the positive results for these compounds were greater than 2X the LOQ; therefore, the positive results in the field duplicate pair were qualified as estimated, (J), due to field duplicate imprecision.

- The RPDs chlorodifluoromethane and total xylenes in the field duplicate pair IADUP-5/IA093-A-12 were greater than the 50% quality control limit. The positive results reported for these compounds were qualified as estimated, (J), in the field duplicate pair.

Notes

The %Ds for 1,2,4-trichlorobenzene and naphthalene from the continuing calibration performed on instrument MJ on 03/07/12 @ 12:31 exceeded 30% quality control limit but were less than 50%. Samples IA109-A-12, IA110-A-12, IA116-A-12, and IA119-A-12 were affected. No action was necessary because only non-detected results were reported for these compounds in the affected samples.

1,1,1-Trichloroethane and cis-1,2-dichloroethene were detected in the environmental sample, IA109-A-12, but not detected in the field duplicate sample, IADUP-3. Additionally, 1,2,4-trimethylbenzene and naphthalene was detected in sample, IADUP-3, but not in IA116-A-12. No action was necessary for field duplicate imprecision because the differences between the positive and non-detected results were less than 2X the LOQ.

1,1,1-Trichloroethane was detected in the field duplicate sample, IADUP-4, but not detected in the environmental sample, IA109-A-12. No action was necessary for field duplicate imprecision because the difference between the positive and non-detected results was less than 2X the LOQ.

1,2-Dichloroethane was detected in the environmental sample, IA093-A-12, but not detected in the field duplicate sample, IADUP-5. No action was necessary for field duplicate imprecision because the difference between the positive and non-detected results was less than 2X the LOQ.

Positive results for target compounds below the LOQ were detected in one or both samples in the field duplicate sample pairs. No qualification was necessary when the difference between the two positive results was less than 2X the LOQ.

All samples were initially analyzed at a dilution with the exception of samples IA076-A-12, IA093-A-12, IA102-C-12, IA116-A-12, IADUP-4, and IADUP-5. The reporting limits for non-detected results reported in the diluted analyses were elevated.

The laboratory did not provide summary forms for the internal standard and surrogate spike compound quality control criteria. The sample raw data were used in the evaluation of the data.

Executive Summary

Laboratory Performance: Some continuing calibration %Ds were noncompliant. Methylene chloride was detected in the laboratory method blanks. The blank spike had target compounds above the quality control limits.

Other Factors Affecting Data Quality: Field duplicate imprecision was noted for several compounds in the field duplicate pairs. Most samples were analyzed at dilutions.

The data for these analyses were reviewed with reference to Region III modifications to U.S. EPA National Functional Guidelines for Organic Data Validation (Sept. 1994) and EPA Method TO-15. The text of this report has been formulated to address only those problem areas affecting data quality.

Tetra Tech, Inc.
Michelle L. Allen
Chemist/Data Validator

Tetra Tech, Inc.
Joseph A. Samchuck
Quality Assurance Officer

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Appendix A

Qualified Analytical Results

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed

PROJ_NO: 03953	NSAMPLE	IA015-A-12			IA018-A-12			IA075-A-12			IA076-A-12		
SDG: H2B240437	LAB_ID	H2B240437006			H2B240437016			H2B240437008			H2B240437009		
FRACTION: OV	SAMP_DATE	2/22/2012			2/22/2012			2/22/2012			2/22/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		11	U		0.15	J	P	0.16	U		1.6		
1,1,2-TRICHLOROETHANE		19	U		0.23	U		0.29	U		0.11	U	
1,1-DICHLOROETHANE		6.6	U		0.14	J	P	0.1	U		0.04	U	
1,1-DICHLOROETHENE		8.4	U		2.1			0.13	U		0.052	U	
1,2,3-TRIMETHYLBENZENE		64	U		0.79	U		0.98	U		0.39	U	
1,2,4-TRICHLOROBENZENE		47	U		0.58	U		0.72	U		0.29	U	
1,2,4-TRIMETHYLBENZENE		20	U		0.25	U		0.5	J	P	0.25	J	P
1,2-DICHLOROETHANE		13	U		0.15	U		0.19	U		0.077	U	
1,3,5-TRIMETHYLBENZENE		21	U		0.26	U		0.32	U		0.13	U	
BENZENE		12	U		0.83			1.1			1.1		
CARBON TETRACHLORIDE		15	U		0.64	J	P	0.62	J	P	0.48	J	P
CHLORODIFLUOROMETHANE		8.7	U		2.2			6.5			1.5		
CHLOROFORM		12	U		0.26	J	P	0.24	J	P	0.13	J	P
CIS-1,2-DICHLOROETHENE		16	U		0.6	J	P	0.24	U		0.095	U	
DICHLORODIFLUOROMETHANE		22	U		3.4			3.2			2.3		
ETHYLBENZENE		120			1.4			3.5			0.79		
METHYL TERT-BUTYL ETHER		40	U		0.49	U		0.61	U		0.25	U	
METHYLENE CHLORIDE		21	B	A	0.85	B	A	2.6	B	A	0.61	B	A
NAPHTHALENE		31	U		0.38	U		0.55	J	CP	0.19	U	
TETRACHLOROETHENE		18	U		1	J	P	0.44	J	P	0.29	J	P
TOLUENE		2400			35			82			9.4		
TOTAL XYLENES		740			7.6			21			3.8		
TRANS-1,2-DICHLOROETHENE		13	U		0.16	U		0.2	U		0.079	U	
TRICHLOROETHENE		12	U		5.1			1.2			0.12	J	P
VINYL CHLORIDE		12	U		0.15	U		0.19	U		0.074	U	

PROJ_NO: 03953	NSAMPLE	IA077-A-12			IA079-A-12			IA093-A-12			IA094-A-12		
SDG: H2B240437	LAB_ID	H2B240437010			H2B240437004			H2B240437024			H2B240437017		
FRACTION: OV	SAMP_DATE	2/22/2012			2/22/2012			2/22/2012			2/22/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.65	U		0.65	U		0.18	J	P	0.13	U	
1,1,2-TRICHLOROETHANE		1.1	U		1.1	U		0.11	U		0.23	U	
1,1-DICHLOROETHANE		0.4	U		0.4	U		0.04	U		0.081	U	
1,1-DICHLOROETHENE		0.52	U		0.52	U		0.21	J	P	0.1	J	P
1,2,3-TRIMETHYLBENZENE		3.9	U		3.9	U		0.39	U		0.79	U	
1,2,4-TRICHLOROBENZENE		2.9	U		2.9	U		0.29	U		0.58	U	
1,2,4-TRIMETHYLBENZENE		1.2	U		2.1	J	P	0.12	U		0.38	J	P
1,2-DICHLOROETHANE		0.77	U		0.77	U		0.097	J	P	0.15	U	
1,3,5-TRIMETHYLBENZENE		1.3	U		1.3	U		0.13	U		0.26	U	
BENZENE		0.79	J	P	0.73	U		0.74			1		
CARBON TETRACHLORIDE		0.94	U		0.94	U		0.66			0.69	J	P
CHLORODIFLUOROMETHANE		4.3			6.6			6.6	J	G	3.2		
CHLOROFORM		0.73	U		0.73	U		0.2	J	P	0.26	J	P
CIS-1,2-DICHLOROETHENE		0.95	U		0.95	U		0.095	U		0.19	U	
DICHLORODIFLUOROMETHANE		2.7	J	P	3.2	J	P	3.6			3.5		
ETHYLBENZENE		7			4.7			0.28	J	P	2.6		
METHYL TERT-BUTYL ETHER		2.5	U		2.5	U		0.25	U		0.49	U	
METHYLENE CHLORIDE		2.8	B	A	3.7	B	A	2			2.1	B	A
NAPHTHALENE		1.9	U		1.9	U		0.19	U		0.38	U	
TETRACHLOROETHENE		1.1	U		1.1	U		2			0.49	J	P
TOLUENE		160			110			7.3			71		
TOTAL XYLENES		45			28			0.77	J	G	15		
TRANS-1,2-DICHLOROETHENE		0.79	U		0.79	U		0.079	U		0.16	U	
TRICHLOROETHENE		0.75	U		0.75	U		2.2			0.56		
VINYL CHLORIDE		0.74	U		0.74	U		0.074	U		0.15	U	

PROJ_NO: 03953	NSAMPLE	IA096-A-12			IA097-A-12			IA102-C-12			IA106-A-12		
SDG: H2B240437	LAB_ID	H2B240437011			H2B240437005			H2B240437018			H2B240437002		
FRACTION: OV	SAMP_DATE	2/22/2012			2/22/2012			2/22/2012			2/22/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		1.3	U		0.33	U		0.32	J	P	0.33	U	
1,1,2-TRICHLOROETHANE		2.3	U		0.57	U		0.11	U		0.57	U	
1,1-DICHLOROETHANE		0.81	U		0.2	U		0.04	U		0.2	U	
1,1-DICHLOROETHENE		1	U		0.26	U		0.052	U		0.26	U	
1,2,3-TRIMETHYLBENZENE		7.9	U		2	U		0.39	U		2	U	
1,2,4-TRICHLOROBENZENE		5.8	U		1.4	U		0.29	UL	E	1.4	U	
1,2,4-TRIMETHYLBENZENE		2.5	U		0.66	J	P	0.31	J	P	2.6		
1,2-DICHLOROETHANE		1.5	U		0.38	U		0.077	U		0.38	U	
1,3,5-TRIMETHYLBENZENE		2.6	U		0.64	U		0.13	U		0.91	J	P
BENZENE		1.5	U		0.84	J	P	0.83			1.2	J	P
CARBON TETRACHLORIDE		1.9	U		0.56	J	P	0.43	J	P	0.68	J	P
CHLORODIFLUOROMETHANE		2.2	J	P	11			11			13		
CHLOROFORM		1.5	U		0.37	U		0.18	J	P	0.37	U	
CIS-1,2-DICHLOROETHENE		1.9	U		0.48	U		0.095	U		0.48	U	
DICHLORODIFLUOROMETHANE		3.9	J	P	2.8			2.2			4		
ETHYLBENZENE		7.8			5.1			1.3			6.8		
METHYL TERT-BUTYL ETHER		4.9	U		1.2	U		0.25	U		1.2	U	
METHYLENE CHLORIDE		3.2	B	A	5	B	A	1.2	B	A	7.1	B	A
NAPHTHALENE		3.8	U		0.94	U		0.19	U		0.94	U	
TETRACHLOROETHENE		2.2	U		0.54	U		0.25	J	P	0.54	U	
TOLUENE		280			140			23			170		
TOTAL XYLENES		47			28			6.1			40		
TRANS-1,2-DICHLOROETHENE		1.6	U		0.4	U		0.079	U		0.4	U	
TRICHLOROETHENE		1.5	U		0.38	U		0.2	J	P	0.38	U	
VINYL CHLORIDE		1.5	U		0.37	U		0.074	U		0.37	U	

PROJ_NO: 03953	NSAMPLE	IA107-A-12			IA108-A-12			IA109-A-12			IA110-A-12		
SDG: H2B240437	LAB_ID	H2B240437003			H2B240437007			H2B240437023			H2B240437022		
FRACTION: OV	SAMP_DATE	2/22/2012			2/22/2012			2/22/2012			2/22/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.33	U		3	U		0.13	U		0.13	U	
1,1,2-TRICHLOROETHANE		0.57	U		5.2	U		0.23	U		0.23	U	
1,1-DICHLOROETHANE		0.2	U		1.8	U		0.081	U		0.081	U	
1,1-DICHLOROETHENE		0.26	U		2.3	U		0.29	J	P	0.29	J	P
1,2,3-TRIMETHYLBENZENE		2	U		18	U		0.79	U		0.79	U	
1,2,4-TRICHLOROBENZENE		1.4	U		13	U		0.58	UL	E	0.58	UL	E
1,2,4-TRIMETHYLBENZENE		1.2	J	P	5.6	U		0.25	U		0.4	J	P
1,2-DICHLOROETHANE		0.38	U		3.5	U		0.15	U		0.15	U	
1,3,5-TRIMETHYLBENZENE		0.64	U		5.8	U		0.26	U		0.26	U	
BENZENE		0.77	J	P	3.3	U		0.66	J	G	0.6		
CARBON TETRACHLORIDE		0.5	J	P	4.3	U		0.49	J	P	0.49	J	P
CHLORODIFLUOROMETHANE		7.1			7.9	J	P	1.9			2.3		
CHLOROFORM		0.37	U		3.3	U		0.25	J	P	0.2	J	P
CIS-1,2-DICHLOROETHENE		0.48	U		4.3	U		0.19	U		0.19	U	
DICHLORODIFLUOROMETHANE		3			6.1	U		2.3			2.3		
ETHYLBENZENE		3.7			64			2.5	J	G	3.2		
METHYL TERT-BUTYL ETHER		1.2	U		11	U		0.49	U		0.49	U	
METHYLENE CHLORIDE		2.7	B	A	7.1	B	A	0.86	B	A	0.89	B	A
NAPHTHALENE		0.94	U		8.6	U		0.38	U		0.38	U	
TETRACHLOROETHENE		0.54	U		4.9	U		0.63	J	GP	0.61	J	P
TOLUENE		98			1500			91	J	G	89		
TOTAL XYLENES		20			410			9.7	J	G	18		
TRANS-1,2-DICHLOROETHENE		0.4	U		3.6	U		0.16	U		0.16	U	
TRICHLOROETHENE		0.38	U		3.4	U		1.1			0.9		
VINYL CHLORIDE		0.37	U		3.4	U		0.15	U		0.15	U	

PROJ_NO: 03953	NSAMPLE	IA116-A-12			IA117-A-12			IA118-A-12			IA119-A-12		
SDG: H2B240437	LAB_ID	H2B240437021			H2B240437001			H2B240437019			H2B240437020		
FRACTION: OV	SAMP_DATE	2/22/2012			2/22/2012			2/22/2012			2/22/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.081	J	P	1.3	U		0.33	U		0.13	U	
1,1,2-TRICHLOROETHANE		0.11	U		2.2	U		0.57	U		0.23	U	
1,1-DICHLOROETHANE		0.04	U		0.78	U		0.2	U		0.081	U	
1,1-DICHLOROETHENE		0.35			0.99	U		0.26	U		0.1	U	
1,2,3-TRIMETHYLBENZENE		0.39	U		7.6	U		2	U		0.79	U	
1,2,4-TRICHLOROBENZENE		0.29	UL	E	5.6	U		1.4	U		0.58	UL	E
1,2,4-TRIMETHYLBENZENE		0.12	U		3.9	J	P	0.61	U		0.84		
1,2-DICHLOROETHANE		0.077	U		1.5	U		0.38	U		0.15	U	
1,3,5-TRIMETHYLBENZENE		0.13	U		2.5	U		0.64	U		0.28	J	P
BENZENE		0.58			1.4	U		0.89	J	P	0.67		
CARBON TETRACHLORIDE		0.46	J	P	1.8	U		0.61	J	P	0.38	J	P
CHLORODIFLUOROMETHANE		3.5	J	G	9.1			37			33		
CHLOROFORM		0.22	J	P	1.4	U		0.37	U		0.21	J	P
CIS-1,2-DICHLOROETHENE		0.1	J	P	1.8	U		0.48	U		0.19	U	
DICHLORODIFLUOROMETHANE		2.2			4	J	P	3			2.1		
ETHYLBENZENE		1.2			20			5			4.6		
METHYL TERT-BUTYL ETHER		0.25	U		4.7	U		1.2	U		0.49	U	
METHYLENE CHLORIDE		2.8	J	G	4.8	B	A	1.5	B	A	0.91	B	A
NAPHTHALENE		0.19	U		3.6	U		0.94	U		0.38	U	
TETRACHLOROETHENE		0.65			2.1	U		0.54	U		0.24	J	P
TOLUENE		54	J	G	580			130			100		
TOTAL XYLENES		3.6			96			30			27		
TRANS-1,2-DICHLOROETHENE		0.079	U		1.5	U		0.4	U		0.16	U	
TRICHLOROETHENE		1.4	J	G	1.4	U		0.38	U		0.15	U	
VINYL CHLORIDE		0.074	U		1.4	U		0.37	U		0.15	U	

PROJ_NO: 03953	NSAMPLE	IA120-A-12			IADUP-3			IADUP-4			IADUP-5		
SDG: H2B240437	LAB_ID	H2B240437012			H2B240437013			H2B240437014			H2B240437015		
FRACTION: OV	SAMP_DATE	2/22/2012			2/22/2012			2/22/2012			2/22/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF				IA116-A-12			IA109-A-12					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.33	U		0.13	U		0.069	J	P	0.16	J	P
1,1,2-TRICHLOROETHANE		0.57	U		0.23	U		0.11	U		0.11	U	
1,1-DICHLOROETHANE		0.2	U		0.081	U		0.04	U		0.04	U	
1,1-DICHLOROETHENE		0.26	U		0.11	J	P	0.27	J	P	0.22	J	P
1,2,3-TRIMETHYLBENZENE		2	U		0.79	U		0.39	U		0.39	U	
1,2,4-TRICHLOROBENZENE		1.4	U		0.58	U		0.29	U		0.29	U	
1,2,4-TRIMETHYLBENZENE		0.61	U		0.26	J	P	0.12	U		0.12	U	
1,2-DICHLOROETHANE		0.38	U		0.15	U		0.077	U		0.077	U	
1,3,5-TRIMETHYLBENZENE		0.64	U		0.26	U		0.13	U		0.13	U	
BENZENE		0.78	J	P	0.58			1.2	J	G	0.64		
CARBON TETRACHLORIDE		0.55	J	P	0.68	J	P	0.54			0.56		
CHLORODIFLUOROMETHANE		41			28	J	G	2.3			3.5	J	G
CHLOROFORM		0.37	U		0.2	J	P	0.45			0.16	J	P
CIS-1,2-DICHLOROETHENE		0.48	U		0.19	U		0.095	U		0.095	U	
DICHLORODIFLUOROMETHANE		3			3.4			2.9			2.9		
ETHYLBENZENE		3.3			1.1			0.14	J	GP	0.46		
METHYL TERT-BUTYL ETHER		1.2	U		0.49	U		0.25	U		0.25	U	
METHYLENE CHLORIDE		2.2	B	A	16	J	G	1.3	B	A	1.5		
NAPHTHALENE		0.94	U		0.47	J	P	0.19	U		0.19	U	
TETRACHLOROETHENE		0.54	U		0.26	J	P	3.3	J	G	2.1		
TOLUENE		86			21		G	2.1	J	G	8.9		
TOTAL XYLENES		20			6			0.44	J	GP	2.1	J	G
TRANS-1,2-DICHLOROETHENE		0.4	U		0.16	U		0.079	U		0.079	U	
TRICHLOROETHENE		0.38	U		0.65	J	G	0.97			2		
VINYL CHLORIDE		0.37	U		0.15	U		0.074	U		0.074	U	

Appendix B

Results as Reported by the Laboratory

Tetra Tech, Inc

Client Sample ID: IA015-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 006	**Work Order #**	MQ3KP1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2067130	**Analysis Time....:**	00:13		
Dilution Factor.:	163.64	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	13	3.8	ND	42	12
Carbon tetrachloride	ND	13	2.5	ND	82	15
Chlorodifluoromethane	ND	13	2.5	ND	46	8.7
Chloroform	ND	13	2.5	ND	64	12
Dichlorodifluoromethane	ND	13	4.4	ND	65	22
1,1-Dichloroethane	ND	13	1.6	ND	53	6.6
1,2-Dichloroethane	ND	13	3.1	ND	53	13
cis-1,2-Dichloroethene	ND	13	3.9	ND	52	16
trans-1,2-Dichloroethene	ND	13	3.3	ND	52	13
1,1-Dichloroethene	ND	13	2.1	ND	52	8.4
Ethylbenzene	**27**	**13**	**4.4**	**120**	**57**	**19**
Methylene chloride	**6.2 J B**	**33**	**2.9**	**21 J B**	**110**	**10**
Methyl tert-butyl ether	ND	65	11	ND	240	40
Naphthalene	ND	33	5.9	ND	170	31
Tetrachloroethene	ND	13	2.6	ND	89	18
Toluene	**650**	**13**	**3.4**	**2400**	**49**	**13**
1,2,4-Trichlorobenzene	ND	65	6.4	ND	490	47
1,1,1-Trichloroethane	ND	13	2.0	ND	71	11
1,1,2-Trichloroethane	ND	13	3.4	ND	71	19
Trichloroethene	ND	6.5	2.3	ND	35	12
1,2,3-Trimethylbenzene	ND	13	13	ND	64	64
1,2,4-Trimethylbenzene	ND	13	4.1	ND	64	20
1,3,5-Trimethylbenzene	ND	13	4.3	ND	64	21
Vinyl chloride	ND	13	4.7	ND	33	12
Xylenes (total)	**170**	**26**	**3.9**	**740**	**110**	**17**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA018-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 016	**Work Order #**	MQ3K81AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2068093	**Analysis Time....:**	18:15		
Dilution Factor.:	2	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.26**	**0.16**	**0.046**	**0.83**	**0.51**	**0.15**
Carbon tetrachloride	**0.10 J**	**0.16**	**0.030**	**0.64 J**	**1.0**	**0.19**
Chlorodifluoromethane	**0.61**	**0.16**	**0.030**	**2.2**	**0.57**	**0.11**
Chloroform	**0.053 J**	**0.16**	**0.030**	**0.26 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.68**	**0.16**	**0.054**	**3.4**	**0.79**	**0.27**
1,1-Dichloroethane	**0.034 J**	**0.16**	**0.020**	**0.14 J**	**0.65**	**0.081**
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	**0.15 J**	**0.16**	**0.048**	**0.60 J**	**0.63**	**0.19**
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	**0.53**	**0.16**	**0.026**	**2.1**	**0.63**	**0.10**
Ethylbenzene	**0.33**	**0.16**	**0.054**	**1.4**	**0.69**	**0.23**
Methylene chloride	**0.25 J B**	**0.40**	**0.036**	**0.85 J B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	**0.15 J**	**0.16**	**0.032**	**1.0 J**	**1.1**	**0.22**
Toluene	**9.4**	**0.16**	**0.042**	**35**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	**0.028 J**	**0.16**	**0.024**	**0.15 J**	**0.87**	**0.13**
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.94**	**0.080**	**0.028**	**5.1**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	ND	0.16	0.050	ND	0.79	0.25
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**1.7**	**0.32**	**0.048**	**7.6**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA075-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 008	**Work Order #**	MQ3KW1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2068093	**Analysis Time....:**	23:31		
Dilution Factor.:	2.5	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.33**	**0.20**	**0.058**	**1.1**	**0.64**	**0.18**
Carbon tetrachloride	**0.098 J**	**0.20**	**0.038**	**0.62 J**	**1.3**	**0.24**
Chlorodifluoromethane	**1.8**	**0.20**	**0.038**	**6.5**	**0.71**	**0.13**
Chloroform	**0.049 J**	**0.20**	**0.038**	**0.24 J**	**0.98**	**0.18**
Dichlorodifluoromethane	**0.65**	**0.20**	**0.068**	**3.2**	**0.99**	**0.33**
1,1-Dichloroethane	ND	0.20	0.025	ND	0.81	0.10
1,2-Dichloroethane	ND	0.20	0.048	ND	0.81	0.19
cis-1,2-Dichloroethene	ND	0.20	0.060	ND	0.79	0.24
trans-1,2-Dichloroethene	ND	0.20	0.050	ND	0.79	0.20
1,1-Dichloroethene	ND	0.20	0.032	ND	0.79	0.13
Ethylbenzene	**0.80**	**0.20**	**0.068**	**3.5**	**0.87**	**0.29**
Methylene chloride	**0.75 B**	**0.50**	**0.045**	**2.6 B**	**1.7**	**0.16**
Methyl tert-butyl ether	ND	1.0	0.17	ND	3.6	0.61
Naphthalene	**0.11 J**	**0.50**	**0.090**	**0.55 J**	**2.6**	**0.47**
Tetrachloroethene	**0.064 J**	**0.20**	**0.040**	**0.44 J**	**1.4**	**0.27**
Toluene	**22**	**0.20**	**0.052**	**82**	**0.75**	**0.20**
1,2,4-Trichlorobenzene	ND	1.0	0.098	ND	7.4	0.72
1,1,1-Trichloroethane	ND	0.20	0.030	ND	1.1	0.16
1,1,2-Trichloroethane	ND	0.20	0.052	ND	1.1	0.29
Trichloroethene	**0.22**	**0.10**	**0.035**	**1.2**	**0.54**	**0.19**
1,2,3-Trimethylbenzene	ND	0.20	0.20	ND	0.98	0.98
1,2,4-Trimethylbenzene	**0.10 J**	**0.20**	**0.062**	**0.50 J**	**0.98**	**0.31**
1,3,5-Trimethylbenzene	ND	0.20	0.065	ND	0.98	0.32
Vinyl chloride	ND	0.20	0.072	ND	0.51	0.19
Xylenes (total)	**4.9**	**0.40**	**0.060**	**21**	**1.7**	**0.26**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	110	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA076-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 009	**Work Order #**	MQ3KX1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2067130	**Analysis Time....:**	05:22		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.35**	**0.080**	**0.023**	**1.1**	**0.26**	**0.073**
Carbon tetrachloride	**0.076 J**	**0.080**	**0.015**	**0.48 J**	**0.50**	**0.094**
Chlorodifluoromethane	**0.42**	**0.080**	**0.015**	**1.5**	**0.28**	**0.053**
Chloroform	**0.027 J**	**0.080**	**0.015**	**0.13 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.47**	**0.080**	**0.027**	**2.3**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.18**	**0.080**	**0.027**	**0.79**	**0.35**	**0.12**
Methylene chloride	**0.18 J B**	**0.20**	**0.018**	**0.61 J B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.043 J**	**0.080**	**0.016**	**0.29 J**	**0.54**	**0.11**
Toluene	**2.5**	**0.080**	**0.021**	**9.4**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.29**	**0.080**	**0.012**	**1.6**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.023 J**	**0.040**	**0.014**	**0.12 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.051 J**	**0.080**	**0.025**	**0.25 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.87**	**0.16**	**0.024**	**3.8**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA077-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 010	**Work Order #**	MQ3K01AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2067130	**Analysis Time....:**	03:37		
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.25 J**	**0.80**	**0.23**	**0.79 J**	**2.6**	**0.73**
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**1.2**	**0.80**	**0.15**	**4.3**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.55 J**	**0.80**	**0.27**	**2.7 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**1.6**	**0.80**	**0.27**	**7.0**	**3.5**	**1.2**
Methylene chloride	**0.79 J B**	**2.0**	**0.18**	**2.8 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**43**	**0.80**	**0.21**	**160**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	ND	0.40	0.14	ND	2.1	0.75
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	ND	0.80	0.25	ND	3.9	1.2
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**10**	**1.6**	**0.24**	**45**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA079-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 004	**Work Order #**	MQ3KL1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012		
Prep Batch #.....:	2067130	**Analysis Time....:**	13:38		
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.80	0.23	ND	2.6	0.73
Carbon tetrachloride	ND	0.80	0.15	ND	5.0	0.94
Chlorodifluoromethane	**1.9**	**0.80**	**0.15**	**6.6**	**2.8**	**0.53**
Chloroform	ND	0.80	0.15	ND	3.9	0.73
Dichlorodifluoromethane	**0.64 J**	**0.80**	**0.27**	**3.2 J**	**4.0**	**1.3**
1,1-Dichloroethane	ND	0.80	0.10	ND	3.2	0.40
1,2-Dichloroethane	ND	0.80	0.19	ND	3.2	0.77
cis-1,2-Dichloroethene	ND	0.80	0.24	ND	3.2	0.95
trans-1,2-Dichloroethene	ND	0.80	0.20	ND	3.2	0.79
1,1-Dichloroethene	ND	0.80	0.13	ND	3.2	0.52
Ethylbenzene	**1.1**	**0.80**	**0.27**	**4.7**	**3.5**	**1.2**
Methylene chloride	**1.1 J B**	**2.0**	**0.18**	**3.7 J B**	**6.9**	**0.63**
Methyl tert-butyl ether	ND	4.0	0.68	ND	14	2.5
Naphthalene	ND	2.0	0.36	ND	10	1.9
Tetrachloroethene	ND	0.80	0.16	ND	5.4	1.1
Toluene	**30**	**0.80**	**0.21**	**110**	**3.0**	**0.79**
1,2,4-Trichlorobenzene	ND	4.0	0.39	ND	30	2.9
1,1,1-Trichloroethane	ND	0.80	0.12	ND	4.4	0.65
1,1,2-Trichloroethane	ND	0.80	0.21	ND	4.4	1.1
Trichloroethene	ND	0.40	0.14	ND	2.1	0.75
1,2,3-Trimethylbenzene	ND	0.80	0.80	ND	3.9	3.9
1,2,4-Trimethylbenzene	**0.42 J**	**0.80**	**0.25**	**2.1 J**	**3.9**	**1.2**
1,3,5-Trimethylbenzene	ND	0.80	0.26	ND	3.9	1.3
Vinyl chloride	ND	0.80	0.29	ND	2.0	0.74
Xylenes (total)	**6.4**	**1.6**	**0.24**	**28**	**6.9**	**1.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA093-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 024	**Work Order #**	MQ3LT1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/09/2012		
Prep Batch #.....:	2068093	**Analysis Time....:**	08:52		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.23**	**0.080**	**0.023**	**0.74**	**0.26**	**0.073**
Carbon tetrachloride	**0.10**	**0.080**	**0.015**	**0.66**	**0.50**	**0.094**
Chlorodifluoromethane	**1.9**	**0.080**	**0.015**	**6.6**	**0.28**	**0.053**
Chloroform	**0.040 J**	**0.080**	**0.015**	**0.20 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.72**	**0.080**	**0.027**	**3.6**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.024 J**	**0.080**	**0.019**	**0.097 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	**0.052 J**	**0.080**	**0.013**	**0.21 J**	**0.32**	**0.052**
Ethylbenzene	**0.065 J**	**0.080**	**0.027**	**0.28 J**	**0.35**	**0.12**
Methylene chloride	**0.58 B**	**0.20**	**0.018**	**2.0 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.30**	**0.080**	**0.016**	**2.0**	**0.54**	**0.11**
Toluene	**1.9**	**0.080**	**0.021**	**7.3**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.034 J**	**0.080**	**0.012**	**0.18 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.41**	**0.040**	**0.014**	**2.2**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.18**	**0.16**	**0.024**	**0.77**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	110	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA094-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 017	**Work Order #**	MQ3LA1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2068093	**Analysis Time....:**	19:10		
Dilution Factor.:	2	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.32**	**0.16**	**0.046**	**1.0**	**0.51**	**0.15**
Carbon tetrachloride	**0.11 J**	**0.16**	**0.030**	**0.69 J**	**1.0**	**0.19**
Chlorodifluoromethane	**0.91**	**0.16**	**0.030**	**3.2**	**0.57**	**0.11**
Chloroform	**0.053 J**	**0.16**	**0.030**	**0.26 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.70**	**0.16**	**0.054**	**3.5**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	**0.026 J**	**0.16**	**0.026**	**0.10 J**	**0.63**	**0.10**
Ethylbenzene	**0.60**	**0.16**	**0.054**	**2.6**	**0.69**	**0.23**
Methylene chloride	**0.60 B**	**0.40**	**0.036**	**2.1 B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	**0.073 J**	**0.16**	**0.032**	**0.49 J**	**1.1**	**0.22**
Toluene	**19**	**0.16**	**0.042**	**71**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.10**	**0.080**	**0.028**	**0.56**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	**0.078 J**	**0.16**	**0.050**	**0.38 J**	**0.79**	**0.25**
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**3.3**	**0.32**	**0.048**	**15**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	114	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: 1A096-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 011	**Work Order #**	MQ3K11AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2068093	**Analysis Time....:**	13:41		
Dilution Factor.:	20	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	1.6	0.46	ND	5.1	1.5
Carbon tetrachloride	ND	1.6	0.30	ND	10	1.9
Chlorodifluoromethane	**0.62 J**	**1.6**	**0.30**	**2.2 J**	**5.7**	**1.1**
Chloroform	ND	1.6	0.30	ND	7.8	1.5
Dichlorodifluoromethane	**0.78 J**	**1.6**	**0.54**	**3.9 J**	**7.9**	**2.7**
1,1-Dichloroethane	ND	1.6	0.20	ND	6.5	0.81
1,2-Dichloroethane	ND	1.6	0.38	ND	6.5	1.5
cis-1,2-Dichloroethene	ND	1.6	0.48	ND	6.3	1.9
trans-1,2-Dichloroethene	ND	1.6	0.40	ND	6.3	1.6
1,1-Dichloroethene	ND	1.6	0.26	ND	6.3	1.0
Ethylbenzene	**1.8**	**1.6**	**0.54**	**7.8**	**6.9**	**2.3**
Methylene chloride	**0.93 J B**	**4.0**	**0.36**	**3.2 J B**	**14**	**1.3**
Methyl tert-butyl ether	ND	8.0	1.4	ND	29	4.9
Naphthalene	ND	4.0	0.72	ND	21	3.8
Tetrachloroethene	ND	1.6	0.32	ND	11	2.2
Toluene	**75**	**1.6**	**0.42**	**280**	**6.0**	**1.6**
1,2,4-Trichlorobenzene	ND	8.0	0.78	ND	59	5.8
1,1,1-Trichloroethane	ND	1.6	0.24	ND	8.7	1.3
1,1,2-Trichloroethane	ND	1.6	0.42	ND	8.7	2.3
Trichloroethene	ND	0.80	0.28	ND	4.3	1.5
1,2,3-Trimethylbenzene	ND	1.6	1.6	ND	7.9	7.9
1,2,4-Trimethylbenzene	ND	1.6	0.50	ND	7.9	2.5
1,3,5-Trimethylbenzene	ND	1.6	0.52	ND	7.9	2.6
Vinyl chloride	ND	1.6	0.58	ND	4.1	1.5
Xylenes (total)	**11**	**3.2**	**0.48**	**47**	**14**	**2.1**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA097-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 005	**Work Order #**	MQ3KM1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2068093	**Analysis Time....:**	22:39		
Dilution Factor.:	5	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.26 J**	**0.40**	**0.12**	**0.84 J**	**1.3**	**0.37**
Carbon tetrachloride	**0.089 J**	**0.40**	**0.075**	**0.56 J**	**2.5**	**0.47**
Chlorodifluoromethane	**3.0**	**0.40**	**0.075**	**11**	**1.4**	**0.27**
Chloroform	ND	0.40	0.075	ND	2.0	0.37
Dichlorodifluoromethane	**0.57**	**0.40**	**0.14**	**2.8**	**2.0**	**0.67**
1,1-Dichloroethane	ND	0.40	0.050	ND	1.6	0.20
1,2-Dichloroethane	ND	0.40	0.095	ND	1.6	0.38
cis-1,2-Dichloroethene	ND	0.40	0.12	ND	1.6	0.48
trans-1,2-Dichloroethene	ND	0.40	0.10	ND	1.6	0.40
1,1-Dichloroethene	ND	0.40	0.065	ND	1.6	0.26
Ethylbenzene	**1.2**	**0.40**	**0.14**	**5.1**	**1.7**	**0.59**
Methylene chloride	**1.5 B**	**1.0**	**0.090**	**5.0 B**	**3.5**	**0.31**
Methyl tert-butyl ether	ND	2.0	0.34	ND	7.2	1.2
Naphthalene	ND	1.0	0.18	ND	5.2	0.94
Tetrachloroethene	ND	0.40	0.080	ND	2.7	0.54
Toluene	**36**	**0.40**	**0.10**	**140**	**1.5**	**0.40**
1,2,4-Trichlorobenzene	ND	2.0	0.20	ND	15	1.4
1,1,1-Trichloroethane	ND	0.40	0.060	ND	2.2	0.33
1,1,2-Trichloroethane	ND	0.40	0.10	ND	2.2	0.57
Trichloroethene	ND	0.20	0.070	ND	1.1	0.38
1,2,3-Trimethylbenzene	ND	0.40	0.40	ND	2.0	2.0
1,2,4-Trimethylbenzene	**0.13 J**	**0.40**	**0.12**	**0.66 J**	**2.0**	**0.61**
1,3,5-Trimethylbenzene	ND	0.40	0.13	ND	2.0	0.64
Vinyl chloride	ND	0.40	0.14	ND	1.0	0.37
Xylenes (total)	**6.5**	**0.80**	**0.12**	**28**	**3.5**	**0.52**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	113	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA102-C-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 018	**Work Order #**	MQ3LD1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2067124	**Analysis Time....:**	03:41		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.26**	**0.080**	**0.023**	**0.83**	**0.26**	**0.073**
Carbon tetrachloride	**0.068 J**	**0.080**	**0.015**	**0.43 J**	**0.50**	**0.094**
Chlorodifluoromethane	**3.1**	**0.080**	**0.015**	**11**	**0.28**	**0.053**
Chloroform	**0.037 J**	**0.080**	**0.015**	**0.18 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.44**	**0.080**	**0.027**	**2.2**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	**0.29**	**0.080**	**0.027**	**1.3**	**0.35**	**0.12**
Methylene chloride	**0.34 B**	**0.20**	**0.018**	**1.2 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.037 J**	**0.080**	**0.016**	**0.25 J**	**0.54**	**0.11**
Toluene	**6.1**	**0.080**	**0.021**	**23**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.059 J**	**0.080**	**0.012**	**0.32 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.038 J**	**0.040**	**0.014**	**0.20 J**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.063 J**	**0.080**	**0.025**	**0.31 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**1.4**	**0.16**	**0.024**	**6.1**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA106-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 002	**Work Order #**	MQ3KF1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2068093	**Analysis Time....:**	20:55		
Dilution Factor.:	5	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.37 J**	**0.40**	**0.12**	**1.2 J**	**1.3**	**0.37**
Carbon tetrachloride	**0.11 J**	**0.40**	**0.075**	**0.68 J**	**2.5**	**0.47**
Chlorodifluoromethane	**3.6**	**0.40**	**0.075**	**13**	**1.4**	**0.27**
Chloroform	ND	0.40	0.075	ND	2.0	0.37
Dichlorodifluoromethane	**0.82**	**0.40**	**0.14**	**4.0**	**2.0**	**0.67**
1,1-Dichloroethane	ND	0.40	0.050	ND	1.6	0.20
1,2-Dichloroethane	ND	0.40	0.095	ND	1.6	0.38
cis-1,2-Dichloroethene	ND	0.40	0.12	ND	1.6	0.48
trans-1,2-Dichloroethene	ND	0.40	0.10	ND	1.6	0.40
1,1-Dichloroethene	ND	0.40	0.065	ND	1.6	0.26
Ethylbenzene	**1.6**	**0.40**	**0.14**	**6.8**	**1.7**	**0.59**
Methylene chloride	**2.0 B**	**1.0**	**0.090**	**7.1 B**	**3.5**	**0.31**
Methyl tert-butyl ether	ND	2.0	0.34	ND	7.2	1.2
Naphthalene	ND	1.0	0.18	ND	5.2	0.94
Tetrachloroethene	ND	0.40	0.080	ND	2.7	0.54
Toluene	**46**	**0.40**	**0.10**	**170**	**1.5**	**0.40**
1,2,4-Trichlorobenzene	ND	2.0	0.20	ND	15	1.4
1,1,1-Trichloroethane	ND	0.40	0.060	ND	2.2	0.33
1,1,2-Trichloroethane	ND	0.40	0.10	ND	2.2	0.57
Trichloroethene	ND	0.20	0.070	ND	1.1	0.38
1,2,3-Trimethylbenzene	ND	0.40	0.40	ND	2.0	2.0
1,2,4-Trimethylbenzene	**0.53**	**0.40**	**0.12**	**2.6**	**2.0**	**0.61**
1,3,5-Trimethylbenzene	**0.18 J**	**0.40**	**0.13**	**0.91 J**	**2.0**	**0.64**
Vinyl chloride	ND	0.40	0.14	ND	1.0	0.37
Xylenes (total)	**9.2**	**0.80**	**0.12**	**40**	**3.5**	**0.52**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA107-A-12

GC/MS Volatiles

Lot-Sample #	II2B240437 - 003	**Work Order #**	MQ3KK1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2068093	**Analysis Time....:**	21:48		
Dilution Factor.:	5	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.24 J**	**0.40**	**0.12**	**0.77 J**	**1.3**	**0.37**
Carbon tetrachloride	**0.079 J**	**0.40**	**0.075**	**0.50 J**	**2.5**	**0.47**
Chlorodifluoromethane	**2.0**	**0.40**	**0.075**	**7.1**	**1.4**	**0.27**
Chloroform	ND	0.40	0.075	ND	2.0	0.37
Dichlorodifluoromethane	**0.61**	**0.40**	**0.14**	**3.0**	**2.0**	**0.67**
1,1-Dichloroethane	ND	0.40	0.050	ND	1.6	0.20
1,2-Dichloroethane	ND	0.40	0.095	ND	1.6	0.38
cis-1,2-Dichloroethene	ND	0.40	0.12	ND	1.6	0.48
trans-1,2-Dichloroethene	ND	0.40	0.10	ND	1.6	0.40
1,1-Dichloroethene	ND	0.40	0.065	ND	1.6	0.26
Ethylbenzene	**0.85**	**0.40**	**0.14**	**3.7**	**1.7**	**0.59**
Methylene chloride	**0.78 J B**	**1.0**	**0.090**	**2.7 J B**	**3.5**	**0.31**
Methyl tert-butyl ether	ND	2.0	0.34	ND	7.2	1.2
Naphthalene	ND	1.0	0.18	ND	5.2	0.94
Tetrachloroethene	ND	0.40	0.080	ND	2.7	0.54
Toluene	**26**	**0.40**	**0.10**	**98**	**1.5**	**0.40**
1,2,4-Trichlorobenzene	ND	2.0	0.20	ND	15	1.4
1,1,1-Trichloroethane	ND	0.40	0.060	ND	2.2	0.33
1,1,2-Trichloroethane	ND	0.40	0.10	ND	2.2	0.57
Trichloroethene	ND	0.20	0.070	ND	1.1	0.38
1,2,3-Trimethylbenzene	ND	0.40	0.40	ND	2.0	2.0
1,2,4-Trimethylbenzene	**0.24 J**	**0.40**	**0.12**	**1.2 J**	**2.0**	**0.61**
1,3,5-Trimethylbenzene	ND	0.40	0.13	ND	2.0	0.64
Vinyl chloride	ND	0.40	0.14	ND	1.0	0.37
Xylenes (total)	**4.7**	**0.80**	**0.12**	**20**	**3.5**	**0.52**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	112	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA108-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 007	**Work Order #**	MQ3KV1AA	**Matrix.....:**	AIR

Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	01:03
Dilution Factor.:	45.45	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	3.6	1.0	ND	12	3.3
Carbon tetrachloride	ND	3.6	0.68	ND	23	4.3
Chlorodifluoromethane	**2.2 J**	**3.6**	**0.68**	**7.9 J**	**13**	**2.4**
Chloroform	ND	3.6	0.68	ND	18	3.3
Dichlorodifluoromethane	ND	3.6	1.2	ND	18	6.1
1,1-Dichloroethane	ND	3.6	0.45	ND	15	1.8
1,2-Dichloroethane	ND	3.6	0.86	ND	15	3.5
cis-1,2-Dichloroethene	ND	3.6	1.1	ND	14	4.3
trans-1,2-Dichloroethene	ND	3.6	0.91	ND	14	3.6
1,1-Dichloroethene	ND	3.6	0.59	ND	14	2.3
Ethylbenzene	**15**	**3.6**	**1.2**	**64**	**16**	**5.3**
Methylene chloride	**2.0 J B**	**9.1**	**0.82**	**7.1 J B**	**32**	**2.8**
Methyl tert-butyl ether	ND	18	3.1	ND	66	11
Naphthalene	ND	9.1	1.6	ND	48	8.6
Tetrachloroethene	ND	3.6	0.73	ND	25	4.9
Toluene	**410**	**3.6**	**0.95**	**1500**	**14**	**3.6**
1,2,4-Trichlorobenzene	ND	18	1.8	ND	130	13
1,1,1-Trichloroethane	ND	3.6	0.55	ND	20	3.0
1,1,2-Trichloroethane	ND	3.6	0.95	ND	20	5.2
Trichloroethene	ND	1.8	0.64	ND	9.8	3.4
1,2,3-Trimethylbenzene	ND	3.6	3.6	ND	18	18
1,2,4-Trimethylbenzene	ND	3.6	1.1	ND	18	5.6
1,3,5-Trimethylbenzene	ND	3.6	1.2	ND	18	5.8
Vinyl chloride	ND	3.6	1.3	ND	9.3	3.4
Xylenes (total)	**94**	**7.3**	**1.1**	**410**	**32**	**4.7**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA109-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 023	**Work Order #**	MQ3LQ1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2067124	**Analysis Time....:**	07:57		
Dilution Factor.:	2	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.16**	**0.046**	**0.66**	**0.51**	**0.15**
Carbon tetrachloride	**0.078 J**	**0.16**	**0.030**	**0.49 J**	**1.0**	**0.19**
Chlorodifluoromethane	**0.55**	**0.16**	**0.030**	**1.9**	**0.57**	**0.11**
Chloroform	**0.051 J**	**0.16**	**0.030**	**0.25 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.46**	**0.16**	**0.054**	**2.3**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	**0.072 J**	**0.16**	**0.026**	**0.29 J**	**0.63**	**0.10**
Ethylbenzene	**0.58**	**0.16**	**0.054**	**2.5**	**0.69**	**0.23**
Methylene chloride	**0.25 J B**	**0.40**	**0.036**	**0.86 J B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	**0.092 J**	**0.16**	**0.032**	**0.63 J**	**1.1**	**0.22**
Toluene	**24**	**0.16**	**0.042**	**91**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.20**	**0.080**	**0.028**	**1.1**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	ND	0.16	0.050	ND	0.79	0.25
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**2.2**	**0.32**	**0.048**	**9.7**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA110-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 022	**Work Order #**	MQ3LN1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2067124	**Analysis Time....:**	07:06		
Dilution Factor.:	2	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.19**	**0.16**	**0.046**	**0.60**	**0.51**	**0.15**
Carbon tetrachloride	**0.079 J**	**0.16**	**0.030**	**0.49 J**	**1.0**	**0.19**
Chlorodifluoromethane	**0.66**	**0.16**	**0.030**	**2.3**	**0.57**	**0.11**
Chloroform	**0.042 J**	**0.16**	**0.030**	**0.20 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.46**	**0.16**	**0.054**	**2.3**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	**0.073 J**	**0.16**	**0.026**	**0.29 J**	**0.63**	**0.10**
Ethylbenzene	**0.75**	**0.16**	**0.054**	**3.2**	**0.69**	**0.23**
Methylene chloride	**0.26 J B**	**0.40**	**0.036**	**0.89 J B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	**0.090 J**	**0.16**	**0.032**	**0.61 J**	**1.1**	**0.22**
Toluene	**24**	**0.16**	**0.042**	**89**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.17**	**0.080**	**0.028**	**0.90**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	**0.082 J**	**0.16**	**0.050**	**0.40 J**	**0.79**	**0.25**
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**4.2**	**0.32**	**0.048**	**18**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA116-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 021	**Work Order #**	MQ3LL1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2067124	**Analysis Time....:**	06:16		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.18**	**0.080**	**0.023**	**0.58**	**0.26**	**0.073**
Carbon tetrachloride	**0.073 J**	**0.080**	**0.015**	**0.46 J**	**0.50**	**0.094**
Chlorodifluoromethane	**0.99**	**0.080**	**0.015**	**3.5**	**0.28**	**0.053**
Chloroform	**0.045 J**	**0.080**	**0.015**	**0.22 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.45**	**0.080**	**0.027**	**2.2**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	**0.026 J**	**0.080**	**0.024**	**0.10 J**	**0.32**	**0.095**
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	**0.087**	**0.080**	**0.013**	**0.35**	**0.32**	**0.052**
Ethylbenzene	**0.27**	**0.080**	**0.027**	**1.2**	**0.35**	**0.12**
Methylene chloride	**0.80 B**	**0.20**	**0.018**	**2.8 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.095**	**0.080**	**0.016**	**0.65**	**0.54**	**0.11**
Toluene	**14**	**0.080**	**0.021**	**54**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.015 J**	**0.080**	**0.012**	**0.081 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.26**	**0.040**	**0.014**	**1.4**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.83**	**0.16**	**0.024**	**3.6**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA117-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 001	**Work Order #**	MQ3J01AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2067130	**Analysis Time....:**	01:53		
Dilution Factor.:	19.23	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	1.5	0.44	ND	4.9	1.4
Carbon tetrachloride	ND	1.5	0.29	ND	9.7	1.8
Chlorodifluoromethane	**2.6**	**1.5**	**0.29**	**9.1**	**5.4**	**1.0**
Chloroform	ND	1.5	0.29	ND	7.5	1.4
Dichlorodifluoromethane	**0.81 J**	**1.5**	**0.52**	**4.0 J**	**7.6**	**2.6**
1,1-Dichloroethane	ND	1.5	0.19	ND	6.2	0.78
1,2-Dichloroethane	ND	1.5	0.37	ND	6.2	1.5
cis-1,2-Dichloroethene	ND	1.5	0.46	ND	6.1	1.8
trans-1,2-Dichloroethene	ND	1.5	0.38	ND	6.1	1.5
1,1-Dichloroethene	ND	1.5	0.25	ND	6.1	0.99
Ethylbenzene	**4.5**	**1.5**	**0.52**	**20**	**6.7**	**2.3**
Methylene chloride	**1.4 J B**	**3.8**	**0.35**	**4.8 J B**	**13**	**1.2**
Methyl tert-butyl ether	ND	7.7	1.3	ND	28	4.7
Naphthalene	ND	3.8	0.69	ND	20	3.6
Tetrachloroethene	ND	1.5	0.31	ND	10	2.1
Toluene	**150**	**1.5**	**0.40**	**580**	**5.8**	**1.5**
1,2,4-Trichlorobenzene	ND	7.7	0.75	ND	57	5.6
1,1,1-Trichloroethane	ND	1.5	0.23	ND	8.4	1.3
1,1,2-Trichloroethane	ND	1.5	0.40	ND	8.4	2.2
Trichloroethene	ND	0.77	0.27	ND	4.1	1.4
1,2,3-Trimethylbenzene	ND	1.5	1.5	ND	7.6	7.6
1,2,4-Trimethylbenzene	**0.80 J**	**1.5**	**0.48**	**3.9 J**	**7.6**	**2.4**
1,3,5-Trimethylbenzene	ND	1.5	0.50	ND	7.6	2.5
Vinyl chloride	ND	1.5	0.56	ND	3.9	1.4
Xylenes (total)	**22**	**3.1**	**0.46**	**96**	**13**	**2.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA118-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 019	**Work Order #**	MQ3LF1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/09/2012		
Prep Batch #.....:	2068093	**Analysis Time....:**	00:23		
Dilution Factor.:	5	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.28 J**	**0.40**	**0.12**	**0.89 J**	**1.3**	**0.37**
Carbon tetrachloride	**0.098 J**	**0.40**	**0.075**	**0.61 J**	**2.5**	**0.47**
Chlorodifluoromethane	**10**	**0.40**	**0.075**	**37**	**1.4**	**0.27**
Chloroform	ND	0.40	0.075	ND	2.0	0.37
Dichlorodifluoromethane	**0.61**	**0.40**	**0.14**	**3.0**	**2.0**	**0.67**
1,1-Dichloroethane	ND	0.40	0.050	ND	1.6	0.20
1,2-Dichloroethane	ND	0.40	0.095	ND	1.6	0.38
cis-1,2-Dichloroethene	ND	0.40	0.12	ND	1.6	0.48
trans-1,2-Dichloroethene	ND	0.40	0.10	ND	1.6	0.40
1,1-Dichloroethene	ND	0.40	0.065	ND	1.6	0.26
Ethylbenzene	**1.2**	**0.40**	**0.14**	**5.0**	**1.7**	**0.59**
Methylene chloride	**0.44 J B**	**1.0**	**0.090**	**1.5 J B**	**3.5**	**0.31**
Methyl tert-butyl ether	ND	2.0	0.34	ND	7.2	1.2
Naphthalene	ND	1.0	0.18	ND	5.2	0.94
Tetrachloroethene	ND	0.40	0.080	ND	2.7	0.54
Toluene	**33**	**0.40**	**0.10**	**130**	**1.5**	**0.40**
1,2,4-Trichlorobenzene	ND	2.0	0.20	ND	15	1.4
1,1,1-Trichloroethane	ND	0.40	0.060	ND	2.2	0.33
1,1,2-Trichloroethane	ND	0.40	0.10	ND	2.2	0.57
Trichloroethene	ND	0.20	0.070	ND	1.1	0.38
1,2,3-Trimethylbenzene	ND	0.40	0.40	ND	2.0	2.0
1,2,4-Trimethylbenzene	ND	0.40	0.12	ND	2.0	0.61
1,3,5-Trimethylbenzene	ND	0.40	0.13	ND	2.0	0.64
Vinyl chloride	ND	0.40	0.14	ND	1.0	0.37
Xylenes (total)	**6.9**	**0.80**	**0.12**	**30**	**3.5**	**0.52**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	112	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA119-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 020	**Work Order #**	MQ3LJ1AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2067124	**Analysis Time....:**	05:22		
Dilution Factor.:	2	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.16**	**0.046**	**0.67**	**0.51**	**0.15**
Carbon tetrachloride	**0.061 J**	**0.16**	**0.030**	**0.38 J**	**1.0**	**0.19**
Chlorodifluoromethane	**9.3**	**0.16**	**0.030**	**33**	**0.57**	**0.11**
Chloroform	**0.044 J**	**0.16**	**0.030**	**0.21 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.43**	**0.16**	**0.054**	**2.1**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	ND	0.16	0.026	ND	0.63	0.10
Ethylbenzene	**1.1**	**0.16**	**0.054**	**4.6**	**0.69**	**0.23**
Methylene chloride	**0.26 J B**	**0.40**	**0.036**	**0.91 J B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	ND	0.40	0.072	ND	2.1	0.38
Tetrachloroethene	**0.035 J**	**0.16**	**0.032**	**0.24 J**	**1.1**	**0.22**
Toluene	**27**	**0.16**	**0.042**	**100**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	ND	0.080	0.028	ND	0.43	0.15
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	**0.17**	**0.16**	**0.050**	**0.84**	**0.79**	**0.25**
1,3,5-Trimethylbenzene	**0.057 J**	**0.16**	**0.052**	**0.28 J**	**0.79**	**0.26**
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**6.2**	**0.32**	**0.048**	**27**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IA120-A-12

GC/MS Volatiles

Lot-Sample #	H2B240437 - 012	**Work Order #**	MQ3K31AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2068093	**Analysis Time....:**	14:37		
Dilution Factor.:	5	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.24 J**	**0.40**	**0.12**	**0.78 J**	**1.3**	**0.37**
Carbon tetrachloride	**0.087 J**	**0.40**	**0.075**	**0.55 J**	**2.5**	**0.47**
Chlorodifluoromethane	**12**	**0.40**	**0.075**	**41**	**1.4**	**0.27**
Chloroform	ND	0.40	0.075	ND	2.0	0.37
Dichlorodifluoromethane	**0.60**	**0.40**	**0.14**	**3.0**	**2.0**	**0.67**
1,1-Dichloroethane	ND	0.40	0.050	ND	1.6	0.20
1,2-Dichloroethane	ND	0.40	0.095	ND	1.6	0.38
cis-1,2-Dichloroethene	ND	0.40	0.12	ND	1.6	0.48
trans-1,2-Dichloroethene	ND	0.40	0.10	ND	1.6	0.40
1,1-Dichloroethene	ND	0.40	0.065	ND	1.6	0.26
Ethylbenzene	**0.77**	**0.40**	**0.14**	**3.3**	**1.7**	**0.59**
Methylene chloride	**0.64 J B**	**1.0**	**0.090**	**2.2 J B**	**3.5**	**0.31**
Methyl tert-butyl ether	ND	2.0	0.34	ND	7.2	1.2
Naphthalene	ND	1.0	0.18	ND	5.2	0.94
Tetrachloroethene	ND	0.40	0.080	ND	2.7	0.54
Toluene	**23**	**0.40**	**0.10**	**86**	**1.5**	**0.40**
1,2,4-Trichlorobenzene	ND	2.0	0.20	ND	15	1.4
1,1,1-Trichloroethane	ND	0.40	0.060	ND	2.2	0.33
1,1,2-Trichloroethane	ND	0.40	0.10	ND	2.2	0.57
Trichloroethene	ND	0.20	0.070	ND	1.1	0.38
1,2,3-Trimethylbenzene	ND	0.40	0.40	ND	2.0	2.0
1,2,4-Trimethylbenzene	ND	0.40	0.12	ND	2.0	0.61
1,3,5-Trimethylbenzene	ND	0.40	0.13	ND	2.0	0.64
Vinyl chloride	ND	0.40	0.14	ND	1.0	0.37
Xylenes (total)	**4.5**	**0.80**	**0.12**	**20**	**3.5**	**0.52**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IADUP-3

GC/MS Volatiles

Lot-Sample #	H2B240437 - 013	**Work Order #**	MQ3K41AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2068093	**Analysis Time....:**	15:32		
Dilution Factor.:	2	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.18**	**0.16**	**0.046**	**0.58**	**0.51**	**0.15**
Carbon tetrachloride	**0.11 J**	**0.16**	**0.030**	**0.68 J**	**1.0**	**0.19**
Chlorodifluoromethane	**7.9**	**0.16**	**0.030**	**28**	**0.57**	**0.11**
Chloroform	**0.042 J**	**0.16**	**0.030**	**0.20 J**	**0.78**	**0.15**
Dichlorodifluoromethane	**0.68**	**0.16**	**0.054**	**3.4**	**0.79**	**0.27**
1,1-Dichloroethane	ND	0.16	0.020	ND	0.65	0.081
1,2-Dichloroethane	ND	0.16	0.038	ND	0.65	0.15
cis-1,2-Dichloroethene	ND	0.16	0.048	ND	0.63	0.19
trans-1,2-Dichloroethene	ND	0.16	0.040	ND	0.63	0.16
1,1-Dichloroethene	**0.028 J**	**0.16**	**0.026**	**0.11 J**	**0.63**	**0.10**
Ethylbenzene	**0.26**	**0.16**	**0.054**	**1.1**	**0.69**	**0.23**
Methylene chloride	**4.6 B**	**0.40**	**0.036**	**16 B**	**1.4**	**0.13**
Methyl tert-butyl ether	ND	0.80	0.14	ND	2.9	0.49
Naphthalene	**0.089 J**	**0.40**	**0.072**	**0.47 J**	**2.1**	**0.38**
Tetrachloroethene	**0.039 J**	**0.16**	**0.032**	**0.26 J**	**1.1**	**0.22**
Toluene	**5.6**	**0.16**	**0.042**	**21**	**0.60**	**0.16**
1,2,4-Trichlorobenzene	ND	0.80	0.078	ND	5.9	0.58
1,1,1-Trichloroethane	ND	0.16	0.024	ND	0.87	0.13
1,1,2-Trichloroethane	ND	0.16	0.042	ND	0.87	0.23
Trichloroethene	**0.12**	**0.080**	**0.028**	**0.65**	**0.43**	**0.15**
1,2,3-Trimethylbenzene	ND	0.16	0.16	ND	0.79	0.79
1,2,4-Trimethylbenzene	**0.054 J**	**0.16**	**0.050**	**0.26 J**	**0.79**	**0.25**
1,3,5-Trimethylbenzene	ND	0.16	0.052	ND	0.79	0.26
Vinyl chloride	ND	0.16	0.058	ND	0.41	0.15
Xylenes (total)	**1.4**	**0.32**	**0.048**	**6.0**	**1.4**	**0.21**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	110	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IADUP-4

GC/MS Volatiles

Lot-Sample #	H2B240437 - 014	**Work Order #**	MQ3K51AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/09/2012		
Prep Batch #.....:	2068093	**Analysis Time....:**	06:44		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.37**	**0.080**	**0.023**	**1.2**	**0.26**	**0.073**
Carbon tetrachloride	**0.087**	**0.080**	**0.015**	**0.54**	**0.50**	**0.094**
Chlorodifluoromethane	**0.66**	**0.080**	**0.015**	**2.3**	**0.28**	**0.053**
Chloroform	**0.093**	**0.080**	**0.015**	**0.45**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.59**	**0.080**	**0.027**	**2.9**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	**0.068 J**	**0.080**	**0.013**	**0.27 J**	**0.32**	**0.052**
Ethylbenzene	**0.033 J**	**0.080**	**0.027**	**0.14 J**	**0.35**	**0.12**
Methylene chloride	**0.36 B**	**0.20**	**0.018**	**1.3 B**	0.69	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.49**	**0.080**	**0.016**	**3.3**	**0.54**	**0.11**
Toluene	**0.55**	**0.080**	**0.021**	**2.1**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.013 J**	**0.080**	**0.012**	0.069 J	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.18**	**0.040**	**0.014**	**0.97**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.10 J**	**0.16**	**0.024**	**0.44 J**	0.69	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: IADUP-5

GC/MS Volatiles

Lot-Sample #	H2B240437 - 015	**Work Order #**	MQ3K61AA	**Matrix.....:**	AIR
Date Sampled...:	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/09/2012		
Prep Batch #.....:	2068093	**Analysis Time....:**	07:45		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.20**	**0.080**	**0.023**	**0.64**	**0.26**	**0.073**
Carbon tetrachloride	**0.089**	**0.080**	**0.015**	**0.56**	**0.50**	**0.094**
Chlorodifluoromethane	**1.0**	**0.080**	**0.015**	**3.5**	**0.28**	**0.053**
Chloroform	**0.033 J**	**0.080**	**0.015**	**0.16 J**	**0.39**	**0.073**
Dichlorodifluoromethane	**0.59**	**0.080**	**0.027**	**2.9**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	**0.054 J**	**0.080**	**0.013**	**0.22 J**	**0.32**	**0.052**
Ethylbenzene	**0.11**	**0.080**	**0.027**	**0.46**	**0.35**	**0.12**
Methylene chloride	**0.44 B**	**0.20**	**0.018**	**1.5 B**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	**0.30**	**0.080**	**0.016**	**2.1**	**0.54**	**0.11**
Toluene	**2.4**	**0.080**	**0.021**	**8.9**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	**0.030 J**	**0.080**	**0.012**	**0.16 J**	**0.44**	**0.065**
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.38**	**0.040**	**0.014**	**2.0**	**0.21**	**0.075**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	**0.47**	**0.16**	**0.024**	**2.1**	**0.69**	**0.10**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Appendix C

Support Documentation

LMC - MIDDLE RIVER COMPLEX
SDG H2B240437

SAMPLE IDENTIFICATION	IA015-A-12		
COMPOUND	TOLUENE	MW=	92.1384
		GAS CONSTANT =	24.45
COMPOUND AREA	1204971		
INTERNAL STANDARD AMOUNT (ppbv)	4		
CALIBRATION VOLUME (ppbv)	500		
DILUTION FACTOR	163.64		
INTERNAL STANDARD AREA	1125464		
AVERAGE RRF	1.07924		
SAMPLE VOLUME (ppbv)	500		

649.3464 ppbv
2447.02 µg/m³

Data File: /var/chem/gcms/me.i/E030712.b/mq3kp1aa.d
Report Date: 08-Mar-2012 11:22

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/me.i/E030712.b/mq3kp1aa.d
Lab Smp Id: MQ3KP1AA Client Smp ID: IA015-A-12
Inj Date : 08-MAR-2012 00:13
Operator : 7126 Inst ID: me.i
Smp Info : ,163.64,0,,,
Misc Info : E030712,TO155,tetra.sub,,
Comment :
Method : /var/chem/gcms/me.i/E030712.b/TO155.m
Meth Date : 08-Mar-2012 11:20 tajh Quant Type: ISTD
Cal Date : 01-MAR-2012 22:23 Cal File: eicc019.d
Als bottle: 14
Dil Factor: 163.64000
Integrator: HP RTE Compound Sublist: tetra.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	163.64000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	500.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	CONCENTRATIONS FINAL (ppb(v/v))
*	1 Bromochloromethane	128	8.177	8.177	(1.000)	269009	4.00000	4.000
*	2 1,4-Difluorobenzene	114	10.324	10.329	(1.000)	1397606	4.00000	4.000
*	3 Chlorobenzene-d5	117	15.171	15.176	(1.000)	1125464	4.00000	4.000
$	4 4-Bromofluorobenzene	95	16.844	16.844	(1.110)	777628	3.79900	3.799
	32 Methylene Chloride	84	5.859	5.848	(0.716)	3138	0.03773	6.174
	66 Toluene	91	13.159	13.164	(0.867)	1204971	3.96815	649.3
	77 Ethylbenzene	91	15.526	15.531	(1.023)	59279	0.16272	26.63
	78 m&p-Xylene	91	15.693	15.698	(1.034)	215200	0.76285	124.8
	83 o-Xylene	91	16.225	16.225	(1.069)	82463	0.28380	46.44
M	5 Xylene (total)	100				297663	1.04665	171.3

RRF = 1.07924

FIELD DUPLICATE PRECISION
LOCKHEED MARTIN - MIDDLE RIVER COMPLEX
SDG H2B240437

SAMPLE	PARAMETER	RESULT (µg/m³)	DUPLICATE SAMPLE	PARAMETER	RESULT (µg/m³)	RPD (%)	DIFFERENCE
IA109-A-12	1,1,1-TRICHLOROETHANE	ND	IADUP-4	1,1,1-TRICHLOROETHANE	0.069 J	NA	0.069
	1,1-DICHLOROETHENE	0.29 J		1,1-DICHLOROETHENE	0.27 J	7.14	0.02
	BENZENE	0.66		BENZENE	1.2	58.06	0.54
	CARBON TETRACHLORIDE	0.49 J		CARBON TETRACHLORIDE	0.54	9.71	0.05
	CHLORODIFLUOROMETHANE	1.9		CHLORODIFLUOROMETHANE	2.3	19.05	0.4
	CHLOROFORM	0.25 J		CHLOROFORM	0.45	57.14	0.2
	DICHLORODIFLUOROMETHANE	2.3		DICHLORODIFLUOROMETHANE	2.9	23.08	0.6
	ETHYLBENZENE	2.5		ETHYLBENZENE	0.14 J	178.79	2.36
	TETRACHLOROETHENE	0.63 J		TETRACHLOROETHENE	3.3	135.88	2.67
	TOLUENE	91		TOLUENE	2.1	190.98	88.9
	TOTAL XYLENES	9.7		TOTAL XYLENES	0.44 J	182.64	9.26
	TRICHLOROETHENE	1.1		TRICHLOROETHENE	0.97	12.56	0.13

FIELD DUPLICATE PRECISION
LOCKHEED MARTIN - MIDDLE RIVER COMPLEX
SDG H2B240437

SAMPLE	PARAMETER	RESULT (µg/m³)	DUPLICATE SAMPLE	PARAMETER	RESULT (µg/m³)	RPD (%)	DIFFERENCE
IA116-A-12	1,1,1-TRICHLOROETHANE	0.081 J	IADUP-3	1,1,1-TRICHLOROETHANE	ND	NA	0.081
	1,1-DICHLOROETHENE	0.35		1,1-DICHLOROETHENE	0.11 J	104.35	0.24
	1,2,4-TRIMETHYLBENZENE	ND		1,2,4-TRIMETHYLBENZENE	0.26 J	NA	0.26
	BENZENE	0.58		BENZENE	0.58	0.00	0
	CARBON TETRACHLORIDE	0.46 J		CARBON TETRACHLORIDE	0.68 J	38.60	0.22
	CHLORODIFLUOROMETHANE	3.5		CHLORODIFLUOROMETHANE	28	155.56	24.5
	CHLOROFORM	0.22 J		CHLOROFORM	0.2 J	9.52	0.02
	CIS-1,2-DICHLOROETHENE	0.1 J		CIS-1,2-DICHLOROETHENE	ND	NA	0.1
	DICHLORODIFLUOROMETHANE	2.2		DICHLORODIFLUOROMETHANE	3.4	42.86	1.2
	ETHYLBENZENE	1.2		ETHYLBENZENE	1.1	8.70	0.1
	NAPHTHALENE	ND		NAPHTHALENE	0.47 J	NA	0.47
	TETRACHLOROETHENE	0.65		TETRACHLOROETHENE	0.26 J	85.71	0.39
	TOLUENE	54		TOLUENE	21	88.00	33
	TOTAL XYLENES	3.6		TOTAL XYLENES	6	50.00	2.4
	TRICHLOROETHENE	1.4		TRICHLOROETHENE	0.65	73.17	0.75

FIELD DUPLICATE PRECISION
LOCKHEED MARTIN - MIDDLE RIVER COMPLEX
SDG H2B240437

SAMPLE	PARAMETER	RESULT (µg/m³)	DUPLICATE SAMPLE	PARAMETER	RESULT (µg/m³)	RPD (%)	DIFFERENCE
IA093-A-12	1,1,1-TRICHLOROETHANE	0.18 J	IADUP-5	1,1,1-TRICHLOROETHANE	0.16 J	11.76	0.02
	1,1-DICHLOROETHENE	0.21 J		1,1-DICHLOROETHENE	0.22	4.65	0.01
	1,2-DICHLOROETHANE	0.097 J		1,2-DICHLOROETHANE	ND	NA	0.097
	BENZENE	0.74		BENZENE	0.64	14.49	0.1
	CARBON TETRACHLORIDE	0.66		CARBON TETRACHLORIDE	0.56	16.39	0.1
	CHLORODIFLUOROMETHANE	6.6		CHLORODIFLUOROMETHANE	3.5	61.39	3.1
	CHLOROFORM	0.2 J		CHLOROFORM	0.16 J	22.22	0.04
	DICHLORODIFLUOROMETHANE	3.6		DICHLORODIFLUOROMETHANE	2.9	21.54	0.7
	ETHYLBENZENE	0.28 J		ETHYLBENZENE	0.46	48.65	0.18
	TETRACHLOROETHENE	2		TETRACHLOROETHENE	2.1	4.88	0.1
	TOLUENE	7.3		TOLUENE	8.9	19.75	1.6
	TOTAL XYLENES	0.77		TOTAL XYLENES	2.1	92.68	1.33
	TRICHLOROETHENE	2.2		TRICHLOROETHENE	2	9.52	0.2

SAMPLE SUMMARY

H2B240437

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MQ3J0	001	IA117-A-12	02/22/12	16:34
MQ3KF	002	IA106-A-12	02/22/12	16:32
MQ3KK	003	IA107-A-12	02/22/12	16:21
MQ3KL	004	IA079-A-12	02/22/12	16:20
MQ3KM	005	IA097-A-12	02/22/12	16:17
MQ3KP	006	IA015-A-12	02/22/12	16:37
MQ3KV	007	IA108-A-12	02/22/12	16:40
MQ3KW	008	IA075-A-12	02/22/12	15:49
MQ3KX	009	IA076-A-12	02/22/12	15:52
MQ3K0	010	IA077-A-12	02/22/12	15:59
MQ3K1	011	IA096-A-12	02/22/12	16:03
MQ3K3	012	IA120-A-12	02/22/12	16:10
MQ3K4	013	IADUP-3	02/22/12	
MQ3K5	014	IADUP-4	02/22/12	
MQ3K6	015	IADUP-5	02/22/12	
MQ3K8	016	IA018-A-12	02/22/12	16:44
MQ3LA	017	IA094-A-12	02/22/12	15:56
MQ3LD	018	IA102-C-12	02/22/12	16:15
MQ3LF	019	IA118-A-12	02/22/12	16:11
MQ3LJ	020	IA119-A-12	02/22/12	16:15
MQ3LL	021	IA116-A-12	02/22/12	16:58
MQ3LN	022	IA110-A-12	02/22/12	16:55
MQ3LQ	023	IA109-A-12	02/22/12	16:57
MQ3LT	024	IA093-A-12	02/22/12	16:54

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

HZB240431

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS
Company: Tetra Tech	Phone: (770) 413-0965	
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959	
City/State/Zip Stone Mountain, GA 30087	TAL Contact:	
Phone: (770) 413-0965 ext. 232		
FAX:		
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**	
Site/location: Middle River MD, MRC	Standard (Specify) ✓	
PO # 112IC03953	Rush (Specify)	

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
7786 IA-117-A-12	2/22/12	0833	1634	-30	-5	9713	K281	X											
IA-106-A-12		0831	1632	-30	-5	12162	K510	X											
IA-107-A-12		0829	1621	-30	-5	04306	K275	X											
IA-079-A-12		0826	1620	-30	-2	6669	K427	X											
IA-097-A-12		0825	1617	-30	-4	6366	K454	X											
1497N. IA-015-A-12	↓	0838	1637	-30	-4	4497W	K361	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

5 Boxes NO Custody SEALS
RECEIVED @ Ambient Temp (19°C)
B.H. 2/24/12
5 Boxes Fed Ex MSTR# 793264102215
24 CANS, 24 FLOWS, 9 T BARS

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by: Eric M Samuels	Date/Time: 2-23-2012 / 1515	Canisters Received by:
Samples Relinquished by:	Date/Time: 2-23-2012 / 1615	Received by: Reta Hancock 2/24/12 10:15
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

H2B240437

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	**Phone:** (770) 413-0965		
Address: 2171 W Park Ct. Ste E	**Site Contact:** (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	**TAL Contact:**		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-108-A-12	2/22/12	0840	1640	-30	-3	K119	1520	X											
IA-075A-12	↓	0745	1549	-30	-2	K237	0179	X											
IA-076-A-12		0750	1552	-0*	0	K190	0001	X											
IA-077-A-12		0802	1559	-30	-2	K185	7492	X											
IA-096-A-12		0809	1603	-30	-5	K111	1335N	X											
IA-120-A-12	↓	0818	1610	-30	-4	K235	9306	X											

Sampled by : RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List. *- Regulator gauge showing zero as initial vacuum in canister from IA-076-A-12.

Canisters Shipped by:	Date/Time: 2-23-2012 / 1515	Canisters Received by:
Samples Relinquished by:	Date/Time: 2-23-2012 / 1615	Received by: Rita Handcock 2/24/12 10:15
Relinquished by:	Date/Time:	Received by:

Lab Use Only: Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B240437

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact:		
City/State/Zip: Stone Mountain, GA 30087	TAL Contact: (770) 596-0959		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-DUP-3	2/22/12	—	—	-30	-5	K328	7500	X											
IA-DUP-4	↓	—	—	-30	0	K283	1519	X											
IA-DUP-5		—	—	-28.8	-8	K348	03775	X											
IA-018-A-12		0844	1644	-30	-4	K273	2955	X											
IA-094-A-12		0756	1556	~~-28.5~~ -30	-4	K456	12460	X											
IA-102-C-12	↓	0755	1615	-28.7	-5	K250	3400164	X											

Sampled by :	Temperature (Fahrenheit)		
		Interior	Ambient
	Start		
	Stop		
	Pressure (inches of Hg)		
		Interior	Ambient
	Start		
	Stop		

Special Instructions/QC Requirements & Comments:

Canisters Shipped by: [signature]	Date/Time: 2-23-2012 / 1515	Canisters Received by: [signature]
Samples Relinquished by: [signature]	Date/Time: 2-23-2012 / 1615	Received by: Rita Hancock 2/24/12 10:15
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2B240437

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Rick Samuels	**Sampled By:** RS	___ of ___ COCs
Company: Tetra Tech	Phone: (770) 413-0965		
Address: 2171 W Park Ct. Ste E	Site Contact: (770) 596-0959		
City/State/Zip Stone Mountain, GA 30087	TAL Contact:		
Phone: (770) 413-0965 ext. 232			
FAX:			
Project Name: 2012 MRC IA-SV	**Analysis Turnaround Time**		
Site/location: Middle River MD, MRC	Standard (Specify) ✓		
PO # 112IC03953	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type: Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
IA-118-A-12	2/22/12	0819	1611	-30	-8	K240	12587	X										
IA-119-A-12	|	0820	1615	-30	0	K333	1517	X										
IA-116-A-12	|	7484 0829	1658	-30	-5	K365	7484	X										
IA-110-A-12	|	0828	1655	-30	-8	K138	12455	X										
IA-109-A-12	|	0820	1657	-30	0	K280	6581	X										
IA-093-A-12	⇓	0836	1654	-28.9	-8	K093	12875	X										

5/4 •

Sampled by: RS

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Contracted Analyte List

Canisters Shipped by:	Date/Time: 2-23-2012/15 15	Canisters Received by:
Samples Relinquished by:	Date/Time: 2-23-2012/1615	Received by: Rita Hancock 2/24/12 10:15
Relinquished by:	Date/Time:	Received by:

Lab Use Only: Shipper Name: Opened by: Condition:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: H2B240437

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)		X		X 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	1A COC READS IA-DUP-4 TAG READS IA-DUP-4-12 LOG PER COC COC READ IA-DUP-5 TAG READS IA-DUP-5-12 LOG PER COC
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)			X	☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____ ☐ 2c Cooling initiated for recently collected samples, ice present.	4A
3. Were samples received with correct chemical preservative (excluding Encore)?			X	☐ 3a Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?		X		X 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	X			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	X			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?			X	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	X			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?			X	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	X			☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?			X	☐ Incomplete information	
12. For 1613B water samples is pH<9?			X	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	X			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	X			☐ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	X			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	X			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	X			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	X			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?	X				

Quote #: 83292 PM Instructions: _____

Sample Receiving Associate: Rita Hancock Date: 2/24/12

QA026R22.doc, 012811

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2B240437*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
2/26/12	NA	29.11	MQ3J0	7786 ✓	-4.3	-												9713
			MQ3KF	12162 ✓	-3.9	-												9708
			MQ3KK	04306 ✓	-4.3	-												9704
			MQ3KL	6669 ✓	-1.3	-												9708
			MQ3KM	6366 ✓	-3.2	-												9703
			MQ3KP	4497N ✓	-3.0	-	2/27/12	I	29.23	-3.2	3.17							9715
			MQ3KV	1520 ✓	-3.4	-												9704
			MQ3KW	0179 ✓	-0.5	-												9703
			MQ3KX	0001 ✓	0	-												↓
			MQ3K0	7492 ✓	-3.7	-												9708 2/24/12
			MQ3K1	1335N ✓	-4.4	-												~~9703~~ 9703
			MQ3K3	93046 ✓	-3.4	-												9704
			MQ3K4	7500 ✓	-5.9	-												9713
			MQ3K5	1519 ✓	+0.2	-												↓
			MQ3K6	03775 ✓	-5.8	-												9703
			MQ3K8	2955 ✓	-2.5	-												9714
			MQ3LA	12460 ✓	-3.9	-												9708
			MQ3LD	93230	-3.6	-												9711
			MQ3LF	12587 ✓	-5.2	-												9708
↓	↓	↓	MQ3LJ	~~1517~~ ✓	-3.6	-												9709

2/26/12 1514

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2B240437*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
[illegible] 12/26/12	VM	29.11	MQ3LL	7484	-2.9	—												9713
↑	/	/	MQ3LN	12455	-6.3	-												9714
/	/	/	MQ3LQ	6581	-2.3	—												9713
↓	↓	↓	MQ3LT	12875	-6.4	-												↓

PROJECT NARRATIVE
H2B240437

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

The chain of custody lists a sample ID as IA-DUP-4; however the sample container tag lists the ID as IA-DUP-4-12. The sample was logged according to the chain of custody.

The chain of custody lists a sample ID as IA-DUP-5; however the sample container tag lists the ID as IA-DUP-5-12. The sample was logged according to the chain of custody.

Custody seals were not present.

All sample IDs were revised to remove the dash (-) after the IA portion of the ID, per client request.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

The EPA method requires that all target analytes in the continuing calibration verification standard be within 30% difference from the initial calibration. According to the laboratory standard operating procedure, the continuing calibration is acceptable if it meets the laboratory control sample acceptance criteria. Even though the calibration verification exhibited a % difference of > 30% for naphthalene analyzed for instrument MJ on 3/7/12 and for 1,2,4-trichlorobenzene, naphthalene on 3/8/12, the results were within the LCS acceptance limits.

For this method, the continuing calibration verification standard and the LCS are the same sample. While the result for 1,2,4-trichlorobenzene is flagged as being outside limits for batch 2067124, the results met the acceptance criteria which allows for 1 analyte to be within marginal exceedence limits.

Sample IA-079-A-12 was reported with elevated reporting limits for all analytes due to the presence of non-target compounds. A dilution was necessary prior to analysis, and the reporting limits were adjusted accordingly.

PROJECT NARRATIVE
H2B240437

The quantitation for 1,2,3-trimethylbenzene was based on a minimum 5-point calibration curve. The following interim criteria are being used until the method performance for this additional analyte is fully established:

- The initial calibration acceptance criteria is set at 40% RSD. Any compound greater than 40% RSD was changed to a linear or quadratic model with an r2 ≥ 0.990 acceptance criteria.
- There are no criteria for second source standard verification % D. The second source standard was independently prepared from the same parent mixture (as the primary source).
- The continuing calibration verification criteria are set at 50% D. Any compound greater than 50% D must pass the LCS criteria.
- The LCS recovery criteria are set at 20% to 180%.
- A method detection limit study has not been performed. The detection of the analyte is demonstrated by detection of the calibration standard at the reporting limit. No estimated results are reported below the reporting limit.

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MJ

Analyst: HMC Qtims Batch: ICAL

Date: 2/24/12 ICAL Batch: J022412I Target Batch: J022412F IS #1 Area: 668304

Surr/IS ID & Vol.: 40ML V425 System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1418	✓	Tune	JBFBB24	—	16	100	1	
1448	✓	MDL ✓	JMDLB24	CX2331	1	50		
1541	✓	ICAL 1	J1CB241	↓	1	100		
1633	✓	2	2	↓	1	200		
1726	✓	3	3	CX2329	3	100		
1818	✓	4	4	↓	3	200		
1909	✓	5	5	CX2327	5	100		
1959	✓	6	6	↓	5	200		
2050	✓	7	7	CX2326	6	↓		
2144	✓	8	8	CX2325	7			
2237	✓	9	9	CX2324	8			
2333	OK	blk	blk1	—	16	200		
0025	✓	ICV	J1CVB24	CX2321	9	100		
0120	OK	LCS	LCS	↓	9	200		
0215	OK	Blk	Blk	—	16	500	↓	

2/25/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 2/25/12

Data File: /chem/gcms/mj.i/J022412I.b/jbfbb24.d

Date : 24-FEB-2012 14:18

Client ID: BFB

Instrument: mj.i

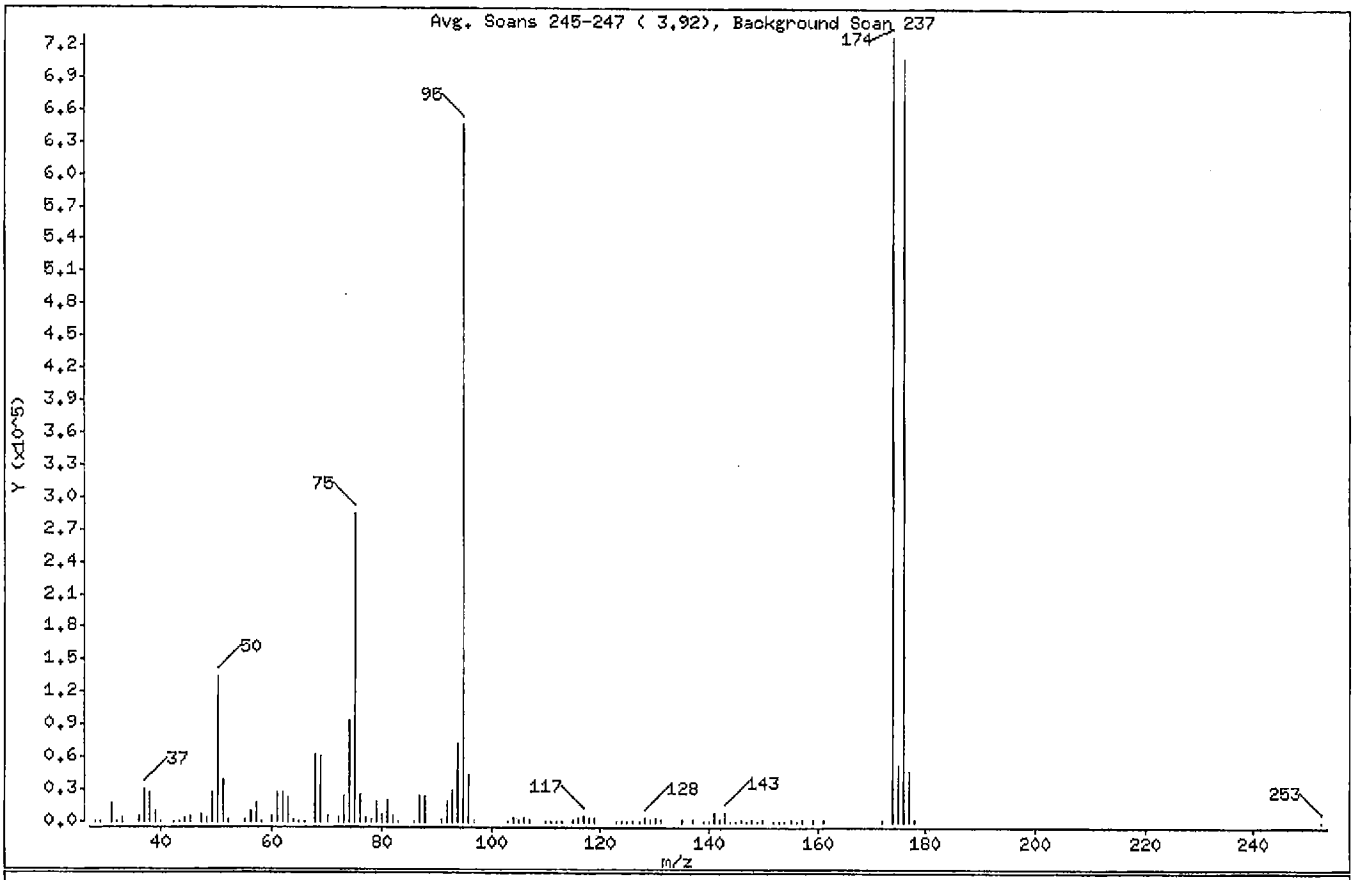
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.63
75	30.00 - 60.00% of mass 95	44.19
96	5.00 - 9.00% of mass 95	6.80
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	112.74
175	5.00 - 9.00% of mass 174	8.01 (7.11)
176	95.00 - 101.00% of mass 174	109.68 (97.28)
177	5.00 - 9.00% of mass 176	7.38 (6.73)

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Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Calibration File Names:
Level 1: /var/chem/gcms/mj.i/J022412I.b/jicb241.d
Level 2: /var/chem/gcms/mj.i/J022412I.b/jicb242.d
Level 3: /var/chem/gcms/mj.i/J022412I.b/jicb243.d
Level 4: /var/chem/gcms/mj.i/J022412I.b/jicb244.d
Level 5: /var/chem/gcms/mj.i/J022412I.b/jicb245.d
Level 6: /var/chem/gcms/mj.i/J022412I.b/jicb246.d
Level 7: /var/chem/gcms/mj.i/J022412I.b/jicb247.d
Level 8: /var/chem/gcms/mj.i/J022412I.b/jicb248.d
Level 9: /var/chem/gcms/mj.i/J022412I.b/jicb249.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
5 Chlorodifluoromethane	+++++	0.49172	0.54130	0.45303	0.46380	0.39994					
	0.43285	0.42942	0.41529				AVRG		0.45342		10.07605
6 Propene	+++++	+++++	1.66930	1.38699	1.44925	1.19872					
	1.27470	1.19883	1.09478				AVRG		1.32465		14.62600
7 Dichlorodifluoromethane	4.25361	4.45237	5.25552	4.50389	4.78518	4.02026					
	4.31974	4.14826	3.77803				AVRG		4.39076		9.91220

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Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
8 Chloromethane	+++++	0.56562	0.53084	0.45297	0.43322	0.30746					
	0.32328	0.31659	0.29445				AVRG		0.40306		26.67746
9 1,2-Dichlorotetrafluoroethane	3.47913	3.33484	4.07171	3.48255	3.62297	2.86596					
	3.10138	3.00853	2.80653				AVRG		3.30818		12.28879
10 Methanol	+++++	+++++	+++++	+++++	0.31373	0.22908					
	0.21558	0.20479	0.15312				AVRG		0.22326		26.05776
11 ~ acetaldehyde	+++++	+++++	57069	124796	92790	183719					
	357604	742680	1319839				QUAD	0.000e+00	7.37380	0.92357	0.99544
12 Vinyl Chloride	1.38915	1.31603	1.53947	1.25688	1.28167	0.98716					
	1.06677	1.05730	1.04808				AVRG		1.21583		15.34919
13 n-Butane	+++++	+++++	2.59775	2.06406	2.01262	1.45446					
	1.59762	1.60243	1.48603				AVRG		1.83071		22.77122
14 1,3-Butadiene	0.97780	1.05225	1.18451	0.92176	0.95290	0.73073					
	0.80167	0.81047	0.78291				AVRG		0.91278		16.06524

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Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
15 Bromomethane	+++++	1.24636	1.56620	1.20030	1.27602	1.01825	AVRG		1.21493		13.38361
	1.13471	1.14278	1.13478								
16 Chloroethane	+++++	0.60275	0.69521	0.52583	0.52606	0.41793	AVRG		0.52204		17.08219
	0.46759	0.47303	0.46792								
17 - ethanol	+++++	+++++	0.62538	0.57262	0.50742	0.36745	AVRG		0.46393		23.06485
	0.41793	0.41610	0.34058								
18 Vinyl Bromide	1.40005	1.44249	1.78912	1.43414	1.52716	1.21058	AVRG		1.40412		12.75460
	1.22126	1.32531	1.28698								
19 2-methyl butane	2.26421	2.27764	2.66309	2.19823	2.25291	1.73751	AVRG		2.05391		17.64042
	1.54915	1.84090	1.70159								
20 Trichlorofluoromethane	4.54687	4.59736	5.68445	4.70392	5.02213	4.06894	AVRG		4.62094		10.57026
	4.22439	4.45967	4.28075								
21 Acrolein	+++++	+++++	0.50435	0.48876	0.28282	0.28562	AVRG		0.36578		26.61529
	0.27038	0.35626	0.37224								

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Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
22 Acetonitrile	+++++	+++++	+++++	0.68766	0.43717	0.37429					
	0.39792	0.49914	0.50168				AVRG		0.48298		23.36132
23 Acetone	+++++	+++++	+++++	+++++	0.54163	0.40181					
	0.38764	0.48512	0.42300				AVRG		0.44784		14.36112
24 Isopropyl alcohol	+++++	+++++	2.00490	1.85208	1.88013	1.26029					
	1.38088	1.61098	1.39553				AVRG		1.62640		17.86297
25 Pentane	+++++	0.20331	0.23013	0.20814	0.21444	0.14076					
	0.14791	0.18234	0.17142				AVRG		0.18731		17.18904
26 Ethyl Ether	1.52554	1.71302	1.60662	1.96532	1.31278	1.09342					
	1.26765	1.57225	1.52379				AVRG		1.50893		17.11131
27 1,1-Dichloroethene	1.16604	1.03637	1.25377	1.22302	1.23950	0.91555					
	0.98007	1.13154	1.07013				AVRG		1.11289		10.79404
28 tert-butanol	+++++	2.00266	1.99815	1.97389	2.10238	1.56311					
	1.75378	1.91252	1.68488				AVRG		1.87392		9.93164

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Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
29 Acrylonitrile	0.86026	0.78947	0.78231	1.02047	0.56929	0.57365					
	0.64817	0.81659	0.78698				AVRG		0.76080		18.97880
30 1,1,2-Trichlorotrifluoroethan	2.66034	2.45488	3.05640	2.83943	2.62254	2.20416					
	2.35700	2.62043	2.35648				AVRG		2.57463		10.28081
31 Methylene Chloride	+++++	+++++	1.30930	1.19931	0.95160	0.79588					
	0.83154	0.95961	0.80502				AVRG		0.97889		20.61403
32 3-Chloropropene	+++++	1.38131	1.62338	1.53538	1.29021	1.20682					
	1.35002	1.51483	1.30148				AVRG		1.40043		10.21812
33 Carbon Disulfide	4.63103	3.94183	3.77799	3.71051	3.29551	2.72547					
	2.89644	3.39404	2.83886				AVRG		3.46796		17.77860
34 trans-1,2-Dichlorcethene	1.48326	1.20830	1.52190	1.42151	1.29243	1.10564					
	1.15494	1.29706	1.16163				AVRG		1.29408		11.71028
35 - 2-Methyl Pentane	4.04437	3.53636	4.09988	3.94681	3.27418	2.89108					
	2.99495	3.42888	2.74643				AVRG		3.44033		14.80309

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Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
36 Methyl-t-Butyl Ether	2.02724	2.36109	2.43800	2.87213	1.93559	1.85539					
	2.07165	2.34643	2.17972				AVRG		2.23192		14.00842
37 1,1-Dichloroethane	2.46888	2.15426	2.70228	2.32353	1.95539	1.87631					
	1.92131	2.18808	1.91699				AVRG		2.16745		13.20072
38 Vinyl Acetate	2.66263	2.89238	2.77346	3.17228	1.83990	2.14332					
	2.39004	2.91918	2.65791				AVRG		2.60568		15.95290
39 2-Butanone	+++++	+++++	0.35090	0.38322	0.30600	0.26607					
	0.28377	0.33804	0.28497				AVRG		0.31614		13.43078
40 Hexane	1.37636	1.13606	1.33387	1.08476	1.03252	0.93208					
	0.96308	1.11090	0.95109				AVRG		1.10230		14.56966
41 cis 1,2-Dichloroethene	1.34687	1.14345	1.47606	1.20372	1.09258	1.02877					
	1.07598	1.19505	1.08993				AVRG		1.18360		12.20505
42 Ethyl acetate	1.97526	2.37158	2.18666	2.49223	2.03955	1.83169					
	1.96241	2.30701	2.00588				AVRG		2.13025		10.34766

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
43 Chloroform	2.96384	2.70028	3.38661	2.74611	2.43221	2.27919					
	2.36123	2.54899	2.41328				AVRG		2.64797		13.26735
44 Tetrahydrofuran	+++++	+++++	1.18756	1.23190	0.94315	0.88870					
	0.98217	1.00829	1.03270				AVRG		1.03921		12.12530
45 1,1,1-Trichloroethane	3.28187	3.09045	3.91874	3.24602	2.89996	2.80930					
	2.96916	2.92613	2.93433				AVRG		3.11955		10.87484
46 1,2-Dichloroethane	0.48675	0.45436	0.55703	0.46971	0.44243	0.40319					
	0.46263	0.56258	0.48110				AVRG		0.47997		10.71930
47 1-Butanol	+++++	+++++	0.11087	0.09308	0.12516	0.09351					
	0.11382	0.13207	0.10243				AVRG		0.11014		13.60766
48 Benzene	0.89191	0.75777	0.87171	0.68762	0.61693	0.55614					
	0.61483	0.73998	0.64220				AVRG		0.70879		16.46069
49 Cyclohexane	0.12775	0.11317	0.14415	0.11017	0.13101	0.10512					
	0.11015	0.13038	0.11218				AVRG		0.12046		10.95488

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Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.81632	0.81825	0.88397	0.72980	0.86389	0.74172	AVRG		0.86368		12.35610
	0.90259	1.07989	0.93671								
51 - 2,3-dimethylpentane	0.15004	0.13849	0.17845	0.14459	0.14823	0.12733	AVRG		0.14782		10.58203
	0.13418	0.16505	0.14402								
52 - Thiophene	0.45778	0.42216	0.50932	0.40577	0.39304	0.35531	AVRG		0.42227		11.37693
	0.37971	0.46753	0.40985								
53 2,2,4-trimethylpentane	1.48798	1.33706	1.66668	1.32562	1.37741	1.15101	AVRG		1.36370		11.76873
	1.20552	1.47546	1.24658								
54 Heptane	0.27173	0.25940	0.28338	0.23042	0.24443	0.19986	AVRG		0.24296		11.76410
	0.20765	0.26120	0.22859								
55 1,2-Dichloropropane	0.26848	0.25540	0.28944	0.26281	0.23272	0.20412	AVRG		0.25097		10.42774
	0.23041	0.27337	0.24201								
56 Trichloroethene	0.49714	0.47048	0.60173	0.46733	0.53097	0.42598	AVRG		0.50173		11.11940
	0.45893	0.56701	0.49602								

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Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
180 ~ 2-nitropropane	0.31623	0.47841	0.42469	0.53315	0.45447	0.41860					
	0.49794	0.65907	0.56253				AVRG		0.48279		20.22257
57 Dibromomethane	0.39915	0.36207	0.45482	0.36311	0.39086	0.33030					
	0.35189	0.43540	0.38484				AVRG		0.38583		10.34122
58 Bromodichloromethane	0.65151	0.64184	0.77774	0.69104	0.70164	0.58895					
	0.65545	0.82384	0.72605				AVRG		0.69534		10.42002
59 1,4-dioxane	+++++	0.06027	0.07087	0.07568	0.09460	0.07264					
	0.08016	0.09414	0.07968				AVRG		0.07850		14.76842
60 Methyl Methacrylate	0.22848	0.32505	0.28850	0.33269	0.31107	0.27121					
	0.30614	0.39818	0.35221				AVRG		0.31261		15.53386
61 ~ methyl cyclohexane	0.46309	0.41812	0.52503	0.42773	0.45811	0.38396					
	0.40386	0.49294	0.42413				AVRG		0.44411		10.09161
62 4-Methyl-2-pentanone	0.43173	0.50829	0.47804	0.49783	0.62926	0.48751					
	0.53995	0.67346	0.55753				AVRG		0.53374		14.33485

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
63 cis-1,3-Dichloropropene	0.33834	0.34744	0.41171	0.39088	0.35514	0.31549					
	0.36007	0.44825	0.40165				AVRG		0.37433		11.14967
64 trans-1,3-Dichloropropene	0.37303	0.38904	0.44367	0.42839	0.39362	0.37043					
	0.44291	0.50005	0.45092				AVRG		0.42134		10.21522
65 Toluene	0.90830	0.91480	1.00066	0.94386	0.75057	0.72598					
	0.83864	0.93682	0.83516				AVRG		0.87276		10.53259
66 1,1,2-Trichloroethane	0.26523	0.26642	0.32223	0.28037	0.25953	0.22325					
	0.25823	0.28524	0.25809				AVRG		0.26873		9.90180
67 ~ 2-methyl thiophene	0.80312	0.78184	0.90172	0.84880	0.68896	0.66345					
	0.75723	0.84661	0.76307				AVRG		0.78387		9.78516
68 ~ 3-methyl thiophene	0.77394	0.79984	0.92506	0.83755	0.70887	0.66337					
	0.76097	0.85108	0.76352				AVRG		0.78713		9.90958
69 2-Hexanone	0.21080	0.25373	0.21134	0.23176	0.29538	0.22171					
	0.25531	0.28358	0.23621				AVRG		0.24442		12.36200

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
70 Octane	0.31488	0.31119	0.33448	0.30066	0.30314	0.24672					
	0.28038	0.31004	0.27335				AVRG		0.29721		8.83025
71 Dibromochloromethane	0.71603	0.73561	0.86813	0.81415	0.83229	0.72362					
	0.87427	1.00378	0.89541				AVRG		0.82926		11.38903
72 1,2-Dibromoethane	0.59707	0.59943	0.66343	0.64305	0.57593	0.52340					
	0.59543	0.66121	0.60556				AVRG		0.60717		7.28880
73 Tetrachloroethene	0.54410	0.52167	0.62414	0.51136	0.52058	0.42825					
	0.45707	0.52295	0.48491				AVRG		0.51278		10.82594
74 Chlorobenzene	0.81478	0.83431	0.95953	0.84079	0.77255	0.67379					
	0.76198	0.84460	0.77539				AVRG		0.80864		9.63481
75 - 2,3-dimethylheptane	1.05065	1.13997	1.26359	1.11183	1.05981	0.86925					
	1.02144	1.07425	0.84151				AVRG		1.04803		12.40157
76 Ethylbenzene	0.97108	1.11273	1.14523	1.15512	0.93219	0.88744					
	1.05557	1.17509	1.04554				AVRG		1.05333		9.85399

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Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
77 - 2-ethyl thiophene	0.79638	0.92747	1.01024	0.98339	0.82945	0.78348					
	0.92758	1.03419	0.93347				AVRG		0.91396		10.03458
78 m&p-Xylene	0.72594	0.87293	0.89724	0.90591	0.76203	0.68959					
	0.81996	0.91339	0.79666				AVRG		0.82041		10.07228
79 Nonane	0.56617	0.63265	0.67111	0.64368	0.60097	0.50011					
	0.60688	0.64962	0.54404				AVRG		0.60169		9.24807
80 Bromoform	+++++	0.53683	0.62069	0.61211	0.65977	0.58920					
	0.73153	0.85554	0.80483				AVRG		0.67631		16.41011
81 Styrene	0.47998	0.54135	0.60168	0.64834	0.59992	0.54761					
	0.65340	0.74922	0.69516				AVRG		0.61296		13.59954
82 o-Xylene	0.78230	0.91228	0.93412	0.95326	0.80235	0.70069					
	0.85291	0.96543	0.84812				AVRG		0.86127		10.30000
M 83 Xylene (total)	0.74474	0.88605	0.90953	0.92169	0.77547	0.69329					
	0.83094	0.93074	0.81381				AVRG		0.83403		10.12698

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Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
84 1,1,2,2-Tetrachloroethane	0.44960	0.55035	0.57765	0.60960	0.60527	0.48142					
	0.57483	0.63514	0.54679				AVRG		0.55896		10.82859
85 1,2,3-Trichloropropane	0.14994	0.18847	0.19921	0.21021	0.20240	0.16106					
	0.19303	0.21999	0.19799				AVRG		0.19137		11.75368
86 Cumene	1.14910	1.30660	1.29613	1.35501	1.17715	1.00568					
	1.21899	1.36615	1.18240				AVRG		1.22858		9.38827
87 n-Propylbenzene	0.28102	0.34829	0.34367	0.37515	0.35463	0.29176					
	0.35029	0.40431	0.37193				AVRG		0.34678		11.25411
88 2-chlorotoluene	0.32887	0.37732	0.42022	0.40958	0.38190	0.32659					
	0.38727	0.43014	0.39633				AVRG		0.38425		9.49147
89 4-Ethyltoluene	0.90823	1.19723	1.10911	1.26462	1.22732	0.97228					
	1.16124	1.30162	1.13360				AVRG		1.14169		11.41265
90 1,3,5-Trimethylbenzene	0.42171	0.58856	0.55825	0.64428	0.61417	0.48712					
	0.58430	0.67106	0.61409				AVRG		0.57595		13.56806

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
91 Alpha-Methylstyrene	0.29654 / 0.51441	0.43107 / 0.58434	0.39270 / 0.53416	0.47798	0.51059	0.41893	AVRG		0.46230		18.81514
92 Decane	0.52689 / 0.68181	0.70900 / 0.73177	0.57650 / 0.61792	0.70590	0.62891	0.55225	AVRG		0.63677		11.68848
93 tert-butylbenzene	0.86936 / 1.11139	1.14998 / 1.27172	1.08095 / 1.11949	1.21191	1.15739	0.91117	AVRG		1.09815		11.93825
94 1,2,4-Trimethylbenzene	0.63808 / 0.92318	0.92324 / 1.03647	0.84904 / 0.91723	1.01139	1.00035	0.77334	AVRG		0.89692		14.19243
95 sec-butylbenzene	0.97360 / 1.28661	1.36922 / 1.43076	1.25868 / 1.22185	1.43084	1.35564	1.07118	AVRG		1.26649		12.44968
96 1,3-Dichlorobenzene	0.67627 / 0.79322	0.72915 / 0.90216	0.78339 / 0.82636	0.77768	0.80006	0.66126	AVRG		0.77217		9.66536
97 Benzyl Chloride	0.48915 / 0.81550	0.62813 / 0.92981	0.62071 / 0.81892	0.74151	0.86711	0.69165	AVRG		0.73361		19.02026

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
End Cal Date : 24-FEB-2012 22:37
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
98 1,4-Dichlorobenzene	0.65766	0.70552	0.73260	0.74080	0.79783	0.65030					
	0.77499	0.87612	0.80973				AVRG		0.74951		9.80630
99 p-Cymene	0.79933	1.17192	1.04379	1.27055	1.28021	0.99214					
	1.18987	1.34755	1.16305				AVRG		1.13982		14.90785
100 ~ 1,2,3- Trimethylbenzene	0.54045	0.76856	0.71967	0.83043	0.83053	0.64108					
	0.75095	0.84230	0.73922				AVRG		0.74035		13.31933
101 ~ n-butylcyclohexane	0.60967	0.69912	0.76981	0.71216	0.66845	0.56629					
	0.68259	0.73915	0.63152				AVRG		0.67542		9.52966
102 ~ Indane	0.67704	0.89234	0.85193	0.92207	0.92199	0.72159					
	0.84618	0.94488	0.83640				AVRG		0.84605		10.86802
103 1,2-Dichlorobenzene	0.60308	0.68419	0.68586	0.71405	0.72968	0.59410					
	0.70585	0.79774	0.72474				AVRG		0.69325		9.11253
104 n-butylbenzene	0.63620	0.91028	0.80962	0.98252	1.03514	0.79397					
	0.91481	1.02198	0.87937				AVRG		0.88710		14.27038

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2012 15:41
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Target Version : 3.50
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Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
105 - Indene	0.42494 0.64501	0.56255 0.72413	0.54502 0.65523	0.64294	0.69331	0.54723	AVRG		0.60448		15.33155
106 Undecane	0.44671 0.55199	0.46749 0.65701	0.46166 0.56930	0.46632	0.69625	0.47869	AVRG		0.53283		17.29415
107 - 1,2-dimethyl-4-ethylenzene	0.64022 0.95512	0.85704 1.07230	0.78669 0.89848	0.93851	1.06542	0.81921	AVRG		0.89255		15.32988
108 - 1,2,4,5-tetramethylbenzene	0.62989 0.92397	0.69269 1.04306	0.69324 0.82660	0.81188	1.04509	0.80324	AVRG		0.82996		18.03023
109 - 1,2,3,5-tetramethylbenzene	0.50194 0.70445	0.51758 0.79706	0.53429 0.63641	0.61625	0.55088	0.61155	AVRG		0.60782		15.82905
110 - 1,2,3,4-tetramethylbenzene	0.56262 0.75051	0.53269 0.85255	0.53922 0.60535	0.58098	0.82452	0.65244	AVRG		0.65565		18.81371
111 Dodecane	+++++ 0.51089	+++++ 0.57134	0.36318 0.35131	0.36712	0.59208	0.47866	AVRG		0.46208		22.09855

Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

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Target Version : 3.50
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Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
112 1,2,4-Trichlorobenzene	0.32830	0.27710	0.26331	0.26825	0.37597	0.33780					
	0.40005	0.44971	0.26855				AVRG		0.32989		20.40503
113 Napthalene	0.62721	0.54774	0.50673	0.54036	0.83392	0.76723					
	0.88639	0.94167	0.57039				AVRG		0.69129		24.15351
114 - benzo(b) thiophene	0.36915	0.34044	0.28736	0.30096	0.46056	0.45550					
	0.53555	0.57109	0.33863				AVRG		0.40658		25.31728
115 Hexachlorobutadiene	0.32090	0.32809	0.28699	0.35046	0.36684	0.32158					
	0.39442	0.46258	0.30611				AVRG		0.34866		15.36074
116 1,2,3-trichlorobenzene	0.21298	0.20298	0.18389	0.17443	0.26068	0.24867					
	0.28713	0.31449	0.18612				AVRG		0.23015		21.64384
117 - 2-Methylnaphthalene	+++++	+++++	7243	26806	111260	420444					
	721089	1506333	3116939				LINR	0.000e+00	0.05582		0.99329
118 - 1-Methylnaphthalene	+++++	+++++	5432	22831	91352	343836					
	562994	1212752	2590476				LINR	0.000e+00	0.04591		0.99480

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Report Date : 27-Feb-2012 10:34

TestAmerica Knoxville

INITIAL CALIBRATION DATA

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J022412I.b/TO15.m
Cal Date : 27-Feb-2012 10:34 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.65779	0.66228	0.65642	0.66845	0.71574	0.67488					
	0.70337	0.75601	0.71024				AVRG		0.68946		4.92703

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MJ

Analyst: HMC Qtims Batch: NY 2067122 (MQ97V) 2067123 (MQ97W)

Date: 3/7/12 ICAL Batch: J022412I Target Batch: J030712 IS #1 Area: 520609

Surr/IS ID & Vol.: 40MCV425 System Date/Time ok (y/n): y tetra

Preventive Maintenance Performed ☑ Daily 2067124 (MQ97X)

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1105	✓	tune	JBFBC07	–	16	100	1	
1138	N	CCV	CCV	CX2322	15			
1231	✓	CCV	CCV A					NV. Dodec. 1+2 methylnaph.
1231	✓	LCS	LCS A					2-methyl butane Undec, 124 TUBZ) ok J030612
1343	N	Blk	Flush	–	16	500		
1437	✓		JBlkC07	–				
1532	✓	H2C060405	MQ8W21AA	7507	1	500	1	nysdec
1625	✓		8W3	6615	2			(E) ethanol RR 100mL
1719	✓		8W4	7491	3			
1812	✓	H2C060404	8WT	L4427	4			
1904	✓		8WV	6665	5			
1956	✓	(E) RR50mL	8WW	9716B	6			(E) 112tchlorotrifluor & 2But
20 ~~0~~248 3/8/12	OK	c/o?	8WX	92035	7			20:48
2141	✓		8W0	6650	8			E ethanol RR 50
2235	✓		8W1	6634	9			
2324	✓	H2C030408	MQ73F1AA	93240	10	20	1	shelbyni
0014	✓	H2B240402	MQ28E1AA	L5115	11	10	1	croyet 10mL
0103	✓	H2B270406	MQ4DH1AA	11416	12	10	32.3	tolyni 10mL
0156	✓	H2C020464	MQ7VH1AA	12887	13	200	1	rutgers
0246	✓ dup		D		13		1	tg
0341	✓	H2B240437	MQ3LD1AA	93230	14	500		tetra 3400/264 IA102-C-12
0431	✓		LF	12587	15	250		E tol RR 100mL not used
0527	✓		LJ	1514	1			IA119-A-12
0616	✓		LL	7484	2	500		116
0706	✓		LN	12455	3	250		110
0757	✓		LQ	6581	4			109
0851	RR 0.9		LT	12875	5			Can clord. not used
not	Run	lot 9754	5507 →		16	500	1	STD can
		9761	1006 →		STD			

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/8/12

MS027r16.DOC, 051210

Data File: /ohem/gcms/mj.i/J030712.b/jbfbo07.d

Date : 07-MAR-2012 11:05

Client ID: BFB

Instrument: mj.i

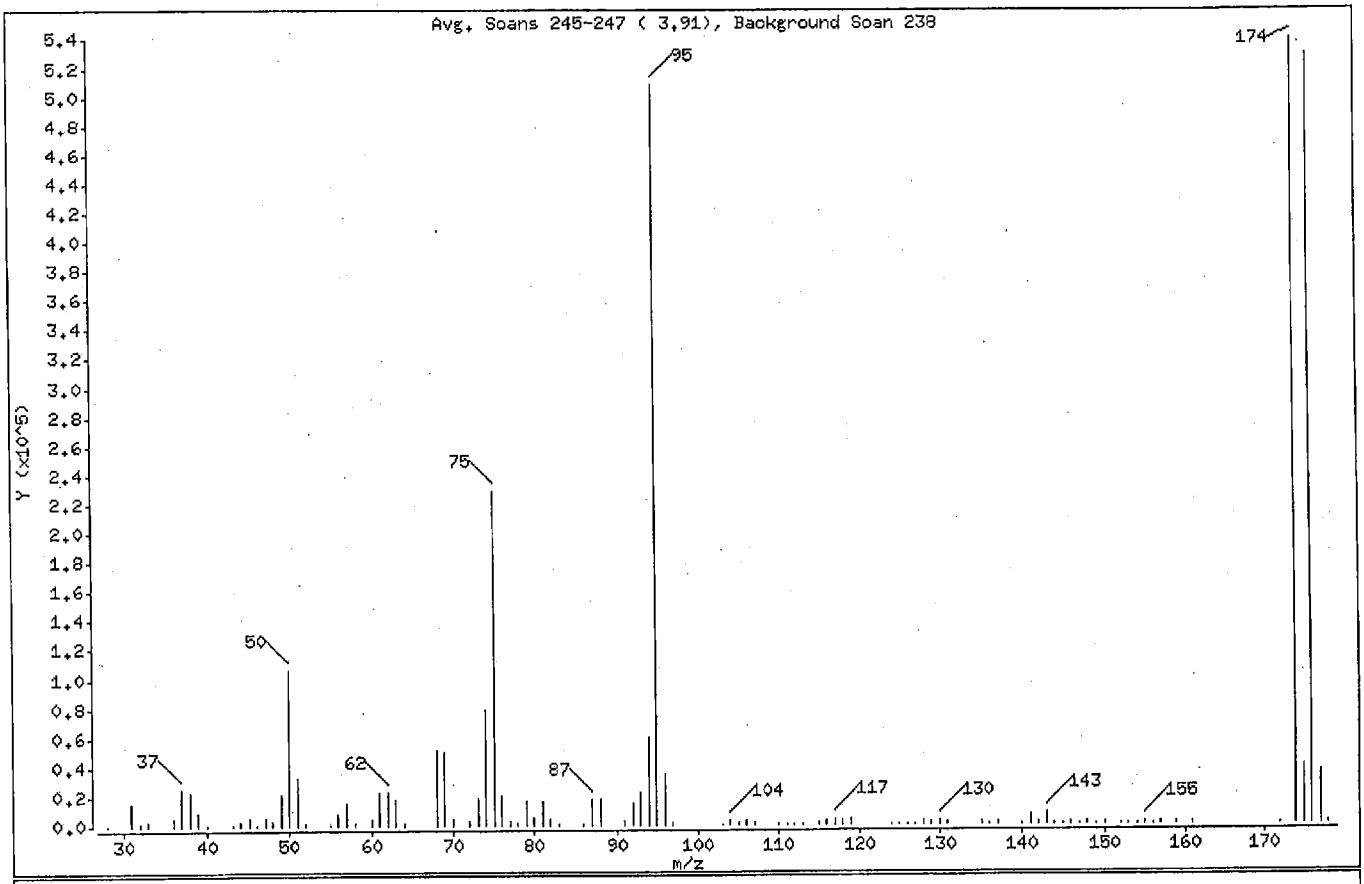
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.84
75	30.00 - 60.00% of mass 95	44.93
96	5.00 - 9.00% of mass 95	6.85
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	106.42
175	5.00 - 9.00% of mass 174	7.92 (7.44)
176	95.00 - 101.00% of mass 174	104.33 (98.03)
177	5.00 - 9.00% of mass 176	7.01 (6.72)

Data File: /var/chem/gcms/mj.i/J030712.b/jccvc07a.d
Report Date: 07-Mar-2012 14:07

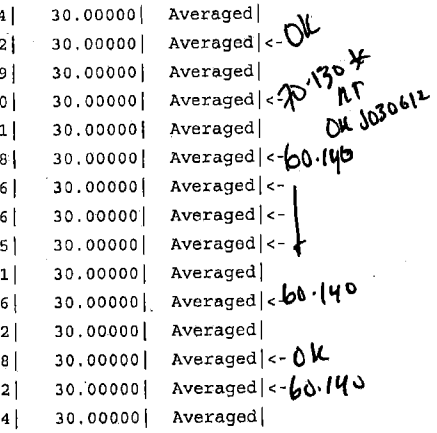
TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc07a.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J030712.b/TO15.m

Injection Date: 07-MAR-2012 12:31
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.68946	0.69212	0.69212	0.000	-0.38553	30.00000	Averaged
5 Chlorodifluoromethane	0.45342	0.44000	0.44000	0.000	2.96054	30.00000	Averaged
6 Propene	1.32465	1.10249	1.10249	0.000	16.77147	30.00000	Averaged
7 Dichlorodifluoromethane	4.39076	4.32878	4.32878	0.000	1.41164	30.00000	Averaged
8 Chloromethane	0.40306	0.36281	0.36281	0.000	9.98521	30.00000	Averaged
9 1,2-Dichlorotetrafluoroetha	3.30818	3.22713	3.22713	0.000	2.45002	30.00000	Averaged
10 Methanol	0.22326	0.22651	0.22651	0.000	-1.45668	30.00000	Averaged
11 ~ acetaldehyde	8.53065	10.12000	0.11045	0.000	15.70506	30.00000	Quadratic
12 Vinyl Chloride	1.21583	1.09246	1.09246	0.000	10.14744	30.00000	Averaged
13 n-Butane	1.83071	1.78309	1.78309	0.000	2.60123	30.00000	Averaged
14 1,3-Butadiene	0.91278	0.84899	0.84899	0.000	6.98873	30.00000	Averaged
15 Bromomethane	1.21493	1.15080	1.15080	0.000	5.27830	30.00000	Averaged
16 Chloroethane	0.52204	0.46464	0.46464	0.000	10.99644	30.00000	Averaged
17 ~ ethanol	0.46393	0.28080	0.28080	0.000	39.47402	30.00000	Averaged
18 Vinyl Bromide	1.40412	1.11817	1.11817	0.000	20.36489	30.00000	Averaged
19 2-methyl butane	2.05391	1.42355	1.42355	0.000	30.69100	30.00000	Averaged
20 Trichlorofluoromethane	4.62094	4.52683	4.52683	0.000	2.03671	30.00000	Averaged
21 Acrolein	0.36578	0.23149	0.23149	0.000	36.71218	30.00000	Averaged
22 Acetonitrile	0.48298	0.30717	0.30717	0.000	36.40096	30.00000	Averaged
23 Acetone	0.44784	0.28868	0.28868	0.000	35.54096	30.00000	Averaged
24 Isopropyl alcohol	1.62640	1.00141	1.00141	0.000	38.42785	30.00000	Averaged
25 Pentane	0.18731	0.13618	0.13618	0.000	27.29691	30.00000	Averaged
26 Ethyl Ether	1.50893	1.03800	1.03800	0.000	31.20976	30.00000	Averaged
27 1,1-Dichloroethene	1.11289	0.90964	0.90964	0.000	18.26272	30.00000	Averaged
28 tert-butanol	1.87392	1.30703	1.30703	0.000	30.25158	30.00000	Averaged
29 Acrylonitrile	0.76080	0.49810	0.49810	0.000	34.52982	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.57463	2.34625	2.34625	0.000	8.87044	30.00000	Averaged
31 Methylene Chloride	0.97889	0.77136	0.77136	0.000	21.20129	30.00000	Averaged
32 3-Chloropropene	1.40043	1.27340	1.27340	0.000	9.07081	30.00000	Averaged
33 Carbon Disulfide	3.46796	2.58993	2.58993	0.000	25.31847	30.00000	Averaged
34 trans-1,2-Dichloroethene	1.29408	1.07705	1.07705	0.000	16.77068	30.00000	Averaged
35 ~ 2-Methyl Pentane	3.44033	2.69074	2.69074	0.000	21.78813	30.00000	Averaged
36 Methyl-t-Butyl Ether	2.23192	1.85447	1.85447	0.000	16.91140	30.00000	Averaged
37 1,1-Dichloroethane	2.16745	1.85918	1.85918	0.000	14.22278	30.00000	Averaged
38 Vinyl Acetate	2.60568	1.94906	1.94906	0.000	25.19940	30.00000	Averaged



Data File: /var/chem/gcms/mj.i/J030712.b/jccvc07a.d
Report Date: 07-Mar-2012 14:07

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc07a.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J030712.b/TO15.m

Injection Date: 07-MAR-2012 12:31
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
39 2-Butanone	0.31614	0.20535	0.20535	0.000	35.04447	30.00000	Averaged	<- 60-140
40 Hexane	1.10230	0.88284	0.88284	0.000	19.90979	30.00000	Averaged	
41 cis 1,2-Dichloroethene	1.18360	1.02827	1.02827	0.000	13.12345	30.00000	Averaged	
42 Ethyl acetate	2.13025	1.57901	1.57901	0.000	25.87698	30.00000	Averaged	
43 Chloroform	2.64797	2.50356	2.50356	0.000	5.45344	30.00000	Averaged	
44 Tetrahydrofuran	1.03921	0.79088	0.79088	0.000	23.89568	30.00000	Averaged	
45 1,1,1-Trichloroethane	3.11955	3.15807	3.15807	0.000	-1.23472	30.00000	Averaged	
46 1,2-Dichloroethane	0.47997	0.48143	0.48143	0.000	-0.30362	30.00000	Averaged	
47 1-Butanol	0.11014	0.06836	0.06836	0.000	37.93511	30.00000	Averaged	<- 60-140
48 Benzene	0.70879	0.57345	0.57345	0.000	19.09384	30.00000	Averaged	
49 Cyclohexane	0.12046	0.09970	0.09970	0.000	17.22656	30.00000	Averaged	
50 Carbon Tetrachloride	0.86368	0.95934	0.95934	0.000	-11.07558	30.00000	Averaged	
51 ~ 2,3-dimethylpentane	0.14782	0.12544	0.12544	0.000	15.13917	30.00000	Averaged	
52 ~ Thiophene	0.42227	0.36005	0.36005	0.000	14.73600	30.00000	Averaged	
53 2,2,4-trimethylpentane	1.36370	1.13577	1.13577	0.000	16.71411	30.00000	Averaged	
54 Heptane	0.24296	0.18459	0.18459	0.000	24.02345	30.00000	Averaged	
55 1,2-Dichloropropane	0.25097	0.19794	0.19794	0.000	21.13238	30.00000	Averaged	
56 Trichloroethene	0.50173	0.45642	0.45642	0.000	9.03234	30.00000	Averaged	
180 ~ 2-nitropropane	0.48279	0.46156	0.46156	0.000	4.39780	30.00000	Averaged	
57 Dibromomethane	0.38583	0.34523	0.34523	0.000	10.52261	30.00000	Averaged	
58 Bromodichloromethane	0.69534	0.63970	0.63970	0.000	8.00159	30.00000	Averaged	
59 1,4-dioxane	0.07850	0.04869	0.04869	0.000	37.97832	30.00000	Averaged	<- 60-140
60 Methyl Methacrylate	0.31261	0.24968	0.24968	0.000	20.13141	30.00000	Averaged	
61 ~ methyl cyclohexane	0.44411	0.38655	0.38655	0.000	12.96144	30.00000	Averaged	
62 4-Methyl-2-pentanone	0.53374	0.38278	0.38278	0.000	28.28212	30.00000	Averaged	
63 cis-1,3-Dichloropropene	0.37433	0.30815	0.30815	0.000	17.68022	30.00000	Averaged	
64 trans-1,3-Dichloropropene	0.42134	0.36392	0.36392	0.000	13.62721	30.00000	Averaged	
65 Toluene	0.87276	0.70155	0.70155	0.000	19.61673	30.00000	Averaged	
66 1,1,2-Trichloroethane	0.26873	0.21386	0.21386	0.000	20.41930	30.00000	Averaged	
67 ~ 2-methyl thiophene	0.78387	0.63440	0.63440	0.000	19.06778	30.00000	Averaged	
68 ~ 3-methyl thiophene	0.78713	0.63738	0.63738	0.000	19.02479	30.00000	Averaged	
69 2-Hexanone	0.24442	0.16764	0.16764	0.000	31.41591	30.00000	Averaged	<- 60-140
70 Octane	0.29721	0.22558	0.22558	0.000	24.09985	30.00000	Averaged	
71 Dibromochloromethane	0.82926	0.75831	0.75831	0.000	8.55493	30.00000	Averaged	
72 1,2-Dibromoethane	0.60717	0.50700	0.50700	0.000	16.49777	30.00000	Averaged	

Data File: /var/chem/gcms/mj.i/J030712.b/jccvc07a.d
Report Date: 07-Mar-2012 14:07

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc07a.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J030712.b/TO15.m

Injection Date: 07-MAR-2012 12:31
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 Tetrachloroethene	0.51278	0.43095	0.43095	0.000	15.95752	30.00000	Averaged
74 Chlorobenzene	0.80864	0.63513	0.63513	0.000	21.45702	30.00000	Averaged
75 ~ 2,3-dimethylheptane	1.04803	0.85604	0.85604	0.000	18.31979	30.00000	Averaged
76 Ethylbenzene	1.05333	0.87377	0.87377	0.000	17.04680	30.00000	Averaged
77 ~ 2-ethyl thiophene	0.91396	0.77379	0.77379	0.000	15.33621	30.00000	Averaged
78 m&p-Xylene	0.82041	0.68839	0.68839	0.000	16.09109	30.00000	Averaged
79 Nonane	0.60169	0.48058	0.48058	0.000	20.12887	30.00000	Averaged
80 Bromoform	0.67631	0.56440	0.56440	0.000	16.54758	30.00000	Averaged
81 Styrene	0.61296	0.48790	0.48790	0.000	20.40220	30.00000	Averaged
82 o-Xylene	0.86127	0.70565	0.70565	0.000	18.06955	30.00000	Averaged
M 83 Xylene (total)	0.83403	0.69414	0.69414	0.000	16.77227	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.55896	0.42859	0.42859	0.000	23.32445	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19137	0.16060	0.16060	0.000	16.07663	30.00000	Averaged
86 Cumene	1.22858	1.02703	1.02703	0.000	16.40469	30.00000	Averaged
87 n-Propylbenzene	0.34678	0.28165	0.28165	0.000	18.78304	30.00000	Averaged
88 2-chlorotoluene	0.38425	0.31280	0.31280	0.000	18.59292	30.00000	Averaged
89 4-Ethyltoluene	1.14169	0.93952	0.93952	0.000	17.70826	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57595	0.46292	0.46292	0.000	19.62468	30.00000	Averaged
91 Alpha-Methylstyrene	0.46230	0.37578	0.37578	0.000	18.71510	30.00000	Averaged
92 Decane	0.63677	0.51159	0.51159	0.000	19.65872	30.00000	Averaged
93 tert-butylbenzene	1.09815	0.93019	0.93019	0.000	15.29534	30.00000	Averaged
94 1,2,4-Trimethylbenzene	0.89692	0.75652	0.75652	0.000	15.65435	30.00000	Averaged
95 sec-butylbenzene	1.26649	1.05190	1.05190	0.000	16.94382	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77217	0.59225	0.59225	0.000	23.30128	30.00000	Averaged
97 Benzyl Chloride	0.73361	0.58329	0.58329	0.000	20.49037	30.00000	Averaged
98 1,4-Dichlorobenzene	0.74951	0.56163	0.56163	0.000	25.06680	30.00000	Averaged
99 p-Cymene	1.13982	0.95211	0.95211	0.000	16.46894	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.74035	0.60498	0.60498	0.000	18.28453	30.00000	Averaged
101 ~ n-butylcyclohexane	0.67542	0.53102	0.53102	0.000	21.37912	30.00000	Averaged
102 ~ Indane	0.84605	0.67076	0.67076	0.000	20.71861	30.00000	Averaged
103 1,2-Dichlorobenzene	0.69325	0.53445	0.53445	0.000	22.90733	30.00000	Averaged
104 n-butylbenzene	0.88710	0.69324	0.69324	0.000	21.85263	30.00000	Averaged
105 ~ Indene	0.60448	0.47521	0.47521	0.000	21.38588	30.00000	Averaged
106 Undecane	0.53283	0.31315	0.31315	0.000	41.22806	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.89255	0.66858	0.66858	0.000	25.09343	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.82996	0.58305	0.58305	0.000	29.75038	30.00000	Averaged

<- 66.143

Data File: /var/chem/gcms/mj.i/J030712.b/jccvc07a.d
Report Date: 07-Mar-2012 14:07

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvc07a.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J030712.b/TO15.m

Injection Date: 07-MAR-2012 12:31
Init. Cal. Date(s): 24-FEB-2012 24-FEB-2012
Init. Cal. Times: 15:41 22:37
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
109 ~ 1,2,3,5-tetramethylbenzen	0.60782	0.44232	0.44232	0.000	27.22903	30.00000	Averaged
110 ~ 1,2,3,4-tetramethylbenzen	0.65565	0.42427	0.42427	0.000	35.29070	30.00000	Averaged
111 Dodecane	0.46208	0.13678	0.13678	0.000	70.39978	30.00000	Averaged
112 1,2,4-Trichlorobenzene	0.32989	0.17792	0.17792	0.000	46.06848	30.00000	Averaged
113 Napthalene	0.69129	0.36862	0.36862	0.000	46.67691	30.00000	Averaged
114 ~ benzo(b) thiophene	0.40658	0.21279	0.21279	0.000	47.66352	30.00000	Averaged
115 Hexachlorobutadiene	0.34866	0.22980	0.22980	0.000	34.08989	30.00000	Averaged
116 1,2,3-trichlorobenzene	0.23015	0.10250	0.10250	0.000	55.46440	30.00000	Averaged
117 ~ 2-Methylnaphthalene	1.95305	12.50000	0.00872	0.000	84.37557	50.00000	Linear
118 ~ 1-Methylnaphthalene	2.22299	12.50000	0.00816	0.000	82.21608	50.00000	Linear

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C070000 - 124B	**Work Order #**	MQ97X1AA
Matrix.....:	AIR		
	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067124	**Analysis Time....:**	14:37
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.035 J**	**0.20**	**0.018**	**0.12 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample #	H2C070000 - 124C	**Work Order #**	MQ97X1AC	**Matrix.....:**	AIR
	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012		
Prep Batch #.....:	2067124	**Analysis Time....:**	12:31		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.04	16.0	12.9	81	70 - 130
Carbon tetrachloride	5.00	5.55	31.5	34.9	111	70 - 130
Chlorodifluoromethane	5.00	4.85	17.7	17.2	97	60 - 140
Chloroform	5.00	4.73	24.4	23.1	95	70 - 130
Dichlorodifluoromethane	5.00	4.93	24.7	24.4	99	60 - 140
1,1-Dichloroethane	5.00	4.29	20.2	17.4	86	70 - 130
1,2-Dichloroethane	5.00	5.02	20.2	20.3	100	70 - 130
cis-1,2-Dichloroethene	5.00	4.34	19.8	17.2	87	70 - 130
trans-1,2-Dichloroethene	5.00	4.16	19.8	16.5	83	70 - 130
1,1-Dichloroethene	5.00	4.09	19.8	16.2	82	70 - 130
Ethylbenzene	5.00	4.15	21.7	18.0	83	70 - 130
Methylene chloride	5.00	3.94	17.4	13.7	79	70 - 130
Methyl tert-butyl ether	5.00	4.15	18.0	15.0	83	60 - 140
Naphthalene	5.00	2.67	26.2	14.0	53	40 - 140
Tetrachloroethene	5.00	4.20	33.9	28.5	84	70 - 130
Toluene	5.00	4.02	18.8	15.1	80	70 - 130
1,2,4-Trichlorobenzene	5.00	2.70	37.1	20.0 a ME	54 a ME	60 - 140
1,1,1-Trichloroethane	5.00	5.06	27.3	27.6	101	70 - 130
1,1,2-Trichloroethane	5.00	3.98	27.3	21.7	80	70 - 130
Trichloroethene	5.00	4.55	26.9	24.4	91	70 - 130
1,2,3-Trimethylbenzene	5.00	4.25	24.6	20.9	85	20 - 180
1,2,4-Trimethylbenzene	5.00	4.22	24.6	20.7	84	70 - 130
1,3,5-Trimethylbenzene	5.00	4.02	24.6	19.8	80	70 - 130
Vinyl chloride	5.00	4.49	12.8	11.5	90	70 - 130
Xylenes (total)	15.0	12.5	65.1	54.2	83	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

a	Spiked analyte recovery is outside stated control limits.
ME	The percent recovery of the analyte is outside the control limits but within marginal exceedance limits.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: [illegible] Qtims Batch: ICAL

Date: 3/1/12 ICAL Batch: ED301121 Target Batch: NA IS #1 Area: 232168

Surr/IS ID & Vol.: V4254 40mL System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☒ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1213	Y	Pmm	EBFBC01	—	16	100	1	
1252	N	BLK	BLK1	—	16	500		
1352	N	MOL✓	MOLCHK	CX-2331	1	50		
1455	Y	ICAL1 3/1/12 3/1/12	EICC01 1 EICC01		1	100		
1550		2	EICC012		1	200		
1645		3	3	CX-2330	2			3/1/12
1740		4	4	CX-2329	3			
1834		5	5	CX-2328	4			
1929		6	6	CX-2327	5			
2026		7	7	CX-2326	6			
2123		8	8	CX-2325	7			
2223		9	9	CX-2324	8			
2320	N	BLK2	BLK2	—	16	200		
0018	N	ICV	EICV01	CX-2321	9	100		
0120	N	LCS	ELCS01		9	200		
0736	N	BLK	BLK3	—	16	500		
0840	N	Lot ✓	9754	6683	10			
Aborted	N	Lot 9750	6508 →		11			STD can 3/2/12
		Lot 9747	6520 →		12			
			9202 →		13			
			7489 →		14			
			12521 →		15			
		Lot 9751	1369 →	4=3/2/12	STD			STD CAN (POS1)
		Lot 9752	6383 →		2			
				3/2/12				

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/2/12

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Inst: ME

Analyst: [signature] Qtims Batch: _____

Date: 3/2/12 ICAL Batch: E030212 Target Batch: _____ IS #1 Area: 327383

Surr/IS ID & Vol.: V425 40mL System Date/Time ok (y/n): Y

Preventive Maintenance Performed □ Daily _____

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1004	Y	Tune	E030212	—	16	100	1	
1057	Y	CCV	E030212	CX-2321	15	100	1	2nd Source

[signature] 3/2/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/2/12

Data File: /ohem/goms/me.i/E030112I.b/ebfbo01.d

Date : 01-MAR-2012 12:13

Client ID: BFB

Instrument: me.i

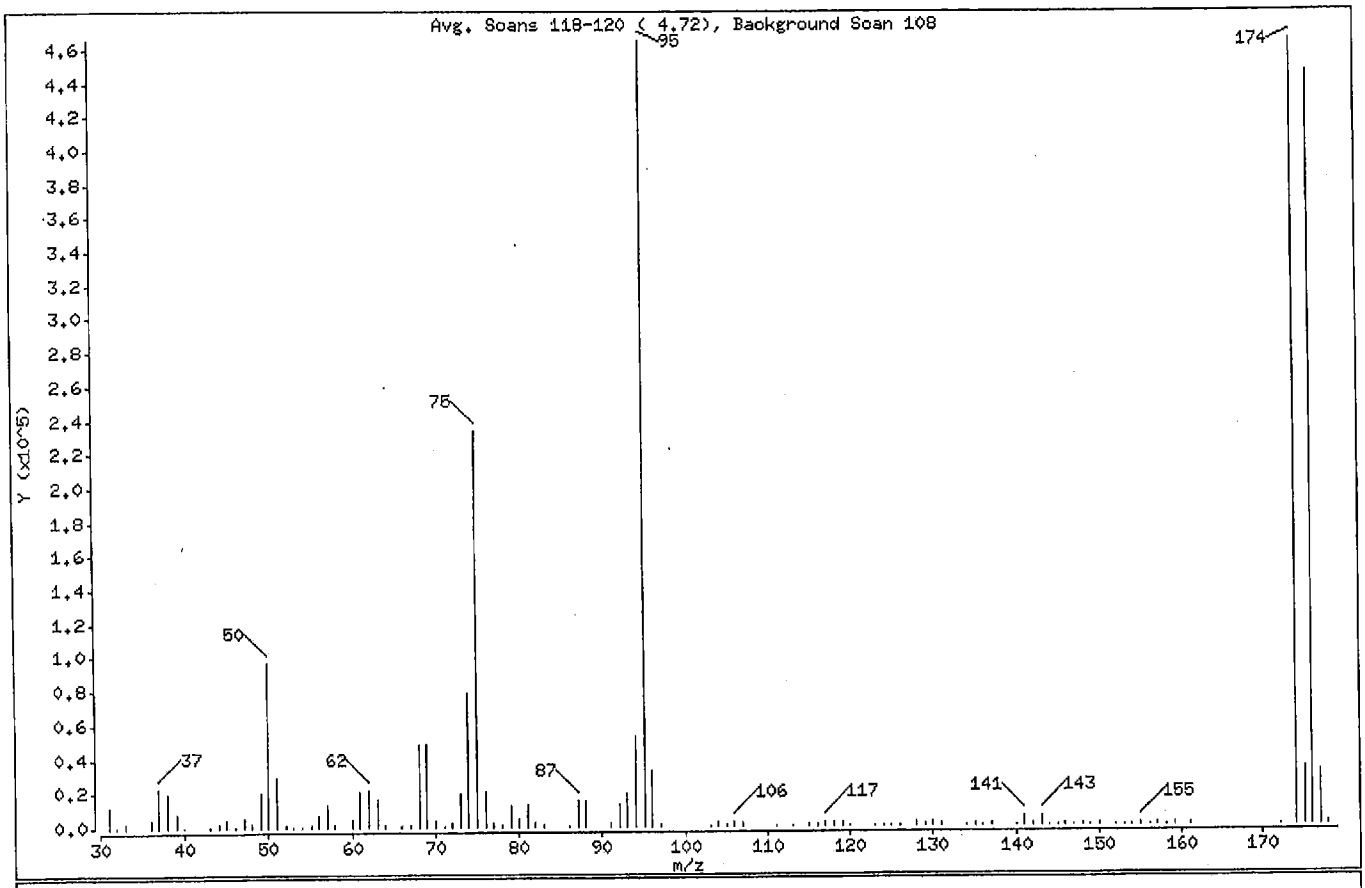
Sample Info: BFB,,3,,,BFB

Operator: 22980

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.65
75	30.00 - 60.00% of mass 95	50.21
96	5.00 - 9.00% of mass 95	6.82
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	100.00
175	5.00 - 9.00% of mass 174	7.23 (7.23)
176	95.00 - 101.00% of mass 174	95.79 (95.79)
177	5.00 - 9.00% of mass 176	6.58 (6.87)

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Calibration File Names:
Level 1: /var/chem/gcms/me.i/E030112I.b/eicc011.d
Level 2: /var/chem/gcms/me.i/E030112I.b/eicc012.d
Level 3: /var/chem/gcms/me.i/E030112I.b/eicc013.d
Level 4: /var/chem/gcms/me.i/E030112I.b/eicc014.d
Level 5: /var/chem/gcms/me.i/E030112I.b/eicc015.d
Level 6: /var/chem/gcms/me.i/E030112I.b/eicc016.d
Level 7: /var/chem/gcms/me.i/E030112I.b/eicc017.d
Level 8: /var/chem/gcms/me.i/E030112I.b/eicc018.d
Level 9: /var/chem/gcms/me.i/E030112I.b/eicc019.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
M 5 Xylene (total)	0.89170	1.09383	1.16276	1.03808	1.11300	0.97030					
	0.94635	0.96846	0.92931				AVRG		1.01264		9.20807
6 Chlorodifluoromethane	+++++	0.87357	0.64955	0.54868	0.51653	0.52863					
	0.47805	0.46565	0.41830				AVRG		0.55987		25.71091
7 Propene	+++++	+++++	1.71047	1.48694	1.60516	1.58241					
	1.34117	1.24527	1.08331				AVRG		1.43639		15.50870

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2	
	4 Level 7	8 Level 8	16 Level 9									
10 Dichlorodifluoromethane	5.01574	5.81111	5.31139	4.71907	4.93224	5.20906						
	4.43004	4.18993	3.81244				AVRG		4.82567		12.69028	
9 Chloromethane	+++++	0.62756	0.63992	0.52123	0.52161	0.54915						
	0.46243	0.43814	0.38750				AVRG		0.51844		16.99711	
11 1,2-Dichlorotetrafluoroethane	3.24301	3.53067	2.74501	2.64147	2.69905	2.76148						
	2.43265	2.23109	2.31643				AVRG		2.73343		15.42683	
8 ~ acetaldehyde	+++++	+++++	+++++	52994	122254	110369						
	208810	454487	786257				QUAD	0.000e+00	4.05775	1.68267	0.99140	
12 Methanol	+++++	+++++	+++++	0.49468	0.31095	0.31593						
	0.23149	0.19587	+++++				AVRG		0.30978		37.27321	<-✓ NT
13 Vinyl Chloride	1.62055	1.76455	1.73335	1.51868	1.63996	1.73980						
	1.47718	1.44502	1.31719				AVRG		1.58403		9.72451	
14 n-Butane	+++++	+++++	3.32048	2.46995	2.50382	2.62897						
	2.15745	2.13803	1.90110				AVRG		2.44569		18.86435	

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
15 1,3-Butadiene	1.27522	1.36639	1.24382	1.13583	1.17033	1.21436					
	1.06497	1.05261	0.96294				AVRG		1.16516		10.75810
16 Bromomethane	1.83976	1.93665	1.78367	1.51919	1.48156	1.56504					
	1.40593	1.35812	1.26275				AVRG		1.57252		14.73361
18 Chloroethane	0.61696	0.79320	0.73103	0.68032	0.67210	0.70241					
	0.60615	0.63356	0.60139				AVRG		0.67079		9.57211
17 ~ ethanol	+++++	+++++	26299	40235	110475	215202					
	404097	755742	1152858				QUAD	0.000e+00	1.50978	1.14482	0.99266
19 Vinyl Bromide	1.33304	1.60967	1.53467	1.40196	1.40185	1.46058					
	1.29880	1.26736	1.20446				AVRG		1.39027		9.36019
20 2-methyl butane	+++++	2.41225	2.29033	1.83910	1.71099	1.72755					
	1.56071	1.54230	1.42972				AVRG		1.81412		19.64602
21 Trichlorofluoromethane	+++++	5.52148	5.22135	4.74926	4.70967	4.82927					
	4.33895	4.16130	3.91574				AVRG		4.68088		11.41515

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	4 Level 7	8 Level 8	16 Level 9									
22 Acrolein	+++++	+++++	0.46772	0.41383	0.41999	0.37112						
	0.35477	0.38647	0.34083				AVRG		0.39353		11.09982	
23 Acetonitrile	+++++	+++++	0.40766	0.42482	0.43711	0.39449						
	0.39959	0.40031	0.37174				AVRG		0.40510		5.23526	
24 Acetone	+++++	+++++	1.22270	1.13227	1.09730	0.57920						
	0.47367	+++++	+++++				AVRG		0.90103		38.51292	<-NA
25 Pentane	+++++	+++++	0.25240	0.20276	0.20426	0.20794						
	0.18566	0.18586	0.17681				AVRG		0.20224		12.35066	
26 Isopropyl alcohol	+++++	+++++	1.71855	1.19942	1.45401	1.53924						
	1.07275	1.08655	0.94172				AVRG		1.28746		22.21312	
27 Ethyl Ether	+++++	+++++	1.28548	1.17391	1.19946	1.11737						
	1.09903	1.12473	1.05731				AVRG		1.15104		6.56469	
28 1,1-Dichloroethene	1.25965	1.42486	1.28227	1.17416	1.18285	1.18625						
	1.05807	1.03955	0.96390				AVRG		1.17462		11.95949	

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
29 Acrylonitrile	+++++	+++++	1.01964	0.97588	0.97514	0.85492					
	0.88770	0.89997	0.80638				AVRG		0.91709		8.28294
30 1,1,2-Trichlorotrifluoroethan	2.50342	3.06484	2.93375	2.61820	2.65385	2.64879					
	2.33387	2.32592	2.15620				AVRG		2.58209		11.31124
31 tert-butanol	+++++	+++++	2.47722	2.01674	2.28323	2.58907					
	1.69723	1.77687	1.73935				AVRG		2.08282		17.71274
32 Methylene Chloride	+++++	+++++	1.97027	1.23869	1.15509	1.12692					
	0.96630	0.96466	+++++				AVRG		1.23699		30.33376 <-
33 3-Chloropropene	+++++	1.62590	1.67747	1.34428	1.52440	1.37681					
	1.33223	1.33518	1.18205				AVRG		1.42479		11.81956
34 Carbon Disulfide	+++++	+++++	4.84971	4.35517	4.53532	4.62214					
	4.03375	3.81538	3.32309				AVRG		4.21922		12.53691
35 trans-1,2-Dichloroethene	1.39690	1.62844	1.58130	1.39356	1.46551	1.45412					
	1.26697	1.27855	1.16992				AVRG		1.40392		10.61208

O.K 1.35/1

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
36 ~ 2-Methyl Pentane	4.04837	4.57066	4.53802	4.01267	4.01393	4.00220					
	3.51287	3.43894	3.00970				AVRG		3.90526		13.02483
37 Methyl-t-Butyl Ether	+++++	3.45753	3.48100	3.33509	3.38823	3.24169					
	3.10006	3.09439	2.90747				AVRG		3.25068		6.22749
38 1,1-Dichloroethane	2.69086	3.07403	3.08842	2.77819	2.89303	2.85449					
	2.55637	2.54623	2.32120				AVRG		2.75587		9.23130
39 Vinyl Acetate	+++++	+++++	3.53210	3.61162	3.66887	3.21008					
	3.45950	3.46223	3.12515				AVRG		3.43851		5.85474
40 Hexane	+++++	+++++	1.61216	1.35902	1.35141	1.33195					
	1.16486	1.14824	1.02909				AVRG		1.28525		14.82233
41 2-Butanone	+++++	+++++	0.62454	0.53762	0.58390	0.51744					
	0.46507	0.46365	0.41693				AVRG		0.51559		14.16587
42 cis 1,2-Dichloroethene	1.30858	1.57564	1.50547	1.37184	1.44706	1.41302					
	1.25475	1.25352	1.13162				AVRG		1.36239		10.22876

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
43 Ethyl acetate	+++++ / 2.78243	+++++ / 2.79484	3.09417 / 2.53942	2.94489	3.02182	2.90839	AVRG		2.86942		6.41004
44 Chloroform	3.30115 / 3.04011	3.66619 / 3.04701	3.69125 / 2.76100	3.30439	3.44731	3.38367	AVRG		3.29356		9.21930
45 Tetrahydrofuran	+++++ / 1.40120	+++++ / 1.38975	1.83526 / 1.29615	1.47815	1.53747	1.42766	AVRG		1.48081		11.70992
46 1,1,1-Trichloroethane	+++++ / 3.38559	4.14238 / 3.37396	4.05949 / 3.06540	3.66487	3.82780	3.77855	AVRG		3.66226		10.03352
47 1,2-Dichloroethane	0.40749 / 0.43540	0.56000 / 0.44427	0.54072 / 0.41299	0.47303	0.50580	0.49943	AVRG		0.47546		11.52169
48 Cyclohexane	+++++ / 0.12509	0.22784 / 0.12665	0.19167 / 0.11654	0.15190	0.15605	0.15658	AVRG		0.15654		23.92950
49 Benzene	0.89962 / 0.71002	1.00542 / 0.73050	0.98285 / 0.67183	0.81323	0.86000	0.82412	AVRG		0.83307		14.03901

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.72507	0.92693	0.91648	0.60875	0.84519	0.65455					
	0.70267	0.71459	0.66871				AVRG		0.75144		15.45145
51 1-Butanol	+++++	+++++	+++++	0.09425	0.10580	0.11815					
	0.07197	0.07370	0.06757				AVRG		0.08857		23.36764
52 ~ 2,3-dimethylpentane	0.18149	0.23286	0.22066	0.17979	0.19370	0.19546					
	0.15639	0.16221	0.14861				AVRG		0.18569		15.28481
53 ~ Thiophene	0.51089	0.57679	0.55308	0.46419	0.49523	0.47881					
	0.41166	0.42894	0.39037				AVRG		0.47889		13.09207
54 2,2,4-trimethylpentane	1.49669	1.87249	1.84026	1.50989	1.63555	1.61972					
	1.33141	1.36727	1.22693				AVRG		1.54447		14.29854
55 Heptane	0.33876	0.39508	0.36133	0.29696	0.32101	0.31862					
	0.26016	0.27097	0.24781				AVRG		0.31230		15.56112
56 1,2-Dichloropropane	0.29696	0.36552	0.37921	0.32666	0.34896	0.33072					
	0.28643	0.29043	0.26220				AVRG		0.32079		12.29447

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
57 Trichloroethene	0.37442	0.47737	0.47657	0.38841	0.42763	0.42647					
	0.33914	0.35208	0.32864				AVRG		0.39897		14.06319
180 2-Nitropropene	0.30860	0.50263	0.52451	0.47324	0.56252	0.52357					
	0.50892	0.53458	0.45055				AVRG		0.48768		15.34043
58 Dibromomethane	0.36879	0.43441	0.45861	0.37809	0.41584	0.40989					
	0.34443	0.35588	0.32738				AVRG		0.38815		11.32785
59 Bromodichloromethane	0.65448	0.84584	0.84404	0.71498	0.80477	0.78739					
	0.67865	0.70229	0.64171				AVRG		0.74157		10.79102
60 1,4-dioxane	+++++	+++++	0.08687	0.06435	0.08797	0.11175					
	0.07641	0.06932	0.04975				AVRG		0.07806		25.51089
61 Methyl Methacrylate	+++++	0.38717	0.38692	0.36385	0.39476	0.38460					
	0.34148	0.36270	0.33623				AVRG		0.36971		6.00693
62 ~ methyl cyclohexane	0.51488	0.62531	0.60703	0.49879	0.54564	0.53948					
	0.43957	0.45119	0.41479				AVRG		0.51519		14.10472

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
63 cis-1,3-Dichloropropene	0.42253	0.54464	0.54153	0.47687	0.51931	0.50617					
	0.44091	0.45995	0.42525				AVRG		0.48191		9.95258
64 4-Methyl-2-pentanone	+++++	0.78797	0.71797	0.61062	0.67852	0.69752					
	0.55720	0.58083	0.50989				AVRG		0.64256		14.51142
65 trans-1,3-Dichloropropene	0.44553	0.55744	0.57300	0.51465	0.57189	0.53688					
	0.51042	0.53980	0.52297				AVRG		0.53029		7.39500
66 Toluene	+++++	1.25615	1.27108	1.07841	1.11783	1.03532					
	0.95370	0.97944	0.94196				AVRG		1.07924		11.93228
67 1,1,2-Trichloroethane	0.30487	0.37537	0.37089	0.33401	0.34887	0.32639					
	0.29504	0.30172	0.29121				AVRG		0.32760		9.78576
68 ~ 2-methyl thiophene	0.83981	1.02268	1.01081	0.89359	0.96108	0.89187					
	0.80929	0.83384	0.79966				AVRG		0.89585		9.44784
70 ~ 3-methyl thiophene	0.82653	1.03875	0.99737	0.90272	0.96761	0.90523					
	0.81771	0.84132	0.80994				AVRG		0.90080		9.37502

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
69 2-Hexanone	+++++	+++++	0.33587	0.29382	0.33488	0.32036					
	0.28117	0.29136	0.27264				AVRG		0.30430		8.48995
71 Octane	0.38634	0.46715	0.40952	0.35519	0.38244	0.36601					
	0.30976	0.31894	0.30741				AVRG		0.36697		14.20171
72 Dibromochloromethane	0.66080	0.79145	0.78898	0.68752	0.80854	0.77162					
	0.71032	0.75147	0.73358				AVRG		0.74492		6.81309
73 1,2-Dibromoethane	0.51321	0.65144	0.64660	0.57204	0.63979	0.59865					
	0.54484	0.56980	0.54721				AVRG		0.58706		8.50682
74 Tetrachloroethene	0.45911	0.52512	0.51534	0.44528	0.47354	0.45646					
	0.38629	0.40542	0.39680				AVRG		0.45149		10.92713
75 Chlorobenzene	0.75125	0.93113	0.91758	0.80914	0.87529	0.82815					
	0.75030	0.77766	0.75499				AVRG		0.82172		8.67917
76 ~ 2,3-dimethylheptane	1.20012	1.46261	1.42793	1.20541	1.29775	1.22575					
	1.03849	1.03011	0.92317				AVRG		1.20126		15.08611

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
77 Ethylbenzene	1.14728	1.43196	1.46785	1.31891	1.41172	1.25301					
	1.20530	1.23499	1.18222				AVRG		1.29481		9.08833
79 - 2-ethyl thiophene	0.95114	1.15827	1.19497	1.06486	1.16109	1.05607					
	0.99591	1.02150	0.98407				AVRG		1.06532		8.20218
78 m&p-Xylene	0.87498	1.08061	1.14597	1.02302	1.10462	0.96477					
	0.93835	0.96368	0.92747				AVRG		1.00261		9.09166
80 Nonane	+++++	0.97116	0.89565	0.77039	0.84127	0.79379					
	0.67943	0.68585	0.62849				AVRG		0.78325		14.93580
81 Bromoform	+++++	0.75387	0.73961	0.67205	0.85216	0.81217					
	0.79856	0.87144	0.89548				AVRG		0.79942		9.36501
82 Styrene	0.57827	0.69391	0.73078	0.68016	0.74819	0.66392					
	0.65988	0.69057	0.70119				AVRG		0.68299		7.11936
83 o-Xylene	0.92515	1.12027	1.19635	1.06820	1.12976	0.98136					
	0.96234	0.97803	0.93298				AVRG		1.03272		9.51308

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	ml	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
84 1,1,2,2-Tetrachloroethane	0.60366	0.74975	0.80384	0.69922	0.77893	0.69995					
	0.65124	0.66475	0.63886				AVRG		0.69891		9.61365
85 1,2,3-Trichloropropane	0.15325	0.21524	0.20487	0.19642	0.21623	0.19102					
	0.18488	0.19055	0.18342				AVRG		0.19288		9.92972
86 Cumene	1.26510	1.55679	1.60028	1.43539	1.53207	1.35017					
	1.30880	1.34281	1.32101				AVRG		1.41249		8.68871
87 n-Propylbenzene	0.28146	0.36717	0.38280	0.34527	0.38218	0.33995					
	0.33493	0.34690	0.35022				AVRG		0.34788		8.75619
88 2-chlorotoluene	0.31668	0.38516	0.40106	0.36043	0.38914	0.36115					
	0.33030	0.33727	0.33178				AVRG		0.35700		8.38006
89 4-Ethyltoluene	1.17840	1.48531	1.42399	1.28957	1.43491	1.27611					
	1.24452	1.28490	1.26537				AVRG		1.32034		7.76827
90 1,3,5-Trimethylbenzene	0.47559	0.62275	0.63963	0.58669	0.62993	0.56044					
	0.53878	0.56031	0.56934				AVRG		0.57594		8.95029

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
91 Alpha-Methylstyrene	+++++ / 0.49853	+++++ / 0.51506	0.51507 / 0.52097	0.48356	0.54644	0.49253	AVRG		0.51031		4.10642
92 Decane	+++++ / 0.78703	0.90317 / 0.78372	0.80722 / 0.73306	0.83654	0.93283	0.81936	AVRG		0.82537		7.90718
93 tert-butylbenzene	0.97105 / 1.04635	1.21980 / 1.08895	1.27300 / 1.10973	1.13588	1.21890	1.09740	AVRG		1.12901		8.39496
94 1,2,4-Trimethylbenzene	+++++ / 0.98344	1.12276 / 1.01909	1.13465 / 1.01428	1.03455	1.12712	1.01812	AVRG		1.05675		5.76271
95 sec-butylbenzene	1.29905 / 1.41635	1.67340 / 1.46970	1.68622 / 1.48148	1.52122	1.64219	1.46902	AVRG		1.51762		8.47107
96 1,3-Dichlorobenzene	+++++ / 0.72671	0.78415 / 0.77969	0.78928 / 0.83545	0.69443	0.81096	0.74220	AVRG		0.77036		6.00555
97 Benzyl Chloride	+++++ / 0.84251	0.78007 / 0.88263	0.82650 / 0.86854	0.71788	0.87276	0.83977	AVRG		0.82883		6.67126

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
98 1,4-Dichlorobenzene	+++++	0.72029	0.72534	0.64288	0.74603	0.69011					
	0.68378	0.71983	0.74568				AVRG		0.70924		4.93987
99 p-Cymene	+++++	1.35877	1.37219	1.22671	1.34239	1.24114					
	1.16056	1.19156	1.17869				AVRG		1.25900		6.83054
100 ~ 1,2,3- Trimethylbenzene	0.75615	0.95241	0.96132	0.87801	0.94972	0.85939					
	0.81491	0.83231	0.79247				AVRG		0.86630		8.65439
101 ~ n-butylcyclohexane	0.76377	0.97856	1.02685	0.88726	0.95903	0.87826					
	0.77066	0.76881	0.74032				AVRG		0.86372		12.45188
102 1,2-Dichlorobenzene	+++++	0.70374	0.72373	0.65523	0.74512	0.67182					
	0.65297	0.68041	0.71167				AVRG		0.69309		4.80408
103 ~ Indane	0.74379	0.92725	0.98988	0.88062	0.95984	0.85555					
	0.83544	0.86126	0.88331				AVRG		0.88188		8.23048
105 ~ Indene	+++++	0.61304	0.63449	0.58573	0.67662	0.61778					
	0.60342	0.60052	0.59270				AVRG		0.61554		4.71036

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	4 Level 7	8 Level 8	16 Level 9									
104 n-butylbenzene	+++++	1.18481	1.14863	1.06696	1.22229	1.13443						
	1.05813	1.06807	1.02511				AVRG		1.11355		6.23108	
106 Undecane	0.58230	0.81520	0.77268	0.54871	0.64061	0.70239						
	0.69721	0.75418	0.72222				AVRG		0.69283		12.68609	
107 ~ 1,2-dimethyl-4-ethylenzene	+++++	1.00258	0.98765	0.92575	1.05655	1.00406						
	0.92098	0.93076	0.91019				AVRG		0.96732		5.44845	
108 ~ 1,2,4,5-tetramethylbenzene	+++++	1.07704	0.94751	0.76886	0.94198	0.95357						
	0.90496	0.90762	0.87674				AVRG		0.92229		9.35219	
109 ~ 1,2,3,5-tetramethylbenzene	+++++	0.81415	0.73482	0.58272	0.71295	0.71817						
	0.67586	0.66964	0.64421				AVRG		0.69406		9.86694	
110 ~ 1,2,3,4-tetramethylbenzene	+++++	0.91097	0.83330	0.64209	0.74005	0.77639						
	0.71684	0.68259	0.63253				AVRG		0.74184		12.90956	
111 Dodecane	+++++	+++++	+++++	0.46376	0.56754	0.71115						
	0.36577	0.32733	0.33380				AVRG		0.46156		33.14844	<-

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
112 1,2,4-Trichlorobenzene	+++++	0.38811	0.36751	0.26074	0.36222	0.40109					
	0.32774	0.28376	0.27119				AVRG		0.33280		16.54063
113 Napthalene	+++++	+++++	0.64582	0.48239	0.65188	0.72008					
	0.56635	0.48589	0.44275				AVRG		0.57074		18.36662
114 ~ benzo(b) thiophene	+++++	0.36708	0.35495	0.25107	0.34542	0.41376					
	0.28610	0.23993	0.22563				AVRG		0.31049		22.23667
115 Hexachlorobutadiene	+++++	0.76072	0.72019	0.65254	0.70432	0.67746					
	0.59916	0.53483	0.50683				AVRG		0.64451		14.00099
116 1,2,3-trichlorobenzene	+++++	0.34786	0.36486	0.22566	0.29399	0.37796					
	0.20029	0.16978	+++++				AVRG		0.28291		29.92058
117 ~ 2-Methylnaphthalene	0.03655	0.05365	0.04241	0.03641	0.05240	0.07341					
	0.03290	0.02784	0.02523				AVRG		0.04231		35.99208
118 ~ 1-Methylnaphthalene	0.03621	0.05874	0.04753	0.03898	0.05101	0.06910					
	0.02955	0.02384	0.02015				AVRG		0.04168		39.15138

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.70541	0.72092	0.72681	0.71745	0.73292	0.74739					
	0.73599	0.72693	0.73365				AVRG		0.72750		1.66087

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG 3/7/12

GCMS Analysis: AIR Inst: ME

Analyst: HMT Qtims Batch: 2067130 (MQRAAQ)

Date: 3/7/12 ICAL Batch: E030712 Target Batch: E030112I IS #1 Area: 254614

Surr/IS ID & Vol.: 40mL V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0934	✓	tune	EBFBC07	-	16	100	1	
1006	✓	CCV	CCV	CX2323	15			
1006	✓	LCS	LCS					
1110	✓	Blk	Flush	-	16	500		
1200	✓		EBlkC07	-				
1249	E	H2B240437	MQ3J01AA	7786	1	250		tetra RR tol 25mL
1338	elevr		3KL	6669	2	50		
1432	E		3K0	7492	3	~~500~~ 250 3/7/12		E tol RR 50mL
1522	E	H2B230467	MQ2241AA	34001261	4	20	1	E #6 RR 10mL
1621	✓		225	34001268	5	500	1	
1713	E	H2B230469	MQ24P1AA	34001267	6	200	1	E tol RR 50mL
1807	✓	3/7/12	23R	12298	7	200		WO# MQ24P1AA
1900	RR 200mL	ok ✓ 50mL	24P	11370	8	~~50~~ 3/7/12		~~200mL~~ 50mL WO# MQ23P1AA
1951	✓		24Q	34000825	9	~~200~~	12.45	50 pos 8 50mL
2043	✓		24R	34001263	10	~~200~~	12.64	50
2137	E	H2B240437	MQ3KF1AA	12162	11	~~250~~ 200	1	200mL RR tol 100
2231	E		3KK	04306	12	250	1	RR100mL
2323	E		3KM	6366	13	200	1	RR100mL
0013	✓		3KP	4497N	14	11	3.6	10mL IA015-A-12 16364
0103	✓		3KV	1520	15	11	1	10mL 108
0153	✓		3J0 R	7786	1	~~25~~ 26mL		3/4/12 117
0249	E		3KW1AA	0179	2	500	1	RR 200mL
0337	✓		MQ 3K0 R	7492	3	50	1	-077-
0428	✓	H2B230467	224R	34001261	4	11	1	10mL
0522	✓	H2B240437	MQ3KX1AA	0001	5	500		-076
0612	✓	H2B230469	23PR	34001267	6	50		WO# MQ24PR 3/7/12
0702	dup		24PD		6			
0756	✓	lot ✓	9769	1486	7	500	1	
0850	✓		9770	7510	8			

*Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Not Needed. H2B230469 MQ23PR 11370 8

Analyst: [signature] Date: 3/8/12

MS027r16.DOC, 051210

Data File: /chem/goms/me.i/E030712.b/ebfbc07.d

Date : 07-MAR-2012 09:34

Client ID: BFB

Instrument: me.i

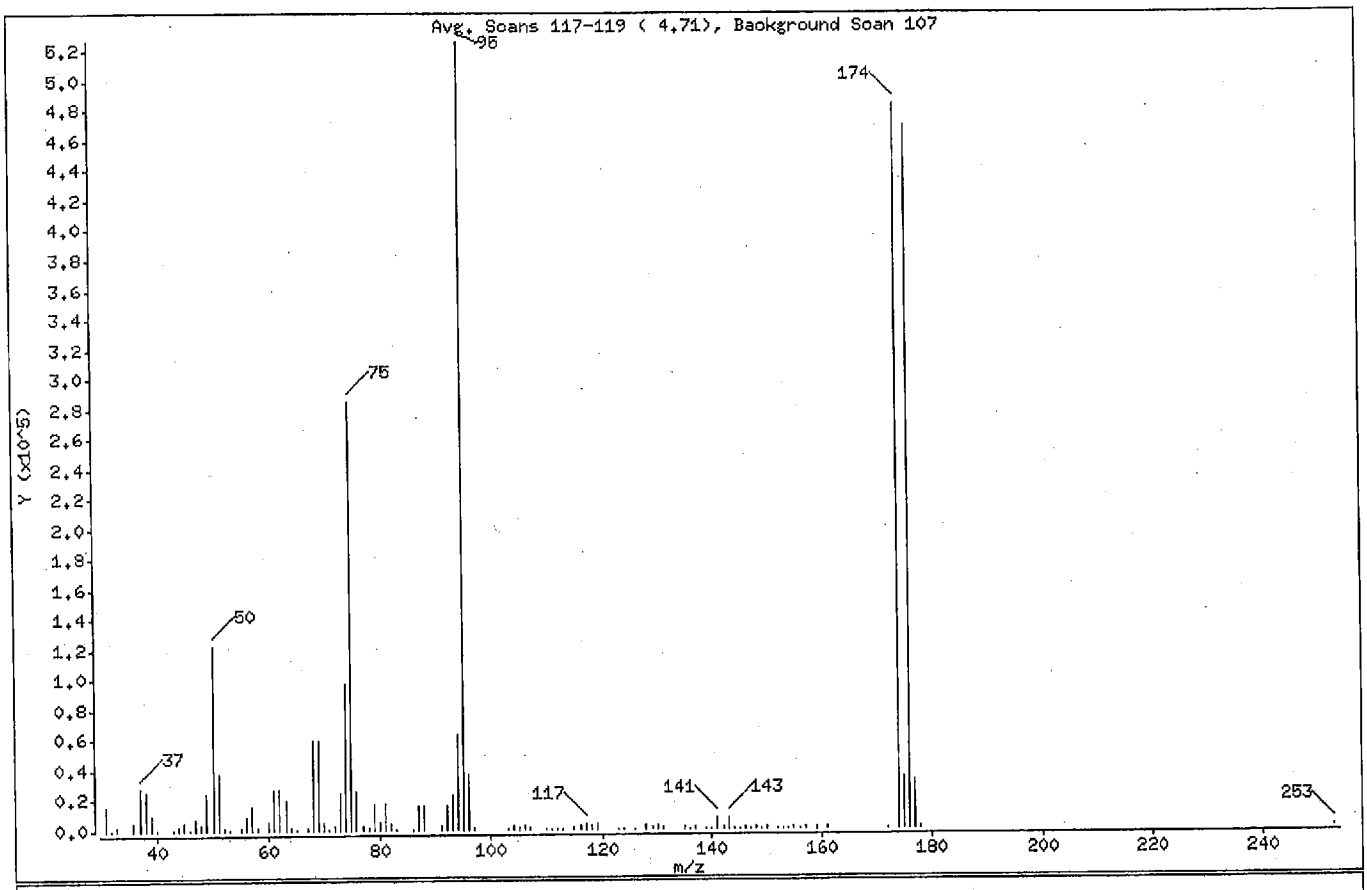
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	23.27
75	30.00 - 60.00% of mass 95	53.94
96	5.00 - 9.00% of mass 95	6.92
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	91.84
175	5.00 - 9.00% of mass 174	6.46 (7.03)
176	95.00 - 101.00% of mass 174	89.26 (97.20)
177	5.00 - 9.00% of mass 176	5.91 (6.62)

Data File: /var/chem/gcms/me.i/E030712.b/eccvc07.d
Report Date: 07-Mar-2012 12:33

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc07.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030712.b/TO155.m

Injection Date: 07-MAR-2012 10:06
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.72750	0.74037	0.74037	0.000	-1.77014	30.00000	Averaged
M 5 Xylene (total)	1.01264	1.15897	1.15897	0.000	-14.44950	30.00000	Averaged
6 Chlorodifluoromethane	0.55987	0.54805	0.54805	0.000	2.11132	30.00000	Averaged
7 Propene	1.43639	1.66680	1.66680	0.000	-16.04055	30.00000	Averaged
10 Dichlorodifluoromethane	4.82567	5.60197	5.60197	0.000	-16.08697	30.00000	Averaged
9 Chloromethane	0.51844	0.54718	0.54718	0.000	-5.54341	30.00000	Averaged
11 1,2-Dichlorotetrafluoroetha	2.73343	3.01514	3.01514	0.000	-10.30625	30.00000	Averaged
8 ~ acetaldehyde	8.84339	10.12000	0.18099	0.000	12.61472	30.00000	Quadratic
12 Methanol	0.30978	0.30825	0.30825	0.000	0.49424	30.00000	Averaged
13 Vinyl Chloride	1.58403	1.68807	1.68807	0.000	-6.56831	30.00000	Averaged
14 n-Butane	2.44569	2.50495	2.50495	0.000	-2.42300	30.00000	Averaged
15 1,3-Butadiene	1.16516	1.21841	1.21841	0.000	-4.56971	30.00000	Averaged
16 Bromomethane	1.57252	1.59456	1.59456	0.000	-1.40139	30.00000	Averaged
18 Chloroethane	0.67079	0.73812	0.73812	0.000	-10.03709	30.00000	Averaged
17 ~ ethanol	9.57044	10.44000	0.35615	0.000	8.32913	30.00000	Quadratic
19 Vinyl Bromide	1.39027	1.48278	1.48278	0.000	-6.65446	30.00000	Averaged
20 2-methyl butane	1.81412	1.77243	1.77243	0.000	2.29823	30.00000	Averaged
21 Trichlorofluoromethane	4.68088	5.27888	5.27888	0.000	-12.77547	30.00000	Averaged
22 Acrolein	0.39353	0.46763	0.46763	0.000	-18.82713	30.00000	Averaged
23 Acetonitrile	0.40510	0.47725	0.47725	0.000	-17.80970	30.00000	Averaged
24 Acetone	0.90103	0.59870	0.59870	0.000	33.55403	30.00000	Averaged
25 Pentane	0.20224	0.21048	0.21048	0.000	-4.07464	30.00000	Averaged
26 Isopropyl alcohol	1.28746	1.38837	1.38837	0.000	-7.83785	30.00000	Averaged
27 Ethyl Ether	1.15104	1.31530	1.31530	0.000	-14.27054	30.00000	Averaged
28 1,1-Dichloroethene	1.17462	1.24345	1.24345	0.000	-5.85945	30.00000	Averaged
29 Acrylonitrile	0.91709	1.10446	1.10446	0.000	-20.43110	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.58209	2.85184	2.85184	0.000	-10.44679	30.00000	Averaged
31 tert-butanol	2.08282	2.45657	2.45657	0.000	-17.94457	30.00000	Averaged
32 Methylene Chloride	1.23699	1.18936	1.18936	0.000	3.84999	30.00000	Averaged
33 3-Chloropropene	1.42479	1.58384	1.58384	0.000	-11.16272	30.00000	Averaged
34 Carbon Disulfide	4.21922	4.35757	4.35757	0.000	-3.27889	30.00000	Averaged
35 trans-1,2-Dichloroethene	1.40392	1.50630	1.50630	0.000	-7.29228	30.00000	Averaged
36 ~ 2-Methyl Pentane	3.90526	4.31956	4.31956	0.000	-10.60885	30.00000	Averaged
37 Methyl-t-Butyl Ether	3.25068	3.92660	3.92660	0.000	-20.79293	30.00000	Averaged
38 1,1-Dichloroethane	2.75587	3.11515	3.11515	0.000	-13.03670	30.00000	Averaged

<- NA

Data File: /var/chem/gcms/me.i/E030712.b/eccvc07.d
Report Date: 07-Mar-2012 12:33

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc07.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030712.b/TO155.m

Injection Date: 07-MAR-2012 10:06
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 Vinyl Acetate	3.43851	4.25389	4.25389	0.000	-23.71309	30.00000	Averaged
40 Hexane	1.28525	1.39540	1.39540	0.000	-8.57031	30.00000	Averaged
41 2-Butanone	0.51559	0.56523	0.56523	0.000	-9.62721	30.00000	Averaged
42 cis 1,2-Dichloroethene	1.36239	1.47236	1.47236	0.000	-8.07226	30.00000	Averaged
43 Ethyl acetate	2.86942	3.59262	3.59262	0.000	-25.20373	30.00000	Averaged
44 Chloroform	3.29356	3.67619	3.67619	0.000	-11.61728	30.00000	Averaged
45 Tetrahydrofuran	1.48081	1.77051	1.77051	0.000	-19.56375	30.00000	Averaged
46 1,1,1-Trichloroethane	3.66226	4.16285	4.16285	0.000	-13.66902	30.00000	Averaged
47 1,2-Dichloroethane	0.47546	0.53351	0.53351	0.000	-12.20967	30.00000	Averaged
48 Cyclohexane	0.15654	0.14741	0.14741	0.000	5.83493	30.00000	Averaged
49 Benzene	0.83307	0.83432	0.83432	0.000	-0.15099	30.00000	Averaged
50 Carbon Tetrachloride	0.75144	0.80981	0.80981	0.000	-7.76746	30.00000	Averaged
51 1-Butanol	0.08857	0.10460	0.10460	0.000	-18.09469	30.00000	Averaged
52 ~ 2,3-dimethylpentane	0.18569	0.19037	0.19037	0.000	-2.52197	30.00000	Averaged
53 ~ Thiophene	0.47889	0.48369	0.48369	0.000	-1.00287	30.00000	Averaged
54 2,2,4-trimethylpentane	1.54447	1.60708	1.60708	0.000	-4.05389	30.00000	Averaged
55 Heptane	0.31230	0.30952	0.30952	0.000	0.88895	30.00000	Averaged
56 1,2-Dichloropropane	0.32079	0.34686	0.34686	0.000	-8.12753	30.00000	Averaged
57 Trichloroethene	0.39897	0.39776	0.39776	0.000	0.30403	30.00000	Averaged
180 2-Nitropropene	0.48768	0.66138	0.66138	0.000	-35.61767	25.00000	Averaged
58 Dibromomethane	0.38815	0.40974	0.40974	0.000	-5.56234	30.00000	Averaged
59 Bromodichloromethane	0.74157	0.82020	0.82020	0.000	-10.60306	30.00000	Averaged
60 1,4-dioxane	0.07806	0.08770	0.08770	0.000	-12.35568	30.00000	Averaged
61 Methyl Methacrylate	0.36971	0.43902	0.43902	0.000	-18.74690	30.00000	Averaged
62 ~ methyl cyclohexane	0.51519	0.51926	0.51926	0.000	-0.79050	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.48191	0.51126	0.51126	0.000	-6.09109	30.00000	Averaged
64 4-Methyl-2-pentanone	0.64256	0.64442	0.64442	0.000	-0.28941	30.00000	Averaged
65 trans-1,3-Dichloropropene	0.53029	0.63240	0.63240	0.000	-19.25712	30.00000	Averaged
66 Toluene	1.07924	1.19105	1.19105	0.000	-10.36086	30.00000	Averaged
67 1,1,2-Trichloroethane	0.32760	0.37083	0.37083	0.000	-13.19649	30.00000	Averaged
68 ~ 2-methyl thiophene	0.89585	0.99950	0.99950	0.000	-11.57048	30.00000	Averaged
70 ~ 3-methyl thiophene	0.90080	0.99221	0.99221	0.000	-10.14835	30.00000	Averaged
69 2-Hexanone	0.30430	0.32730	0.32730	0.000	-7.55794	30.00000	Averaged
71 Octane	0.36697	0.39197	0.39197	0.000	-6.81293	30.00000	Averaged
72 Dibromochloromethane	0.74492	0.84238	0.84238	0.000	-13.08319	30.00000	Averaged

<-OK 30-130

Data File: /var/chem/gcms/me.i/E030712.b/eccvc07.d
Report Date: 07-Mar-2012 12:33

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc07.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030712.b/TO155.m

Injection Date: 07-MAR-2012 10:06
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 1,2-Dibromoethane	0.58706	0.63954	0.63954	0.000	-8.93806	30.00000	Averaged
74 Tetrachloroethene	0.45149	0.48345	0.48345	0.000	-7.08061	30.00000	Averaged
75 Chlorobenzene	0.82172	0.87965	0.87965	0.000	-7.05003	30.00000	Averaged
76 ~ 2,3-dimethylheptane	1.20126	1.35459	1.35459	0.000	-12.76393	30.00000	Averaged
77 Ethylbenzene	1.29481	1.48529	1.48529	0.000	-14.71130	30.00000	Averaged
79 ~ 2-ethyl thiophene	1.06532	1.20620	1.20620	0.000	-13.22363	30.00000	Averaged
78 m&p-Xylene	1.00261	1.15680	1.15680	0.000	-15.37940	30.00000	Averaged
80 Nonane	0.78325	0.86716	0.86716	0.000	-10.71310	30.00000	Averaged
81 Bromoform	0.79942	0.84315	0.84315	0.000	-5.47042	30.00000	Averaged
82 Styrene	0.68299	0.74399	0.74399	0.000	-8.93141	30.00000	Averaged
83 o-Xylene	1.03272	1.16329	1.16329	0.000	-12.64391	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.69891	0.76630	0.76630	0.000	-9.64239	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19288	0.22173	0.22173	0.000	-14.95817	30.00000	Averaged
86 Cumene	1.41249	1.57481	1.57481	0.000	-11.49167	30.00000	Averaged
87 n-Propylbenzene	0.34788	0.38491	0.38491	0.000	-10.64524	30.00000	Averaged
88 2-chlorotoluene	0.35700	0.37397	0.37397	0.000	-4.75492	30.00000	Averaged
89 4-Ethyltoluene	1.32034	1.45310	1.45310	0.000	-10.05526	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57594	0.62045	0.62045	0.000	-7.72854	30.00000	Averaged
91 Alpha-Methylstyrene	0.51031	0.52426	0.52426	0.000	-2.73319	30.00000	Averaged
92 Decane	0.82537	0.98212	0.98212	0.000	-18.99267	30.00000	Averaged
93 tert-butylbenzene	1.12901	1.22569	1.22569	0.000	-8.56391	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.05675	1.13417	1.13417	0.000	-7.32614	30.00000	Averaged
95 sec-butylbenzene	1.51762	1.63313	1.63313	0.000	-7.61092	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77036	0.75076	0.75076	0.000	2.54335	30.00000	Averaged
97 Benzyl Chloride	0.82883	0.88664	0.88664	0.000	-6.97516	30.00000	Averaged
98 1,4-Dichlorobenzene	0.70924	0.69888	0.69888	0.000	1.46110	30.00000	Averaged
99 p-Cymene	1.25900	1.31910	1.31910	0.000	-4.77361	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.86630	0.91695	0.91695	0.000	-5.84643	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86372	0.90823	0.90823	0.000	-5.15246	30.00000	Averaged
102 1,2-Dichlorobenzene	0.69309	0.67904	0.67904	0.000	2.02710	30.00000	Averaged
103 ~ Indane	0.88188	0.89280	0.89280	0.000	-1.23737	30.00000	Averaged
105 ~ Indene	0.61554	0.60144	0.60144	0.000	2.29068	30.00000	Averaged
104 n-butylbenzene	1.11355	1.19149	1.19149	0.000	-6.99894	30.00000	Averaged
106 Undecane	0.69283	0.73827	0.73827	0.000	-6.55796	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96732	0.97897	0.97897	0.000	-1.20484	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.92229	0.92250	0.92250	0.000	-0.02334	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E030712.b/eccvc07.d
Report Date: 07-Mar-2012 12:33

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc07.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/me.i/E030712.b/TO155.m

Injection Date: 07-MAR-2012 10:06
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
109 ~ 1,2,3,5-tetramethylbenzen	0.69406	0.69392	0.69392	0.000	0.02020	30.00000	Averaged
110 ~ 1,2,3,4-tetramethylbenzen	0.74184	0.72405	0.72405	0.000	2.39829	30.00000	Averaged
111 Dodecane	0.46156	0.58823	0.58823	0.000	-27.44310	30.00000	Averaged
112 1,2,4-Trichlorobenzene	0.33280	0.34070	0.34070	0.000	-2.37645	30.00000	Averaged
113 Napthalene	0.57074	0.56313	0.56313	0.000	1.33409	30.00000	Averaged
114 ~ benzo(b) thiophene	0.31049	0.31969	0.31969	0.000	-2.96373	30.00000	Averaged
115 Hexachlorobutadiene	0.64451	0.61906	0.61906	0.000	3.94843	30.00000	Averaged
116 1,2,3-trichlorobenzene	0.28291	0.32057	0.32057	0.000	-13.30849	30.00000	Averaged
117 ~ 2-Methylnaphthalene	0.04231	0.04470	0.04470	0.000	-5.63682	50.00000	Averaged
118 ~ 1-Methylnaphthalene	0.04168	0.04171	0.04171	0.000	-0.06995	50.00000	Averaged

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C070000 - 130B	**Work Order #**	MRAAQ1AA
Matrix.....:	AIR		
	02/21/2012	**Date Received..:**	02/23/2012
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012
Prep Batch #.....:	2067130	**Analysis Time....:**	12:00
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	**0.049 J**	**0.20**	**0.018**	**0.17 J**	**0.69**	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample #	H2C070000 - 130C	**Work Order #**	MRAAQ1AC	**Matrix.....:**	AIR
	02/21/2012	**Date Received..:**	02/23/2012		
Prep Date.....:	03/07/2012	**Analysis Time....:**	03/07/2012		
Prep Batch #.....:	2067130	**Analysis Time....:**	10:06		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	5.01	16.0	16.0	100	70 - 130
Carbon tetrachloride	5.00	5.39	31.5	33.9	108	70 - 130
Chlorodifluoromethane	5.00	4.89	17.7	17.3	98	60 - 140
Chloroform	5.00	5.58	24.4	27.2	112	70 - 130
Dichlorodifluoromethane	5.00	5.80	24.7	28.7	116	60 - 140
1,1-Dichloroethane	5.00	5.65	20.2	22.9	113	70 - 130
1,2-Dichloroethane	5.00	5.61	20.2	22.7	112	70 - 130
cis-1,2-Dichloroethene	5.00	5.40	19.8	21.4	108	70 - 130
trans-1,2-Dichloroethene	5.00	5.36	19.8	21.3	107	70 - 130
1,1-Dichloroethene	5.00	5.29	19.8	21.0	106	70 - 130
Ethylbenzene	5.00	5.74	21.7	24.9	115	70 - 130
Methylene chloride	5.00	4.81	17.4	16.7	96	70 - 130
Methyl tert-butyl ether	5.00	6.04	18.0	21.8	121	60 - 140
Naphthalene	5.00	4.93	26.2	25.9	99	40 - 140
Tetrachloroethene	5.00	5.35	33.9	36.3	107	70 - 130
Toluene	5.00	5.52	18.8	20.8	110	70 - 130
1,2,4-Trichlorobenzene	5.00	5.12	37.1	38.0	102	60 - 140
1,1,1-Trichloroethane	5.00	5.68	27.3	31.0	114	70 - 130
1,1,2-Trichloroethane	5.00	5.66	27.3	30.9	113	70 - 130
Trichloroethene	5.00	4.98	26.9	26.8	100	70 - 130
1,2,3-Trimethylbenzene	5.10	5.50	25.1	27.1	108	20 - 180
1,2,4-Trimethylbenzene	5.00	5.37	24.6	26.4	107	70 - 130
1,3,5-Trimethylbenzene	5.00	5.39	24.6	26.5	108	70 - 130
Vinyl chloride	5.00	5.33	12.8	13.6	107	70 - 130
Xylenes (total)	15.0	17.2	65.1	74.6	114	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

TestAmerica Laboratories, Inc. – Knoxville 2
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MG

Analyst: HMT Qtims Batch: ICAL

Date: 12/6/11 ICAL Batch: G121611I Target Batch: G121615 IS #1 Area: 404705

Surr/IS ID & Vol.: 40MCV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1117	✓	tune	GBFBL16	-	16	100	1	
1148	✓	MDL	GMDLL16	CX2316	1	50		
1239	✓	ICAL 1	G1CL161	↓	1	100		
1830	✓	2	2	↓	1	200		
1928	✓	3	3	CX2315	2			
1523	✓	4	4	CX2314	3			
1617	✓	5	5	CX2313	4			
1710	✓	6	6	CX2312	5			
1804	✓	7	7	CX2311	6			
1858	✓	8	8	CX2310	7			
1951	✓	↓ 9	↓ 9	CX2309	8	↓		
2044	✓	blk	Blank1	-	16	200		
2135	✓	ICV	G1CVL16	CX2306	9	100		
2226	not needed	LCS	GLCSL16	↓	9	200		
2322	~~N~~ 12/19/11 H	blk	BLANK2	-	16	500		
0017	✓	↓	GBlkL16	-	↓	↓		

12/19/11

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 12/19/11

Data File: /var/chem/gcms/mg.i/G121611I.b/gbfb116.d

Date : 16-DEC-2011 11:17

Client ID: BFB

Instrument: mg.i

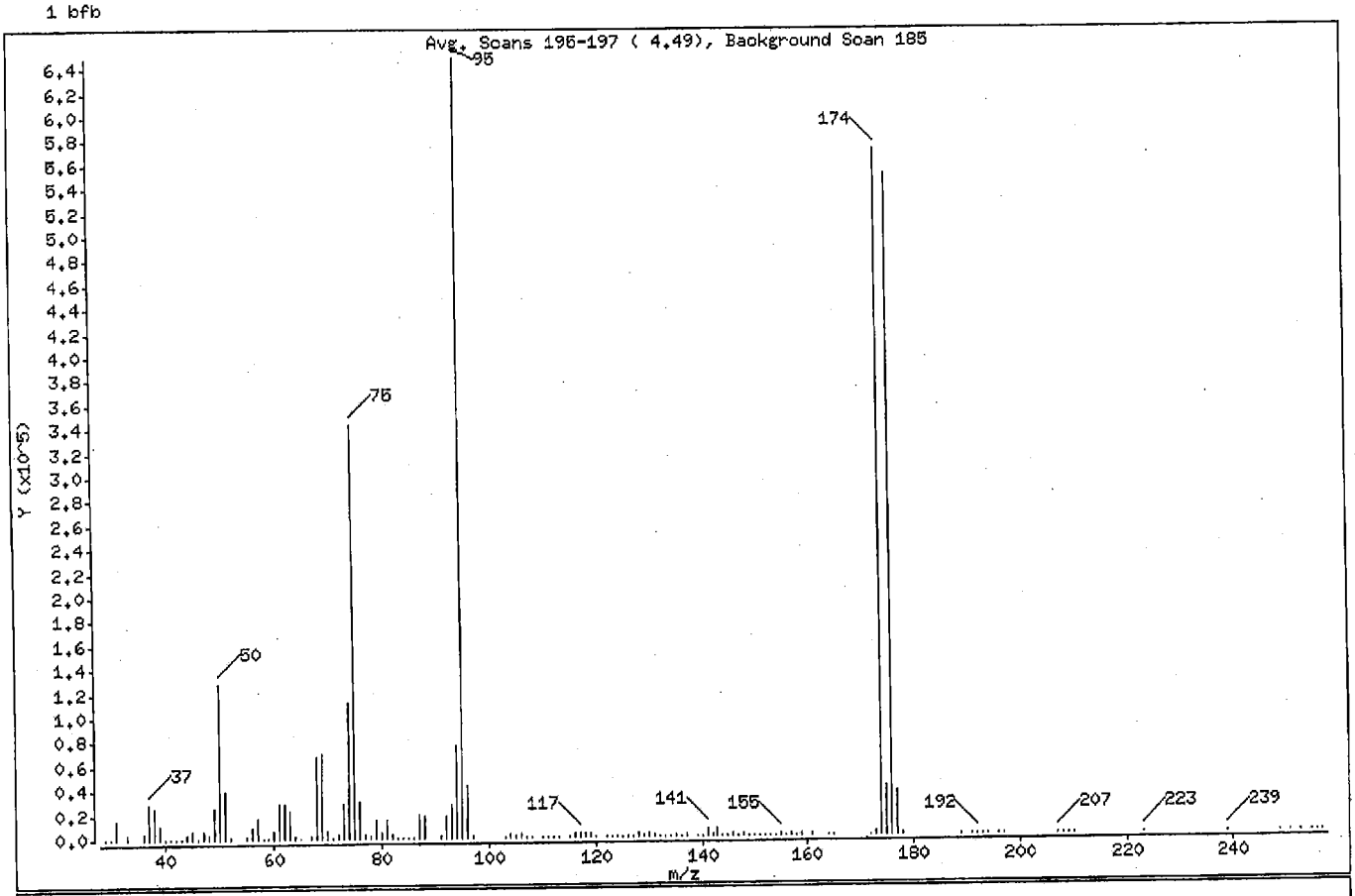
Sample Info: BFB,,3,,,BFB

Operator: 7126

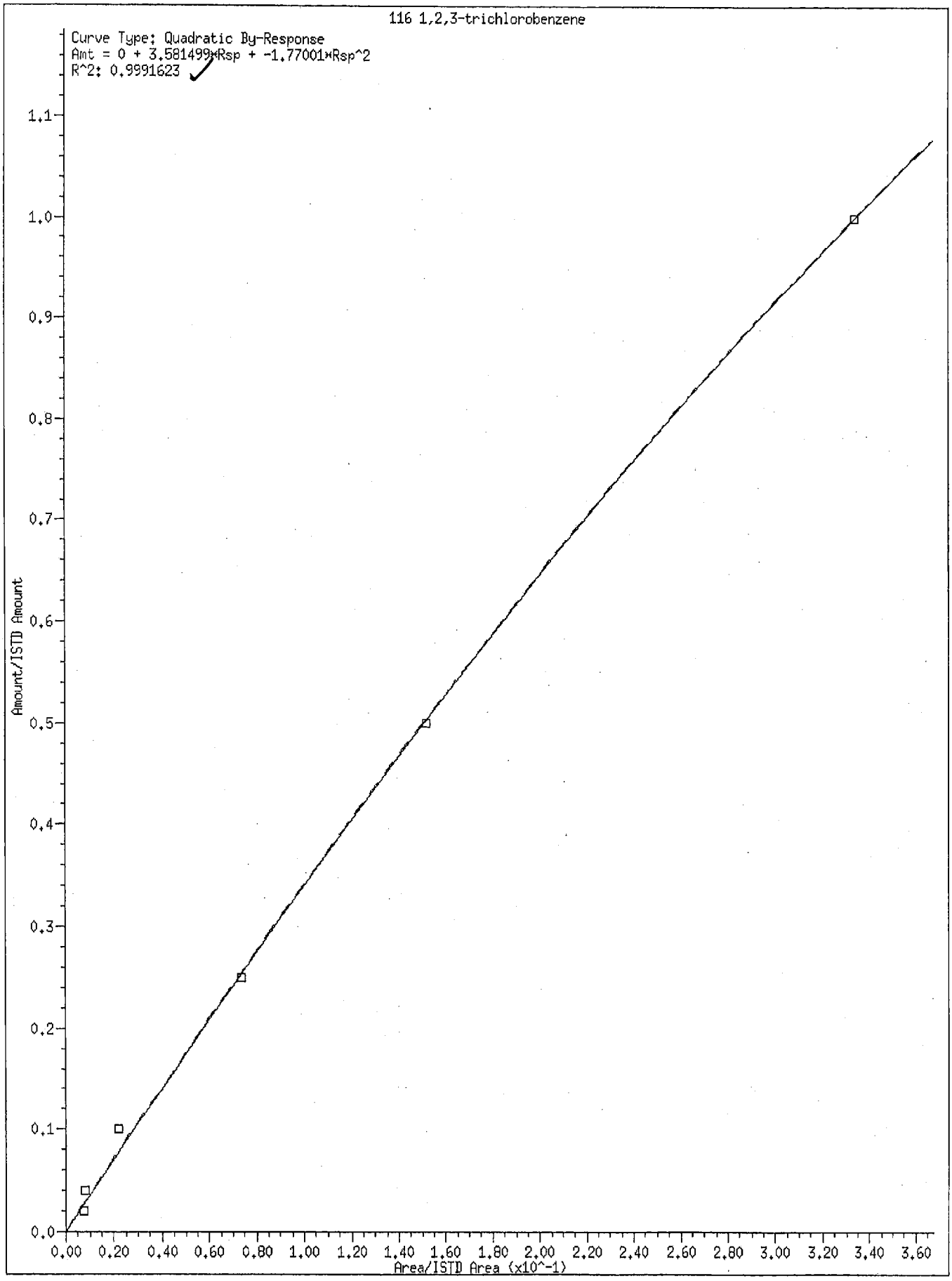
Column phase: RTX-5

Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.70
75	30.00 - 60.00% of mass 95	52.96
96	5.00 - 9.00% of mass 95	6.73
173	Less than 2.00% of mass 174	0.36 (0.41)
174	50.00 - 120.00% of mass 95	87.99
175	5.00 - 9.00% of mass 174	6.25 (7.11)
176	95.00 - 101.00% of mass 174	84.83 (96.40)
177	5.00 - 9.00% of mass 176	5.57 (6.57)


116 1,2,3-trichlorobenzene
Curve Type: Quadratic By-Response
Amt = 0 + 3.581499*Rsp + -1.77001*Rsp^2
R^2: 0.9991623
Amount/ISTD Amount
Area/ISTD Area (x10^-1)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
0.00 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60 2.80 3.00 3.20 3.40 3.60

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Calibration File Names:
Level 1: /var/chem/gcms/mg.i/G121611I.b/gicl161.d
Level 2: /var/chem/gcms/mg.i/G121611I.b/gicl162.d
Level 3: /var/chem/gcms/mg.i/G121611I.b/gicl163.d
Level 4: /var/chem/gcms/mg.i/G121611I.b/gicl164.d
Level 5: /var/chem/gcms/mg.i/G121611I.b/gicl165.d
Level 6: /var/chem/gcms/mg.i/G121611I.b/gicl166.d
Level 7: /var/chem/gcms/mg.i/G121611I.b/gicl167.d
Level 8: /var/chem/gcms/mg.i/G121611I.b/gicl168.d
Level 9: /var/chem/gcms/mg.i/G121611I.b/gicl169.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
M 83 Xylene (total)	0.99563	1.10266	0.98912	0.99742	1.01380	0.93697					
	0.95604	0.92856	0.81164				AVRG		0.97020		8.09712
5 Chlorodifluoromethane	0.48906	0.55582	0.46784	0.39678	0.39738	0.39217					
	0.35045	0.33450	0.35528				AVRG		0.41547		17.74523
6 Propene	+++++	+++++	1.44049	1.05829	1.05070	1.05657					
	0.92819	0.85459	0.88078				AVRG		1.03852		18.98866

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INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2	
7 Dichlorodifluoromethane	4.23725	4.23567	4.00378	3.85502	3.92088	3.95396						
	3.48686	3.33421	3.51231				AVRG		3.83777		8.48755	
8 Chloromethane	0.51212	0.41417	0.42641	0.35502	0.34620	0.35747						
	0.31215	0.31125	0.30526				AVRG		0.37112		18.38919	
9 1,2-Dichlorotetrafluoroethane	2.87034	2.63543	2.46388	2.36146	2.41550	2.47281						
	2.19580	2.27084	2.42413				AVRG		2.45669		8.11289	
10 Methanol	+++++	+++++	+++++	+++++	0.88172	0.68247						
	0.68712	0.64132	0.50378				AVRG		0.67928		19.92788	
11 - acetaldehyde	+++++	+++++	+++++	0.31139	0.18715	0.13462						
	0.17580	0.11397	0.11160				AVRG		0.17242		43.46796	<- MA
12 Vinyl Chloride	1.45753	1.52282	1.38090	1.31344	1.28270	1.31375						
	1.18584	1.19161	1.19174				AVRG		1.31559		9.15250	
13 n-Butane	2.57521	2.41694	2.16234	1.99139	1.93266	1.94034						
	1.77224	1.73771	1.71070				AVRG		2.02661		14.97888	

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INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
14 1,3-Butadiene	1.16828	1.10205	1.00137	0.94297	0.90346	0.93895					
	0.86535	0.84363	0.84655				AVRG		0.95696		11.94258
15 Bromomethane	1.42293	1.30733	1.24897	1.18414	1.13496	1.20545					
	1.09930	1.14116	1.18974				AVRG		1.21489		8.22309
16 Chloroethane	0.73806	0.73734	0.71544	0.66928	0.61864	0.66426					
	0.61630	0.63421	0.64744				AVRG		0.67122		7.17650
17 - ethanol	+++++	0.60224	0.40580	0.37804	0.35359	0.30915					
	0.33616	0.32426	0.26094				AVRG		0.37127		27.76284
18 Vinyl Bromide	1.46929	1.28968	1.18304	1.14031	1.10039	1.16663					
	1.08836	1.12100	1.19142				AVRG		1.19446		9.99178
19 2-methyl butane	1.69146	1.48392	1.45408	1.35308	1.26701	1.34482					
	1.25855	1.30111	1.29435				AVRG		1.38315		10.10395
20 Trichlorofluoromethane	4.31586	3.97925	3.90200	3.82325	3.78344	3.95690					
	3.60367	3.57514	3.72801				AVRG		3.85194		5.83457

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INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
21 Acrolein	+++++	+++++	0.51312	0.40107	0.33842	0.32691					
	0.36434	0.36884	0.33554				AVRG		0.37832		17.07567
22 Acetonitrile	+++++	+++++	0.42932	0.33491	0.33037	0.31671					
	0.36922	0.42710	0.38097				AVRG		0.36980		12.36361
25 Pentane	+++++	0.27251	0.26552	0.23241	0.22138	0.23775					
	0.22930	0.23685	0.24201				AVRG		0.24222		7.33065
23 Acetone	+++++	+++++	+++++	+++++	0.55018	0.42073					
	0.57597	0.41117	0.33980				AVRG		0.45957		21.74702
24 Isopropyl alcohol	+++++	+++++	1.43224	1.39041	1.39232	1.17278					
	1.33295	1.22559	1.09040				AVRG		1.29096		10.01789
26 Ethyl Ether	1.45164	1.80901	1.51414	1.47803	1.47538	1.33121					
	1.35828	1.27101	1.15037				AVRG		1.42656		12.96893
27 1,1-Dichloroethene	1.42340	1.18308	1.14031	1.09878	1.07921	1.14719					
	1.04969	1.04602	1.08887				AVRG		1.13962		10.15856

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INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
29 Acrylonitrile	0.90987	1.05511	0.85318	0.85168	0.85283	0.77590					
	0.79814	0.76911	0.69195				AVRG		0.83975		12.23377
30 1,1,2-Trichlorotrifluoroethan	2.80161	2.55944	2.51326	2.45106	2.43251	2.49429					
	2.25517	2.25194	2.37792				AVRG		2.45969		6.79409
28 tert-butanol	+++++	+++++	1.23111	1.56074	1.92595	1.40960					
	1.98310	1.38308	1.52900				AVRG		1.57466		17.85872
31 Methylene Chloride	+++++	+++++	1.35610	1.15655	1.08531	1.07768					
	0.96497	0.94988	0.98053				AVRG		1.08157		13.19279
32 3-Chloropropene	1.41799	1.29208	1.29794	1.25925	1.25332	1.27874					
	1.12368	1.08340	1.11859				AVRG		1.23611		8.69686
33 Carbon Disulfide	4.74820	4.17613	4.16900	3.86124	3.83032	3.98973					
	3.61239	3.54923	3.68700				AVRG		3.95814		9.38177
35 ~ 2-Methyl Pentane	3.64770	3.33639	3.14163	3.15440	3.06278	3.12114					
	2.74676	2.62471	2.66314				AVRG		3.05541		10.89192

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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
34 trans-1,2-Dichloroethene	1.65098	1.42102	1.43254	1.39217	1.34925	1.40947					
	1.27077	1.25840	1.30204				AVRG		1.38740		8.53358
36 Methyl-t-Butyl Ether	3.74890	4.38165	3.60953	3.62055	3.62934	3.25980					
	3.45069	3.37135	2.95683				AVRG		3.55874		10.98762
37 1,1-Dichloroethane	2.83409	2.64251	2.50560	2.42235	2.40540	2.47979					
	2.22404	2.17914	2.26241				AVRG		2.43948		8.57336
38 Vinyl Acetate	2.76584	3.52283	3.05261	3.09411	3.24242	2.89265					
	3.06663	2.92637	2.62006				AVRG		3.02039		8.76405
39 2-Butanone	+++++	+++++	0.64244	0.57094	0.56980	0.48191					
	0.55845	0.52624	0.44385				AVRG		0.54195		12.02022
40 Hexane	1.49942	1.32186	1.22915	1.13364	1.10260	1.12914					
	1.00586	0.97983	1.02170				AVRG		1.15813		14.52693
41 cis 1,2-Dichloroethene	1.53637	1.38260	1.33989	1.27838	1.27032	1.34337					
	1.20626	1.19799	1.26544				AVRG		1.31340		7.90726

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
42 Ethyl acetate	+++++	3.04851	2.42637	2.52786	2.63927	2.28385					
	2.53612	2.44165	2.03083				AVRG		2.49181		11.72459
43 Chloroform	3.30621	3.14731	3.01665	2.90405	2.86759	2.92864					
	2.66717	2.60676	2.67703				AVRG		2.90238		8.00209
44 Tetrahydrofuran	1.24924	1.54515	1.32251	1.32671	1.38547	1.18509					
	1.28375	1.24532	1.06309				AVRG		1.28959		10.36046
45 1,1,1-Trichloroethane	3.57945	3.37565	3.31487	3.21150	3.19523	3.27745					
	2.93473	2.88957	2.97428				AVRG		3.19475		7.10010
46 1,2-Dichloroethane	0.44371	0.41722	0.41001	0.39460	0.39871	0.40159					
	0.37099	0.36064	0.36081				AVRG		0.39537		6.96927
49 Cyclohexane	0.19210	0.15652	0.14640	0.13744	0.13307	0.14188					
	0.12468	0.12367	0.12726				AVRG		0.14256		15.06830
48 Benzene	0.89010	0.80730	0.77696	0.74398	0.73310	0.74727					
	0.69743	0.68694	0.68409				AVRG		0.75191		8.79928

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INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.73713	0.65084	0.66107	0.63962	0.63646	0.69268					
	0.60572	0.59244	0.61360				AVRG		0.64773		6.98559
51 ~ 2,3-dimethylpentane	0.24466	0.18939	0.18757	0.17431	0.17338	0.18408					
	0.16429	0.16126	0.16470				AVRG		0.18263		13.94636
47 1-Butanol	+++++	+++++	0.05693	0.06504	0.08195	0.06116					
	0.07918	0.05582	0.06246				AVRG		0.06608		15.76156
52 ~ Thiophene	0.53321	0.45494	0.44477	0.41651	0.41819	0.43775					
	0.39566	0.39237	0.39462				AVRG		0.43200		10.24958
53 2,2,4-trimethylpentane	1.49821	1.31492	1.34537	1.24913	1.22794	1.26821					
	1.13548	1.11226	1.10267				AVRG		1.25046		10.17567
54 Heptane	0.37634	0.31830	0.31703	0.28959	0.28844	0.29792					
	0.27095	0.26937	0.26756				AVRG		0.29950		11.52499
55 1,2-Dichloropropane	0.31561	0.29415	0.27520	0.26837	0.27090	0.26448					
	0.25327	0.24703	0.23357				AVRG		0.26917		9.15041

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
56 Trichloroethene	0.46166	0.38041	0.36774	0.34412	0.34456	0.36458					
	0.32882	0.32972	0.34050				AVRG		0.36246		11.34917
180 ~ 2-nitropropane	+++++	+++++	+++++	0.67760	0.57199	0.50924					
	0.54961	0.53366	0.44038				AVRG		0.54708		14.31353
57 Dibromomethane	0.38205	0.34195	0.32850	0.31131	0.31278	0.32927					
	0.29611	0.29360	0.29454				AVRG		0.32112		8.89225
58 Bromodichloromethane	0.73654	0.66222	0.63466	0.62404	0.63573	0.65878					
	0.60232	0.59673	0.58954				AVRG		0.63784		7.06924
60 Methyl Methacrylate	+++++	0.36384	0.29573	0.30785	0.32861	0.29319					
	0.32289	0.31481	0.26198				AVRG		0.31111		9.58224
59 1,4-dioxane	+++++	0.11373	0.09201	0.09567	0.10035	0.09421					
	0.09764	0.09128	0.08198				AVRG		0.09586		9.44566
61 ~ methyl cyclohexane	0.57069	0.49343	0.49439	0.45808	0.45148	0.47692					
	0.42872	0.42315	0.42946				AVRG		0.46959		9.91899

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Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
63 cis-1,3-Dichloropropene	0.51688	0.47698	0.44623	0.44728	0.44654	0.44054					
	0.42968	0.41947	0.40040				AVRG		0.44711		7.52405
62 4-Methyl-2-pentanone	+++++	0.55565	0.46682	0.45994	0.45943	0.45497					
	0.45630	0.42836	0.40168				AVRG		0.46039		9.58657
64 trans-1,3-Dichloropropene	0.54788	0.54813	0.50836	0.50606	0.52194	0.50565					
	0.50473	0.49815	0.46070				AVRG		0.51129		5.19861
65 Toluene	1.12910	1.09977	0.98270	0.97264	0.98002	0.92365					
	0.92710	0.91374	0.84143				AVRG		0.97446		9.31580
66 1,1,2-Trichloroethane	0.31762	0.32190	0.28710	0.28835	0.29008	0.27694					
	0.27440	0.27297	0.24956				AVRG		0.28655		7.82668
67 - 2-methyl thiophene	0.91835	0.88704	0.79728	0.84632	0.83300	0.78235					
	0.78439	0.77914	0.72080				AVRG		0.81652		7.45359
68 - 3-methyl thiophene	0.91493	0.86130	0.80065	0.81697	0.81464	0.78089					
	0.78090	0.77043	0.71295				AVRG		0.80596		7.11838

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
69 2-Hexanone	+++++	0.30691	0.21558	0.22876	0.23434	0.23324					
	0.24608	0.23333	0.22067				AVRG		0.23986		11.93089
70 Octane	0.41203	0.37963	0.35313	0.33965	0.34372	0.34309					
	0.32291	0.31870	0.30095				AVRG		0.34598		9.64208
71 Dibromochloromethane	0.66836	0.64318	0.60218	0.61853	0.64518	0.64836					
	0.63894	0.63800	0.61209				AVRG		0.63498		3.22762
72 1,2-Dibromoethane	0.59175	0.56665	0.53027	0.53063	0.54582	0.53556					
	0.53021	0.52928	0.49244				AVRG		0.53918		5.11766
73 Tetrachloroethene	0.47659	0.38636	0.38164	0.36453	0.36153	0.36972					
	0.34505	0.34671	0.33668				AVRG		0.37431		11.16608
75 - 2,3-dimethylheptane	1.13261	1.01847	0.92204	0.90346	0.87965	0.84611					
	0.79126	0.73269	0.64385				AVRG		0.87446		16.74443
74 Chlorobenzene	0.90502	0.82887	0.78197	0.76753	0.77945	0.75812					
	0.74637	0.74154	0.69015				AVRG		0.77767		7.78079

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Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	ml	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
76 Ethylbenzene	1.25479	1.37734	1.25361	1.25304	1.27506	1.18716					
	1.21653	1.19232	1.05493				AVRG		1.22942		7.01635
77 ~ 2-ethyl thiophene	1.01531	1.06793	0.98022	0.98579	1.01313	0.96087					
	0.97198	0.95227	0.85842				AVRG		0.97844		5.83416
78 m&p-Xylene	0.97096	1.08655	0.97589	0.97987	1.00035	0.92615					
	0.94468	0.91976	0.80510				AVRG		0.95659		7.86647
79 Nonane	+++++	0.70712	0.61278	0.62148	0.63092	0.60007					
	0.58452	0.55477	0.49340				AVRG		0.60063		10.28271
80 Bromoform	+++++	0.62359	0.58449	0.61049	0.65721	0.66388					
	0.67947	0.69547	0.65465				AVRG		0.64616		5.74134
81 Styrene	0.62428	0.70266	0.65341	0.72651	0.76532	0.72876					
	0.74326	0.74710	0.67050				AVRG		0.70687		6.75583
82 o-Xylene	1.04491	1.13489	1.01556	1.03251	1.04070	0.95862					
	0.97876	0.94617	0.82473				AVRG		0.99743		8.60183

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
84 1,1,2,2-Tetrachloroethane	0.66696	0.77139	0.65774	0.67571	0.70410	0.65355					
	0.67077	0.65242	0.56385				AVRG		0.66850		8.10097
85 1,2,3-Trichloropropane	0.20704	0.25684	0.22137	0.22499	0.23562	0.21405					
	0.22383	0.22064	0.18900				AVRG		0.22149		8.42874
86 Cumene	1.44306	1.67628	1.44982	1.45938	1.48505	1.37975					
	1.42314	1.38629	1.20215				AVRG		1.43388		8.59021
87 n-Propylbenzene	0.32859	0.41187	0.36487	0.37071	0.39804	0.36589					
	0.38769	0.38184	0.33217				AVRG		0.37130		7.47803
88 2-chlorotoluene	0.36106	0.40598	0.35443	0.35295	0.37071	0.35304					
	0.35354	0.34747	0.31319				AVRG		0.35693		6.76449
89 4-Ethyltoluene	1.17383	1.54738	1.31975	1.39265	1.47825	1.35962					
	1.42497	1.40219	1.19110				AVRG		1.36553		8.99498
90 1,3,5-Trimethylbenzene	0.54170	0.72349	0.62256	0.63668	0.67274	0.61980					
	0.65008	0.64451	0.55910				AVRG		0.63007		8.73085

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
91 Alpha-Methylstyrene	+++++	+++++	0.47716	0.52260	0.58545	0.56172					
	0.59256	0.58874	0.51754				AVRG		0.54940		8.07688
92 Decane	+++++	0.63587	0.50127	0.59445	0.72095	0.61293					
	0.68870	0.64798	0.55083				AVRG		0.61912		11.50660
93 tert-butylbenzene	1.05066	1.42598	1.18309	1.20842	1.27555	1.15889					
	1.21642	1.19751	1.04085				AVRG		1.19526		9.65424
94 1,2,4-Trimethylbenzene	+++++	1.25451	1.05408	1.12003	1.18976	1.08924					
	1.14411	1.11975	0.95814				AVRG		1.11620		7.93509
95 sec-butylbenzene	1.36398	1.82814	1.54805	1.60532	1.70704	1.56067					
	1.63047	1.58742	1.35716				AVRG		1.57647		9.47677
96 1,3-Dichlorobenzene	+++++	0.80707	0.69990	0.74626	0.79809	0.76482					
	0.78136	0.77816	0.71872				AVRG		0.76180		4.95022
97 Benzyl Chloride	+++++	1.02657	0.85552	0.95632	1.08486	0.99960					
	1.09430	1.07199	0.90495				AVRG		0.99926		8.77293

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
98 1,4-Dichlorobenzene	+++++	0.78535	0.67427	0.72295	0.78407	0.75480					
	0.77810	0.77779	0.71664				AVRG		0.74925		5.42646
99 p-Cymene	+++++	1.46300	1.18790	1.30107	1.42855	1.27870					
	1.36708	1.33242	1.12820				AVRG		1.31086		8.66143
100 ~ 1,2,3- Trimethylbenzene	0.81045	1.08422	0.86770	0.94386	1.02357	0.91605					
	0.96320	0.92749	0.78125				AVRG		0.92420		10.40858
101 ~ n-butylcyclohexane	0.75433	0.94098	0.80872	0.83593	0.88125	0.81506					
	0.80633	0.76429	0.68530				AVRG		0.81024		9.12004
102 ~ Indane	0.92423	1.10597	0.94862	0.97288	1.05068	0.96819					
	0.99386	0.97102	0.84955				AVRG		0.97611		7.44983
103 1,2-Dichlorobenzene	+++++	0.78637	0.66129	0.69669	0.75666	0.71206					
	0.72415	0.71501	0.65413				AVRG		0.71330		6.22998
104 n-butylbenzene	+++++	1.10854	0.89883	1.06295	1.25622	1.11803					
	1.21407	1.16118	0.96237				AVRG		1.09777		11.01227

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
105 - Indene	0.64744	0.76329	0.63339	0.71019	0.80903	0.74451					
	0.78383	0.77719	0.67582				AVRG		0.72719		8.71018
106 Undecane	+++++	+++++	0.37379	0.38443	0.39215	0.46989					
	0.48486	0.54654	0.46435				AVRG		0.44514		14.33353
107 - 1,2-dimethyl-4-ethylenzene	+++++	0.95971	0.70528	0.87607	1.09927	1.00357					
	1.11865	1.06618	0.90848				AVRG		0.96715		14.19354
108 - 1,2,4,5-tetramethylbenzene	+++++	0.75885	0.60649	0.65425	0.85817	0.85271					
	1.06567	0.95042	0.88361				AVRG		0.82877		18.24913
109 - 1,2,3,5-tetramethylbenzene	+++++	0.60392	0.45971	0.50357	0.66205	0.64571					
	0.80393	0.69874	0.65963				AVRG		0.62966		17.27177
110 - 1,2,3,4-tetramethylbenzene	+++++	0.66800	0.47132	0.52264	0.63281	0.68005					
	0.83479	0.65986	0.69522				AVRG		0.64559		17.14953
111 Dodecane	+++++	0.42289	0.25333	0.26313	0.30893	0.38906					
	0.30353	+++++	+++++				AVRG		0.32348		21.12813

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
112 1,2,4-Trichlorobenzene	+++++	0.41811	0.25731	0.28934	0.39661	0.38804					
	0.47584	0.29188	0.38300				AVRG		0.36252		20.74169
113 Napthalene	+++++	0.82275	0.52443	0.58394	0.81077	0.82001					
	0.95712	0.66514	0.76362				AVRG		0.74347		19.17641
114 - benzo(b) thiophene	+++++	0.57832	0.35112	0.37051	0.54305	0.53711					
	0.61197	0.40152	0.49299				AVRG		0.48582		20.43236
115 Hexachlorobutadiene	+++++	0.60286	0.30789	0.39526	0.54282	0.44949					
	0.53571	0.33769	0.43512				AVRG		0.45085		23.01228
116 1,2,3-trichlorobenzene	+++++	15461	15940	43611	149208	289865					
	734551	+++++	+++++				QUAD	0.000e+00	3.58150	-1.77001	0.99916
117 - 2-Methylnaphthalene	+++++	+++++	0.05307	0.04931	0.07384	0.08671					
	0.06388	0.04119	0.06388				AVRG		0.06170		25.03043
118 - 1-Methylnaphthalene	+++++	+++++	0.04606	0.04403	0.06305	0.07272					
	0.05282	0.03480	0.05274				AVRG		0.05232		24.00961

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.67375	0.74336	0.73726	0.73794	0.74355	0.74422					
	0.72578	0.71198	0.70096				AVRG		0.72431		3.36012

TestAmerica Laboratories, Inc. – Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Inst: MG

Analyst: HMC Qtims Batch: 2068093 MRAHK

Date: 3/8/12 ICAL Batch: G1216115 Target Batch: G030812 IS #1 Area: 254192

Surr/IS ID & Vol.: 40mcV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1011	✓	tune	GBFBC08 B 3/8/12	-	16	100	1	T015
1045	✓	CCV	CCV	CX2321	15			tetra: 124TCBZ, naph
1045	✓	LCS	LCS					LCS
1142	OK	Blk	flush	-	16	500		
1245	✓		GBlkC08	-				blank
1341	✓	H2B240437	MQ3K11AA	1335N	1	25	1	tetra
1437	✓		3K3	93046	2	100		IA 120-A-12
1532	✓		3K4	7500	3	250		DUP3
1626	N RR orig		3K5	1519	4			} not used
1722	N RR orig		3K6	03775	5			
1815	✓		3K8	2955	6			-018
1910	✓		3LA	12460	7			-094
2003	RR orig		3LT	12875	8			not used
2055	✓		3KF	12162	9	100		-106
2148	✓		3KK	04306	10	100		-107
2239	✓		3KM	6366	11	100		-097
2331	✓		3KW	0179	12	200		-075
0023	✓		3LF	12587	13	100		-118
			3LT		14	200		3/8/12
0206	E	H2B270403	MQ4A01AA	1LA7036	15	50	1	E MeCl2 RR 10mL
0258	E dup		D		15		1	OK as dup
0115	E		MQ4A21AA	1LA7054	14	~~50~~	1	10mL 3/8/12 EMeCl2 needs [illegible]
0350	E		MQ4CT1AA	5872	1	~~500~~	1	20mL EMeCl2 RR 10mL
0445	✓		4CV	4644	2	500	1	
0545	✓		4CW	3815	3	500	1	pos
not run			4CO	3762	~~4~~ 6			6
			4CI	4627	~~5~~ 7			7
0644	✓	H2B240437	3K5R	1519	4	500	1	DUP-4
0745	✓		3K6R	03775	5			} used DUP-5

*Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Not Run Lot 9759 5506 STD STD CAN

Analyst: [signature] Date: 3/9/12

0852 ✓ H2B240437 MQ3LTR 12875 8 500 -093

MS027r16.DOC, 051210

Data File: /ohem/goms/mg.i/G030812.b/gbfbo08.d

Date : 08-MAR-2012 10:11

Client ID: BFB

Instrument: mg.i

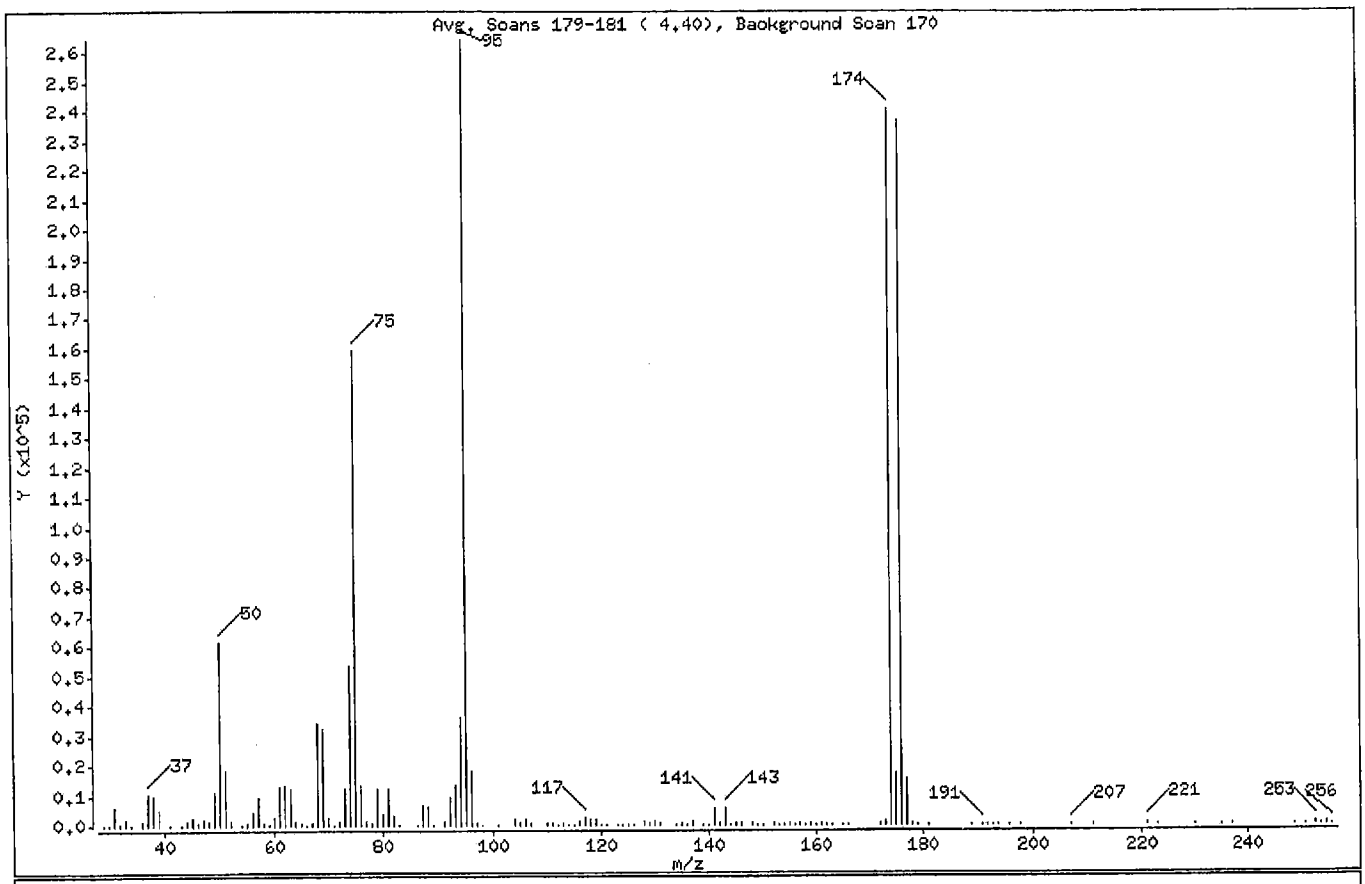
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	23.32
75	30.00 - 60.00% of mass 95	60.35 *
96	5.00 - 9.00% of mass 95	7.01
173	Less than 2.00% of mass 174	0.39 (0.43)
174	50.00 - 120.00% of mass 95	90.91
175	5.00 - 9.00% of mass 174	6.46 (7.11)
176	95.00 - 101.00% of mass 174	89.54 (98.49)
177	5.00 - 9.00% of mass 176	5.81 (6.49)

✓

OK
TDS
30662
3/8/12

Data File: /var/chem/gcms/mg.i/G030812.b/gccvc08.d
Report Date: 08-Mar-2012 13:14

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS ✓

Instrument ID: mg.i
Lab File ID: gccvc08.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G030812.b/TO15.m

Injection Date: 08-MAR-2012 10:45
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 4-Bromofluorobenzene	0.72431	0.77670	0.77670	0.000	-7.23340	30.00000	Averaged	
M 83 Xylene (total)	0.97020	0.79288	0.79288	0.000	18.27739	30.00000	Averaged	
5 Chlorodifluoromethane	0.41547	0.49540	0.49540	0.000	-19.23816	30.00000	Averaged	
6 Propene	1.03852	0.94255	0.94255	0.000	9.24104	30.00000	Averaged	
7 Dichlorodifluoromethane	3.83777	4.57055	4.57055	0.000	-19.09379	30.00000	Averaged	
8 Chloromethane	0.37112	0.32825	0.32825	0.000	11.54917	30.00000	Averaged	
9 1,2-Dichlorotetrafluoroetha	2.45669	2.40152	2.40152	0.000	2.24578	30.00000	Averaged	
10 Methanol	0.67928	0.18936	0.18936	0.000	72.12322	30.00000	Averaged	<- NC
11 ~ acetaldehyde	0.17242	0.26676	0.26676	0.000	-54.71377	30.00000	Averaged	<- NC
12 Vinyl Chloride	1.31559	1.03721	1.03721	0.000	21.16048	30.00000	Averaged	
13 n-Butane	2.02661	1.62214	1.62214	0.000	19.95830	30.00000	Averaged	
14 1,3-Butadiene	0.95696	0.87254	0.87254	0.000	8.82152	30.00000	Averaged	
15 Bromomethane	1.21489	0.83225	0.83225	0.000	31.49585	30.00000	Averaged	<- 70-130
16 Chloroethane	0.67122	0.46919	0.46919	0.000	30.09865	30.00000	Averaged	<- OK
17 ~ ethanol	0.37127	0.22971	0.22971	0.000	38.12984	30.00000	Averaged	<- 50-150
18 Vinyl Bromide	1.19446	0.90310	0.90310	0.000	24.39233	30.00000	Averaged	
19 2-methyl butane	1.38315	1.11815	1.11815	0.000	19.15953	30.00000	Averaged	
20 Trichlorofluoromethane	3.85194	3.27145	3.27145	0.000	15.07028	30.00000	Averaged	
21 Acrolein	0.37832	0.20907	0.20907	0.000	44.73789	30.00000	Averaged	<- 60-140
22 Acetonitrile	0.36980	0.28821	0.28821	0.000	22.06252	30.00000	Averaged	OK 030712
25 Pentane	0.24222	0.18406	0.18406	0.000	24.01000	30.00000	Averaged	
23 Acetone	0.45957	0.31621	0.31621	0.000	31.19513	30.00000	Averaged	<- 60-140
24 Isopropyl alcohol	1.29096	0.87162	0.87162	0.000	32.48235	30.00000	Averaged	<-
26 Ethyl Ether	1.42656	0.85150	0.85150	0.000	40.31109	30.00000	Averaged	<-
27 1,1-Dichloroethene	1.13962	1.07117	1.07117	0.000	6.00635	30.00000	Averaged	
29 Acrylonitrile	0.83975	0.57101	0.57101	0.000	32.00267	30.00000	Averaged	<- 60-140
30 1,1,2-Trichlorotrifluoroeth	2.45969	2.30240	2.30240	0.000	6.39473	30.00000	Averaged	
28 tert-butanol	1.57466	1.06476	1.06476	0.000	32.38169	30.00000	Averaged	<- 60-140
31 Methylene Chloride	1.08157	0.94785	0.94785	0.000	12.36402	30.00000	Averaged	
32 3-Chloropropene	1.23611	0.99085	0.99085	0.000	19.84126	30.00000	Averaged	
33 Carbon Disulfide	3.95814	3.32486	3.32486	0.000	15.99941	30.00000	Averaged	
35 ~ 2-Methyl Pentane	3.05541	2.59236	2.59236	0.000	15.15492	30.00000	Averaged	
34 trans-1,2-Dichloroethene	1.38740	1.21214	1.21214	0.000	12.63248	30.00000	Averaged	
36 Methyl-t-Butyl Ether	3.55874	2.62216	2.62216	0.000	26.31782	30.00000	Averaged	
37 1,1-Dichloroethane	2.43948	2.19593	2.19593	0.000	9.98396	30.00000	Averaged	

Data File: /var/chem/gcms/mg.i/G030812.b/gccvc08.d
Report Date: 08-Mar-2012 13:14

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvc08.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G030812.b/TO15.m

Injection Date: 08-MAR-2012 10:45
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
38 Vinyl Acetate	3.02039	2.20604	2.20604	0.000	26.96162	30.00000	Averaged	
39 2-Butanone	0.54195	0.36693	0.36693	0.000	32.29395	30.00000	Averaged	<-60.140
40 Hexane	1.15813	0.98373	0.98373	0.000	15.05935	30.00000	Averaged	
41 cis 1,2-Dichloroethene	1.31340	1.21001	1.21001	0.000	7.87192	30.00000	Averaged	
42 Ethyl acetate	2.49181	1.65223	1.65223	0.000	33.69352	30.00000	Averaged	<-60.140
43 Chloroform	2.90238	2.85738	2.85738	0.000	1.55038	30.00000	Averaged	
44 Tetrahydrofuran	1.28959	0.93378	0.93378	0.000	27.59091	30.00000	Averaged	
45 1,1,1-Trichloroethane	3.19475	3.68304	3.68304	0.000	-15.28420	30.00000	Averaged	
46 1,2-Dichloroethane	0.39537	0.42388	0.42388	0.000	-7.21264	30.00000	Averaged	
49 Cyclohexane	0.14256	0.12233	0.12233	0.000	14.19140	30.00000	Averaged	
48 Benzene	0.75191	0.66323	0.66323	0.000	11.79400	30.00000	Averaged	
50 Carbon Tetrachloride	0.64773	0.71932	0.71932	0.000	-11.05325	30.00000	Averaged	
51 ~ 2,3-dimethylpentane	0.18263	0.15284	0.15284	0.000	16.31155	30.00000	Averaged	
47 1-Butanol	0.06608	0.04291	0.04291	0.000	35.06268	30.00000	Averaged	<-60.140
52 ~ Thiophene	0.43200	0.35939	0.35939	0.000	16.80919	30.00000	Averaged	
53 2,2,4-trimethylpentane	1.25046	1.12364	1.12364	0.000	10.14210	30.00000	Averaged	
54 Heptane	0.29950	0.24570	0.24570	0.000	17.96405	30.00000	Averaged	
55 1,2-Dichloropropane	0.26917	0.22924	0.22924	0.000	14.83508	30.00000	Averaged	
56 Trichloroethene	0.36246	0.34873	0.34873	0.000	3.78872	30.00000	Averaged	
180 ~ 2-nitropropane	0.54708	0.39682	0.39682	0.000	27.46620	30.00000	Averaged	
57 Dibromomethane	0.32112	0.30022	0.30022	0.000	6.50779	30.00000	Averaged	
58 Bromodichloromethane	0.63784	0.63240	0.63240	0.000	0.85329	30.00000	Averaged	
60 Methyl Methacrylate	0.31111	0.21113	0.21113	0.000	32.13604	30.00000	Averaged	<-60.140
59 1,4-dioxane	0.09586	0.07097	0.07097	0.000	25.96716	30.00000	Averaged	
61 ~ methyl cyclohexane	0.46959	0.43487	0.43487	0.000	7.39483	30.00000	Averaged	
63 cis-1,3-Dichloropropene	0.44711	0.39019	0.39019	0.000	12.73117	30.00000	Averaged	
62 4-Methyl-2-pentanone	0.46039	0.36842	0.36842	0.000	19.97773	30.00000	Averaged	
64 trans-1,3-Dichloropropene	0.51129	0.40625	0.40625	0.000	20.54467	30.00000	Averaged	
65 Toluene	0.97446	0.75137	0.75137	0.000	22.89412	30.00000	Averaged	
66 1,1,2-Trichloroethane	0.28655	0.22026	0.22026	0.000	23.13436	30.00000	Averaged	
67 ~ 2-methyl thiophene	0.81652	0.61756	0.61756	0.000	24.36692	30.00000	Averaged	
68 ~ 3-methyl thiophene	0.80596	0.63545	0.63545	0.000	21.15613	30.00000	Averaged	
69 2-Hexanone	0.23986	0.17083	0.17083	0.000	28.77974	30.00000	Averaged	
70 Octane	0.34598	0.28025	0.28025	0.000	18.99759	30.00000	Averaged	
71 Dibromochloromethane	0.63498	0.59411	0.59411	0.000	6.43626	30.00000	Averaged	

Data File: /var/chem/gcms/mg.i/G030812.b/gccvc08.d
Report Date: 08-Mar-2012 13:14

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvc08.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G030812.b/TO15.m

Injection Date: 08-MAR-2012 10:45
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
72 1,2-Dibromoethane	0.53918	0.41415	0.41415	0.000	23.18907	30.00000	Averaged	
73 Tetrachloroethene	0.37431	0.33938	0.33938	0.000	9.33360	30.00000	Averaged	
75 ~ 2,3-dimethylheptane	0.87446	0.71472	0.71472	0.000	18.26718	30.00000	Averaged	
74 Chlorobenzene	0.77767	0.63968	0.63968	0.000	17.74378	30.00000	Averaged	
76 Ethylbenzene	1.22942	1.01606	1.01606	0.000	17.35420	30.00000	Averaged	
77 ~ 2-ethyl thiophene	0.97844	0.81359	0.81359	0.000	16.84799	30.00000	Averaged	
78 m&p-Xylene	0.95659	0.78851	0.78851	0.000	17.57067	30.00000	Averaged	
79 Nonane	0.60063	0.51235	0.51235	0.000	14.69875	30.00000	Averaged	
80 Bromoform	0.64616	0.56313	0.56313	0.000	12.84942	30.00000	Averaged	
81 Styrene	0.70687	0.58288	0.58288	0.000	17.54008	30.00000	Averaged	
82 o-Xylene	0.99743	0.80161	0.80161	0.000	19.63231	30.00000	Averaged	
84 1,1,2,2-Tetrachloroethane	0.66850	0.49149	0.49149	0.000	26.47833	30.00000	Averaged	
85 1,2,3-Trichloropropane	0.22149	0.17884	0.17884	0.000	19.25345	30.00000	Averaged	
86 Cumene	1.43388	1.10874	1.10874	0.000	22.67594	30.00000	Averaged	
87 n-Propylbenzene	0.37130	0.31693	0.31693	0.000	14.64140	30.00000	Averaged	
88 2-chlorotoluene	0.35693	0.30710	0.30710	0.000	13.96103	30.00000	Averaged	
89 4-Ethyltoluene	1.36553	1.06318	1.06318	0.000	22.14164	30.00000	Averaged	
90 1,3,5-Trimethylbenzene	0.63007	0.51843	0.51843	0.000	17.71848	30.00000	Averaged	
91 Alpha-Methylstyrene	0.54940	0.42558	0.42558	0.000	22.53620	30.00000	Averaged	
92 Decane	0.61912	0.41979	0.41979	0.000	32.19584	30.00000	Averaged	<-60-140
93 tert-butylbenzene	1.19526	0.95898	0.95898	0.000	19.76818	30.00000	Averaged	
94 1,2,4-Trimethylbenzene	1.11620	0.84222	0.84222	0.000	24.54626	30.00000	Averaged	
95 sec-butylbenzene	1.57647	1.19548	1.19548	0.000	24.16724	30.00000	Averaged	
96 1,3-Dichlorobenzene	0.76180	0.63702	0.63702	0.000	16.37894	30.00000	Averaged	
97 Benzyl Chloride	0.99926	0.74497	0.74497	0.000	25.44763	30.00000	Averaged	
98 1,4-Dichlorobenzene	0.74925	0.62020	0.62020	0.000	17.22337	30.00000	Averaged	
99 p-Cymene	1.31086	0.99324	0.99324	0.000	24.22985	30.00000	Averaged	
100 ~ 1,2,3- Trimethylbenzene	0.92420	0.73474	0.73474	0.000	20.50032	30.00000	Averaged	
101 ~ n-butylcyclohexane	0.81024	0.63633	0.63633	0.000	21.46465	30.00000	Averaged	
102 ~ Indane	0.97611	0.81073	0.81073	0.000	16.94247	30.00000	Averaged	
103 1,2-Dichlorobenzene	0.71330	0.57476	0.57476	0.000	19.42157	30.00000	Averaged	
104 n-butylbenzene	1.09777	0.80867	0.80867	0.000	26.33510	30.00000	Averaged	
105 ~ Indene	0.72719	0.56343	0.56343	0.000	22.51943	30.00000	Averaged	
106 Undecane	0.44514	0.28524	0.28524	0.000	35.92289	30.00000	Averaged	<-60-140
107 ~ 1,2-dimethyl-4-ethylenzen	0.96715	0.76311	0.76311	0.000	21.09698	30.00000	Averaged	
108 ~ 1,2,4,5-tetramethylbenzen	0.82877	0.64111	0.64111	0.000	22.64350	30.00000	Averaged	

Data File: /var/chem/gcms/mg.i/G030812.b/gccvc08.d
Report Date: 08-Mar-2012 13:14

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvc08.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G030812.b/TO15.m

Injection Date: 08-MAR-2012 10:45
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.62966	0.45125	0.45125	0.000	28.33349	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.64559	0.49054	0.49054	0.000	24.01569	30.00000	Averaged	
111 Dodecane	0.32348	0.18945	0.18945	0.000	41.43465	30.00000	Averaged	<- 40-140
112 1,2,4-Trichlorobenzene	0.36252	0.23028	0.23028	0.000	36.47724	30.00000	Averaged	<- 60-140
113 Napthalene	0.74347	0.45337	0.45337	0.000	39.02057	30.00000	Averaged	<- 40-140
114 ~ benzo(b) thiophene	0.48582	0.32680	0.32680	0.000	32.73198	30.00000	Averaged	<- OK
115 Hexachlorobutadiene	0.45085	0.32747	0.32747	0.000	27.36698	30.00000	Averaged	
116 1,2,3-trichlorobenzene	1.21462	2.00000	0.17734	0.000	89.26907	30.00000	Quadratic	<- 40-140
117 ~ 2-Methylnaphthalene	0.06170	0.04500	0.04500	0.000	27.06108	30.00000	Averaged	
118 ~ 1-Methylnaphthalene	0.05232	0.03625	0.03625	0.000	30.70538	30.00000	Averaged	<- OK

Tetra Tech, Inc

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample #	H2C080000 - 093C	**Work Order #**	MRAMK1AC	**Matrix.....:**	AIR
	02/22/2012	**Date Received..:**	02/24/2012		
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012		
Prep Batch #.....:	2068093	**Analysis Time....:**	10:45		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.41	16.0	14.1	88	70 - 130
Carbon tetrachloride	5.00	5.55	31.5	34.9	111	70 - 130
Chlorodifluoromethane	5.00	5.96	17.7	21.1	119	60 - 140
Chloroform	5.00	4.92	24.4	24.0	98	70 - 130
Dichlorodifluoromethane	5.00	5.96	24.7	29.4	119	60 - 140
1,1-Dichloroethane	5.00	4.50	20.2	18.2	90	70 - 130
1,2-Dichloroethane	5.00	5.36	20.2	21.7	107	70 - 130
cis-1,2-Dichloroethene	5.00	4.61	19.8	18.3	92	70 - 130
trans-1,2-Dichloroethene	5.00	4.37	19.8	17.3	87	70 - 130
1,1-Dichloroethene	5.00	4.70	19.8	18.6	94	70 - 130
Ethylbenzene	5.00	4.13	21.7	17.9	83	70 - 130
Methylene chloride	5.00	4.38	17.4	15.2	88	70 - 130
Methyl tert-butyl ether	5.00	3.68	18.0	13.3	74	60 - 140
Naphthalene	5.00	3.05	26.2	16.0	61	40 - 140
Tetrachloroethene	5.00	4.53	33.9	30.7	91	70 - 130
Toluene	5.00	3.86	18.8	14.5	77	70 - 130
1,2,4-Trichlorobenzene	5.00	3.18	37.1	23.6	64	60 - 140
1,1,1-Trichloroethane	5.00	5.76	27.3	31.4	115	70 - 130
1,1,2-Trichloroethane	5.00	3.84	27.3	21.0	77	70 - 130
Trichloroethene	5.00	4.81	26.9	25.8	96	70 - 130
1,2,3-Trimethylbenzene	5.00	4.13	24.6	20.3	83	20 - 180
1,2,4-Trimethylbenzene	5.00	3.77	24.6	18.5	75	70 - 130
1,3,5-Trimethylbenzene	5.00	4.11	24.6	20.2	82	70 - 130
Vinyl chloride	5.00	3.94	12.8	10.1	79	70 - 130
Xylenes (total)	15.0	12.3	65.1	53.2	82	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Tetra Tech, Inc

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C080000 - 093B	**Work Order #**	MRAMK1AA
Matrix.....:	AIR		
	02/22/2012	**Date Received..:**	02/24/2012
Prep Date.....:	03/08/2012	**Analysis Time....:**	03/08/2012
Prep Batch #.....:	2068093	**Analysis Time....:**	12:45
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	ND	0.080	0.023	ND	0.26	0.073
Carbon tetrachloride	ND	0.080	0.015	ND	0.50	0.094
Chlorodifluoromethane	ND	0.080	0.015	ND	0.28	0.053
Chloroform	ND	0.080	0.015	ND	0.39	0.073
Dichlorodifluoromethane	ND	0.080	0.027	ND	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
trans-1,2-Dichloroethene	ND	0.080	0.020	ND	0.32	0.079
1,1-Dichloroethene	ND	0.080	0.013	ND	0.32	0.052
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
Methylene chloride	0.039 J	**0.20**	**0.018**	0.14 J	0.69	**0.063**
Methyl tert-butyl ether	ND	0.40	0.068	ND	1.4	0.25
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Tetrachloroethene	ND	0.080	0.016	ND	0.54	0.11
Toluene	ND	0.080	0.021	ND	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.40	0.039	ND	3.0	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
Xylenes (total)	ND	0.16	0.024	ND	0.69	0.10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	108	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

TestAmerica Knoxville
Can Dilution Worksheet

Lot: *H2B240437* **Initial**

W/O #	Barometer inches Hg	Knoxville mm Hg	P init inches	P init Abs,mm	P final psig	P final Abs,mm	Dilution Factor	
MQ3 J0	29.23	742.4						
MQ3 KF	29.23	742.4						
MQ3 KK	29.23	742.4						
MQ3 KL	29.23	742.4						
MQ3 KM	29.23	742.4						
MQ3 KP	29.23	742.4	- 3.2	661.2	31.7	2381.8	3.60	(KP,DF*200=720)
MQ3 KV	29.23	742.4						
MQ3 KW	29.23	742.4						
MQ3 KX	29.23	742.4						
MQ3 K0	29.23	742.4						
MQ3 K1	29.23	742.4						
MQ3 K3	29.23	742.4						
MQ3 K4	29.23	742.4						
MQ3 K5	29.23	742.4						
MQ3 K6	29.23	742.4						
MQ3 K8	29.23	742.4						
MQ3 LA	29.23	742.4						
MQ3 LD	29.23	742.4						
MQ3 LF	29.23	742.4						
MQ3 LJ	29.23	742.4						
MQ3 LL	29.23	742.4						
MQ3 LN	29.23	742.4						
MQ3 LQ	29.23	742.4						
MQ3 LT	29.23	742.4						

1 psig = 2.036 inch Hg
Pinit(Abs,mm)=(Pinit(inch)*25.4mm/inch)+Pbar(mm)
Pfinal(Abs,mm)=(Pfinal(psig)*2.036 (inch Hg/psig)*25.4 (mm/inch))+Pbar(mm)
dilution factor = Pfinal(Abs,mm)/Pinit(Abs,mm)
mm-Hg = in-Hg * 25.4

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 3/08/12
Time: 9:06:02

LEV 1	LEV 2		LEV 1	LEV 2	
_	_	Blank	_	_	Weights/Volumes
_	_	Check	_	_	Spike & Surrogate Worksheet
_	_	MS/MSD	_	_	Vial contains correct volume
			_	_	Labels, greenbars, worksheets
			_	_	computer batch: correct & all match
			_	_	Anomalies to Extraction Method

_ Expanded Deliverable
_ COC Completed
_ Bench Sheet Copied
_ Package Submitted to AnalyticalGroup
_ Bench Sheet Copied per COC

Extractionist: _____
_____
Concentrationist: _____
_____

Reviewer/Date: _____ / 0/00/00

****
* *
* QC BATCH: 2067130 *
* *
****

PREP DATE: 3/07/12
COMP DATE: 3/08/12

Volatile Organics by GC/MS TO-15 low-level
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	SOLVENTS VOL	SOLVENTS EXCHANGE	SOLVENTS VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	3/12/12	H2B230467-015 **MQ224-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/12/12	H2B230467-016 **MQ225-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/12/12	H2B230469-003 **MQ23P-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/12/12	H2B230469-004 **MQ23R-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/12/12	H2B230469-017 **MQ24P-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/12/12	H2B230469-018 **MQ24Q-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/12/12	H2B230469-019 **MQ24R-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 3/08/12
Time: 9:06:02

QC BATCH: 2067130

PREP DATE: 3/07/12
COMP DATE: 3/08/12

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION VOL	SOLVENTS EXCHANGE VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	3/13/12	H2B240437-001 **MQ3J0-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/13/12	H2B240437-004 **MQ3KL-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/13/12	H2B240437-006 **MQ3KP-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/13/12	H2B240437-007 **MQ3KV-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/13/12	H2B240437-009 **MQ3KX-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/13/12	H2B240437-010 **MQ3K0-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	0/00/00	H2C070000-130 **MRAAQ-1-AAB**		88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	0/00/00	H2C070000-130 **MRAAQ-1-ACC**		88	7M	AIR	**100mL** 100.00mL	NA	NA	NA	.0	.0	
COMMENTS:													

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 15

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 3/08/12
Time: 7:40:04

LEV 1	LEV 2		LEV 1	LEV 2	
_	_	Blank	_	_	Weights/Volumes
_	_	Check	_	_	Spike & Surrogate Worksheet
_	_	MS/MSD	_	_	Vial contains correct volume
			_	_	Labels, greenbars, worksheets
			_	_	computer batch: correct & all match
			_	_	Anomalies to Extraction Method

_ Expanded Deliverable
_ COC Completed
_ Bench Sheet Copied
_ Package Submitted to AnalyticalGroup
_ Bench Sheet Copied per COC

Extractionist: _____

Concentrationist: _____

****
* *
* QC BATCH: 2067124 *
* *
****

PREP DATE: 3/07/12
COMP DATE: 3/08/12

Reviewer/Date: _____ / 0/00/00

Volatile Organics by GC/MS TO-15 low-level
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	SOLVENTS VOL	SOLVENTS EXCHANGE	SOLVENTS VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	3/13/12	H2B240437-018 **MQ3LD-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/13/12	H2B240437-019 **MQ3LF-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/13/12	H2B240437-020 **MQ3LJ-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/13/12	H2B240437-021 **MQ3LL-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/13/12	H2B240437-022 **MQ3LN-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/13/12	H2B240437-023 **MQ3LQ-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	0/00/00	H2C070000-124 **MQ97X-1-AAB**		88	7M	AIR	**500mL** 500.00mL	NA	NA	NA		.0		.0	
COMMENTS:															

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 3/08/12
Time: 7:40:04

QC BATCH: 2067124

PREP DATE: 3/07/12
COMP DATE: 3/08/12

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	SOLVENTS VOL	SOLVENTS EXCHANGE	SOLVENTS VOL	SPIKE STANDARD/ SURROGATE ID
		H2C070000-124													
0/00/00	0/00/00	**MQ97X-1-ACC**		88	7M	AIR	**100mL**	NA	NA	NA		.0		.0	
COMMENTS:							100.00mL								

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 8

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 3/08/12
Time: 17:51:13

LEV 1	LEV 2		LEV 1	LEV 2	
_	_	Blank	_	_	Weights/Volumes
_	_	Check	_	_	Spike & Surrogate Worksheet
_	_	MS/MSD	_	_	Vial contains correct volume
			_	_	Labels, greenbars, worksheets
					computer batch: correct & all match
			_	_	Anomalies to Extraction Method

_ Expanded Deliverable
_ COC Completed
_ Bench Sheet Copied
_ Package Submitted to AnalyticalGroup
_ Bench Sheet Copied per COC

Extractionist: _____
_____
Concentrationist: _____
_____

****
* *
* **QC BATCH: 2068093** *
* *
****

PREP DATE: 3/08/12
COMP DATE: 3/09/12

Reviewer/Date: _____ / 0/00/00

Volatile Organics by GC/MS TO-15 low-level
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	SOLVENTS VOL	SOLVENTS EXCHANGE	SOLVENTS VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	3/13/12	H2B240437-002 **MQ3KF-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/13/12	H2B240437-003 **MQ3KK-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/13/12	H2B240437-005 **MQ3KM-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/13/12	H2B240437-008 **MQ3KW-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/13/12	H2B240437-011 **MQ3K1-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/13/12	H2B240437-012 **MQ3K3-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/13/12	H2B240437-013 **MQ3K4-1-AA**	D	88	7M	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 3/08/12
Time: 17:51:13

QC BATCH: 2068093

PREP DATE: 3/08/12
COMP DATE: 3/09/12

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION VOL	SOLVENTS EXCHANGE VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	3/13/12	H2B240437-014 **MQ3K5-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/13/12	H2B240437-015 **MQ3K6-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/13/12	H2B240437-016 **MQ3K8-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/13/12	H2B240437-017 **MQ3LA-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/13/12	H2B240437-019 **MQ3LF-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/13/12	H2B240437-024 **MQ3LT-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/15/12	H2B270403-001 **MQ4A0-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/15/12	H2B270403-003 **MQ4A2-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/15/12	H2B270403-018 **MQ4CT-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/15/12	H2B270403-019 **MQ4CV-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 3/08/12
Time: 17:51:13

QC BATCH: 2068093

PREP DATE: 3/08/12
COMP DATE: 3/09/12

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION VOL	SOLVENTS EXCHANGE VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	3/15/12	H2B270403-020 **MQ4CW-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/15/12	H2B270403-022 **MQ4C0-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	3/15/12	H2B270403-023 **MQ4C1-1-AA**	D	88	7M	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	0/00/00	H2C080000-093 **MRAMK-1-AAB**		88	7M	AIR	**500mL** 500.00mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	0/00/00	H2C080000-093 **MRAMK-1-ACC**		88	7M	AIR	**100mL** 100.00mL	NA	NA	NA	.0	.0	
COMMENTS:													

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 22

HOLDTIME

SDG H2B240437

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	IA107-A-12	H2B240437003	NM	2/22/2012	3/8/2012	3/8/2012	15	0	15
OV	UG/M3	IA018-A-12	H2B240437016	NM	2/22/2012	3/8/2012	3/8/2012	15	0	15
OV	UG/M3	IA075-A-12	H2B240437008	NM	2/22/2012	3/8/2012	3/8/2012	15	0	15
OV	UG/M3	IA076-A-12	H2B240437009	NM	2/22/2012	3/7/2012	3/8/2012	14	1	15
OV	UG/M3	IA077-A-12	H2B240437010	NM	2/22/2012	3/7/2012	3/8/2012	14	1	15
OV	UG/M3	IA079-A-12	H2B240437004	NM	2/22/2012	3/7/2012	3/7/2012	14	0	14
OV	UG/M3	IA093-A-12	H2B240437024	NM	2/22/2012	3/8/2012	3/9/2012	15	1	16
OV	UG/M3	IA094-A-12	H2B240437017	NM	2/22/2012	3/8/2012	3/8/2012	15	0	15
OV	UG/M3	IA096-A-12	H2B240437011	NM	2/22/2012	3/8/2012	3/8/2012	15	0	15
OV	UG/M3	IA097-A-12	H2B240437005	NM	2/22/2012	3/8/2012	3/8/2012	15	0	15
OV	UG/M3	IA015-A-12	H2B240437006	NM	2/22/2012	3/7/2012	3/8/2012	14	1	15
OV	UG/M3	IA106-A-12	H2B240437002	NM	2/22/2012	3/8/2012	3/8/2012	15	0	15
OV	UG/M3	IADUP-5	H2B240437015	NM	2/22/2012	3/8/2012	3/9/2012	15	1	16
OV	UG/M3	IA108-A-12	H2B240437007	NM	2/22/2012	3/7/2012	3/8/2012	14	1	15
OV	UG/M3	IA109-A-12	H2B240437023	NM	2/22/2012	3/7/2012	3/8/2012	14	1	15

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	IA110-A-12	H2B240437022	NM	2/22/2012	3/7/2012	3/8/2012	14	1	15
OV	UG/M3	IA116-A-12	H2B240437021	NM	2/22/2012	3/7/2012	3/8/2012	14	1	15
OV	UG/M3	IA117-A-12	H2B240437001	NM	2/22/2012	3/7/2012	3/8/2012	14	1	15
OV	UG/M3	IA118-A-12	H2B240437019	NM	2/22/2012	3/8/2012	3/9/2012	15	1	16
OV	UG/M3	IA119-A-12	H2B240437020	NM	2/22/2012	3/7/2012	3/8/2012	14	1	15
OV	UG/M3	IA120-A-12	H2B240437012	NM	2/22/2012	3/8/2012	3/8/2012	15	0	15
OV	UG/M3	IADUP-3	H2B240437013	NM	2/22/2012	3/8/2012	3/8/2012	15	0	15
OV	UG/M3	IADUP-4	H2B240437014	NM	2/22/2012	3/8/2012	3/9/2012	15	1	16
OV	UG/M3	IA102-C-12	H2B240437018	NM	2/22/2012	3/7/2012	3/8/2012	14	1	15

APPENDIX E—COMPARISON TO BACKGROUND

SITE SUMMARY

Analyte	Maximum Background Concentration	Number of Samples > Background	Number of Samples = Background	Number of Samples < Background	Samples Associated with Blank
Benzene	0.51	44	0	7	0
Carbon Tetrachloride	0.44	31	5	10	0
Chlorodifluoromethane	3.9	48	0	9	0
Chloroform	0.12	33	1	5	0
Dichlorodifluoromethane	2.3	41	10	4	0
1,2-Dichloroethane	0.15	0	0	3	0
Ethylbenzene	0.15	51	0	2	0
Methylene Chloride	8.8	7	0	53	57
Tetrachloroethene	0.37	9	0	13	0
Toluene	0.93	59	0	1	0
1,1,1-Trichloroethane	0.95	3	0	22	0
Xylenes, total	0.53	50	1	4	0

BUILDING A

Analyte	Maximum Background	Number of Samples > Background	Number of Samples = Background	Number of Samples < Background	Samples Associated with Blank	23 samples (includin 015-A-IA	018-A-IA
Benzene	0.51	18	0	0	0		0.83
Carbon Tetrachloride	0.44	16	0	1	0		0.64
Chlorodifluoromethane	3.90	13	0	9	0		2.2
Chloroform	0.12	12	0	0	0		0.26
Dichlorodifluoromethane	2.30	16	3	2	0		3.4
1,2-Dichloroethane	0.15	0	0	1	0		
Ethylbenzene	0.15	22	0	1	0	120	1.4
Methylene Chloride	8.80	2	0	21	23	21	0.85
Tetrachloroethene	0.37	9	0	3	0		1
Toluene	0.93	23	0	0	0	2400	35
1,1,1-Trichloroethane	0.95	1	0	5	0		0.15
Xylenes, total	0.53	22	0	1	0	740	7.6

BUILDING B

Analyte	Maximum Background	Number of Samples > Background	Number of Samples = Background	Number of Samples < Background	Samples Associated with Blank	9 samples (including 057-B-IA	063-B-IA
Benzene	0.51	6	0	1	0	0.62	0.63
Carbon Tetrachloride	0.44	2	0	1	0	0.55	0.47
Chlorodifluoromethane	3.90	7	0	0	0	51	30
Chloroform	0.12	4	0	0	0	0.26	0.34
Dichlorodifluoromethane	2.30	6	1	0	0	2.4	2.4
1,2-Dichloroethane	0.15	0	0	0	0		
Ethylbenzene	0.15	8	0	0	0	0.63	2.7
Methylene Chloride	8.80	4	0	5	6	2.6	21
Tetrachloroethene	0.37	0	0	1	0	0.11	
Toluene	0.93	9	0	0	0	12	120
1,1,1-Trichloroethane	0.95	0	0	1	0	0.26	
Xylenes, total	0.53	8	0	0	0	3.1	13

BUILDING C

Analyte	Maximum Background	Number of Samples > Background	Number of Samples = Background	Number of Samples < Background	Samples Associated with Blank	28 samples (includin 001-C-IA	044-C-IA
Benzene	0.51	20	0	6	0		1.7
Carbon Tetrachloride	0.44	13	5	8	0		0.57
Chlorodifluoromethane	3.90	28	0	0	0	1700	45
Chloroform	0.12	17	1	5	0		0.18
Dichlorodifluoromethane	2.30	19	6	2	0		3
1,2-Dichloroethane	0.15	0	0	2	0		
Ethylbenzene	0.15	21	0	1	0		0.6
Methylene Chloride	8.80	1	0	27	28	7.5	3.3
Tetrachloroethene	0.37	0	0	9	0		0.14
Toluene	0.93	27	0	1	0	7.6	11
1,1,1-Trichloroethane	0.95	2	0	16	0		0.27
Xylenes, total	0.53	20	1	3	0		2.9

SITEWIDE RESULTS

Analyte	Maximum Background	Number of Samples > Background	Number of Samples = Background	Number of Samples < Background	Samples Associated with Blank
Benzene	0.51	44	0	7	0
Carbon Tetrachloride	0.44	31	5	10	0
Chlorodifluoromethane	3.90	48	0	9	0
Chloroform	0.12	33	1	5	0
Dichlorodifluoromethane	2.30	41	10	4	0
1,2-Dichloroethane	0.15	0	0	3	0
Ethylbenzene	0.15	51	0	2	0
Methylene Chloride	8.80	7	0	53	57
Tetrachloroethene	0.37	9	0	13	0
Toluene	0.93	59	0	1	0
1,1,1-Trichloroethane	0.95	3	0	22	0
Xylenes, total	0.53	50	1	4	0

g 3 dupes)

075-A-IA	076-A-IA	077-A-IA	079-A-IA	093-A-IA	IA-DUP-5 (093-A-IA)	094-A-IA	096-A-IA	097-A-IA	106-A-IA	107-A-IA	108-A-IA
1.1	1.1	0.79		0.74	0.64	1		0.84	1.2	0.77	
0.62	0.48			0.66	0.56	0.69		0.56	0.68	0.5	
6.5	1.5	4.3	6.6	6.6	3.5	3.2	2.2	11	13	7.1	7.9
0.24	0.13			0.2	0.16	0.26					
3.2	2.3	2.7	3.2	3.6	2.9	3.5	3.9	2.8	4	3	
				0.097							
3.5	0.79	7	4.7	0.28	0.46	2.6	7.8	5.1	6.8	3.7	64
2.6	0.61	2.8	3.7	2	1.5	2.1	3.2	5	7.1	2.7	7.1
0.44	0.29			2	2.1	0.49					
82	9.4	160	110	7.3	8.9	71	280	140	170	98	1500
	1.6			0.18	0.16						
21	3.8	45	28	0.77	2.1	15	47	28	40	20	410

1 dupe)

IA-DUP-2	100-B-IA	101-B-IA (063-B-IA)	121-B-IA	122-B-IA	105-Z-IA	123-Z-IA
0.71	0.81	0.85	0.28	0.72		
0.29						
31	45	37	24	54		
0.22			0.36			
2.8	2.6	2.7	2.3	2.5		
2.4	5.5	4.4		2.8	32	37
24	5.6	5.7	4.7	5.3	16	16
120	290	170	8.7	200	2200	2600
10	25	24		13	180	200

g 1 dupe)

050-C-IA	051-C-IA	060-C-IA	IA-DUP-1 (060-C-IA)	088-C-IA	091-C-IA	102-C-IA	103-C-IA	104-C-IA	111-C-IA	112-C-IA	113-C-IA
0.69	0.58	0.56	0.63	0.6	0.38	0.83	0.67	0.42	0.52	0.49	0.61
0.58	0.44	0.47	0.54	0.43	0.45	0.43	0.54	0.43	0.36	0.25	0.46
17	27	12	15	39	7.2	11	27	11	91	72	29
0.17	0.18	0.12	0.14	0.14	0.087	0.18	0.25				0.14
2.7	2.4	2.3	2.5	2.3	2.4	2.2	2.5	2.3	2.4	2.5	2.2
0.19	0.25	0.4	0.47	0.48		1.3	0.21		0.56		0.47
1.5	0.98	1.7	2.4	2.9	3.3	1.2	2.1	0.53	3.9	3.6	2.3
						0.25					0.11
3.5	4.5	3	3.3	9.2	1.3	23	2.4	0.53	8.4	2.9	12
		0.13	0.17	0.27		0.32			0.19	0.39	
0.53	1.1	2.2	2.6	2.3	0.25	6.1	0.84	0.44	2.7		2.3

109-A-IA	IA-DUP-4 (109-A-IA)	110-A-IA	116-A-IA	IA-DUP-3 (116-A-IA)	117-A-IA	118-A-IA	119-A-IA	120-A-IA
0.66	1.2	0.6	0.58	0.58		0.89	0.67	0.78
0.49	0.54	0.49	0.46	0.68		0.61	0.38	0.55
1.9	2.3	2.3	3.5	28	9.1	37	33	41
0.25	0.45	0.2	0.22	0.2			0.21	
2.3	2.9	2.3	2.2	3.4	4	3	2.1	3
2.5	0.14	3.2	1.2	1.1	20	5	4.6	3.3
0.86	1.3	0.89	2.8	16	4.8	1.5	0.91	2.2
0.63	3.3	0.61	0.65	0.26			0.24	
91	2.1	89	54	21	580	130	100	86
	0.069		0.081					
9.7	0.44	18	3.6	6	96	30	27	20

114-C-IA	115-C-IA	124-C-IA	125-C-IA	126-C-IA	127-C-IA	128-C-IA	129-C-IA	130-C-IA	131-C-IA	132-C-IA	133-C-IA	134-C-IA	135-C-IA
0.59	0.59	0.4	0.66	0.66	0.45	0.68	0.64	0.47	0.64	0.77		0.64	0.68
0.48	0.44	0.39	0.52	0.54	0.43	0.49	0.44	0.44	0.44	0.54		0.46	0.43
54	28	14	20	4.3	15	26	48	5.8	52	20	120	52	35
0.13	0.15	0.11	0.13	0.11	0.11	0.2	0.16	0.084	0.14	0.14		0.14	0.15
2.4	2.3	2.4	2.6	2.6	2.4	3.3	2.3	2.3	2.4	2.6	2.8	2.5	2.4
						0.1							0.14
0.59	0.42		0.14	0.17	0.24	0.55	0.6	0.3	0.88	0.42		0.6	0.49
4.2	2.2	1.6	2.3	0.87	1.9	31	8.2	5.5	4.8	1.9	5.1	4.5	2.8
0.11			0.31			0.15			0.13	0.16			0.12
6.8	11	1.1	2	2.3	2.4	2.5	6.8	2.8	6.4	6.8	6.8	7.4	11
0.57			0.088	0.32	0.069	12	0.98	0.41	0.45	0.091		0.59	0.19
3	2		0.45	0.61	1.1	3	3	1.5	4.3	2		3.1	2.3

TABLE 3-1

IAQ BACKGROUND SAMPLE RESULTS, FEBRUARY 2012
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Analyte	OSHA PEL ($\mu g/m^3$)	Industrial Air Screeing Level ($\mu g/m^3$)	Key	Sample Results ($\mu g/m^3$)			
				BCK-1-12	BCK-2-12	BCK-3-12	BCK-4-12
Benzene	3.19E+02	16	ca	0.51 J	0.36 J	0.41	0.45
Carbon Tetrachloride	6.29E+04	20	ca	0.34 J	0.39 J	0.44 J	0.42 J
Chlorodifluoromethane	3.59E+06	220,000	nc	1.3	1.3	1.5	3.9
Chloroform	2.40E+05	5	ca	0.12 J	-- U	-- U	-- U
Dichlorodifluoromethane	4.95E+06	880	nc	2.3	2.2	2.3	2.3
1,2-Dichloroethane	4.00E+05	5	ca	0.15 J	-- U	-- U	-- U
Ethylbenzene	4.35E+05	49	ca	-- U	-- U	-- U	0.15 J
Methylene Chloride	8.70E+04	2,600	ca	2.9	8.8	0.94 B	3.2
Tetrachloroethene	6.78E+05	175	ca	0.28 J	-- U	0.37 J	-- U
Toluene	7.54E+05	22,000	nc	0.58	0.93	0.45	0.44
1,1,1-Trichloroethane	1.90E+06	22,000	nc	0.95	-- U	-- U	-- U
Xylenes, total	4.34E+05	440	nc	0.23 J	-- U	0.23 J	0.53 J

Notes: Shaded cells indicate a concentration greater than risk-based screening level.

All concentrations are in micrograms per cubic meter ($\mu g/m^{3)}$.

nc = screening value based on noncarcinogenic hazard index = 1

ca = screening value based on $1x\ 10^{-5}$ carcinogenic risk

-- = below detection limits (U)

NA = not available

B = present in laboratory blank

J = estimated value

OSHA PEL = Occupational Safety and Health Administration Pemissible Exposure Limit

N = National Institute for Occupational Safety and Health Recommended Exposure Limit

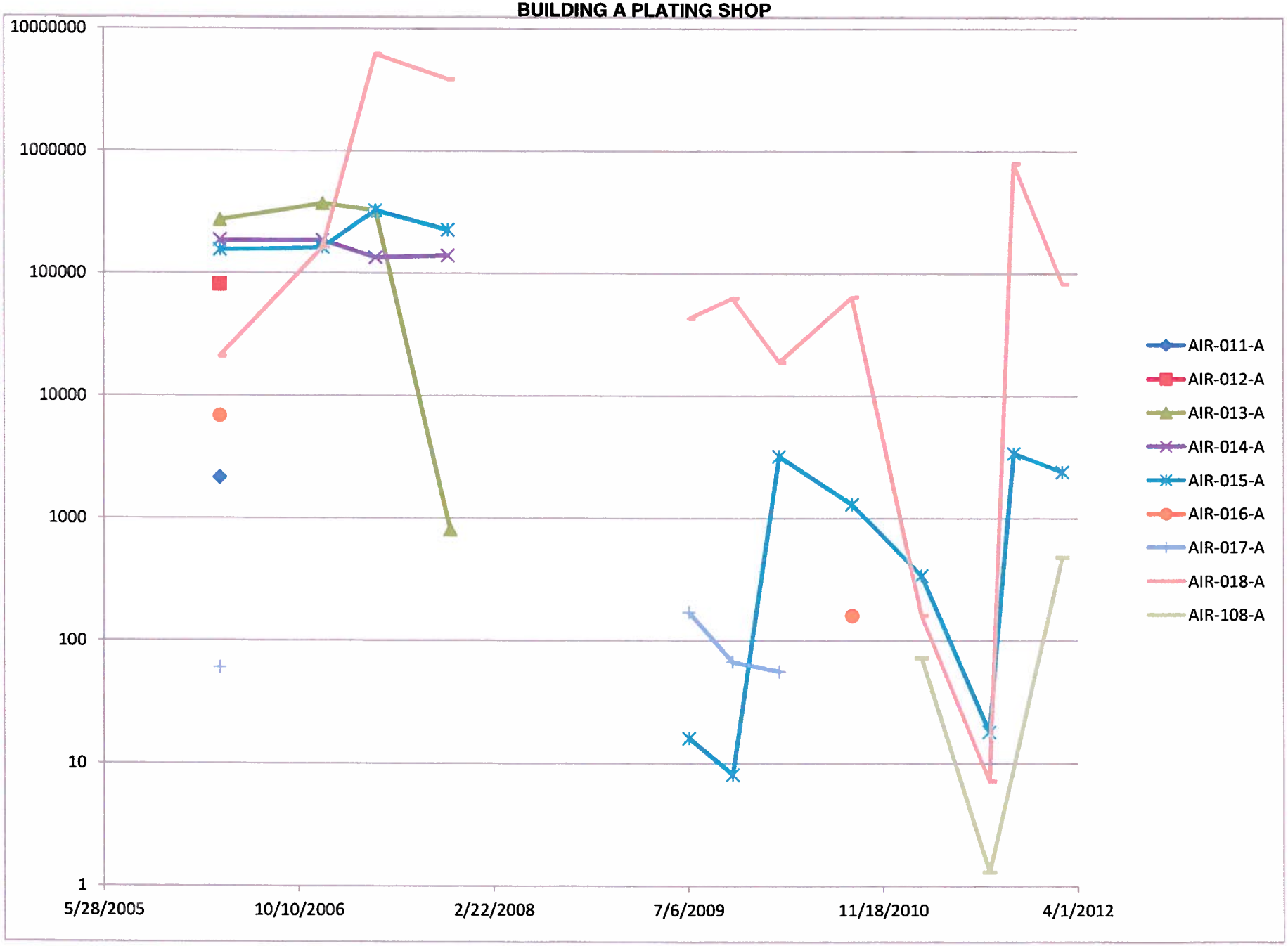
A = American Council of Governmental Industrial Hygienists Theshold Limit Value

M = Maryland Department of the Environment's screening level for trichloroethene

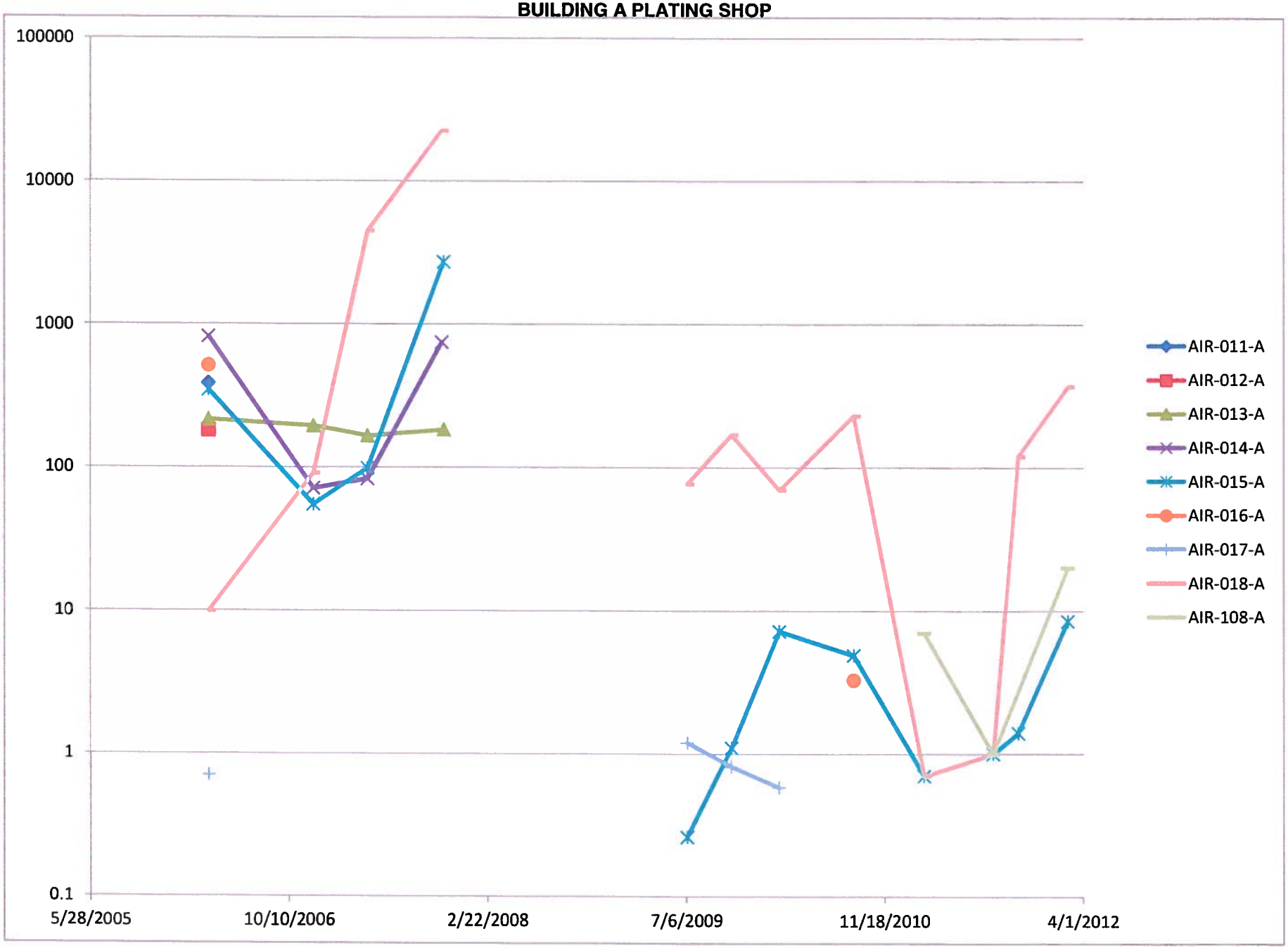
Industrial Air Screening Levels from USEPA Regional Screening Levels for Chemical Contaminants at Superfund Sites Nov-2010

APPENDIX F—HISTORICAL DATA TABLES AND PLOTS

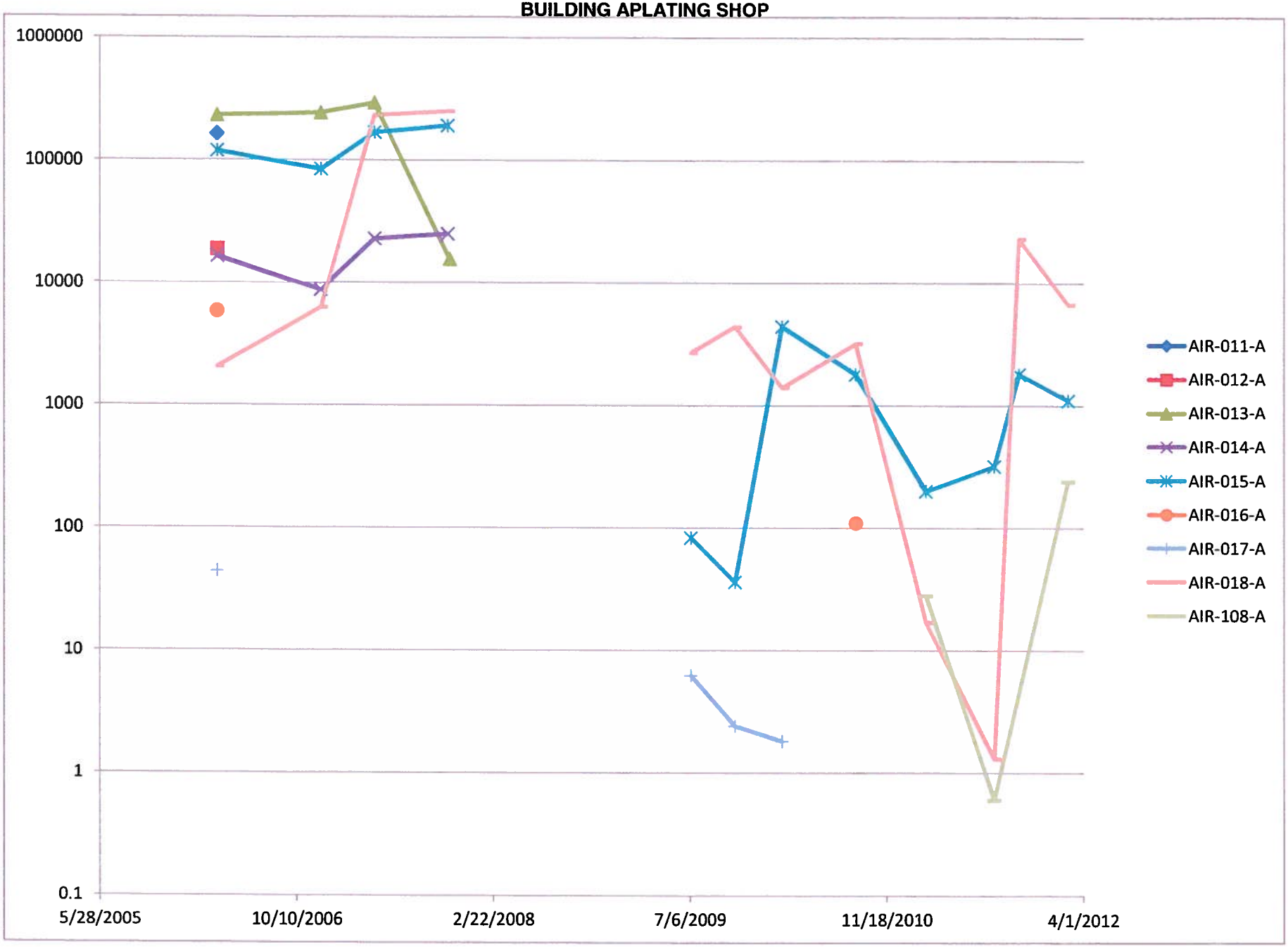
PLOT F-1
TCE IN SV
BUILDING A PLATING SHOP



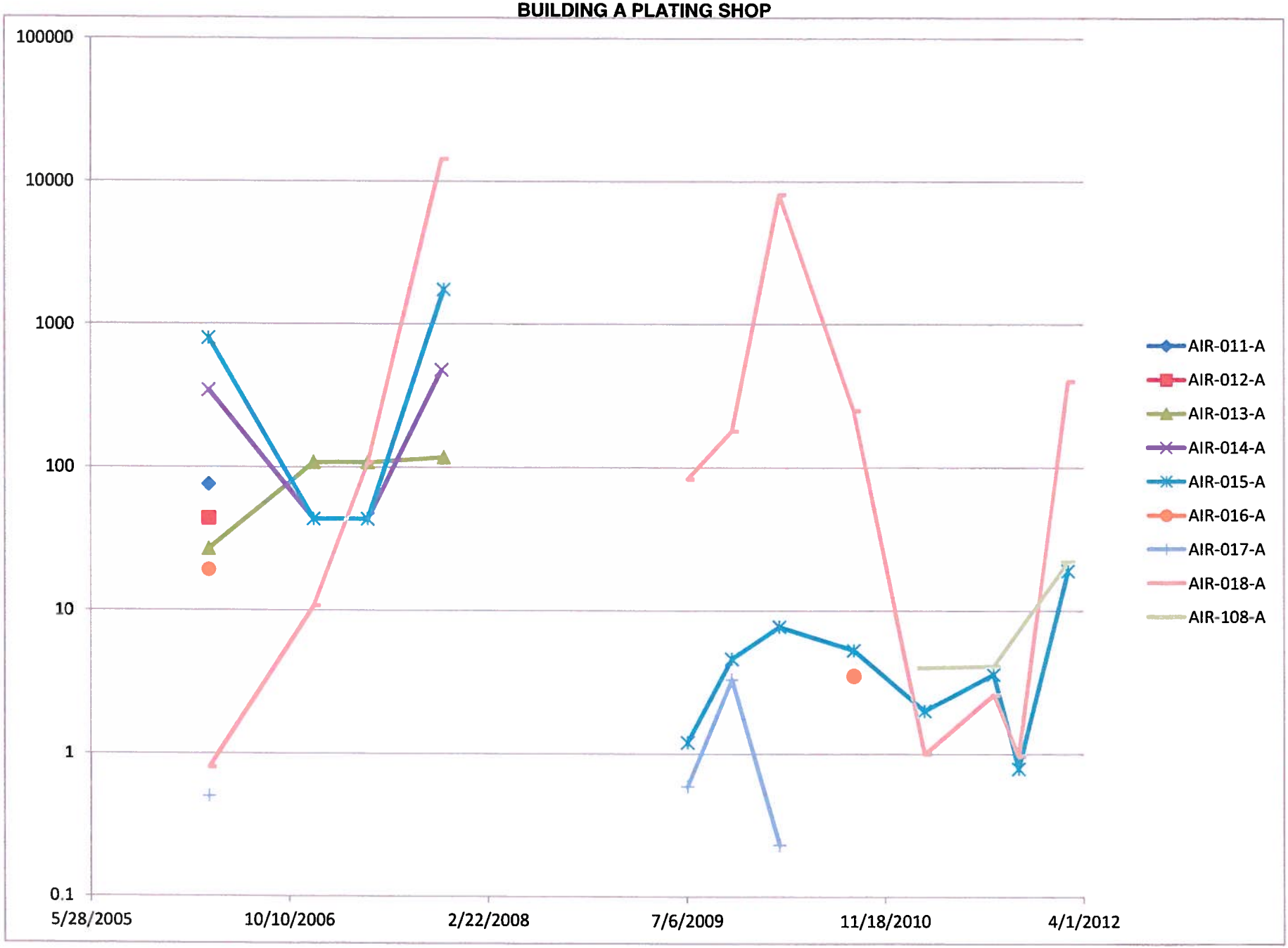
PLOT F-2
PCE IN SV
BUILDING A PLATING SHOP



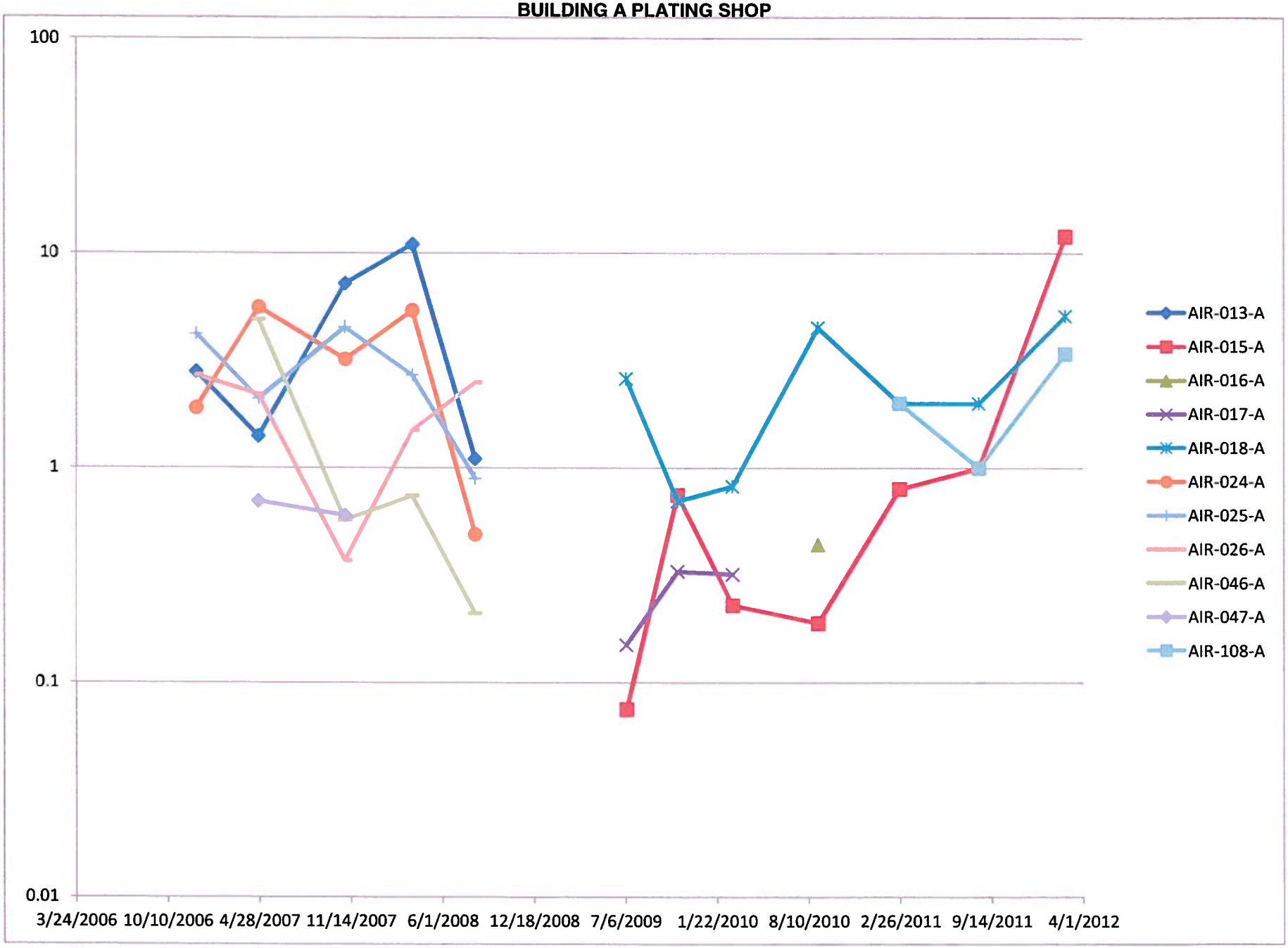
PLOT F-3
CIS-1,2- DCE IN SV
BUILDING APLATING SHOP



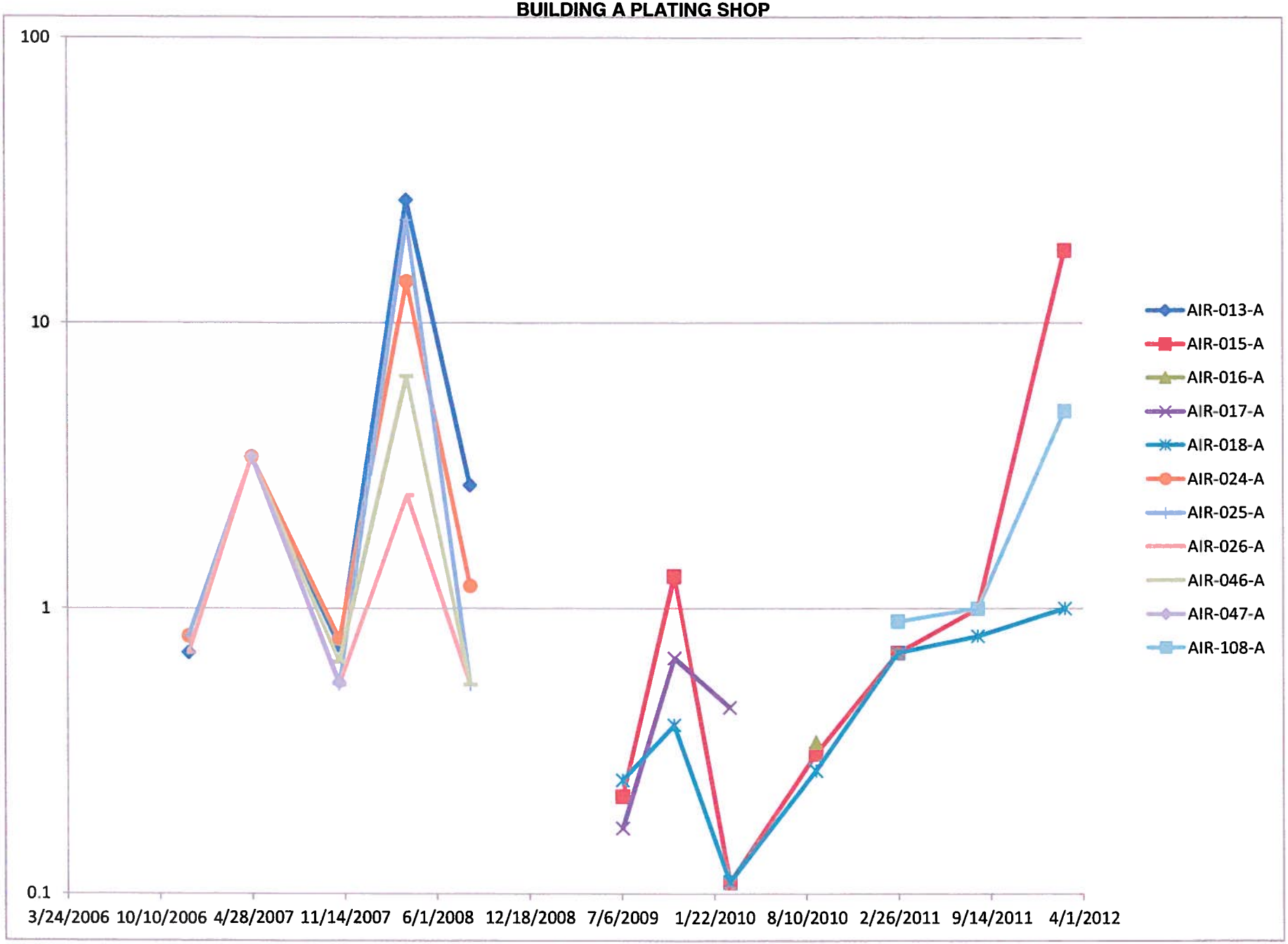
PLOT F-4
ETHYLBENZENE IN SV
BUILDING A PLATING SHOP



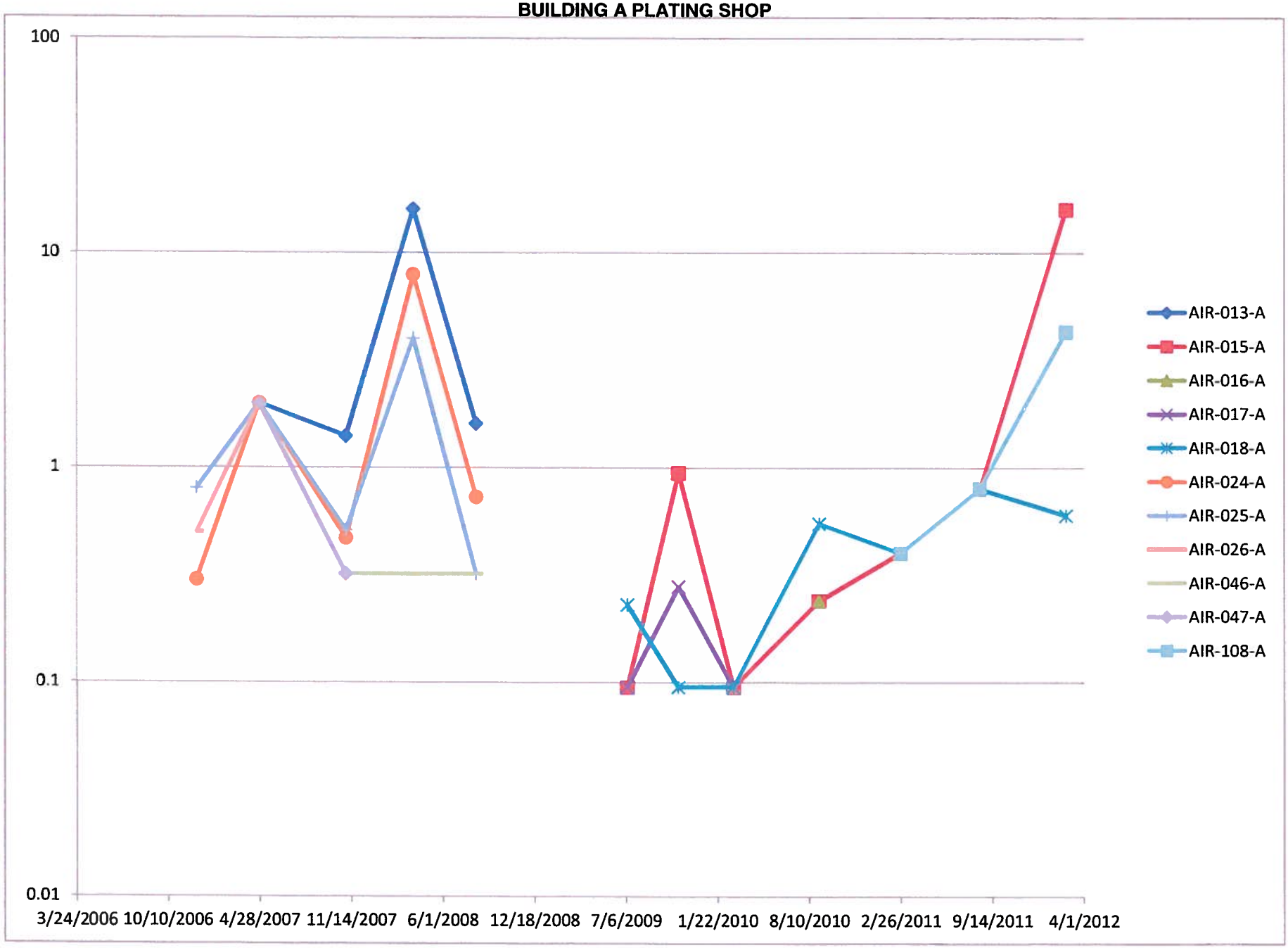
PLOT F-5
TCE IN IA
BUILDING A PLATING SHOP



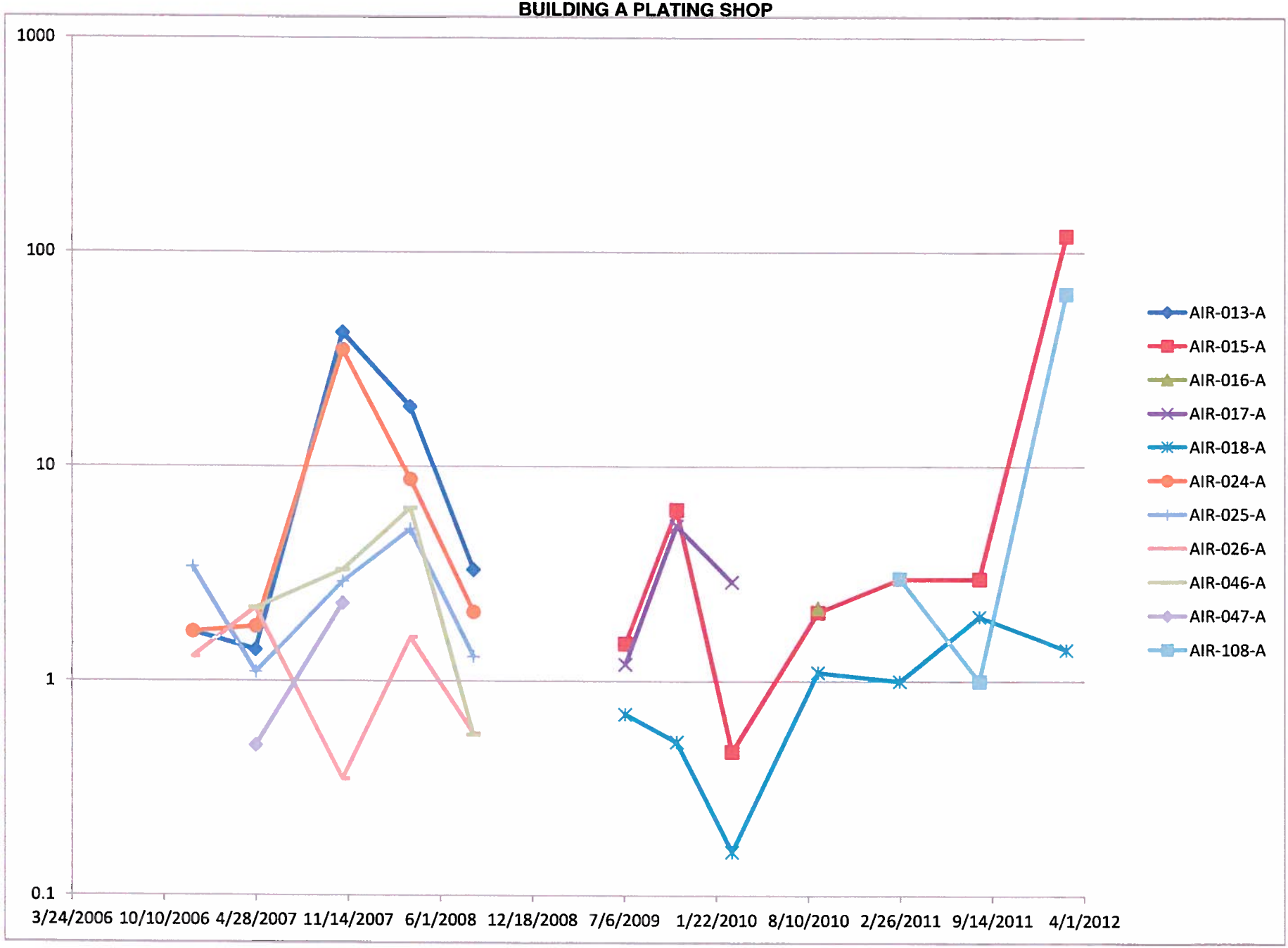
PLOT F-6
PCE IN IA
BUILDING A PLATING SHOP



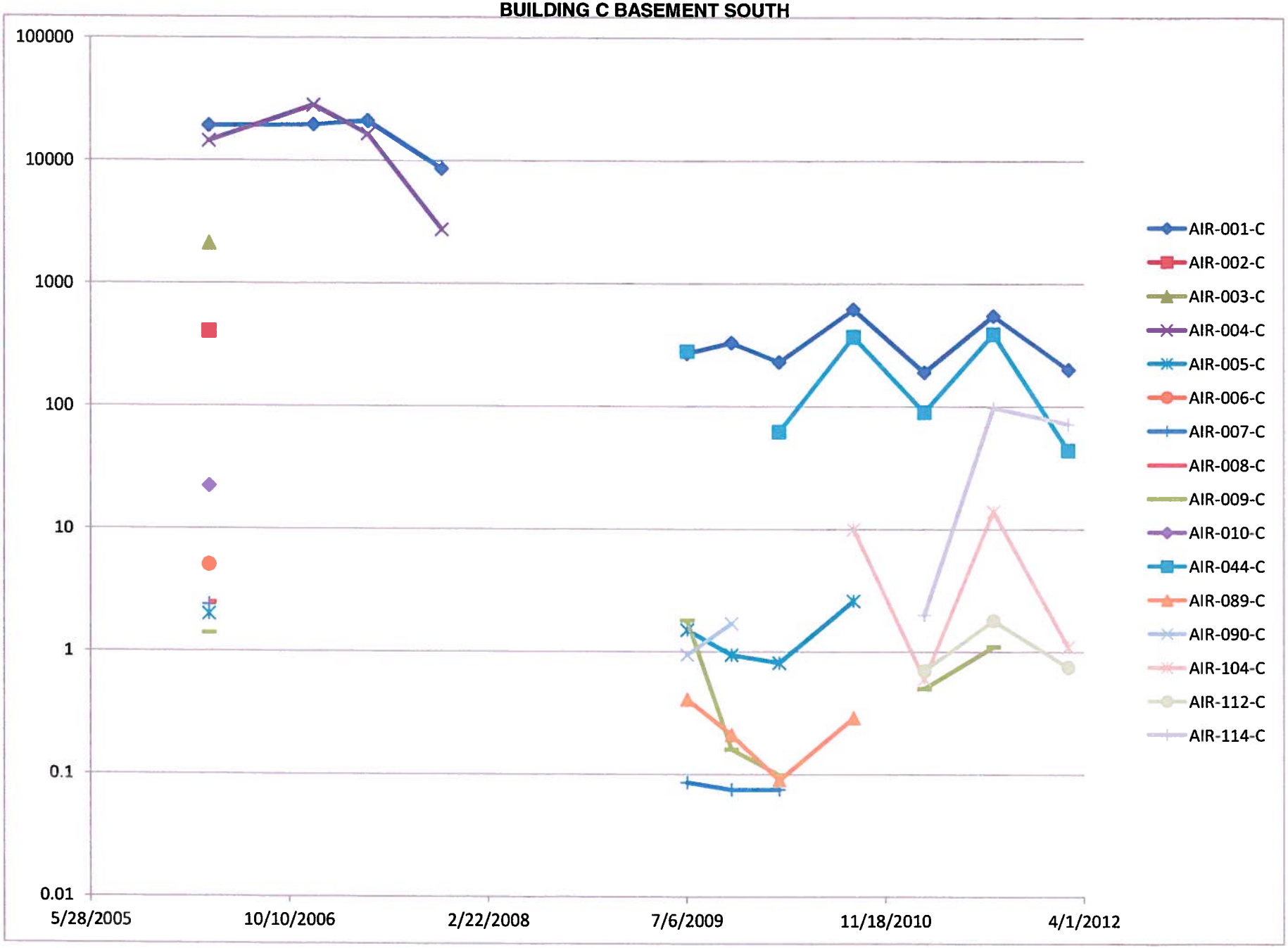
PLOT F-7
CIS-1,2-DCE IN IA
BUILDING A PLATING SHOP



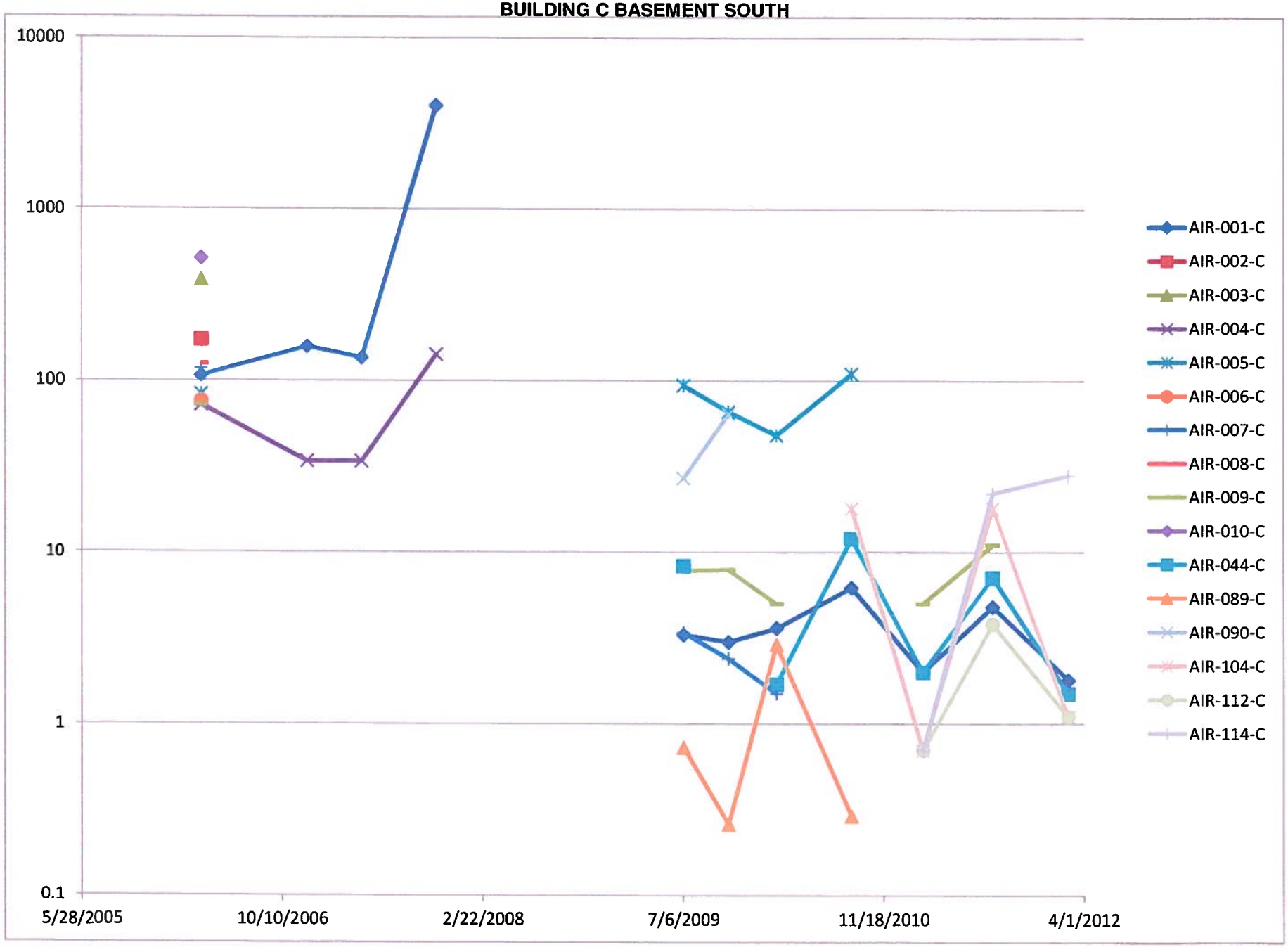
PLOT F-8
ETHYLBENZENE IN IA
BUILDING A PLATING SHOP



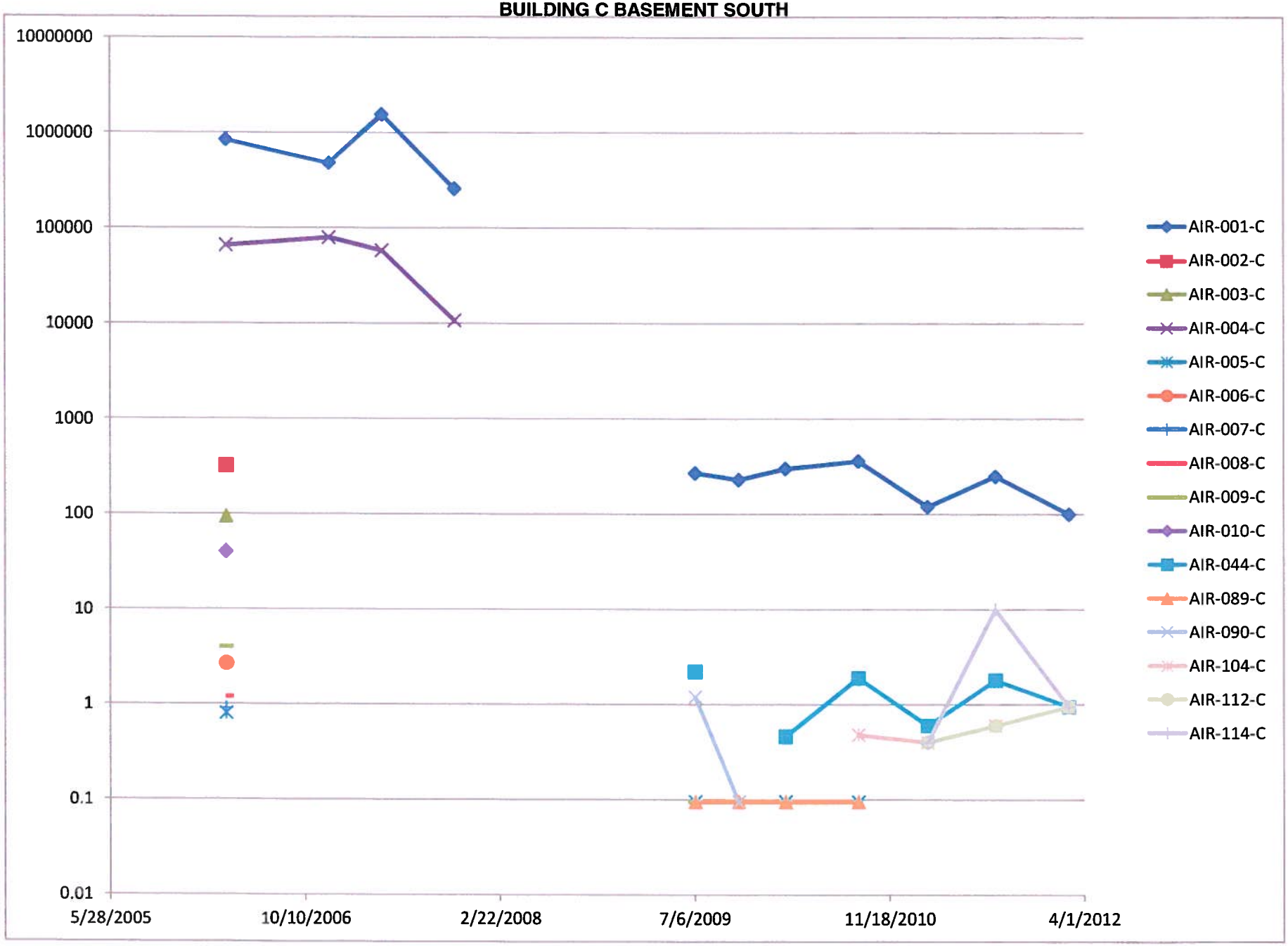
PLOT F-9
TCE IN SV
BUILDING C BASEMENT SOUTH



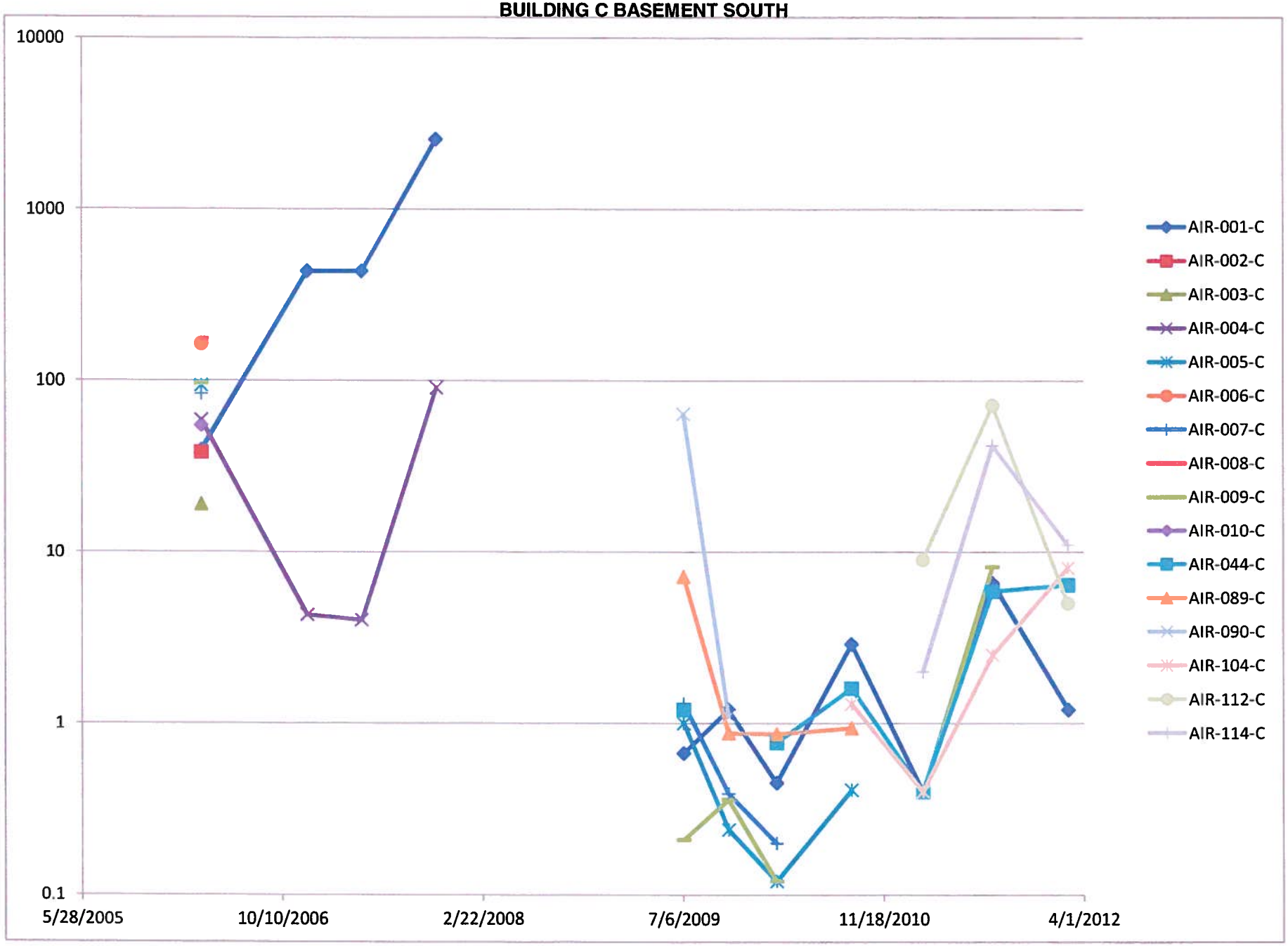
PLOT F-10
PCE IN SV
BUILDING C BASEMENT SOUTH



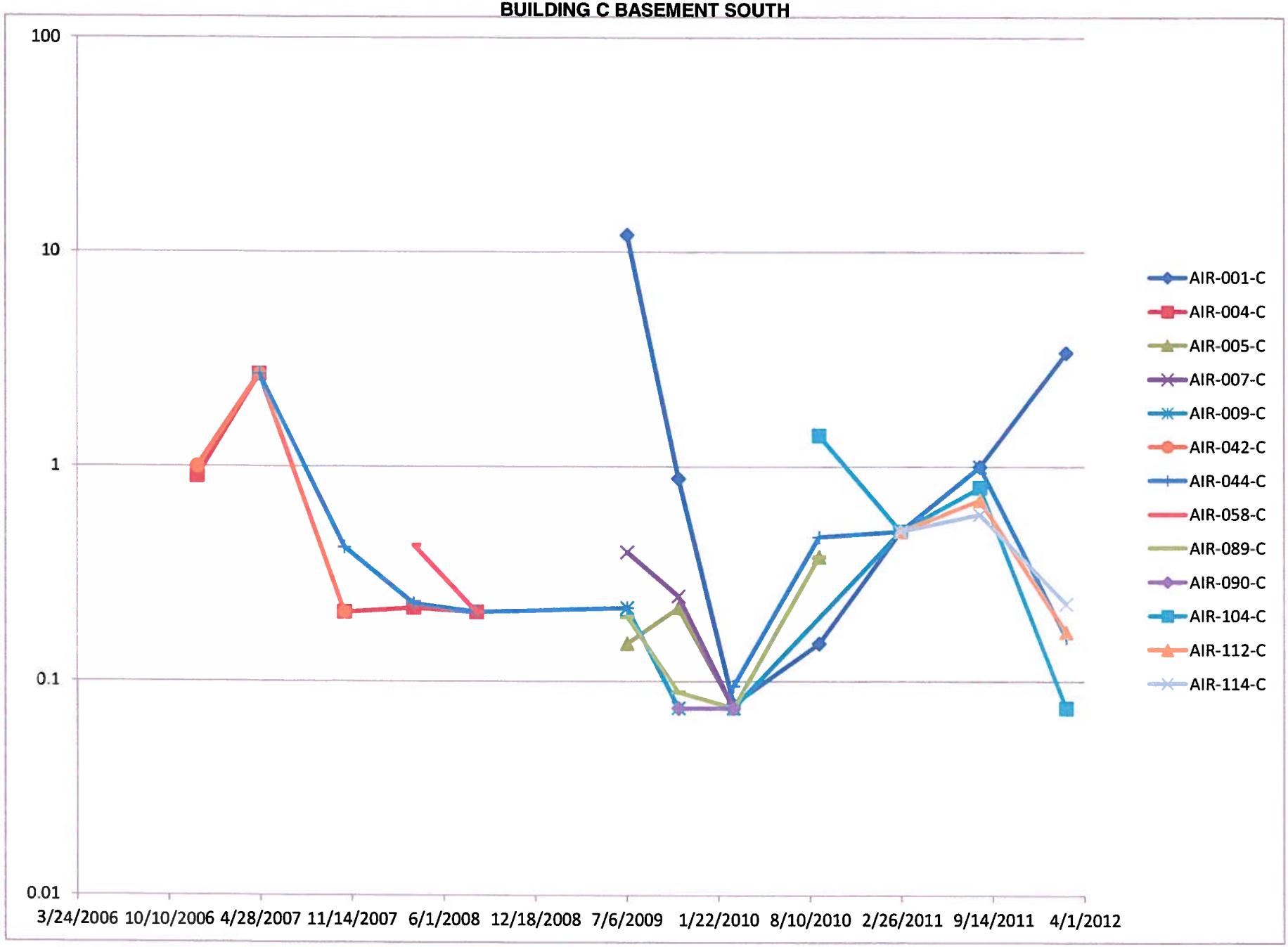
PLOT F-11
CIS-1,2-DCE IN SV
BUILDING C BASEMENT SOUTH



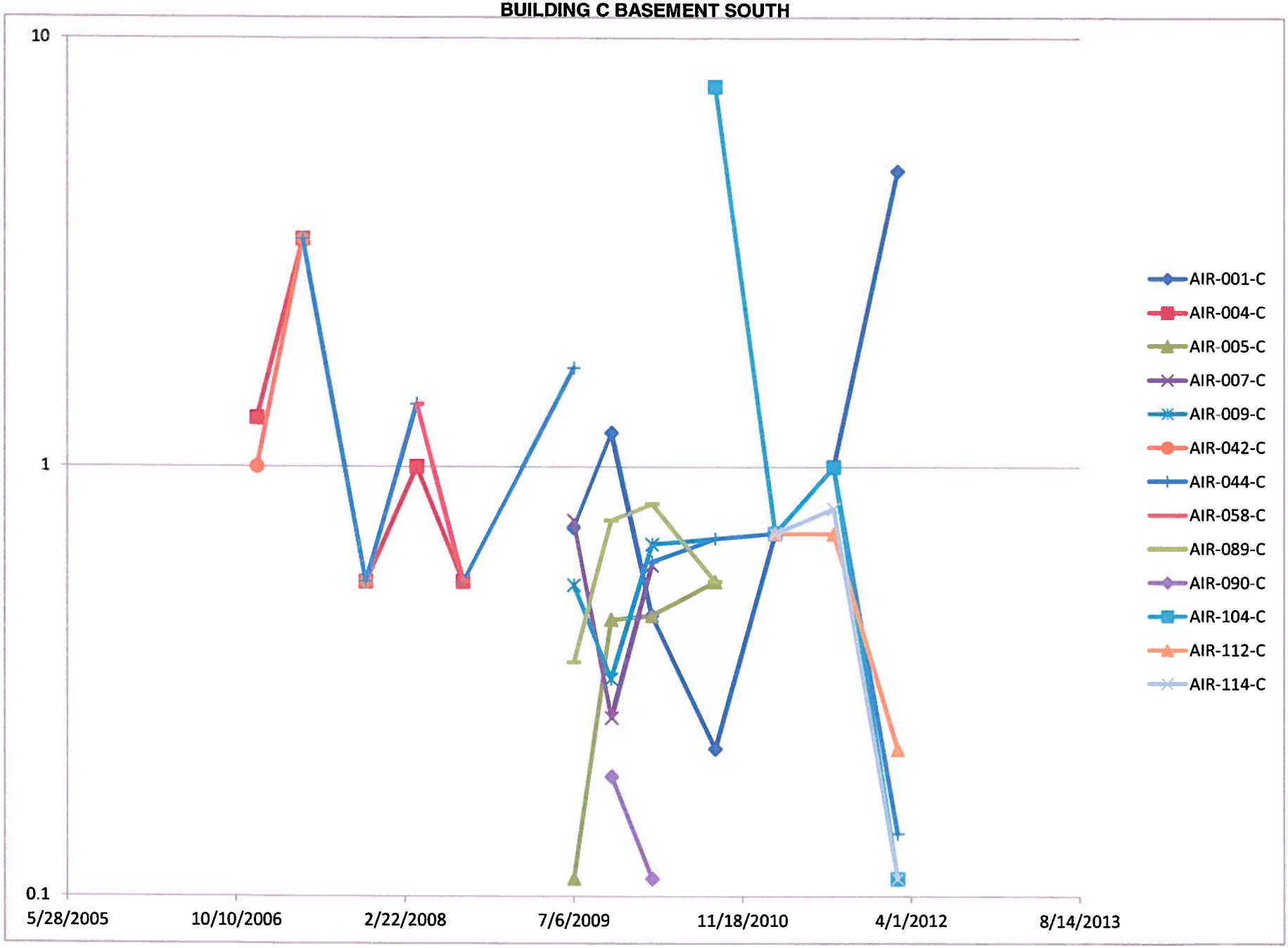
PLOT F-12
ETHYLBENZENE IN SV
BUILDING C BASEMENT SOUTH



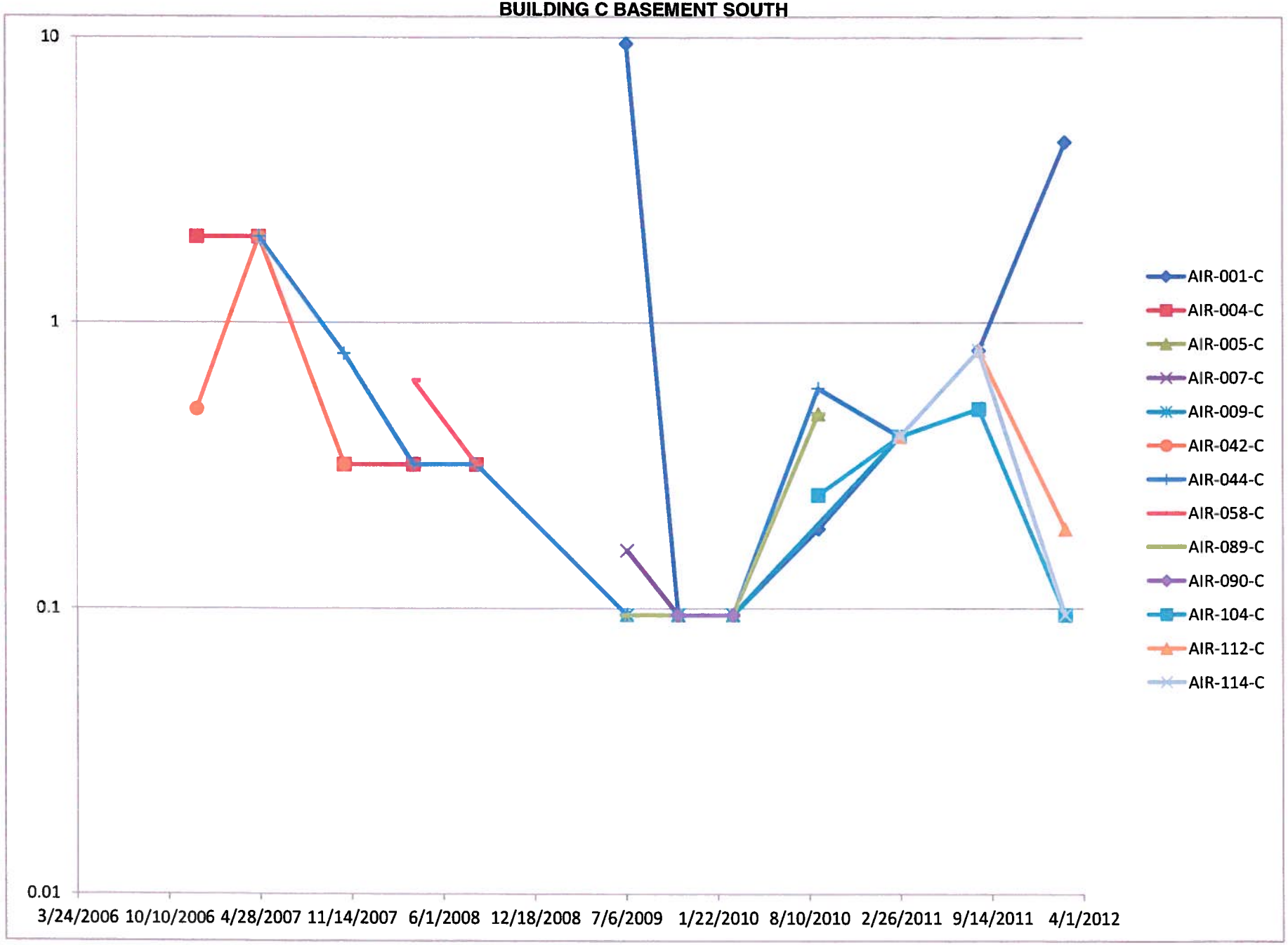
PLOT F-13
TCE IN IA
BUILDING C BASEMENT SOUTH



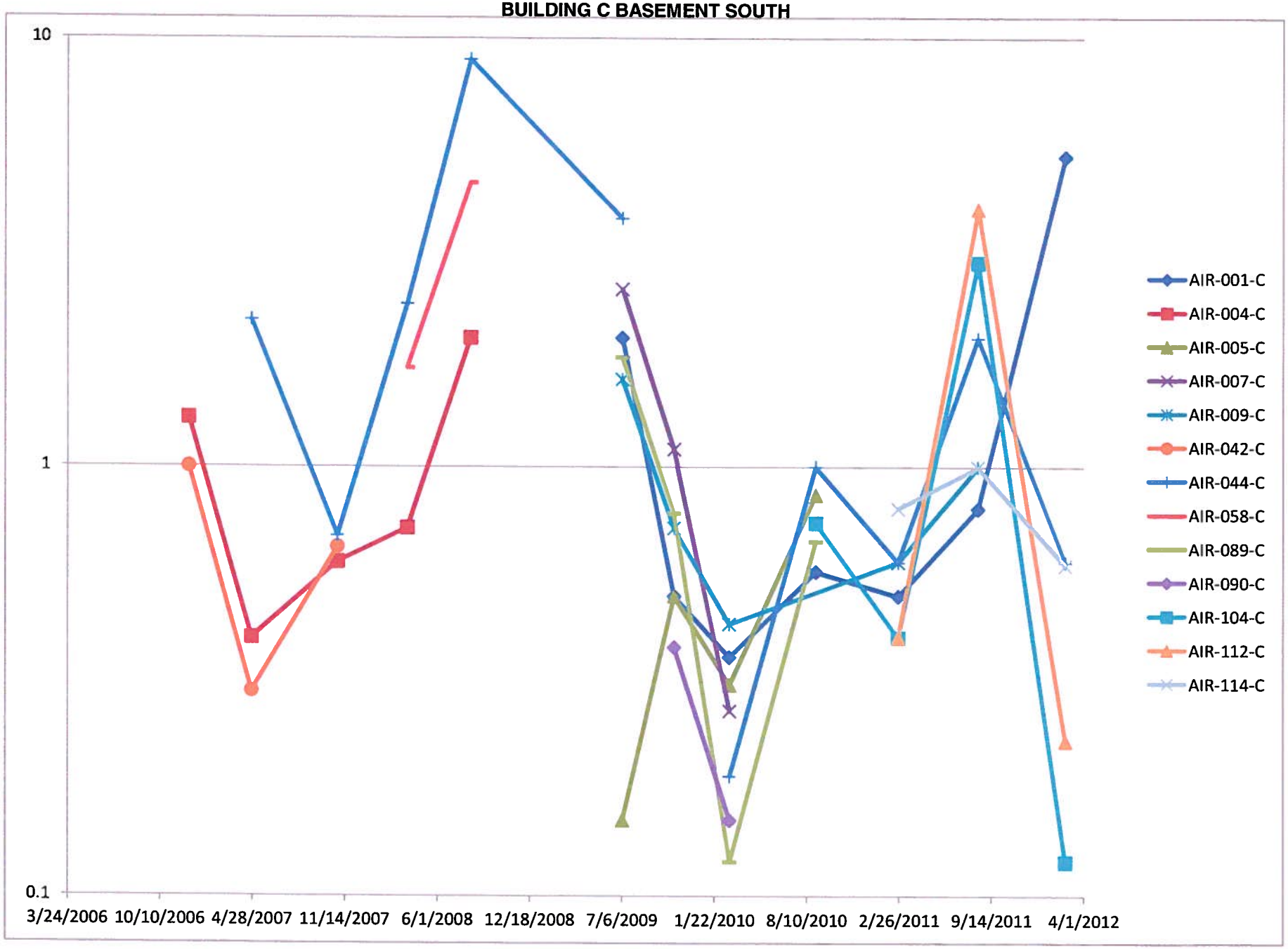
PLOT F-14
PCE IN IA
BUILDING C BASEMENT SOUTH



PLOT F-15
CIS-1,2-DCE IN IA
BUILDING C BASEMENT SOUTH



PLOT F-16
ETHYLBENZENE IN IA
BUILDING C BASEMENT SOUTH



APPENDIX G—SSD-SYSTEM
REMEDIAL ACTION PROGRESS REPORT #12

Remedial Action Progress Report #12
October 1, 2011 through March 31, 2012
Sub-Slab Depressurization Systems
Buildings A and C
Lockheed Martin Middle River Complex
2323 Eastern Boulevard
Middle River, Maryland

Prepared for:

Lockheed Martin Corporation

Prepared by:

Tetra Tech, Inc.

June 15, 2012



Michael Martin, P.G.
Regional Manager

Peter Rich
Project Manager

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ACRONYMS

CFM	cubic feet per minute
EPA	United States Environmental Protection Agency
DIA	diameter
GAC	granular activated-carbon
Lockheed Martin	Lockheed Martin Corporation
H_2O	water
HDPE	high–density polyethylene
HP	horsepower
in.	inches
lbs	pounds
lbs/day	pounds per day
lbs/month	pounds per month
lbs/yr	pounds per year
LCD	liquid crystal display
MDE	Maryland Department of the Environment
$\mu g/m^3$	micrograms per cubic meter
MRA	Middle River Aircraft
MRC	Middle River Complex
O&M	operation and maintenance
%	percent
P&ID	process and instrumentation diagram
PVC	polyvinyl chloride
SCFM	standard cubic feet per minute
SCH	schedule
SSD	sub-slab depressurization
TCE	trichloroethene
Tetra Tech	Tetra Tech, Inc.
USEPA	United States Environmental Protection Agency
VMP	vapor monitoring point
VOC	volatile organic compounds
WC	water column

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Section 1
Introduction

1.1 SITE LOCATION AND BACKGROUND INFORMATION

This report documents the monitoring activities completed from October 1, 2011 to March 31, 2012 [fifteenth (15th) and sixteenth (16th) quarters of operation] for the sub-slab depressurization (SSD) systems operating in the Building A Basement and Plating Shop and the Building C Basement of the Middle River Aircraft (MRA) facilities located at Lockheed Martin Corporation's Middle River Complex (MRC) in Middle River, Maryland. The locations of these systems are shown in Figure 1. The purpose of these remedial systems is to control and remove sub-slab volatile organic compounds (VOCs), thus preventing their migration into indoor air.

1.2 SSD SYSTEM DESCRIPTION

The SSD system in the Building A Basement and Plating Shop consists of four horizontal soil vapor extraction laterals (Basement North Leg, Basement South Leg, Plating Shop North Leg and Plating Shop South Leg), and the system in the Building C Basement consists of two vertical soil vapor extraction wells (SV-21-C and SV-23-C). These serve as extraction points for drawing air through the sub-slab zone to stimulate volatilization of adsorbed-phase VOCs, and to remove sub-slab vapors before they can potentially migrate into indoor air. Regenerative blower systems [one 10 horsepower (HP) blower in Building A and two 3HP blowers in Building C] are used to draw the soil vapor from the extraction points. Following extraction, the vapors enter a moisture separator where entrained condensate droplets are removed to reduce the chance of fouling in the vapor lines and the possibility of saturating the vapor-phase carbon. The extracted vapors are treated to remove VOCs in both systems using two in-series granular activated carbon (GAC) units prior to being discharged to the atmosphere via an exhaust stack that extends above the roof of each building. The layout of the systems is shown in Figures 2 and 3, and the process and instrumentation diagrams are presented in Figures 4 and 5.

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Section 2
Site Activities

2.1 BI-WEEKLY MONITORING

2.1.1 General System Checks

Biweekly site visits were conducted to monitor the performance of the sub-slab depressurization (SSD) systems and to make necessary adjustments to optimize remediation effectiveness. System field data sheets are included in Appendix A. The site visits/system checks included the following tasks as described in the system Operations and Maintenance (O&M) manuals:

1. Record:
    a. vacuum post-knockout tank (Building A only)
    b. vacuum pre-air filter
    c. vacuum post-air filter
    d. pressure post-blower
    e. temperature
    f. system flow
2. Record the vacuum and flow velocity from each extraction point and adjust as needed.
3. Check induced vacuum at all monitoring points.
4. Turn system off. Check that flow meter, vacuum and pressure gauges fall to zero. Check that temperature gauge falls.
5. Check system components for damage.
6. Check granular activated carbon (GAC) units, surrounding pipes and fittings for leaks, corrosion, and signs of heat stress.
7. Check cam locks and zip ties located on GAC unit fittings.

8. Change lead carbon drum when its effluent concentration is 50 percent (%) of influent concentration, or as determined based on consideration of change-out history and laboratory results trends.

9. Empty knockout tank into properly-labeled transportable container, as needed.

2.1.2 Vacuum Influence Monitoring

Vacuum (differential versus indoor air) influence monitoring in permanent sub-slab vapor monitoring points (VMPs) for each SSD system was also conducted during the site visits. In the Building A Plating Shop (Figure 2), SV-11-A, SV-12-A, SV-13-A, 015-A-SV, and SV-16-A have been monitored since system start-up. In January and February 2010, newly installed VMPs SV-1-A, SV-2-A and SV-3-A were added to the biweekly monitoring. In the Building A Basement (Figure 2), SV-19-A, SV-20-A, SV-21-A, and SV-22-A have been monitored since the system expansion in October 2010. In the Building C Basement (Figure 3), 001-C-SV, SV-2-C, SV-3-C, and SV-4-C have been monitored since system start-up. Beginning in January 2010, newly installed VMPs SV-1-C, SV-24-C and SV-25-C were added to the biweekly monitoring. Existing VMP SV-22-C was added to the biweekly monitoring in the Building C Basement in February 2010, replacing SV-1-C which was not showing vacuum influence. Vacuum influence data are used to determine the area of system influence and to identify short-circuiting or other problems, which would be indicated by a significant drop in vacuum at the monitoring points.

Induced vacuum levels over time are graphed on Figures 6 and 7, and values from monitoring on December 6, 2011 are plotted on system plan views as Figures 8 and 9.

2.2 QUARTERLY SYSTEM CHECKS

Tetra Tech, Inc. (Tetra Tech) completed quarterly system checks on December 21, 2011 and March 23, 2012 with S&S Technologies. The quarterly system checks included the following tasks:

- Measure and record amperage draw from blower.
- Visually inspect air filter and replace if necessary.
- Check condition of knockout tank, blower and surrounding pipes for corrosion and wear.
- Inspect GAC units for corrosion and leakage.

- Check auto-dialer callout. Test alarms using checklist (Appendix B). Ensure auto dialer calls out for all alarms.
- Check vacuum relief valve operation.
- Inspect level, temperature, and pressure switches (low and high) for fouling.
- Clean if necessary.
- Check for proper operation to ensure that system shutdown occurs upon activation.
- For the knockout tank level switch, fill the unit with water to check operation rather than lifting the switch.

No problems were identified during the quarterly system checks and the systems are running within the operating parameters.

During the December 2011 Quarterly System Checks, the Building A autodialer batteries were replaced. In Building C, a new drain hose for the knockout tank was installed.

During the March 2012 Quarterly System Checks, it was noted that a better seal was needed in vapor monitoring point 015-A-SV, associated with the Building A system. In Building C, the system's emergency shut-off switch was replaced. The vacuum switch was found to be non-operational due to water getting into the switch. A new vacuum switch has been ordered and will be installed as soon as possible. The switch will be mounted higher on the wall to prevent water from damaging the unit.

The quarterly system check forms are included in **Appendix B**.

2.3 DIFFERENTIAL PRESSURE MONITORING

Twenty-four (24) hour differential pressure monitoring of the SSD systems at the Building A Plating Shop and Building C Basement was conducted monthly until December 2011, when monitoring was reduced to quarterly. The purpose of the monitoring is to verify system radius of influence and quantify differential pressure changes over daily cycles. Dwyer MS-121 LCD Magnesense transmitters low range 4 – 20 Output with liquid crystal display (LCD) displays and 0.0 to 0.5–inch water column (WC) range (accuracy to 0.005 inch WC) and Dwyer DW-USB programmable data-loggers set at 5–minute sampling rates were deployed at three selected VMPs in each system for each event. The VMPs are alternated so that all VMPs that have

differential pressure readings up to 0.5–inches WC are monitored regularly. After 24 continuous hours of data collection the equipment is retrieved and the data downloaded and graphed for analysis. Graphs of the October and November 2011 and January 2012 data are included in Appendix C.

2.4 GRANULAR ACTIVATED CARBON CHANGE-OUTS

The lead granular activated carbon units, each containing 200 or 400 pounds of GAC, are replaced when the effluent concentration (mid–point) sample equals or exceeds 50% of the influent concentration, taking into consideration the carbon change-out history and laboratory results. During a change–out, the lag carbon canister is installed as the lead unit and a new carbon canister is installed as the lag unit. On November 8, 2011, the lead GAC at Building C was changed out due to breakthrough. On January 6, 2012, a lead and lag GAC change–out was completed at the Building C system, after water was discovered in the lag GAC upon response to a high pressure alarm. The spent GAC units were temporarily staged on-site at Building C and were shipped off-site for regeneration on January 23, 2012 by Siemens Water Technologies Corporation. No GAC change-outs occurred at Building A during the October 1, 2011 through March 31, 2012 monitoring period. The non–hazardous bill of lading is included in Appendix D.

2.5 SYSTEM SHUTDOWNS

The Building A system had no unscheduled alarm shutdowns between October 1, 2011 and March 31, 2012. The system was briefly shutdown during each bi-weekly system check and each time the knockout tank was emptied. In total, approximately 90.5 gallons of water from the Building A system were placed in 55–gallon drums dedicated to SSD system knockout tank condensate located at the staging area adjacent to the GAC units for the Building C System.

The Building A system was briefly shut down several times during the quarterly system checks on December 21, 2011 and March 23, 2012. During the semiannual sub–slab vapor sampling event conducted on February 21 through February 23, 2012, the system was also shut down for approximately 50 hours.

The Building C system had three unscheduled alarm shutdowns during the October 1, 2011 through March 31, 2012 reporting period. Two shutdowns were due to high liquid level alarms

which occurred on November 10 and December 28, 2011. For both alarms, Tetra Tech responded, drained the knock out tank, and restarted the system. The system was off for a total of approximately 8.75 and 21.75 hours, respectively, during the alarms. The remaining shutdown was due to a high pressure alarm which occurred on January 6, 2012. Tetra Tech responded to the high pressure alarm and discovered water in the lag GAC unit. Both GAC units were replaced with new units, and the system was restarted. The system was off approximately 3.5 hours total during this alarm.

The Building C system was briefly shutdown during each bi-weekly system check, when switching operation between blowers, and each time the knockout tank was emptied. In total, approximately 32.0 gallons of water from the Building C system were placed in 55–gallon drums dedicated to SSD system knockout tank condensate located at the staging area adjacent to the GAC units for the Building C System.

The Building C system was briefly shut down several times during the quarterly system checks on December 21, 2011 and March 23, 2012. The system was also shut down for approximately 50 hours during the semiannual sub-slab vapor sampling event on February 21 through February 23, 2012.

2.6 VOLATILE ORGANIC COMPOUND SAMPLING

Vapor samples were collected monthly at the influent, mid-point, and effluent of the GAC units. Samples were collected directly from the sample ports instantaneously (the sampling points are under pressure) using six (6) one–liter Summa canisters. These samples, labeled A-PRE, A-MID, A-POST, C-PRE, C-MID, and C-POST were shipped overnight to TestAmerica in Knoxville, Tennessee for analysis for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method TO-15. A summary of the lab data can be found in Tables 1 through 6. The laboratory reports are provided in Appendix E.

2.7 REMEDIATION SUMMARY

Continuous operation of the SSD systems in the Building A Plating Shop and the Building C Basement began on March 31, 2008. Continuous operation of the SSD System expansion in the Building A Basement began on October 22, 2010. Based on pilot test results, extraction points

in Building A were set to maximize vacuum influence at an approximate total flow of 140 standard cubic feet per minute (SCFM) and, Building C extraction points were operated to maximize vacuum influence at a total flow of about 60 SCFM. In the Building A Plating Shop, flow from the north leg has been kept slightly higher than that of the south leg due to its greater length. In the Building A Basement, flow from the south leg has been kept slightly higher than that of the north leg due to its greater length.

Since system start-up on March 31, 2008, total Building A influent VOCs have decreased from 94,310 micrograms per cubic meter ($\mu g/m^3$) to 2,320 $\mu g/m^3$, which equals a 97.5% reduction in the Building A system influent, and from 31,170 $\mu g/m^3$ to 167 $\mu g/m^3$, or a 99.5% reduction in the Building C system influent. No changes in influent concentrations at the Building A System are apparent after the addition of the basement extraction trenches. VOCs trends are shown in Tables 1 through 6 and Figures 10 and 11. Individual VOC percentages compared to the sum of all measured VOCs have remained relatively consistent at both systems. In the Building A system, 1,1,1-trichloroethane and trichloroethene have typically each accounted for 30 to 50% of the total influent VOCs. In the Building C system, cis-1,2-dichloroethene has typically been about 55% to 75% of the total VOCs.

Vapor influent concentrations were used to calculate mass removal rates for the period of October 2011 through March 2012. For the Building A SSD system, mass removal rates for VOCs during the reporting period ranged from 0.025 to 0.033 pounds per day (lbs/day). The total VOC mass removed in Building A during the period of October 2011 to March 2012 was approximately 5.08 pounds. Total removal since system start-up in March 2008 is approximately 74.53 pounds. Mass removal rates for the Building C SSD system during the reporting period ranged from 0.011 pounds per month (lbs/month) to 0.026 lbs/month. The total VOC mass removed in Building C during the period of October 2011 through March 2012 was approximately 0.09 pounds. Total removal since system start-up in March 2008 is 5.21 pounds. The VOC mass removal is far lower than levels requiring Maryland Department of Environment (MDE) permitting [20 lbs/day VOCs, 20 pounds per year (lbs/yr) vinyl chloride] even without treatment.

Section 3
Conclusions and Recommendations

3.1 SYSTEM PERFORMANCE

The systems are performing as designed. The Building A Plating Shop extraction trenches induce a vacuum influence over an approximate 70-foot by 80-foot area encompassing all the sub–slab vapor (SV) monitoring points with volatile organic compounds (VOCs) at relatively elevated levels prior to system startup. The Building A Basement trenches induce a vacuum influence over an 80-foot by 25-foot area encompassing all the SV monitoring points installed to measure the system induced vacuum in the basement. The Building C Basement wells induce a vacuum influence over an approximate 40-foot by 80-foot area encompassing all the monitoring points with VOCs at relatively elevated levels prior to system startup.

The systems have removed VOC mass and treated emissions with granular activated carbon (GAC). During the lifespan of system operation, 23 200-pound (lb) GAC units and one 400-lb GAC unit have been used for the Building A system. Thirteen (13) 200–pound (lb) GAC units have been used for the Building C system. This count does not include GAC units currently attached to the systems. Approximately 67 pounds of GAC have been used per pound of VOC removed by the Building A system, and, in the Building C system, approximately 499 pounds of GAC has been used per pound of VOC removed. Note that GAC removal efficiency is reduced as vapor concentrations decrease. Influent VOC concentrations have decreased significantly since system startup on March 31, 2008 with fluctuations within the decreasing trend (see Figures 10 and 11).

3.2 CONTINUED MONITORING

Biweekly system monitoring, monthly vapor GAC sampling and quarterly 24-hour vacuum monitoring will continue in the next quarter [seventeenth (17th) quarter] of operation in the

Building A Basement and Plating Shop, and Building C Basement. GAC change–outs will occur when the mid–GAC laboratory result reaches 50 percent (%) of the influent reading based on laboratory analysis or as determined based on consideration of change–out history and laboratory results trends. The next remedial action progress report will be completed in July 2012.

3.3 FUTURE PLANS

The current plan is to continue running the systems continuously to maintain the barrier to vapor migration. Should any unplanned system shutdown occur, Tetra Tech, Inc. (Tetra Tech) personnel will be alerted by the system auto–dialer, and will restart the system as soon as possible. Shutdown testing of the current Building C extraction points will be considered beginning in May 2012 unless influent VOC levels increase; the addition of new extraction points in Building C is also being considered.

TABLES

TABLE 1

LABORATORY DATA SUMMARY

Building A - Pre GAC (ug/m^3)

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	FLOW (scfm)	Benzene	1,1,1,-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	cis-1,2-Dichloroethene	Ethylbenzene	Methylene chloride	m-Xylene & p-Xylene	o-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Trichlorofluoromethane	Vinyl chloride	Total VOCs (ug/m3)	Mass (lbs/day)	Mass (lbs removed in period)
3/31/2008	NA	ND	30,000	2,100	7,900	ND	ND	8,300	300	ND	1,100	280	ND	330	44,000	ND	ND	94,310	1.190	3.570
4/2/2008	140	ND	16,000	660	4,500	ND	ND	3,800	ND	ND	ND	ND	ND	1	34,000	ND	ND	58,961	0.740	1.480
4/4/2008	140	ND	13,000	460	3,300	ND	ND	2,300	ND	ND	ND	ND	ND	1	30,000	ND	ND	49,061	0.620	4.340
4/11/2008	140	ND	9,100	280	1,500	ND	ND	1,100	ND	ND	ND	ND	ND	120	14,000	ND	ND	26,100	0.330	1.980
4/17/2008	112	ND	11,000	480	2,200	ND	ND	2,000	ND	ND	110	ND	ND	120	18,000	ND	ND	33,910	0.340	2.380
4/24/2008	84	ND	6,500	260	1,200	ND	ND	930	ND	ND	ND	ND	ND	86	8,600	ND	ND	17,576	0.130	3.510
5/21/2008	84	ND	6,000	320	950	ND	ND	1,000	ND	ND	ND	ND	ND	1	5,500	ND	ND	13,771	0.100	3.100
6/19/2008	70	180	4,800	180	760	ND	ND	720	ND	ND	ND	ND	ND	1	7,100	ND	ND	13,741	0.090	2.700
7/18/2008	84	ND	3,200	110	430	ND	ND	350	ND	ND	ND	ND	ND	1	3,700	ND	ND	7,791	0.060	1.860
8/12/2008	56	ND	2,900	150	400	ND	ND	470	ND	ND	ND	ND	ND	28	3,400	ND	ND	7,348	0.040	1.240
9/11/2008	80	ND	1,900	130	430	ND	ND	380	ND	17	ND	ND	70	52	2,700	32	ND	5,711	0.040	2.440
11/18/2008	84	ND	6,500	300	1,100	ND	ND	1,300	ND	ND	ND	ND	ND	72	7,200	ND	ND	16,472	0.105	3.142
12/18/2008	84	ND	2,300	120	380	ND	ND	420	ND	ND	53	ND	ND	1	4,100	ND	ND	7,374	0.056	1.724
1/22/2009	84	ND	2,100	110	380	ND	ND	380	ND	ND	ND	ND	ND	1	2,100	ND	ND	5,071	0.038	1.185
2/20/2009	84	ND	1,600	78	260	ND	ND	270	ND	ND	ND	ND	ND	24	1,600	ND	ND	3,832	0.029	0.809
3/18/2009	28	ND	3,800	470	150	ND	ND	620	ND	ND	ND	ND	ND	1	3,700	ND	ND	8,741	0.063	1.946
4/17/2009	56	ND	1,900	100	220	ND	ND	360	ND	ND	ND	ND	ND	1	2,400	ND	ND	4,981	0.056	1.677
5/20/2009	NA	ND	1,700	62	140	ND	ND	200	ND	ND	ND	ND	ND	32	1,500	ND	ND	3,634	0.041	1.264
6/23/2009	134	ND	1,700	77	200	ND	ND	280	ND	ND	ND	ND	ND	19	1,800	ND	ND	4,076	0.049	1.471
7/23/2009	129	ND	1,400	68	180	ND	ND	250	ND	27	ND	ND	ND	13	1,700	14	ND	3,652	0.044	1.352
8/28/2009	NA	ND	1,900	79	200	ND	ND	280	ND	ND	ND	ND	ND	42	1,900	ND	ND	4,401	0.051	1.568
9/28/2009	125	ND	870	40	110	ND	ND	150	ND	ND	ND	ND	ND	13	1,000	ND	ND	2,183	0.025	0.735
10/27/2009	NA	ND	1,500	64	210	ND	ND	230	ND	ND	9.7	ND	ND	20	1,400	ND	ND	3,434	0.026	0.803
11/24/2009	130	ND	1,200	43	180	ND	ND	180	ND	ND	ND	ND	ND	14	1,100	ND	ND	2,717	0.032	0.960
12/23/2009	132	ND	1,100	48	180	ND	ND	190	ND	ND	ND	ND	ND	39	1,300	ND	ND	2,857	0.035	1.074
1/19/2010	130	ND	1,500	67	180	ND	ND	240	ND	ND	ND	ND	ND	16	1,600	ND	ND	3,603	0.042	1.304
2/17/2010	130	ND	760	35	120	ND	ND	140	ND	ND	ND	ND	ND	24	930	ND	ND	2,009	0.023	0.657
3/17/2010	120	ND	1,500	62	190	ND	ND	250	ND	ND	ND	ND	ND	21	1,900	ND	ND	3,923	0.042	1.302
4/16/2010	120	ND	1,100	41	160	ND	ND	160	ND	ND	ND	ND	ND	1	1,000	ND	ND	2,462	0.027	0.797
5/13/2010	119	ND	960	42	170	18	ND	170	19	ND	75	23	ND	95	1,100	ND	ND	2,672	0.029	0.886
6/18/2010	110	ND	630	24	110	130	28	96	12	ND	50	26	ND	15	600	12	ND	1,733	0.017	0.514
7/19/2010	110	ND	1,500	52	180	24	ND	220	ND	ND	ND	ND	ND	1	1,500	ND	ND	3,477	0.034	1.066
8/19/2010	110	ND	1,200	45	170	ND	ND	200	ND	ND	ND	ND	ND	12	1,100	16	ND	2,743	0.027	0.841
9/17/2010	108	ND	860	35	150	ND	ND	140	ND	ND	ND	ND	ND	29	1,100	20	ND	2,334	0.023	0.680
10/12/2010	100	ND	1,100	40	140	ND	ND	170	ND	ND	89	33	ND	940	1,400	20	ND	3,932	0.035	1.060
11/2/2010	138	ND	920	34	100	ND	ND	150	ND	ND	14	ND	ND	71	1,200	53	ND	2,542	0.032	0.946
12/1/2010	138	ND	790	28	110	ND	ND	120	42	ND	170	31	ND	54	970	13	ND	2,328	0.029	0.866
1/5/2011	133	ND	860	34	130	ND	ND	150	14	ND	47	10	ND	13	1,200	ND	ND	2,458	0.029	0.882
2/7/2011	130	ND	910	32	160	ND	ND	130	ND	ND	29	ND	ND	23	900	ND	ND	2,184	0.026	0.766
3/3/2011	130	ND	2,800	98	350	ND	ND	390	19	ND	61	ND	ND	23	2,500	ND	ND	6,241	0.073	2.188
4/14/2011	125	ND	900	36	160	ND	ND	150	ND	30	ND	ND	ND	10	1,100	ND	ND	2,386	0.027	0.804
5/6/2011	130	ND	880	39	150	ND	ND	150	ND	ND	ND	ND	ND	1	890	ND	ND	2,110	0.025	0.764
6/9/2011	150	ND	1,600	59	190	ND	ND	240	ND	ND	ND	ND	ND	35	1,600	20	ND	3,744	0.050	1.515
7/11/2011	128	ND	1,300	51	170	ND	ND	200	ND	40	26	ND	ND	81	1,300	ND	ND	3,168	0.036	1.094
8/3/2011	160	ND	1,200	44	160	ND	ND	200	ND	ND	ND	ND	ND	29	1,400	ND	ND	3,033	0.044	1.309
9/15/2011	160	12	750	29	130	ND	ND	130	ND	ND	ND	ND	ND	11	990	12	ND	2,064	0.030	0.891
10/18/2011	160	8	640	28	93	ND	ND	120	ND	ND	ND	ND	ND	51	780	ND	ND	1,720	0.025	0.767
11/8/2011	165	10	730	34	110	ND	ND	140	ND	ND	ND	ND	ND	9.2	930	ND	ND	1,963	0.029	0.874
12/6/2011	160	7.3	600	29	110	ND	ND	130	ND	ND	ND	ND	ND	46	800	ND	ND	1,722	0.025	0.768
1/3/2012	165	ND	590	30	140	ND	ND	130	ND	ND	ND	ND	ND	16	840	ND	ND	1,746	0.026	0.803
2/16/2012	160	ND	760	31	110	ND	ND	140	ND	ND	ND	ND	ND	ND	980	ND	ND	2,021	0.029	0.872
3/15/2012	160	ND	880	36	130	ND	ND	160	ND	ND	ND	ND	ND	14	1,100	ND	ND	2,320	0.033	1.001

TABLE 2

LABORATORY DATA SUMMARY

Building A - Mid GAC (ug/m^3)

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	1,1,1,-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	cis-1,2-Dichloroethene	Ethylbenzene	Methylene chloride	m-Xylene & p-Xylene	o-Xylene	Toluene	Trichloroethene	Vinyl chloride	Chloroform	Trichlorofluoromethane	Benzene	Total VOCs (ug/m3)	Mass (lbs/day)
4/2/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.9	6.9	0.000
4/24/2008	2,100	240	2,200	ND	ND	810	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5,350	0.040
5/21/2008	410	100	740	ND	ND	280	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	1,541	0.010
6/19/2008	1,200	830	2,200	ND	ND	2,300	ND	53	ND	ND	ND	ND	ND	ND	ND	110	6,693	0.040
7/18/2008	100	27	270	ND	ND	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	457	0.003
8/12/2008	1,500	130	400	ND	ND	60	ND	ND	ND	ND	ND	30	ND	15	16	ND	2,151	0.010
9/11/2008	890	170	520	ND	ND	ND	ND	ND	ND	ND	ND	53	ND	15	30	ND	1,678	0.010
11/18/2008	150	60	97	ND	ND	ND	ND	ND	ND	ND	ND	180	ND	ND	ND	ND	487	0.003
12/18/2008	51	38	330	ND	ND	98	ND	ND	ND	ND	ND	18	ND	ND	ND	ND	535	0.004
1/22/2009	25	19	490	ND	ND	42	ND	ND	ND	ND	ND	12	ND	ND	11	ND	599	0.005
2/20/2009	380	91	310	ND	ND	220	ND	ND	ND	ND	ND	68	ND	ND	ND	ND	1,069	0.008
3/18/2009	1,900	69	280	ND	ND	210	ND	ND	ND	ND	ND	190	ND	ND	ND	ND	2,649	0.007
4/17/2009	ND	ND	140	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140	0.002
5/20/2009	200	42	140	ND	ND	110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	492	0.006
6/23/2009	82	130	320	ND	ND	66	ND	ND	ND	ND	ND	ND	ND	ND	18	ND	616	0.007
7/23/2009	890	88	210	ND	ND	250	ND	ND	ND	ND	ND	ND	ND	ND	12	ND	1,450	0.017
8/28/2009	1,100	130	290	ND	ND	330	ND	ND	ND	ND	ND	ND	ND	ND	14	ND	1,864	0.021
9/28/2009	580	38	110	ND	ND	130	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	858	0.010
10/27/2009	180	94	260	ND	ND	170	ND	ND	ND	ND	ND	35	ND	ND	ND	ND	739	0.009
11/24/2009	710	84	210	ND	ND	250	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,254	0.015
12/23/2009	19	30	180	ND	ND	28	ND	ND	ND	ND	ND	29	ND	ND	ND	ND	286	0.003
1/19/2010	16	100	260	ND	ND	190	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	566	0.007
2/17/2010	16	100	110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	226	0.003
3/17/2010	ND	ND	19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	0.000
4/16/2010	600	89	200	ND	ND	260	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	1,163	0.013
5/13/2010	1,300	61	180	12	ND	260	15	ND	55	16	67	ND	ND	ND	13	13	1,992	0.021
6/18/2010	18	ND	19	76	16	20	ND	ND	25	14	ND	ND	ND	ND	ND	ND	188	0.002
7/19/2010	87	24	89	11	ND	74	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	285	0.003
8/19/2010	720	55	210	ND	ND	210	ND	ND	ND	ND	ND	ND	ND	ND	13	ND	1,208	0.012
9/17/2010	430	110	310	ND	ND	330	ND	ND	ND	ND	ND	ND	ND	ND	24	ND	1,204	0.012
10/12/2010	1,000	81	170	ND	ND	400	ND	ND	ND	ND	32	49	ND	ND	17	ND	1,749	0.017
11/2/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0
12/1/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	14	1E-04
1/5/2011	20	ND	24	ND	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	55	5E-04
2/7/2011	53	9	95	ND	ND	13	ND	ND	ND	ND	ND	12	ND	ND	20	ND	202	0.002
3/3/2011	44	8	120	ND	ND	15	ND	ND	18	ND	66	16	ND	ND	13	ND	300	0.003
4/14/2011	48	40	310	ND	ND	110	ND	25	ND	ND	ND	ND	ND	ND	13	ND	546	0.005
5/6/2011	70	51	240	ND	ND	150	ND	ND	ND	ND	ND	34	ND	ND	ND	ND	545	0.005
6/9/2011	440	190	340	ND	ND	760	ND	ND	ND	ND	26	51	ND	23	20	14	1,864	0.018
7/11/2011	320	92	220	ND	ND	320	ND	21	29	10	67	16	ND	ND	ND	11	1,106	0.011
8/3/2011	110	60	170	ND	ND	320	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	660	0.007
9/15/2011	200	35	140	ND	ND	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	545	0.005
10/18/2011	200	27	80	ND	ND	110	ND	ND	ND	ND	22	ND	ND	ND	ND	ND	439	0.004
11/8/2011	330	33	110	ND	ND	130	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	603	0.006
12/6/2011	310	36	140	ND	ND	140	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	626	0.006
1/3/2012	200	19	82	ND	ND	71	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	372	0.004
2/16/2012	430	26	130	ND	ND	120	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	717	0.007
3/15/2012	480	37	210	ND	ND	190	ND	ND	ND	ND	ND	38	ND	ND	ND	ND	955	0.009

TABLE 3
LABORATORY DATA SUMMARY

Building A - Post GAC (ug/m^3)

SSD System O&M, Middle River Complex, Middle River, Maryland
Samples analyzed by EPA Method TO-15

Date	Benzene	1,1,1,-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	cis-1,2-Dichloroethene	Ethylbenzene	Methylene Chloride	m-Xylene & p-Xylene	o-Xylene	Toluene	Trichloroethene	Trichlorofluoromethane	Vinyl chloride	Total VOCs (ug/m3)	Mass (lbs/day)
3/31/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0.000
4/2/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0.000
4/4/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**110**	**110**	**0.001**
4/11/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0.000
4/17/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0.000
4/24/2008	ND	ND	**13**	**470**	ND	ND	**30**	ND	ND	ND	ND	ND	ND	ND	ND	**513**	**0.004**
5/21/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0.000
6/19/2008	**76**	ND	**65**	**2,200**	ND	ND	**67**	ND	ND	ND	ND	ND	ND	ND	ND	**2,408**	**0.015**
8/1/2008	ND	ND	**15**	**300**	ND	ND	**14**	ND	ND	ND	ND	ND	ND	ND	ND	**329**	**0.005**
8/12/2008	ND	ND	**42**	**310**	ND	ND	**55**	ND	**19**	ND	ND	ND	ND	ND	ND	**426**	**0.005**
9/11/2008	ND	**11**	ND	**46**	ND	ND	ND	ND	**18**	ND	ND	ND	ND	ND	ND	**75**	**0.001**
11/18/2008	ND	ND	ND	ND	ND	ND	ND	ND	**61**	ND	ND	ND	ND	ND	ND	**61**	**0.000**
12/18/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0.000
1/22/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0.000
2/20/2009	ND	ND	ND	**110**	ND	ND	**10**	ND	ND	ND	ND	ND	ND	ND	ND	**120**	**0.000**
3/18/2009	ND	ND	ND	**14**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	**0.000**
4/17/2009	ND	**26**	**20**	**53**	ND	ND	**64**	ND	ND	ND	ND	ND	ND	ND	ND	163	**0.001**
5/20/2009	ND	**38**	ND	**46**	ND	ND	**9.9**	ND	ND	ND	ND	ND	ND	ND	ND	**63**	**0.000**
6/23/2009	ND	**44**	ND	ND	ND	ND	**11.0**	ND	ND	ND	ND	ND	ND	ND	ND	55	**0.000**
7/23/2009	ND	ND	**21**	**190**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**211**	**0.002**
8/28/2009	ND	**250**	**29**	**46**	ND	ND	**52**	ND	ND	ND	ND	**7.7**	ND	ND	ND	**385**	**0.003**
9/28/2009	ND	**93**	**19**	**100**	ND	ND	**27**	ND	ND	ND	ND	ND	ND	ND	ND	**239**	**0.002**
10/27/2009	ND	**24**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**40**	ND	ND	ND	**64**	**0.001**
11/24/2009	ND	**21**	ND	**53**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**74**	**0.001**
12/23/2009	ND	**190**	**10**	**11**	ND	ND	**21**	ND	ND	ND	ND	**8.8**	**16**	ND	ND	**257**	**0.003**
1/19/2010	ND	**200**	**10**	**18**	ND	ND	**27**	ND	ND	ND	ND	ND	ND	ND	ND	**255**	**0.003**
2/17/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	**0.000**
3/17/2010	ND	**17**	ND	**20**	ND	ND	**11**	ND	ND	ND	ND	ND	**11**	ND	ND	**59**	**0.001**
4/16/2010	ND	**27**	**9.4**	**330**	ND	ND	**12**	ND	ND	ND	ND	ND	**31**	ND	ND	**409**	**0.004**
5/13/2010	**7.2**	**1,100**	**57.0**	**160**	**33**	ND	**250**	**19**	ND	**77**	**24**	**58**	**24**	**12**	ND	**1,821**	**0.019**
6/18/2010	ND	ND	ND	**90**	**62**	**13**	ND	ND	ND	**16**	**9.3**	ND	ND	ND	ND	**190**	**0.002**
7/19/2010	ND	**40**	ND	**100**	ND	ND	**8.7**	ND	ND	ND	ND	ND	**16**	ND	ND	**165**	**0.002**
8/19/2010	ND	**41**	**47**	**270**	ND	ND	**90**	ND	ND	ND	ND	ND	ND	**15**	ND	**463**	**0.005**
9/17/2010	ND	**120**	**39**	**260**	ND	ND	**88**	ND	ND	ND	ND	ND	ND	ND	ND	**507**	**0.01**
10/12/2010	ND	**360**	**10**	**58**	ND	ND	**81**	ND	ND	ND	ND	**16**	**30**	**17**	ND	**572**	**0.01**
11/2/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	**0.000**
12/1/2010	ND	**14.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**14**	**0.000**
1/5/2011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	**0.000**
2/7/2011	ND	ND	ND	**24**	ND	ND	ND	ND	ND	ND	ND	ND	**14**	**21**	ND	**59**	**0.000**
3/3/2011	**120**	ND	ND	**25**	ND	ND	ND	ND	ND	**23**	ND	**58**	ND	**19**	ND	**245**	**0.002**
4/14/2011	ND	ND	ND	**110**	ND	ND	ND	ND	**23**	**11**	ND	**55**	ND	ND	ND	**199**	**0.002**
5/6/2011	ND	**21**	ND	**170**	ND	ND	**8.8**	ND	ND	ND	ND	ND	**19**	ND	ND	**219**	**0.002**
6/9/2011	ND	**34**	**91**	**580**	ND	ND	**59.0**	ND	ND	ND	ND	**30**	ND	**19**	ND	**813**	**0.008**
7/11/2011	ND	**26**	ND	ND	ND	ND	ND	**13**	**21**	**43**	**17**	**100**	ND	ND	ND	**220**	**0.002**
8/3/2011	ND	**20**	ND	**19**	ND	ND	ND	ND	ND	ND	ND	**11**	ND	ND	ND	**50**	**0.001**
9/15/2011	ND	**12**	**41**	**150**	ND	ND	**100**	ND	ND	ND	ND	ND	ND	ND	ND	**303**	**0.003**
10/18/2011	ND	ND	**35**	**77**	ND	ND	**130**	ND	ND	ND	ND	**25**	ND	ND	ND	**267**	**0.003**
11/8/2011	ND	**15**	**39**	**95**	ND	ND	**150**	ND	ND	ND	ND	ND	ND	ND	ND	**299**	**0.003**
12/6/2011	ND	**16**	**37**	**110**	ND	ND	**150**	ND	ND	ND	ND	ND	ND	ND	ND	**313**	**0.003**
1/3/2012	ND	**20**	**15**	**67**	ND	ND	**56**	ND	ND	ND	ND	ND	**11**	ND	ND	**169**	**0.002**
2/16/2012	ND	**52**	**24**	**100**	ND	ND	**85**	ND	ND	ND	ND	ND	ND	ND	ND	**261**	**0.003**
3/15/2012	ND	**45**	**19**	**100**	ND	ND	**82**	ND	ND	ND	ND	ND	ND	ND	ND	**246**	**0.002**

TABLE 4

LABORATORY DATA SUMMARY

Building C - Pre GAC (ug/m^3)

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	FLOW (scfm)	Benzene	Chloroform	1,1,1,-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	cis-1,2-Dichloroethene	Ethylbenzene	Methylene chloride	m-Xylene & p-Xylene	o-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Vinyl chloride	Total VOCs (ug/m3)	Mass (lbs/day)	Removal in Time Period
3/31/2008	55	ND	ND	ND	ND	ND	**990**	**740**	**25,000**	**320**	ND	**1,100**	**370**	**1**	ND	**550**	**2,100**	**31,171**	**0.1500**	0.450
4/2/2008	57	ND	ND	ND	ND	ND	**63**	**56**	**2,700**	ND	ND	**65**	ND	**1**	ND	**84**	**320**	**3,289**	**0.0200**	0.040
4/4/2008	60	ND	ND	ND	ND	**32**	**180**	**170**	**6,600**	**44**	ND	**180**	**68**	**1**	ND	**440**	**690**	**8,405**	**0.0500**	0.350
4/11/2008	65	ND	ND	ND	ND	ND	**73**	**61**	**4,100**	ND	ND	**48**	ND	**1**	ND	**600**	**370**	**5,253**	**0.0300**	0.180
4/17/2008	60	ND	ND	ND	ND	ND	**69**	**55**	**2,900**	ND	ND	**34**	ND	**1**	ND	**670**	**190**	**3,919**	**0.0200**	0.140
4/24/2008	63	ND	ND	ND	ND	ND	**85**	**70**	**2,600**	ND	ND	**32**	**17**	**28**	ND	**750**	**130**	**3,712**	**0.0200**	0.540
5/21/2008	60	ND	ND	ND	ND	ND	**65**	**51**	**1,600**	ND	ND	**15**	ND	**17**	ND	**650**	**41**	**2,439**	**0.0100**	0.310
6/19/2008	60	**7.4**	ND	ND	ND	ND	**23**	**19**	**300**	ND	ND	**9**	ND	**1**	**110**	**1**	**8**	**478**	**0.0030**	0.090
7/18/2008	54	ND	ND	ND	ND	ND	**45**	**36**	**1,300**	ND	ND	ND	ND	**14**	ND	**440**	**35**	**1,870**	**0.0090**	0.279
8/13/2008	60	ND	**16**	ND	ND	ND	ND	ND	**410**	ND	ND	ND	ND	**1**	ND	**58**	**13**	**498**	**0.0030**	0.093
9/11/2008	60	ND	ND	**13**	ND	ND	ND	ND	**730**	ND	**18**	ND	ND	**1**	ND	**130**	**20**	**912**	**0.0050**	0.305
11/12/2008	62	ND	ND	ND	ND	ND	ND	ND	**390**	ND	ND	ND	ND	**1**	ND	**110**	**17**	**518**	**0.0029**	0.086
12/18/2008	66	ND	ND	ND	ND	ND	ND	ND	**420**	ND	ND	ND	ND	**1**	ND	**150**	**22**	**593**	**0.0035**	0.105
1/22/2009	67	ND	ND	ND	ND	ND	**37**	**29**	**810**	ND	ND	**17**	**14**	**170**	ND	**580**	**38**	**1,695**	**0.0102**	0.306
2/21/2009	65	ND	ND	ND	ND	ND	**39**	**34**	**630**	ND	ND	**16**	**12**	**140**	ND	**270**	**25**	**1,166**	**0.0068**	0.204
3/18/2009	66	ND	ND	ND	ND	ND	**62**	**51**	**460**	ND	ND	**14**	**13**	**160**	ND	**350**	**16**	**1,126**	**0.0067**	0.200
4/17/2009	66	ND	ND	ND	ND	ND	**19**	**16**	**200**	ND	ND	ND	ND	**46**	ND	**86**	**6.1**	**373**	**0.0022**	0.066
5/20/2009	64	ND	ND	ND	ND	ND	**14**	**14**	**210**	ND	ND	ND	ND	**24**	ND	**79**	**5.7**	**347**	**0.0020**	0.060
6/23/2009	56	ND	ND	ND	ND	ND	ND	ND	**190**	ND	ND	ND	ND	**1**	ND	**58**	**1.0**	**250**	**0.0012**	0.037
7/23/2009	60	ND	ND	ND	ND	ND	ND	ND	**150**	ND	ND	ND	ND	**1**	ND	**55**	**1.0**	**207**	**0.0011**	0.033
8/28/2009	NA	ND	ND	ND	ND	ND	ND	ND	**720**	ND	**17**	ND	ND	**1**	ND	**160**	**13**	**911**	**0.0049**	0.147
9/28/2009	NA	ND	ND	ND	ND	ND	ND	ND	**39**	ND	**110**	ND	ND	**1**	ND	**16**	**1**	**167**	**0.0009**	0.027
10/27/2009	60	ND	ND	ND	ND	ND	ND	ND	**200**	ND	ND	ND	ND	**1**	ND	**64**	**1**	**266**	**0.0014**	0.043
11/24/2009	60	ND	ND	ND	ND	ND	ND	ND	**190**	ND	ND	ND	ND	**1**	ND	**75**	**1**	**267**	**0.0014**	0.043
12/23/2009	65	ND	ND	ND	ND	ND	ND	ND	**96**	ND	ND	**8.7**	ND	**1**	**26**	**45**	**1**	**178**	**0.0010**	0.031
1/19/2010	65	ND	ND	ND	ND	ND	ND	ND	**140**	ND	ND	ND	ND	**1**	ND	**57**	**1**	**199**	**0.0011**	0.034
2/17/2010	68	ND	ND	ND	ND	ND	ND	ND	**100**	ND	ND	ND	ND	**1**	ND	**37**	**1**	**139**	**0.0008**	0.025
3/17/2010	65	ND	ND	ND	ND	ND	ND	ND	**87**	ND	ND	ND	ND	**1**	ND	**33**	**1**	**122**	**0.0010**	0.030
4/16/2010	65	ND	ND	ND	ND	ND	ND	ND	**110**	ND	ND	ND	ND	**1**	ND	**39**	**1**	**151**	**0.0016**	0.027
5/13/2010	68	**58**	ND	ND	ND	ND	**25**	ND	**65**	**38**	**ND**	**140**	**39**	**1**	**220**	**22**	**1**	**609**	**0.0037**	0.110
6/18/2010	66	ND	ND	ND	ND	ND	**83**	**17**	**72**	ND	ND	**30**	**17**	**1**	ND	**25**	**1**	**246**	**0.0014**	0.045
7/19/2010	60	ND	ND	ND	ND	ND	ND	ND	**68**	ND	ND	ND	ND	**1**	ND	**34**	**1**	**104**	**0.0006**	0.019
8/19/2010	61	ND	ND	ND	ND	ND	ND	ND	**100**	ND	ND	ND	ND	**1**	ND	**31**	**1**	**133**	**0.0007**	0.024
9/17/2010	63	ND	ND	ND	ND	ND	ND	ND	**70**	ND	ND	ND	ND	**1**	ND	**33**	**1**	**105**	**0.0006**	0.019
10/12/2010	60	**10**	ND	**110.0**	ND	ND	ND	ND	**160**	**11**	ND	**23**	ND	**1**	**130**	**70**	**1**	**516**	**0.0028**	0.083
11/2/2010	65	ND	ND	ND	ND	ND	ND	ND	**65**	ND	ND	ND	ND	**1**	ND	**35**	**1**	**102**	**0.0006**	0.018
12/1/2010	65	ND	ND	ND	ND	ND	ND	ND	**120**	ND	ND	ND	ND	**19**	ND	**89**	**1**	**229**	**0.0013**	0.040
1/5/2011	68	ND	ND	ND	ND	ND	ND	ND	**160**	ND	ND	ND	ND	**94**	**8**	**250**	**9**	**520**	**0.0032**	0.095
2/7/2011	70	ND	ND	ND	ND	ND	ND	ND	**180**	ND	ND	ND	ND	**120**	ND	**270**	**1**	**571**	**0.0036**	0.108
3/3/2011	69	ND	ND	ND	ND	ND	ND	ND	**170**	ND	ND	ND	ND	**110**	**34**	**180**	**1**	**495**	**0.0031**	0.092
4/14/2011	65	ND	ND	ND	ND	ND	ND	ND	**130**	ND	ND	ND	ND	**37**	**10**	**90**	**1**	**268**	**0.0016**	0.047
5/6/2011	70	**8**	ND	ND	ND	ND	ND	ND	**100**	**16**	ND	**9**	ND	**19**	ND	**82**	**1**	**235**	**0.0015**	0.046
6/9/2011	55	**26**	ND	ND	ND	ND	ND	ND	**97**	ND	ND	ND	ND	**1**	**14**	**63**	**1**	**202**	**0.0010**	0.030
7/11/2011	51	**20**	ND	ND	ND	ND	ND	ND	**74**	ND	**37**	**21**	ND	**1**	**62**	**26**	**1**	**242**	**0.0011**	0.033
8/3/2011	50	**14**	ND	ND	ND	ND	ND	ND	**76**	ND	ND	ND	ND	**1**	ND	**34**	**1**	**126**	**0.0006**	0.017
9/15/2011	48	**10**	ND	ND	ND	ND	ND	ND	**22**	ND	ND	ND	ND	**1**	ND	1	**1**	**35**	**0.0002**	0.005
10/25/2011	55	ND	ND	ND	ND	ND	ND	ND	**38**	ND	**27**	**11**	ND	**1**	**20**	1	**1**	**99**	**0.0005**	0.015
11/8/2011	55	**12**	ND	ND	ND	ND	ND	ND	**45**	ND	ND	ND	ND	**1**	ND	**16**	**1**	**75**	**0.0004**	0.011
12/6/2011	55	ND	ND	ND	ND	ND	ND	ND	**62**	ND	ND	ND	ND	**1**	ND	**21**	**1**	**85**	**0.0004**	0.013
1/3/2012	50	ND	ND	ND	ND	ND	ND	ND	**55**	ND	ND	ND	ND	ND	ND	**21**	ND	**76**	**0.0003**	0.011
2/16/2012	54	ND	ND	ND	ND	ND	ND	ND	**76**	ND	ND	ND	ND	ND	ND	**43**	ND	**119**	**0.0006**	0.018
3/15/2012	55	ND	ND	ND	ND	ND	ND	ND	**93**	ND	ND	ND	ND	**16**	ND	**58**	ND	**167**	**0.0008**	0.026

TABLE 5

LABORATORY DATA SUMMARY

Building C - Mid GAC (ug/m^3)

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	Benzene	1,1,1,-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	cis-1,2-Dichloroethene	Ethylbenzene	Methylene chloride	m-Xylene & p-Xylene	o-Xylene	Toluene	Trichloroethene	Vinyl chloride	Total VOCs (ug/m3)	Mass (lbs/day)
4/2/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**720**	**720**	**0.004**
4/24/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**230**	**230**	**0.001**
5/21/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**50**	**50**	**0.000**
6/19/2008	**28**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**51**	**79**	**0.000**
7/18/2008	ND	ND	ND	ND	ND	ND	**150**	ND	ND	ND	ND	ND	ND	**40**	**190**	**0.001**
8/13/2008	ND	ND	ND	ND	ND	ND	**750**	ND	ND	ND	ND	ND	ND	**15**	**765**	**0.004**
9/11/2008	ND	ND	ND	ND	ND	ND	**13**	ND	ND	ND	ND	ND	ND	**10**	**23**	**0.000**
11/12/2008	ND	ND	ND	ND	ND	ND	**160**	ND	**50**	ND	ND	ND	ND	**17**	**227**	**0.001**
12/18/2008	ND	ND	ND	ND	ND	ND	**180**	ND	ND	ND	ND	ND	ND	**25**	**205**	**0.001**
1/22/2009	ND	ND	ND	ND	ND	ND	**13**	ND	ND	ND	ND	ND	ND	**35**	**48**	**0.000**
2/20/2009	ND	ND	ND	ND	ND	ND	**14**	ND	ND	ND	ND	ND	ND	**15**	**29**	**0.000**
3/18/2009	ND	ND	ND	ND	ND	ND	**100**	ND	ND	ND	ND	ND	ND	**19**	**119**	**0.001**
4/17/2009	ND	ND	ND	ND	ND	ND	**340**	ND	ND	ND	ND	ND	ND	**7.1**	**347**	**0.002**
5/20/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
6/23/2009	ND	ND	ND	ND	ND	ND	**70**	ND	ND	ND	ND	ND	ND	**5.2**	**75**	**0.000**
7/23/2009	ND	ND	ND	ND	ND	ND	**360**	ND	**21**	ND	ND	ND	ND	ND	**381**	**0.002**
8/28/2009	ND	ND	ND	ND	ND	ND	ND	ND	**20**	ND	ND	ND	ND	ND	**20**	**0.000**
9/28/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
10/27/2009	ND	ND	ND	ND	ND	ND	**13**	ND	ND	ND	ND	ND	ND	ND	**13**	**0.000**
11/24/2009	ND	ND	ND	ND	ND	ND	**23**	ND	ND	ND	ND	ND	ND	ND	**23**	**0.000**
12/23/2009	ND	ND	ND	ND	ND	ND	**23**	ND	ND	ND	ND	**13**	ND	ND	**36**	**0.000**
1/19/2010	ND	ND	ND	ND	ND	ND	**21**	ND	ND	ND	ND	ND	ND	ND	**21**	**0.000**
2/17/2010	ND	ND	ND	ND	ND	ND	**23**	ND	ND	ND	ND	ND	ND	ND	**23**	**0.000**
3/17/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	**0.000**
4/16/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	**0.000**
5/13/2010	**15**	ND	ND	ND	ND	ND	**9.6**	**9.8**	ND	**36**	**10**	**51**	ND	ND	**131**	**0.001**
6/18/2010	ND	ND	ND	ND	**79**	**16**	ND	ND	ND	**26**	**15**	ND	ND	ND	**136**	**0.001**
7/19/2010	**11**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**11**	**0.000**
8/19/2010	ND	ND	ND	ND	ND	ND	**15**	ND	ND	ND	ND	ND	ND	ND	**15**	**0.000**
9/17/2010	**35**	ND	ND	ND	ND	ND	**26**	ND	ND	ND	ND	ND	ND	ND	**61**	**0.000**
10/12/2010	ND	**24**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**12**	ND	ND	**36**	**0.000**
11/2/2010	ND	ND	ND	ND	**12**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**12**	**0.000**
12/1/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	**0.000**
1/5/2011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**9**	**9**	**0.000**
2/7/2011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	**0.000**
3/3/2011	ND	ND	ND	ND	ND	ND	**20**	ND	ND	ND	ND	ND	ND	ND	**20**	**0.000**
4/14/2011	ND	ND	ND	ND	ND	ND	**180**	ND	ND	ND	ND	ND	ND	ND	**180**	**0.000**
5/6/2011	ND	ND	ND	ND	ND	ND	ND	**11**	ND	ND	ND	ND	ND	ND	**11**	**0.000**
6/9/2011	**32**	ND	ND	ND	ND	ND	**17**	ND	ND	ND	ND	**13**	ND	ND	**62**	**0.000**
7/11/2011	**29**	ND	ND	ND	ND	ND	**160**	ND	**28**	**24**	**8.9**	**74**	ND	ND	**324**	**0.000**
8/3/2011	**25**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25**	**0.000**
9/15/2011	**22**	ND	ND	ND	ND	ND	**12**	ND	ND	ND	ND	ND	ND	ND	**34**	**0.000**
10/25/2011	**16**	ND	ND	ND	ND	ND	**19**	ND	**24**	**13**	ND	**20**	ND	ND	**92**	**0.000**
11/8/2011	**16**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**16**	**0.000**
12/6/2011	**8.4**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**8.4**	**0.000**
1/3/2012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0**	**0.000**
2/16/2012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0**	**0.000**
3/15/2012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0**	**0.000**

TABLE 6

LABORATORY DATA SUMMARY

Building C - Post GAC (ug/m^3)

SSD System O&M, Middle River Complex, Middle River, Maryland

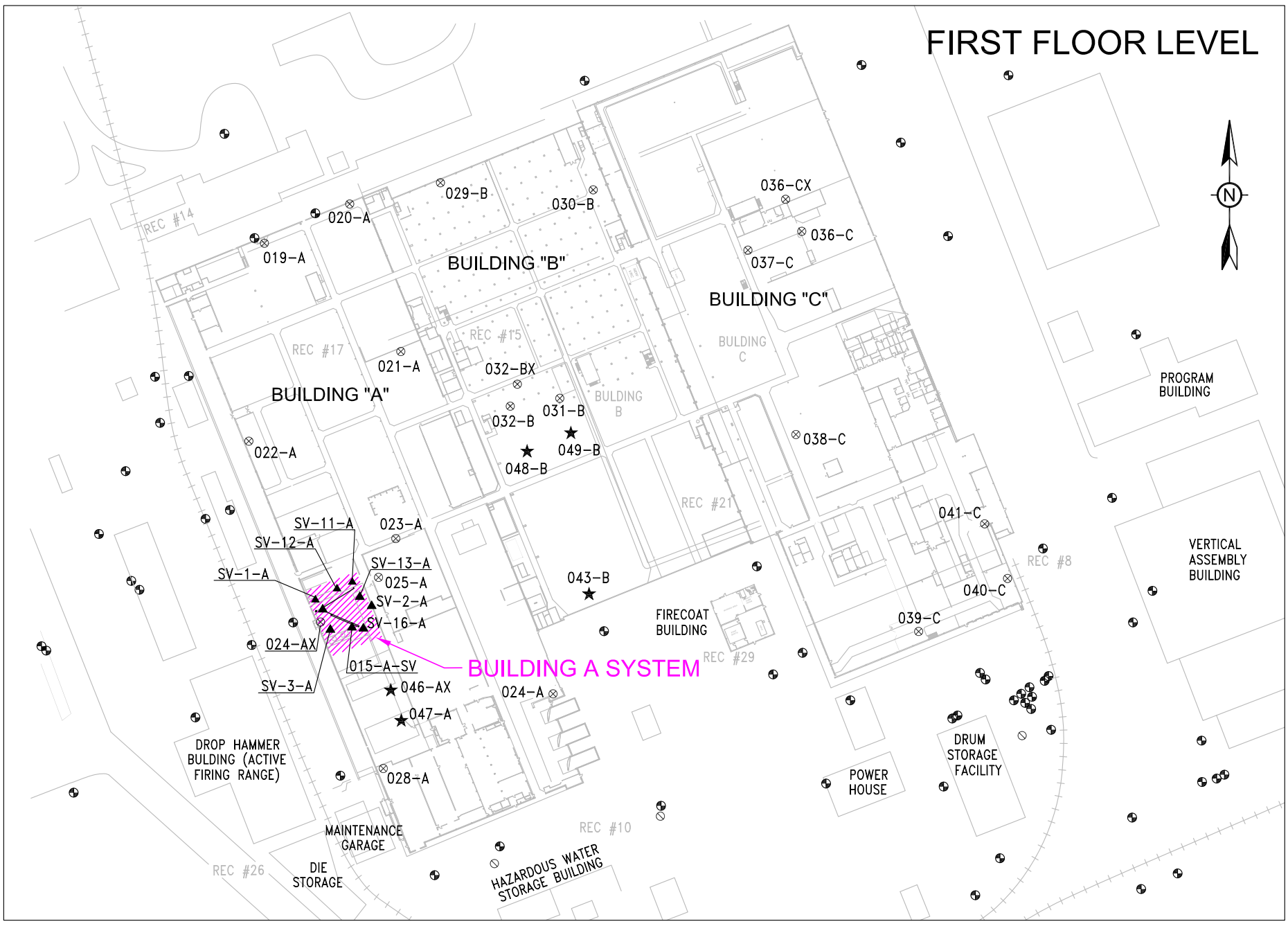
Samples analyzed by EPA Method TO-15

Date	Benzene	1,1,1,-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	cis-1,2-Dichloroethene	Ethylbenzene	Methylene chloride	m-Xylene & p-Xylene	o-Xylene	Toluene	Trichloroethene	Vinyl chloride	Total VOCs (ug/m3)	Mass (lbs/day)
3/31/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0.000
4/2/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**170**	**170**	**0.001**
4/4/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**360**	**360**	**0.002**
4/11/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25**	**550**	**575**	**0.003**
4/17/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**100**	**100**	**0.001**
4/24/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**260**	**260**	**0.001**
5/23/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**52**	**52**	**0.000**
6/19/2008	**51**	ND	ND	ND	ND	ND	ND	ND	**50**	ND	ND	ND	ND	**54**	**155**	**0.001**
7/18/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**29**	**29**	**0.000**
8/13/2008	ND	ND	ND	ND	**10**	ND	ND	ND	ND	ND	ND	ND	ND	**16**	**26**	**0.000**
9/11/2008	ND	ND	ND	ND	ND	ND	ND	ND	**63**	ND	ND	**28**	ND	**6.1**	**97**	**0.001**
11/12/2008	ND	ND	ND	ND	ND	ND	ND	ND	**47**	ND	ND	ND	ND	**16**	**63**	**0.000**
12/18/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**31**	**31**	**0.000**
2/4/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**29**	**29**	**0.000**
2/20/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**6.8**	**7**	**0.000**
3/18/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**26**	**26**	**0.000**
4/17/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**8.9**	**9**	**0.000**
5/20/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
6/23/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	**9.4**	ND	ND	ND	**5.5**	**15**	**0.000**
7/23/2009	ND	ND	ND	ND	ND	ND	ND	ND	**29**	ND	ND	ND	ND	ND	**29**	**0.000**
8/28/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
9/28/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
10/27/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
11/24/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
12/23/2009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**	ND	ND	**10**	0.000
1/19/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
2/17/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
3/17/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
4/16/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
5/13/2010	**36**	ND	ND	ND	**17**	ND	ND	**24**	**31**	**89**	**25**	**140**	ND	ND	**362**	0.002
6/18/2010	ND	ND	ND	ND	**68**	**16**	ND	ND	ND	**28**	**16**	ND	ND	ND	**128**	0.001
7/19/2010	**10**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**	0.000
8/19/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
9/17/2010	**13**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**13**	0.000
10/12/2010	ND	**110**	ND	ND	ND	ND	**21**	ND	ND	ND	ND	**42**	**25**	ND	**198**	0.000
11/2/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
12/1/2010	ND	**24**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**24**	0.000
1/5/2011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**12**	**12**	0.000
2/7/2011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**	**5**	0.000
3/3/2011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
4/14/2011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**13**	ND	ND	**13**	0.000
5/6/2011	ND	ND	ND	ND	ND	ND	ND	**11**	ND	ND	ND	ND	**15**	ND	**26**	0.000
6/9/2011	**8.4**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**8.9**	ND	ND	**17**	0.000
7/11/2011	**9.5**	ND	ND	ND	ND	ND	ND	ND	**75**	**21**	ND	**61**	ND	ND	**167**	0.000
8/3/2011	ND	ND	ND	ND	ND	ND	ND	ND	**21**	ND	ND	ND	ND	ND	**21**	0.000
9/15/2011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
10/25/2011	ND	ND	ND	ND	ND	ND	ND	ND	**23**	**11**	ND	**21**	ND	ND	**55**	0.000
11/8/2011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
12/6/2011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
1/3/2012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
2/16/2012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000
3/15/2012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0**	0.000

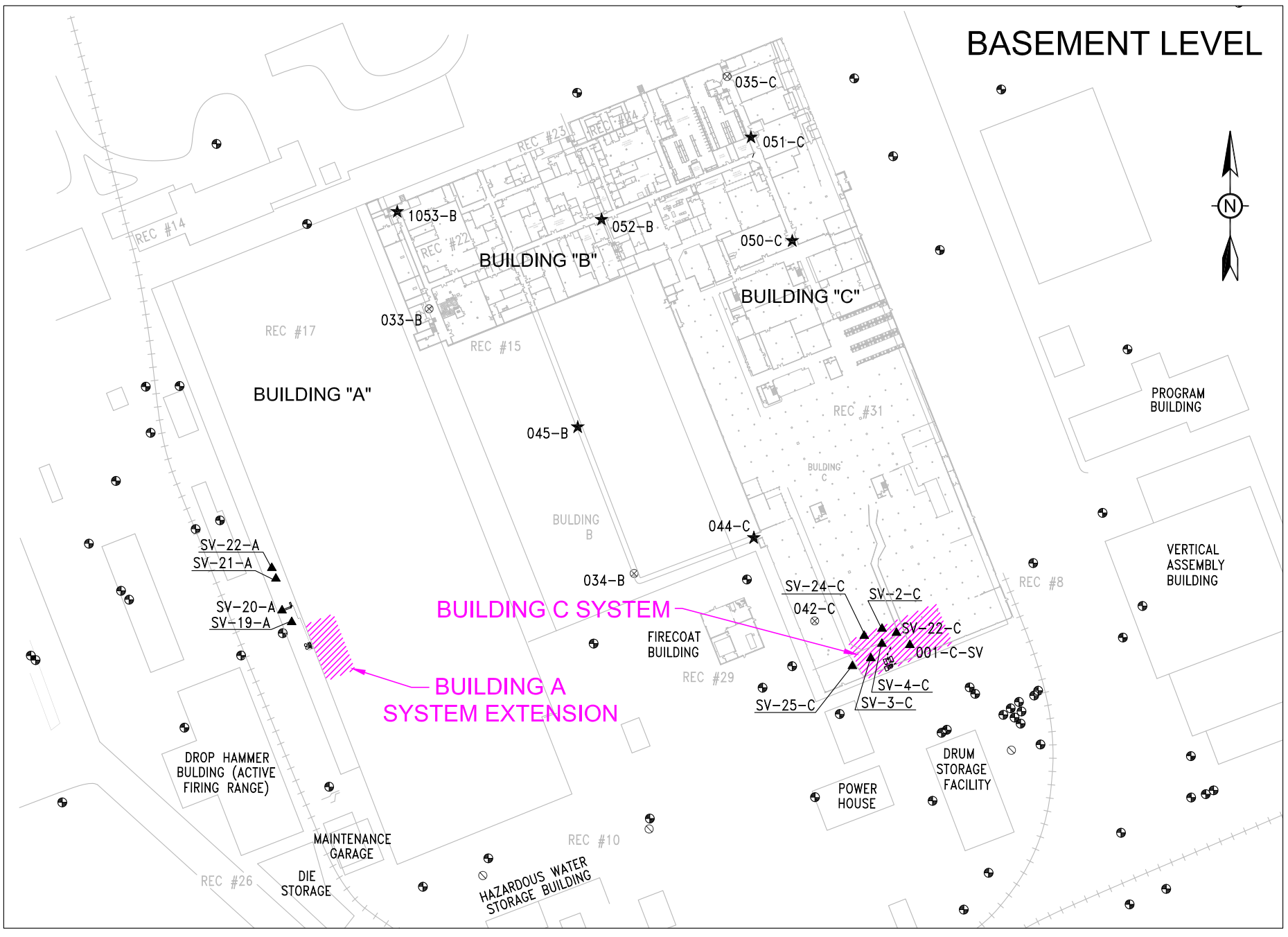
FIGURES

P:\ACAD\0507-481-MRIV\0507481005A.DWG

FIRST FLOOR LEVEL



BASEMENT LEVEL



0 200 400

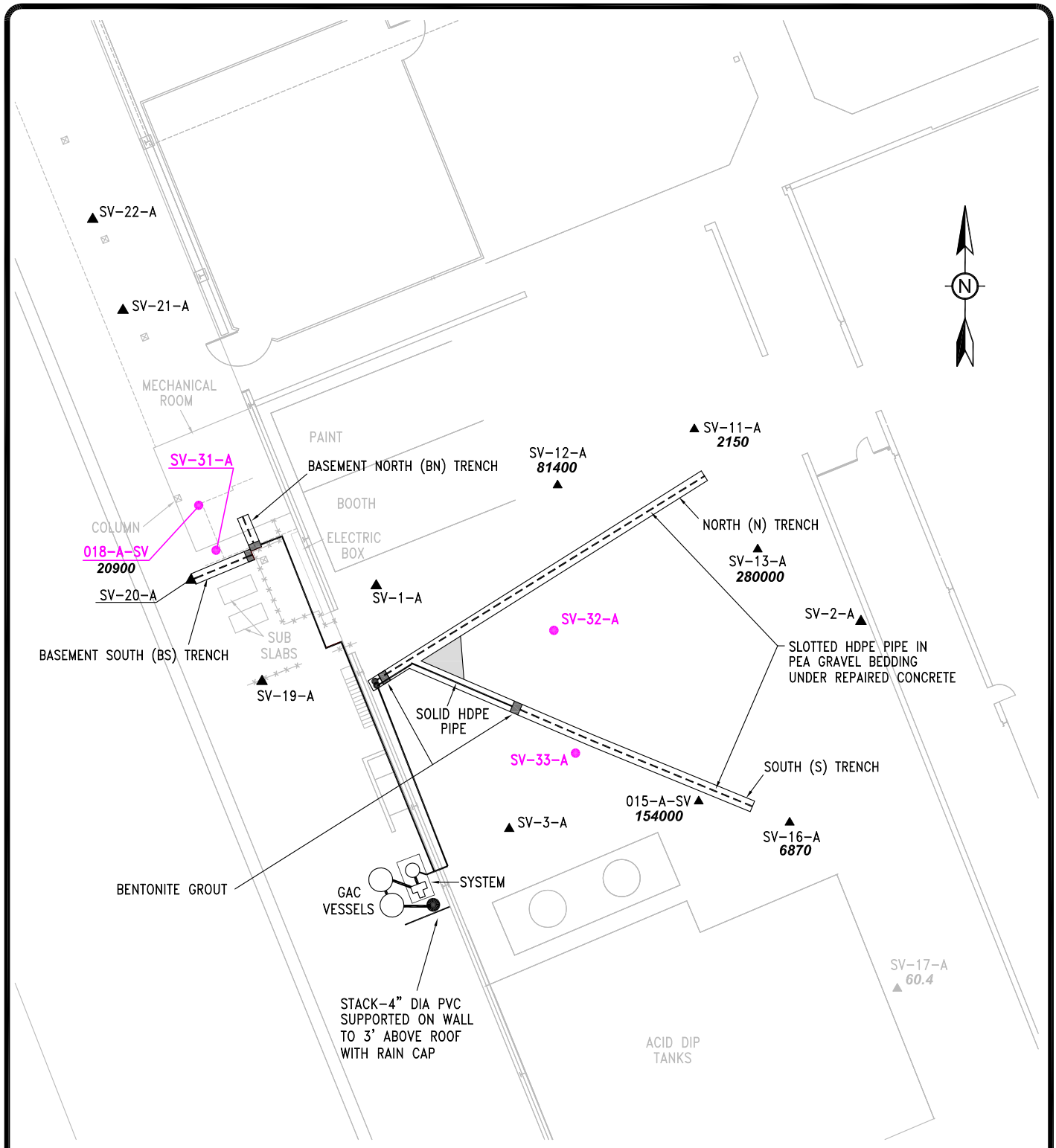
SCALE IN FEET

TITLE:	SSD SYSTEM LOCATIONS
LOCATION:	Middle River, Maryland

Tetra Tech

CHECKED	PR
DRAFTED	CP
FILE	0507481005A.DWG
DATE	1-24-12

FIGURE: 1



LEGEND

- GROUNDWATER MONITORING WELL
- SUBSLAB VAPOR MONITORING POINT
- SUBSLAB VAPOR EXTRACTION POINT (USED IN PILOT TEST ONLY)
- ***154000*** TCE CONCENTRATIONS (ug/mg^3) FROM APRIL 2006

0 25 50

SCALE IN FEET

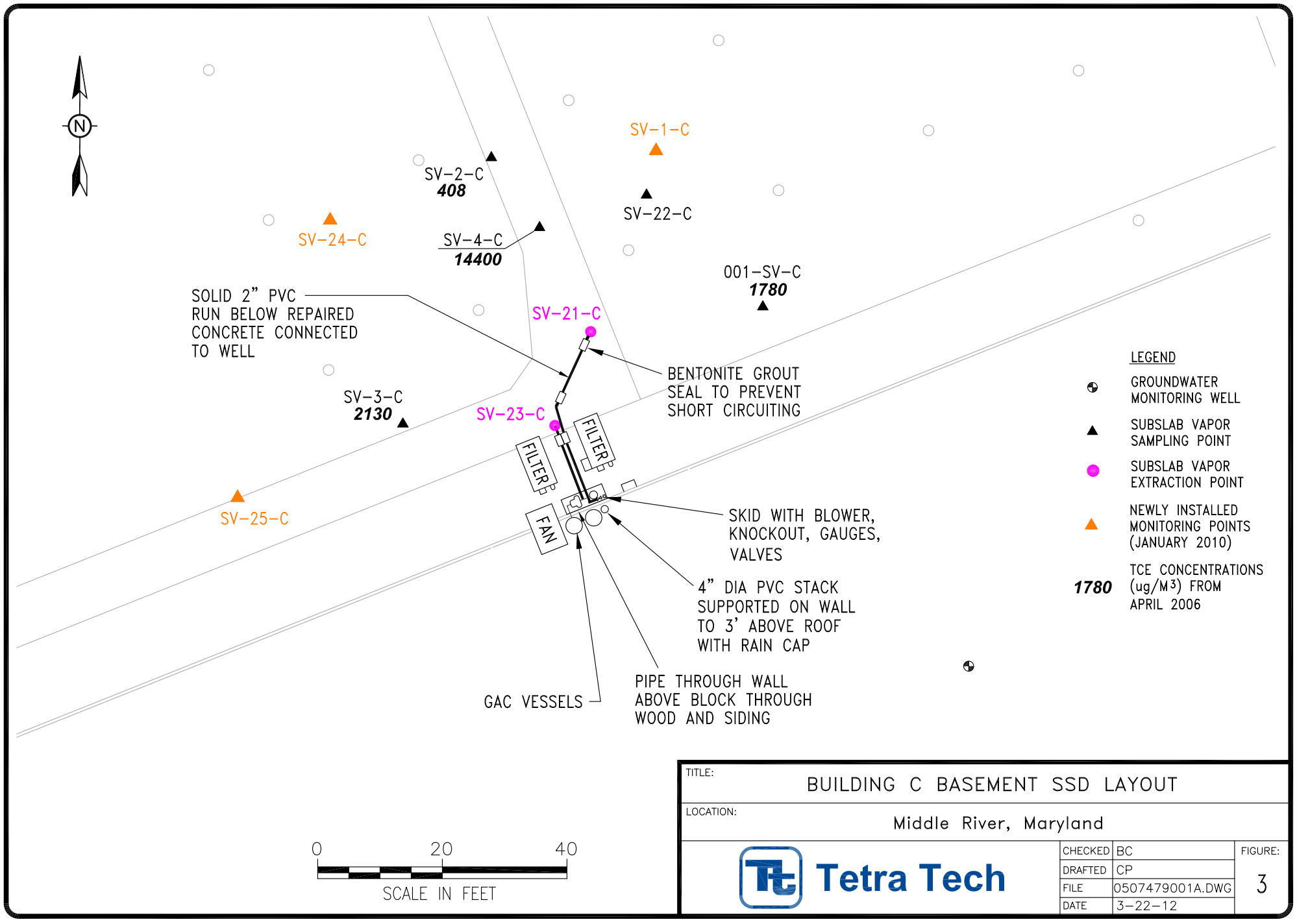
TITLE: BUILDING A SSD SYSTEM LAYOUT

LOCATION: Middle River, Maryland

Tetra Tech

CHECKED	PR
DRAFTED	CP
FILE	0507481006A.DWG
DATE	1-18-12

FIGURE: 2



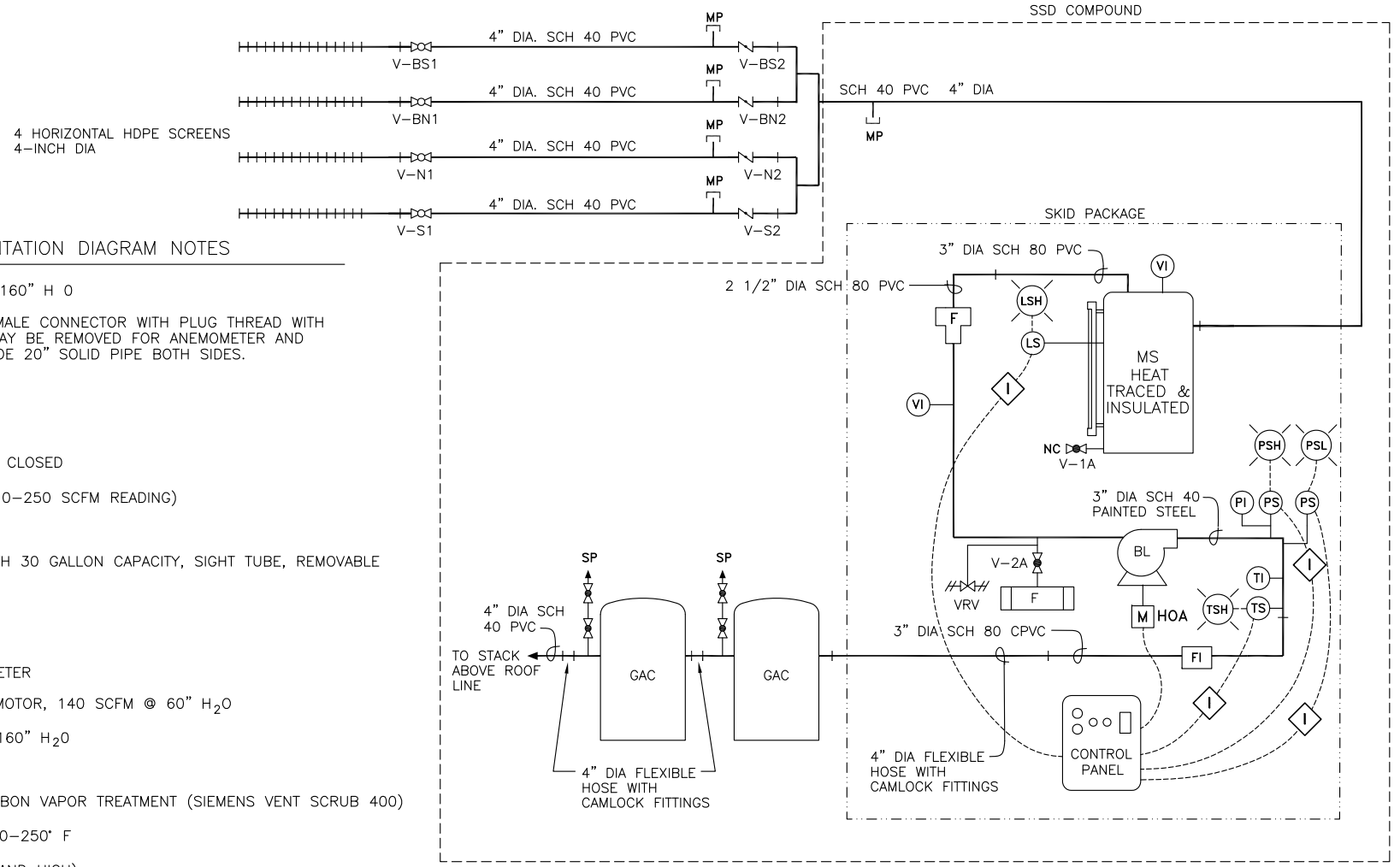
TITLE: BUILDING C BASEMENT SSD LAYOUT

LOCATION: Middle River, Maryland

Tetra Tech

CHECKED	BC
DRAFTED	CP
FILE	0507479001A.DWG
DATE	3-22-12

FIGURE: 3



PROCESS AND INSTRUMENTATION DIAGRAM NOTES

VI	VACUUM INDICATOR – 0–160" H 0
MP	MEASURING POINT 1/4" MALE CONNECTOR WITH PLUG THREAD WITH TEFLON TAPE. FITTING MAY BE REMOVED FOR ANEMOMETER AND VACUUM READINGS PROVIDE 20" SOLID PIPE BOTH SIDES.
	BUTTERFLY VALVE
	BALL VALVE
	BALL VALVE – NORMALLY CLOSED
FI	FLOW INDICATOR (DIRECT 0–250 SCFM READING)
F	INLET AIR FILTER
MS	MOISTURE SEPARATOR WITH 30 GALLON CAPACITY, SIGHT TUBE, REMOVABLE TOP, DRAIN VALVE
LS	LEVEL SWITCH
VRV	VACUUM RELIEF VALVE
SP	SAMPLE PORT 1/4" DIAMETER
BL	ROTRON DR833, 10 HP MOTOR, 140 SCFM @ 60" H_2O
PI	PRESSURE INDICATOR 0–160" H_2O
TS	TEMPERATURE SWITCH
GAC	GRANULAR ACTIVATED CARBON VAPOR TREATMENT (SIEMENS VENT SCRUB 400)
TI	TEMPERATURE INDICATOR 0–250° F
PS	PRESSURE SWITCH (LOW AND HIGH)
V–N1	PROCESS VALVE LABELS
HOA	PANEL MOUNTED HAND/OFF/AUTO SWITCH FOR BLOWER
I	INTERLOCK BLOWER SHUTDOWN
	LOCALLY MOUNTED INSTRUMENT
	PANEL ALARM LIGHT
H	HIGH
L	LOW

TITLE:

BUILDING A SSD SYSTEM
PROCESS AND INSTRUMENTATION DIAGRAM

LOCATION: Middle River, Maryland

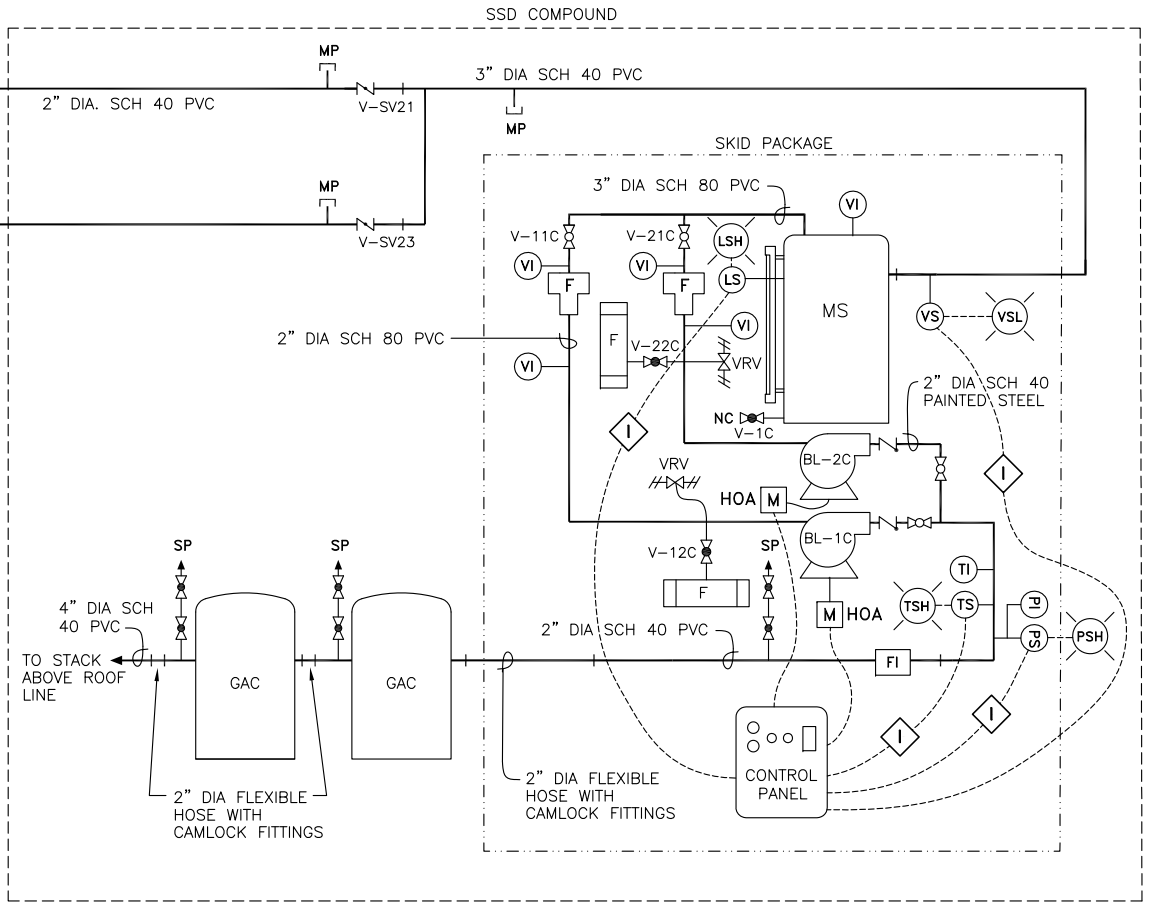
Tetra Tech

CHECKED	PR
DRAFTED	CP
FILE	0507479002A.DWG
DATE	3–22–12

FIGURE: 4

PROCESS AND INSTRUMENTATION DIAGRAM NOTES

VI	VACUUM INDICATOR – 0–160" H 0
MP	MEASURING POINT 1/4" MALE CONNECTOR WITH PLUG THREAD WITH TEFLON TAPE. FITTING MAY BE REMOVED FOR ANEMOMETER AND VACUUM READINGS PROVIDE 20" SOLID PIPE BOTH SIDES.
	BUTTERFLY VALVE
	BALL VALVE
	BALL VALVE – NORMALLY CLOSED
	CHECK VALVE
FI	FLOW INDICATOR (DIRECT 0–125 SCFM READING)
F	INLET AIR FILTER
MS	MOISTURE SEPARATOR WITH 30 GALLON CAPACITY, SIGHT TUBE, REMOVABLE TOP, DRAIN VALVE
LS	LEVEL SWITCH
VRV	VACUUM RELIEF VALVE
SP	SAMPLE PORT 1/4" DIAMETER
BL	ROTRON DR523, 3 HP MOTOR, 30 SCFM @ 80" H_2O
PI	PRESSURE INDICATOR 0–160" H_2O
TS	TEMPERATURE SWITCH
GAC	GRANULAR ACTIVATED CARBON VAPOR TREATMENT (SIEMENS VENT SCRUB 200)
TI	TEMPERATURE INDICATOR 0–250° F
PS	PRESSURE SWITCH (HIGH)
VS	VACUUM SWITCH (LOW)
V–SV21	PROCESS VALVE LABELS
HOA	PANEL MOUNTED HAND/OFF/AUTO SWITCH FOR BLOWER
I	INTERLOCK BLOWER SHUTDOWN
	LOCALLY MOUNTED INSTRUMENT
	PANEL ALARM LIGHT
H	HIGH
L	LOW



TITLE:

BUILDING C SSD SYSTEM
PROCESS AND INSTRUMENTATION DIAGRAM

LOCATION: Middle River, Maryland

Tetra Tech

CHECKED	PR
DRAFTED	CP
FILE	0507497003A.DWG
DATE	3–22–12

FIGURE: 5

FIGURE 6
INDUCED VACUUM
BUILDING A SSD SYSTEM

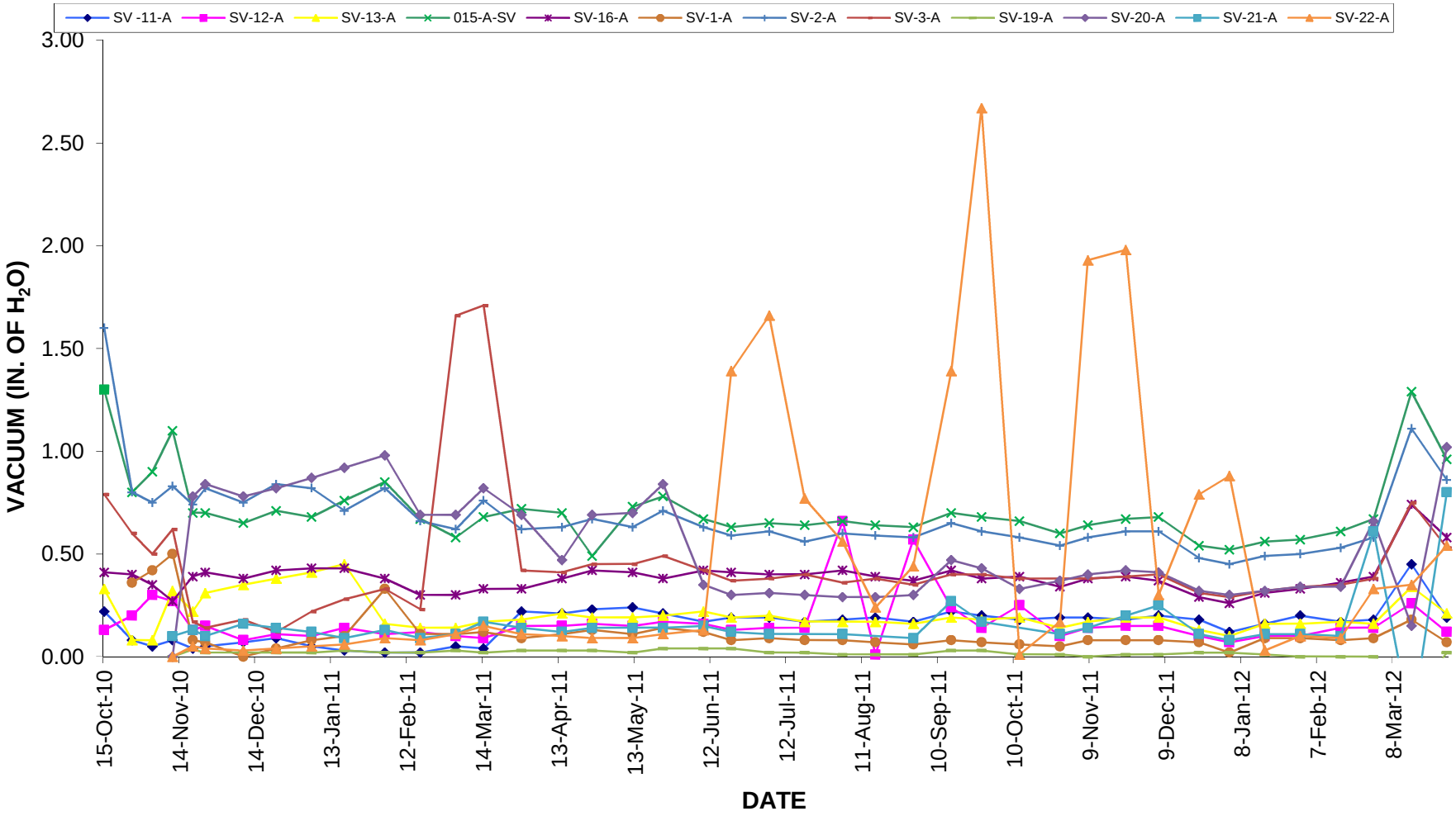
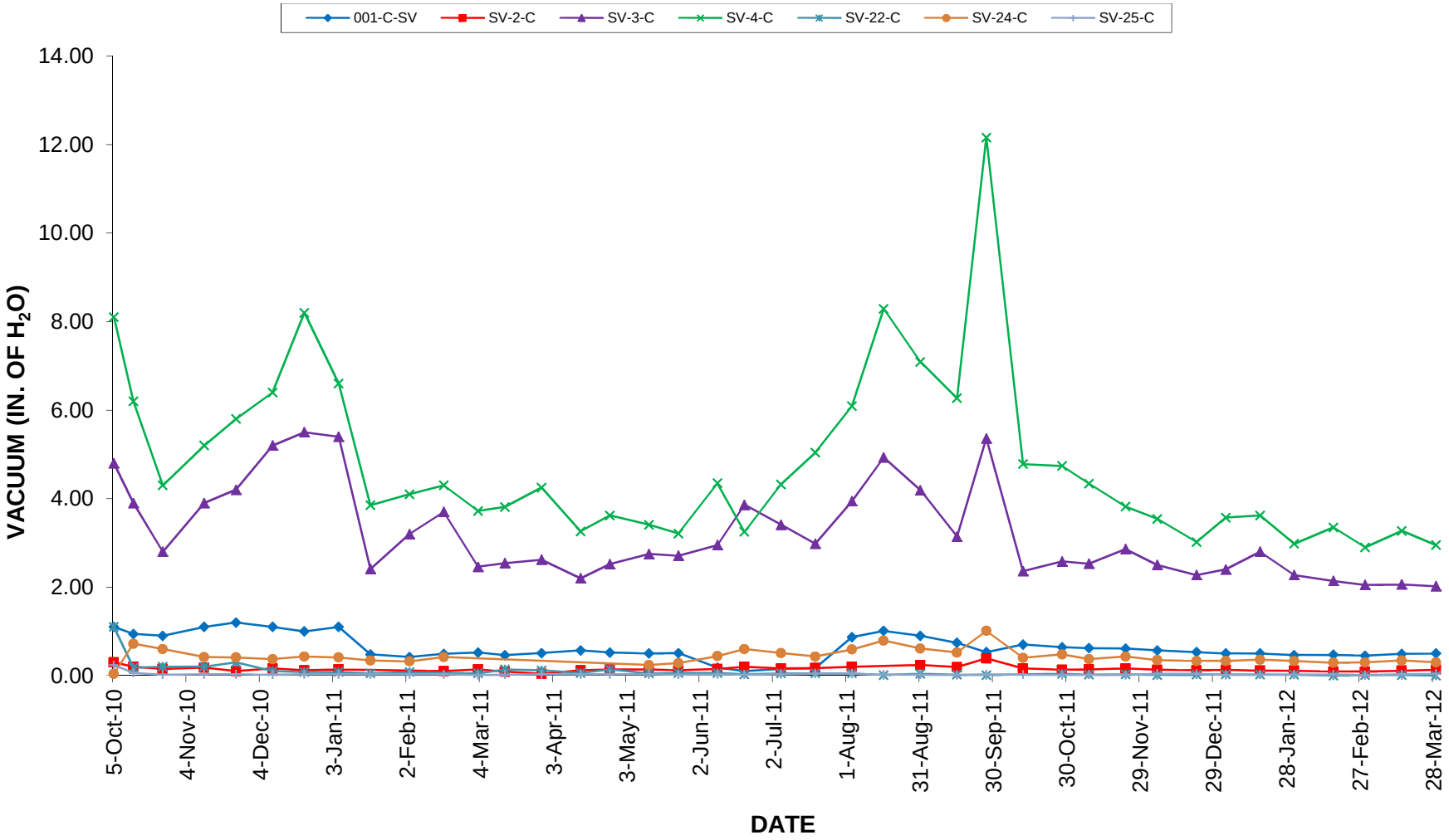
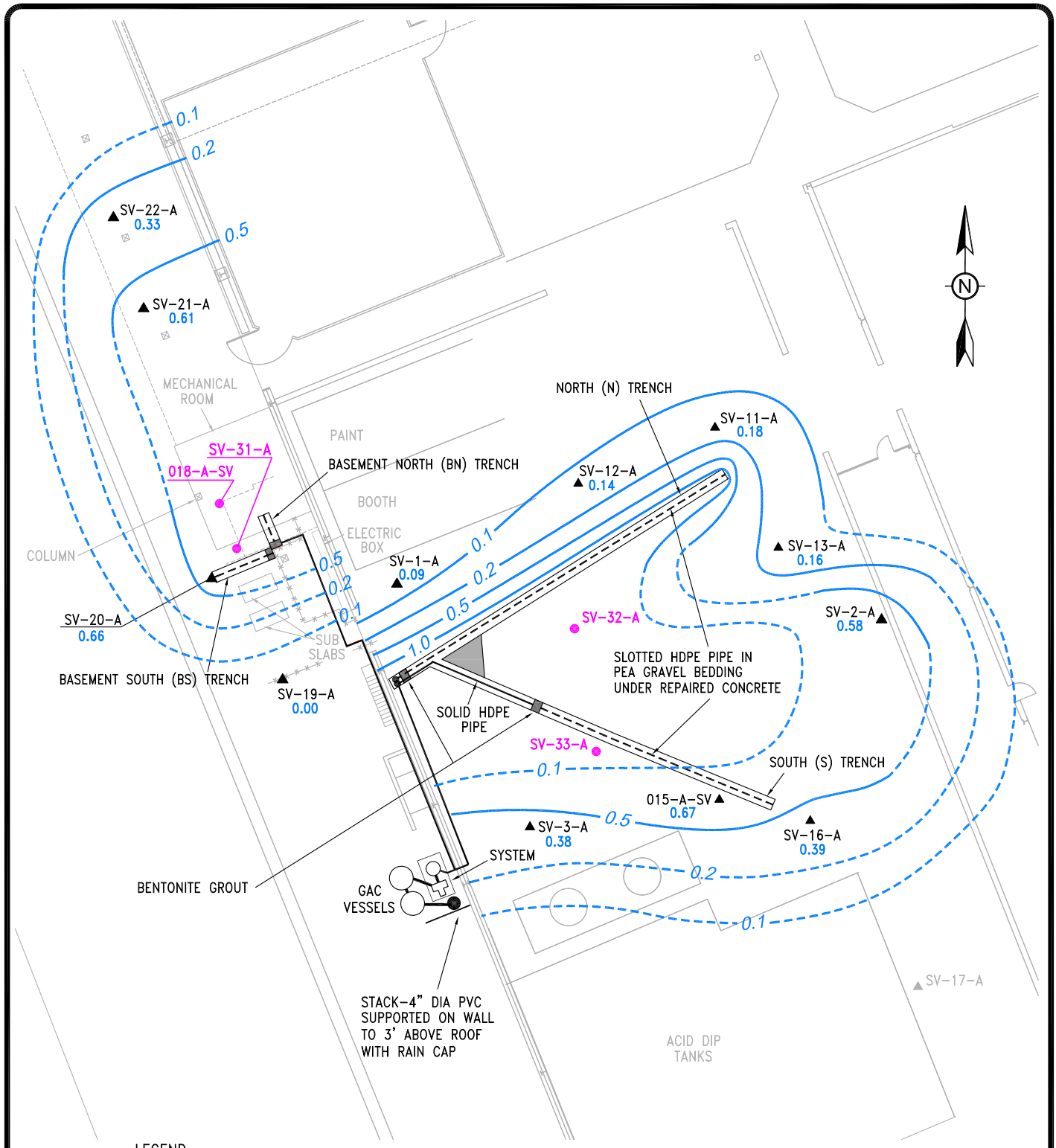


FIGURE 7
INDUCED VACUUM
BUILDING C SSD SYSTEM





LEGEND

- GROUNDWATER MONITORING WELL
- ▲ SUBSLAB VAPOR SAMPLING POINT
- ● SUBSLAB VAPOR EXTRACTION POINT (USED IN PILOT TEST ONLY)
- 0.39 INCHES OF H_2O INDUCED VACUUM MEASURED ON 2/29/12
- VAPOR EXTRACTION TRENCH

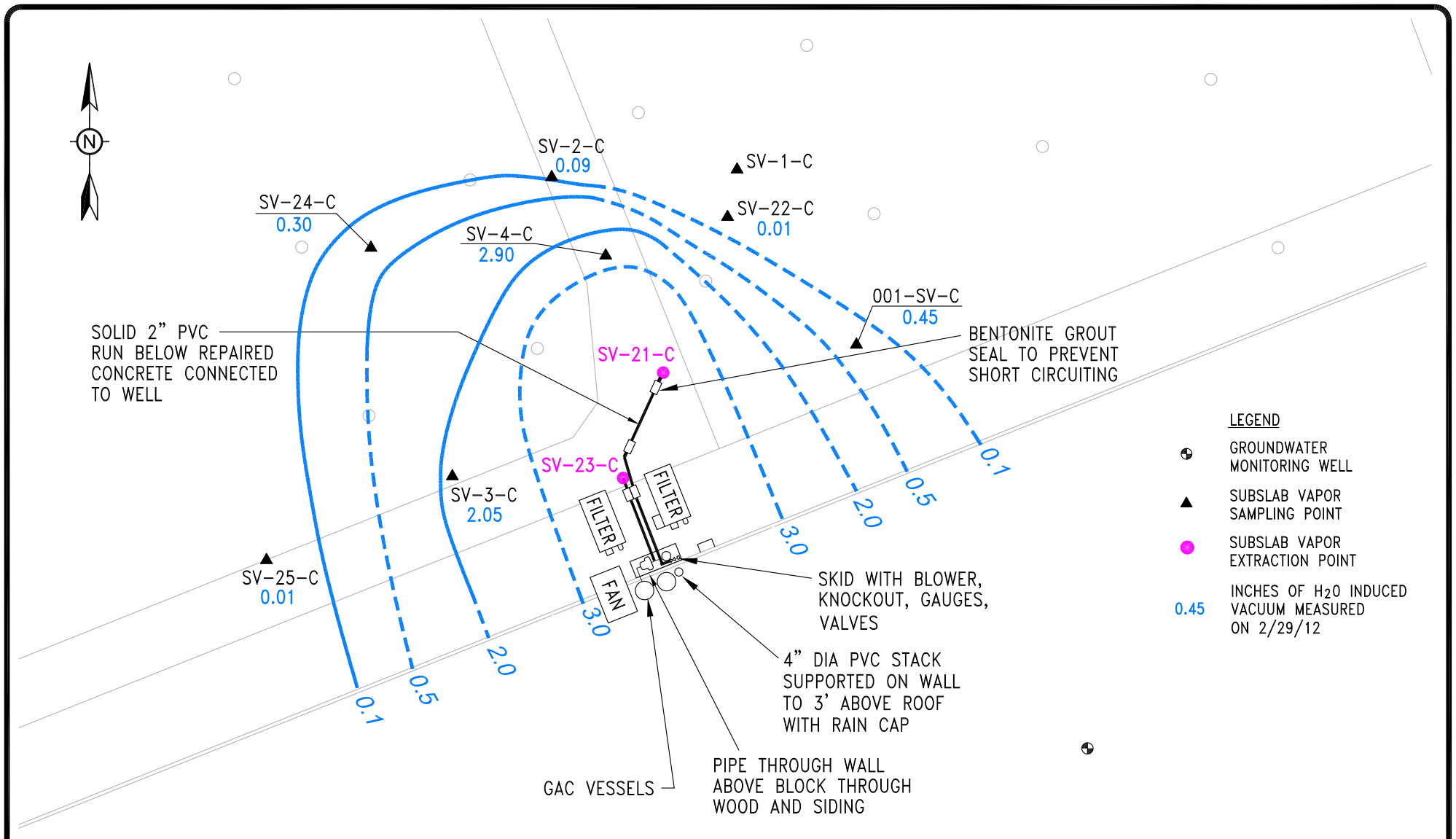
TITLE: BUILDING A SSD INDUCED VACUUM

LOCATION: Middle River, Maryland

Tetra Tech

CHECKED	PR
DRAFTED	CP
FILE	0507479004A.DWG
DATE	3-22-12

FIGURE: 8



TITLE: BUILDING C BASEMENT SSD INDUCED VACUUM

LOCATION: Middle River, Maryland

Tetra Tech

CHECKED	BC
DRAFTED	CP
FILE	0507479005A.DWG
DATE	3-22-12

FIGURE: 9

Figure 10
Influent VOCs
Building A SSD System

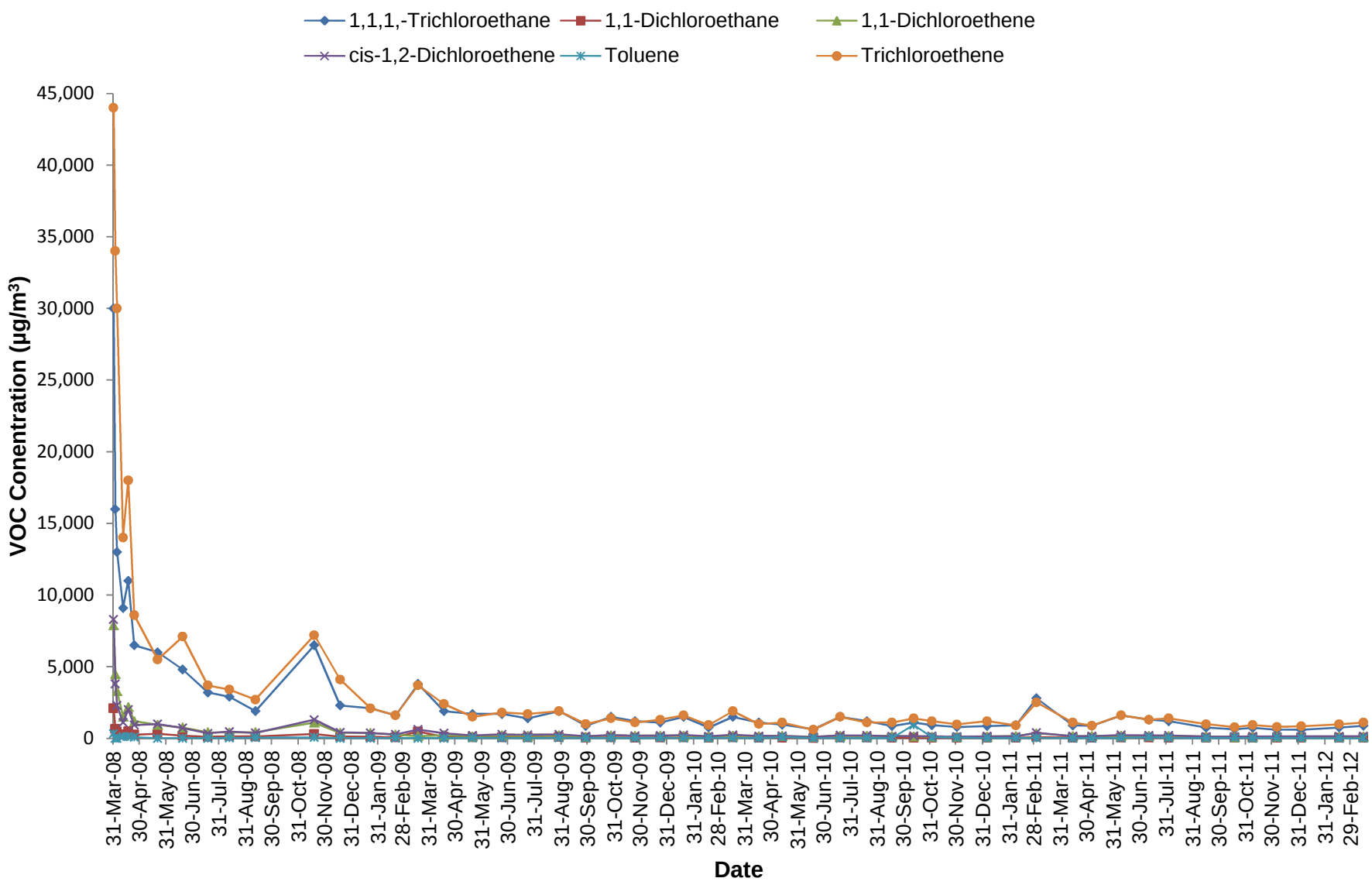
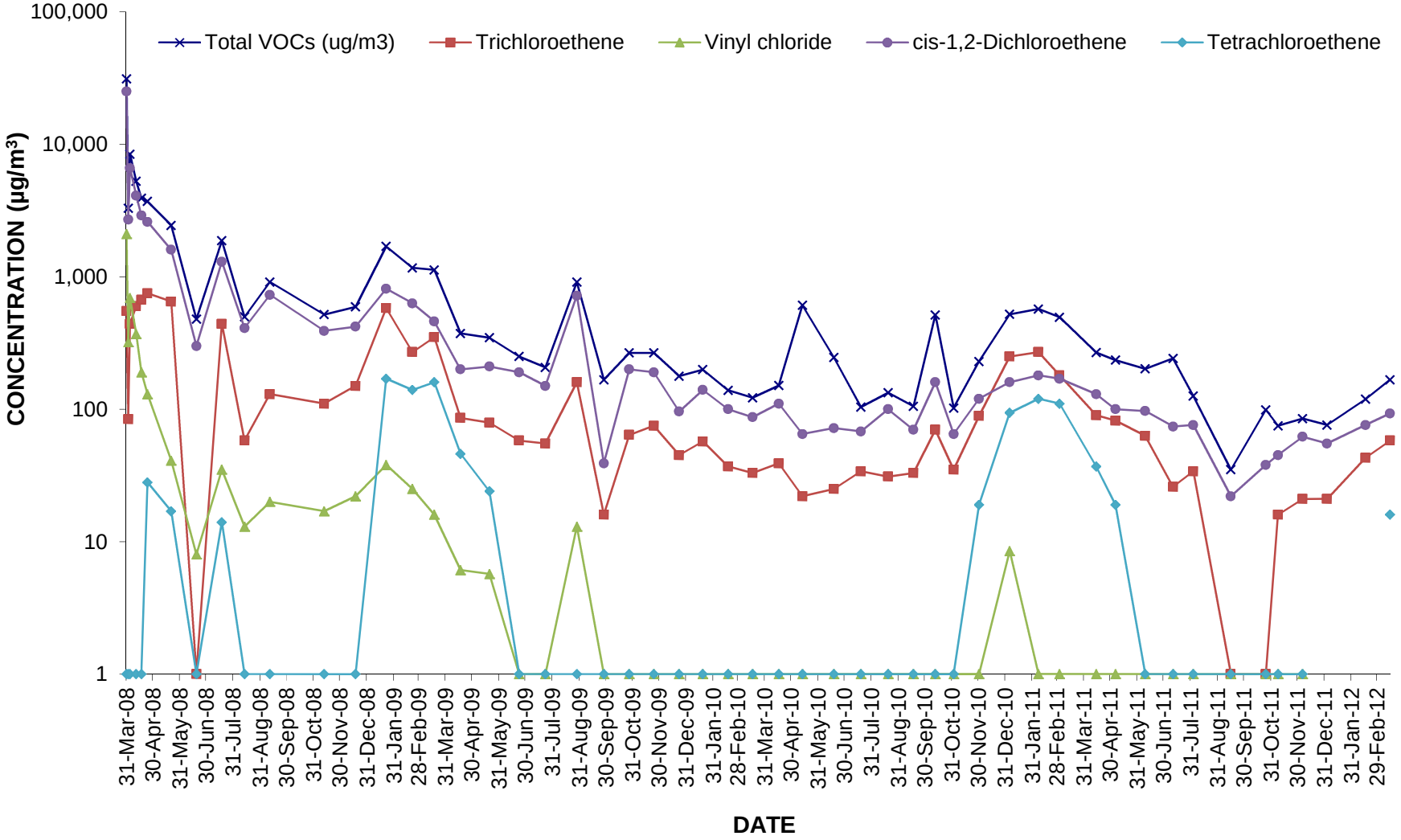


FIGURE 11
INFLUENT VOCs
BUILDING C SSD SYSTEM



APPENDIX A—SYSTEM FIELD DATA SHEETS

BUILDING A - BIWEEKLY SSD SYSTEM CHECK

LMC Middle River Complex, Middle River, Maryland

Date/Time: 10/12/11 @ 0900

Field Personnel: Dawn MacKiewicz

Room Temperature: 61°F

Planned Activities:
System Check: X
Vacuum Monitoring: No
Quarterly Check:
GAC Changeout: No
GAC Vapor Samples: No

Location	Time	Vacuum Post-M.S. (in. H_2O)	Vaccum Pre-Filter (in. H_2O)	Vacuum Post-Filter (in. H_2O)	Pressure Post-Blower (in. H2O)	Temp (°F)	Flow (SCFM)
General System Data	0910	-2.0	-2.5	25.5	22	113	~162

Location	Time	Leg Vacuum (in. H2O)	Leg Air Velocity (ft/min)	Leg Flow (scfm)
North Leg - Upstairs	0915	~~0.70~~ ~~0.049~~	831	—
South Leg - Upstairs	0916	~~0.75~~ ~~0.053~~	297	—
North Leg - Downstairs	1003	0.81	41	—
South Leg - Downstairs	1000	0.80	798	—

Leg Flow = Velocity X Area of Cross section for a 4" dia PVC pipe

Leg Flow = Velocity x $(\pi)x(1/6)^2$ = Velocity x 0.0873

MONITORING			
Well	Time	Vacuum ("H2O)	24 hour
SV-1A	0924	0.06	—
SV-12	0931	0.25	—
SV-11	0932	0.18	—
SV-13	0935	0.19	—
SV-2A	0936	0.58	—
SV-16	0938	0.39	—
SV-15	0941	0.66	—
SV-3A	0945	0.38	—
SV-19	0952	0.01	—
SV-20	0954	0.33	—
SV-21	—	—	—
SV-22	0957	0.01	—

H_2O in location

SAMPLING		
Point	Time	Canister-ID
PRE - A	—	—
MID - A	—	—
POST - A	—	—

1. Was the blower shut down upon arrival?
YES (NO)

2. Where there any alarm conditions upon arrival?
YES (NO)
Comment:

3. Was the blower ambient air valve open?
YES (NO)

4. Was there water in the moisture separator tank? If Yes, vol?
YES (NO) Volume (gal):

5. Any leaks on moisture separator or piping?
YES (NO)

6. Was the vacuum/flow on either leg adjusted?
YES (NO)
Comment:

7. Any leaks or damage on GAC drums or piping?
YES (NO)

8. Any lose cam locks or zip ties on GAC hoses?
YES (NO)

9. Diff Pressure (pre/post Air Filter) > 25"WC?
YES NO Replace filter if > 25" WC

10. Do these fall to zero when system is turned OFF?

Flow Meter	(YES)	NO
Pressure Gauges	(YES)	NO
Vacuum Gauges	YES	NO
Bi-Metal Thermometer	(YES)	NO

ADDITIONAL COMMENTS:

Vacuum Post Filter only drops to 9 ←

Field Rep. Signature: Dawn L MacKiewicz Date/Time: 10/12/11 @ 1009

BUILDING A - BIWEEKLY SSD SYSTEM CHECK

LMC Middle River Complex, Middle River, Maryland

Date/Time: 10/28/11

Field Personnel: SC

Room Temperature: 45°F

Planned Activities:
System Check: X
Vacuum Monitoring: —
Quarterly Check: —
GAC Changeout: —
GAC Vapor Samples: —

Location	Time	Vacuum Post-M.S. (in. H_2O)	Vaccum Pre-Filter (in. H_2O)	Vacuum Post-Filter (in. H_2O)	Pressure Post-Blower (in. H2O)	Temp (°F)	Flow (SCFM)
General System Data	0910	2.0	3.0	25	20	102	162

Location	Time	Leg Vacuum (in. H2O)	Leg Air Velocity (ft/min)	Leg Flow (scfm)
North Leg - Upstairs	0918	0.66	826	
South Leg - Upstairs	0921	0.70	255	
North Leg - Downstairs	0923	0.77	18	
South Leg - Downstairs	0925	0.73	852	

Leg Flow = Velocity X Area of Cross section for a 4" dia PVC pipe

Leg Flow = Velocity x $(\pi)x(1/6)^2$ = Velocity x 0.0873

MONITORING			
Well	Time	Vacuum ("H2O)	24 hour
SV-1A	0931	0.05	
SV-12	0932	0.10	
SV-11	0934	0.19	
SV-13	0936	0.14	
SV-2A	0939	0.54	
SV-16	0942	0.34	
SV-15	0945	0.66	
SV-3A	NA	NA	
SV-19	0952	0.01	
SV-20	0954	0.37	
SV-21	0956	0.11	
SV-22	0959	0.17	

SAMPLING		
Point	Time	Canister-ID
PRE - A		
MID - A		
POST - A		

1. Was the blower shut down upon arrival?
YES (NO)

2. Where there any alarm conditions upon arrival?
YES (NO)
Comment:

3. Was the blower ambient air valve open?
YES (NO)

4. Was there water in the moisture separator tank? If Yes, vol?
YES (NO) Volume (gal):

5. Any leaks on moisture separator or piping?
YES (NO)

6. Was the vacuum/flow on either leg adjusted?
YES (NO)
Comment:

7. Any leaks or damage on GAC drums or piping?
YES (NO)

8. Any lose cam locks or zip ties on GAC hoses?
YES (NO)

9. Diff Pressure (pre/post Air Filter) > 25"WC?
YES (NO) Replace filter if > 25" WC

10. Do these fall to zero when system is turned OFF?

Flow Meter	(YES)	NO
Pressure Gauges	(YES)	NO
Vacuum Gauges	(YES)	NO
Bi-Metal Thermometer	(YES)	NO

ADDITIONAL COMMENTS:
NA - equipment over SV-3A

Field Rep. Signature:

Date/Time: 10/28/11 - 1015

BUILDING A - BIWEEKLY SSD SYSTEM CHECK

LMC Middle River Complex, Middle River, Maryland

Date/Time: 11-8-11 / 0950

Field Personnel: SC

Room Temperature: 60°F

Planned Activities:
System Check: X
Vacuum Monitoring: X
Quarterly Check: No
GAC Changeout: No
GAC Vapor Samples: X

Location	Time	Vacuum Post-M.S. (in. H_2O)	Vaccum Pre-Filter (in. H_2O)	Vacuum Post-Filter (in. H_2O)	Pressure Post-Blower (in. H2O)	Temp (°F)	Flow (SCFM)
General System Data	0950	2.0	2.5	25	20	109	165

Location	Time	Leg Vacuum (in. H2O)	Leg Air Velocity (ft/min)	Leg Flow (scfm)
North Leg - Upstairs	0959	0.68	908	
South Leg - Upstairs	1000	0.75	260	
North Leg - Downstairs	1003	0.78	121	
South Leg - Downstairs	1005	0.75	881	

Leg Flow = Velocity X Area of Cross section for a 4" dia PVC pipe

Leg Flow = Velocity x $(\pi)x(1/6)^2$ = Velocity x 0.0873

MONITORING			
Well	Time	Vacuum ("H2O)	24 hour
SV-1A	1009	0.09	
SV-12	1012	0.14	
SV-11	1015	0.19	
SV-13	1018	0.17	
SV-2A	1022	0.58	
SV-16	1024	0.38	
SV-15	1026	0.64	
SV-3A	1027	0.38	
SV-19	1031	0.00	
SV-20	1036	0.40	
SV-21	1038	0.14	
SV-22	1040	1.93	

SAMPLING		
Point	Time	Canister-ID
PRE - A	1100	L5162
MID - A	1055	L8191
POST - A	1050	L5137

1. **Was the blower shut down upon arrival?**
   YES (NO)
2. **Where there any alarm conditions upon arrival?**
   YES (NO)
   Comment:
3. **Was the blower ambient air valve open?**
   YES (NO)
4. **Was there water in the moisture separator tank? If Yes, vol?**
   YES (NO) Volume (gal):
5. **Any leaks on moisture separator or piping?**
   YES (NO)
6. **Was the vacuum/flow on either leg adjusted?**
   YES (NO)
   Comment:
7. **Any leaks or damage on GAC drums or piping?**
   YES (NO)
8. **Any lose cam locks or zip ties on GAC hoses?**
   YES (NO)
9. **Diff Pressure (pre/post Air Filter) > 25"WC?**
   YES (NO) Replace filter if > 25" WC
10. **Do these fall to zero when system is turned OFF?**
    Flow Meter (YES) NO
    Pressure Gauges (YES) NO
    Vacuum Gauges (YES) NO
    Bi-Metal Thermometer (YES) NO

ADDITIONAL COMMENTS:

Field Rep. Signature: [signature]

Date/Time: 1110 / 11-8-11

BUILDING A - BIWEEKLY SSD SYSTEM CHECK

LMC Middle River Complex, Middle River, Maryland

Date/Time: 11-23-11 / 1240

Field Personnel: SC

Room Temperature: 60° F

Planned Activities:
System Check: Yes
Vacuum Monitoring: ~
Quarterly Check: ~
GAC Changeout: ~
GAC Vapor Samples: ~

Location	Time	Vacuum Post-M.S. (in. H_2O)	Vaccum Pre-Filter (in. H_2O)	Vacuum Post-Filter (in. H_2O)	Pressure Post-Blower (in. H2O)	Temp (°F)	Flow (SCFM)
General System Data	1240	2.1	2.5	24	20	109	164

Location	Time	Leg Vacuum (in. H2O)	Leg Air Velocity (ft/min)	Leg Flow (scfm)
North Leg - Upstairs	1246	0.67	815	
South Leg - Upstairs	1247	0.78	257	
North Leg - Downstairs	1248	0.82	191	
South Leg - Downstairs	1254	0.80	819	

Leg Flow = Velocity X Area of Cross section for a 4" dia PVC pipe

Leg Flow = Velocity x $(\pi)x(1/6)^2$ = Velocity x 0.0873

MONITORING			
Well	Time	Vacuum ("H2O)	24 hour
SV-1A	1258	0.08	
SV-12	1259	0.15	
SV-11	1300	0.18	
SV-13	1303	0.19	
SV-2A	1305	0.61	
SV-16	1306	0.39	
SV-15	1309	0.67	
SV-3A	1310	0.39	
SV-19	1313	0.01	
SV-20	1314	0.42	
SV-21	1316	0.20	
SV-22	1318	1.98	

SAMPLING		
Point	Time	Canister-ID
PRE - A		
MID - A		
POST - A		

1. **Was the blower shut down upon arrival?** YES (NO)
2. **Where there any alarm conditions upon arrival?** YES (NO)
   Comment:
3. **Was the blower ambient air valve open?** YES (NO)
4. **Was there water in the moisture separator tank? If Yes, vol?** YES (NO) Volume (gal):
5. **Any leaks on moisture separator or piping?** YES (NO)
6. **Was the vacuum/flow on either leg adjusted?** YES (NO)
   Comment:
7. **Any leaks or damage on GAC drums or piping?** YES (NO)
8. **Any lose cam locks or zip ties on GAC hoses?** YES (NO)
9. **Diff Pressure (pre/post Air Filter) > 25"WC?** YES (NO) Replace filter if > 25" WC
10. **Do these fall to zero when system is turned OFF?**
    Flow Meter: (YES) NO
    Pressure Gauges: (YES) NO
    Vacuum Gauges: (YES) NO
    Bi-Metal Thermometer: (YES) NO

ADDITIONAL COMMENTS:

Field Rep. Signature: [signature]

Date/Time: ~~11~~ 11-23-11 / 1318

BUILDING A - BIWEEKLY SSD SYSTEM CHECK

LMC Middle River Complex, Middle River, Maryland

Date/Time: 12-6-11/0900

Field Personnel: SC

Room Temperature: 60°F

Planned Activities:
System Check: yes
Vacuum Monitoring: —
Quarterly Check: —
GAC Changeout: —
GAC Vapor Samples: yes

Location	Time	Vacuum Post-M.S. (in. H_2O)	Vaccum Pre-Filter (in. H_2O)	Vacuum Post-Filter (in. H_2O)	Pressure Post-Blower (in. H2O)	Temp (°F)	Flow (SCFM)
General System Data	0905	2.0	2.5	25	20	109	160

Location	Time	Leg Vacuum (in. H2O)	Leg Air Velocity (ft/min)	Leg Flow (scfm)
North Leg - Upstairs	0910	0.64	854	
South Leg - Upstairs	0912	0.78	275	
North Leg - Downstairs	0920	0.79	182	
South Leg - Downstairs	0923	0.75	882	

Leg Flow = Velocity X Area of Cross section for a 4" dia PVC pipe

Leg Flow = Velocity x $(\pi)x(1/6)^2$ = Velocity x 0.0873

MONITORING			
Well	Time	Vacuum ("H2O)	24 hour
SV-1A	0925	0.08	
SV-12	0927	0.15	
SV-11	0931	0.20	
SV-13	0934	0.19	
SV-2A	0937	0.61	
SV-16	0939	0.37	
SV-15	0940	0.68	
SV-3A	0942	0.40	
SV-19	0946	0.01	
SV-20	0947	0.41	
SV-21	0950	0.25	
SV-22	0952	0.30	

SAMPLING		
Point	Time	Canister-ID
PRE - A	1010	SL-1231
MID - A	1005	SL-1224
POST - A	1000	L-5157

1. **Was the blower shut down upon arrival?**
   YES (NO)
2. **Where there any alarm conditions upon arrival?**
   YES (NO)
   Comment: —
3. **Was the blower ambient air valve open?**
   YES (NO)
4. **Was there water in the moisture separator tank? If Yes, vol?**
   (YES) NO Volume (gal): ~10 gal
5. **Any leaks on moisture separator or piping?**
   YES (NO)
6. **Was the vacuum/flow on either leg adjusted?**
   YES (NO)
   Comment: —
7. **Any leaks or damage on GAC drums or piping?**
   YES (NO)
8. **Any lose cam locks or zip ties on GAC hoses?**
   YES (NO)
9. **Diff Pressure (pre/post Air Filter) > 25"WC?**
   YES (NO) Replace filter if > 25" WC
10. **Do these fall to zero when system is turned OFF?**

Flow Meter	(YES)	NO
Pressure Gauges	(YES)	NO
Vacuum Gauges	(YES)	NO
Bi-Metal Thermometer	(YES)	NO

ADDITIONAL COMMENTS:

Field Rep. Signature: [signature]

Date/Time: 12-6-11/1020

BUILDING A - BIWEEKLY SSD SYSTEM CHECK

LMC Middle River Complex, Middle River, Maryland

Date/Time: 12-22-11 / 0930

Field Personnel: SC

Room Temperature: 60° F

Planned Activities:
System Check: YES
Vacuum Monitoring: —
Quarterly Check: —
GAC Changeout: —
GAC Vapor Samples: —

Location	Time	Vacuum Post-M.S. (in. H_2O)	Vaccum Pre-Filter (in. H_2O)	Vacuum Post-Filter (in. H_2O)	Pressure Post-Blower (in. H2O)	Temp (°F)	Flow (SCFM)
General System Data	0935	1.7	2.0	23	20	106	165

Location	Time	Leg Vacuum (in. H2O)	Leg Air Velocity (ft/min)	Leg Flow (scfm)
North Leg - Upstairs	0941	0.51	721	
South Leg - Upstairs	0944	0.60	246	
North Leg - Downstairs	0949	0.62	75	
South Leg - Downstairs	0951	0.58	762	

Leg Flow = Velocity X Area of Cross section for a 4" dia PVC pipe

Leg Flow = Velocity x $(\pi)x(1/6)^2$ = Velocity x 0.0873

MONITORING

Well	Time	Vacuum ("H2O)	24 hour
SV-1A	0954	0.07	
SV-12	0955	0.10	
SV-11	0956	0.18	
SV-13	0957	0.13	
SV-2A	0958	0.48	
SV-16	1004	0.29	
SV-15	1009	0.54	
SV-3A	1010	0.31	
SV-19	1014	0.02	
SV-20	1016	0.32	
SV-21	1019	0.11	
SV-22	1020	0.79	

SAMPLING

~~Point~~	Time	~~Canister ID~~
PRE - A		
MID - A		
POST - A		

1. **Was the blower shut down upon arrival?**
   YES (NO)
2. **Where there any alarm conditions upon arrival?**
   YES (NO)
   Comment: —
3. **Was the blower ambient air valve open?**
   YES (NO)
4. **Was there water in the moisture separator tank? If Yes, vol?**
   YES (NO) Volume (gal): —
5. **Any leaks on moisture separator or piping?**
   YES (NO)
6. **Was the vacuum/flow on either leg adjusted?**
   YES (NO)
   Comment: —
7. **Any leaks or damage on GAC drums or piping?**
   YES (NO)
8. **Any lose cam locks or zip ties on GAC hoses?**
   YES (NO)
9. **Diff Pressure (pre/post Air Filter) > 25"WC?**
   YES (NO) Replace filter if > 25" WC
10. **Do these fall to zero when system is turned OFF?**
    Flow Meter: (YES) NO
    Pressure Gauges: (YES) NO
    Vacuum Gauges: (YES) NO
    Bi-Metal Thermometer: (YES) NO

ADDITIONAL COMMENTS:

Field Rep. Signature: [signature]

Date/Time: 12-22-11 / 1040

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 1/3/12 **Time:** 1130 **Personnel:** DLM / SC **Room Temp:** 75°F

GENERAL SYSTEM MONITORING							
Time	Vacuum post-KO (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filters (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
1137	1.6	5.0	23	18	22	92	165

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	*Flow (scfm)	Comments
North Leg - Ground Floor	1144	0.48	660	57.618	
South Leg - Ground Floor	1145	0.56	255	22.262	
North Leg - Basement	1146	0.58	47	4.103	
South Leg - Basement	1147	0.54	721	62.943	

* Flow = Velocity x 0.0873

VACUUM MONITORING		
Well	Time	Vacuum (in. H_2O)
SV-1-A	1155	0.02
SV-12-A	1156	0.07
SV-11-A	1158	0.12
SV-13-A	1200	0.10
SV-2-A	1202	0.45
SV-16-A	1205	0.26
015-A-SV	1207	0.52
SV-3-A	1209	0.29
SV-19-A	1213	0.02
SV-20-A	1216	0.30
SV-21-A	1218	0.08
SV-22-A	1220	0.88

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-PRE	1229	L-5102
A-MID	1233	L-5133
A-POST	1231	L-4145

ADDITIONAL COMMENTS:

One GAC has a Non-Haz Sticker but isn't labeled.

1. Was the blower running upon arrival?

YES NO

2. Where there any alarm conditions upon arrival?

YES NO

Comment: _____

3. Was the blower ambient air valve open?

YES NO

4. Was there water in the knockout tank?

YES NO Volume: _____

5. Was the vacuum/flow on either leg adjusted?

YES NO

Comment: _____

6. Are there any leaks or damage to system hoses?

YES NO

7. Is there any damage to system components?

YES NO

8. Are all locks and zip-ties secure?

YES NO

9. Do the these fall to zero when system is turned off?

Flow Gauge YES NO

Pressure Gauges YES NO

Vacuum Gauges YES NO

10. Was there a GAC change out?

YES NO

11. How many unused GAC units are at this location?

NEW 3

SPENT 0

FIELD REP. SIGNATURE: [signature] **Time:** 1310

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 1/17/12 Time: 0949 Personnel: DLM Room Temp: 45°F

GENERAL SYSTEM MONITORING							
Time	Vacuum post-KO (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filters (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
0950	1.6	15	23.5	8.5	22	99	165

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	*Flow (scfm)	Comments
North Leg - Ground Floor	0954	0.60	716	62.51	
South Leg - Ground Floor	0956	0.66	260	22.70	
North Leg - Basement	1039	0.64	42	3.67	
South Leg - Basement	1041	0.61	744	64.95	

* Flow = Velocity x 0.0873

VACUUM MONITORING			
Well	Time	Vacuum (in. H_2O)	
SV-1-A	0959	0.09	
SV-12-A	1003	0.10	
SV-11-A	1006	0.16	
SV-13-A	1009	0.16	
SV-2-A	1011	0.49	
SV-16-A	1013	0.31	
015-A-SV	1016	0.56	
SV-3-A	1021	0.32	H_2O
SV-19-A	1025	0.01	
SV-20-A	1028	0.32	
SV-21-A	1032	0.11	H_2O
SV-22-A	1035	0.03	H_2O

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-PRE	—	—
A-MID	—	—
A-POST	—	—

1. Was the blower running upon arrival?
   (YES) NO
2. Where there any alarm conditions upon arrival?
   YES (NO)
   Comment: _____
3. Was the blower ambient air valve open?
   YES (NO)
4. Was there water in the knockout tank?
   YES (NO) Volume: _____
5. Was the vacuum/flow on either leg adjusted?
   YES (NO)
   Comment: _____
6. Are there any leaks or damage to system hoses?
   YES (NO)
7. Is there any damage to system components?
   YES (NO)
8. Are all locks and zip-ties secure?
   (YES) NO
9. Do the these fall to zero when system is turned off?
   Flow Gauge (YES) NO
   Pressure Gauges (YES) NO
   *Vacuum Gauges YES (NO)
10. Was there a GAC change out?
    YES (NO)
11. How many unused GAC units are at this location?
    NEW 2
    SPENT 1

ADDITIONAL COMMENTS:

Relabled monitoring points
*Pre-Filter Gauge does not lower.
Post-Filter Gauge only drops to ~10

FIELD REP. SIGNATURE: [signature] Time: 1050

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 1/31/12 **Time:** 0910 **Personnel:** DLM **Room Temp:** 50°F

GENERAL SYSTEM MONITORING							
Time	Vacuum post-KO (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filters (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
0914	1.6	10	24	14	24	97	160

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	*Flow (scfm)	Comments
North Leg - Ground Floor	0921	0.62	738	64.43	
South Leg - Ground Floor	0918	0.67	238	20.78	
North Leg - Basement	1010	0.68	35	3.06	
South Leg - Basement	1012	0.64	750	65.48	

* Flow = Velocity x 0.0873

VACUUM MONITORING			
Well	Time	Vacuum (in. H_2O)	
SV-1-A	0923	0.09	
SV-12-A	0926	0.10	
SV-11-A	0928	0.10	
SV-13-A	0930	0.16	
SV-2-A	0931	0.50	
SV-16-A	0935	0.33	
015-A-SV	0937	0.57	
SV-3-A	0939	0.34	H_2O
SV-19-A	0943	0.00	
SV-20-A	0945	0.34	
SV-21-A	0950	0.11	H_2O
SV-22-A	0953	0.10	H_2O

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-PRE	—	—
A-MID	—	—
A-POST	—	—

1. Was the blower running upon arrival?
(YES) NO

2. Where there any alarm conditions upon arrival?
YES (NO)

Comment: _____

3. Was the blower ambient air valve open?
YES (NO)

4. Was there water in the knockout tank?
(YES) NO Volume: ~32.5 gal.

5. Was the vacuum/flow on either leg adjusted?
YES (NO)

Comment: _____

6. Are there any leaks or damage to system hoses?
YES (NO)

7. Is there any damage to system components?
YES (NO)

8. Are all locks and zip-ties secure?
(YES) NO

9. Do the these fall to zero when system is turned off?

Flow Gauge	(YES)	NO
Pressure Gauges	(YES)	NO
*Vacuum Gauges	YES	(NO)

10. Was there a GAC change out?
YES (NO)

11. How many unused GAC units are at this location?
NEW 3
SPENT 0

ADDITIONAL COMMENTS:

No visible reason For SV-22-A Vacuum variations.
1015: Turn system off
1056: Turn System on
* Post-Filter Guage needs replaced

FIELD REP. SIGNATURE: Daniel R Mueller **Time:** 1106

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 2/16/12 Time: 1255 Personnel: DLM Room Temp: 48°F

GENERAL SYSTEM MONITORING							
Time	Vacuum post-KO (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filters (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
1256	1.5	9.0	15	6	24	100	160

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	*Flow (scfm)	Comments
North Leg - Ground Floor	1305	0.63	752	65.65	
South Leg - Ground Floor	1303	0.68	201	17.58	
North Leg - Basement	1330	0.69	8	0.70	
South Leg - Basement	1327	0.66	767	66.96	

* Flow = Velocity x 0.0873

VACUUM MONITORING			
Well	Time	Vacuum (in. H_2O)	
SV-1-A	1308	0.08	
SV-12-A	1310	0.14	
SV-11-A	1313	0.17	
SV-13-A	1315	0.17	
SV-2-A	1317	0.53	
SV-16-A	1319	0.36	
015-A-SV	1323	0.61	
SV-3-A	1325	0.35	H_2O
SV-19-A	1333	0.00	
SV-20-A	1335	0.34	
SV-21-A	1338	0.10	H_2O
SV-22-A	1342	0.09	H_2O

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-PRE	1247	L-5111
A-MID	1250	L-5191
A-POST	1253	L-5137

ADDITIONAL COMMENTS:

1. **Was the blower running upon arrival?** (YES) NO
2. **Where there any alarm conditions upon arrival?** YES (NO)
   Comment: _____
3. **Was the blower ambient air valve open?** YES (NO)
4. **Was there water in the knockout tank?** YES (NO) Volume: _____
5. **Was the vacuum/flow on either leg adjusted?** YES (NO)
   Comment: _____
6. **Are there any leaks or damage to system hoses?** YES (NO)
7. **Is there any damage to system components?** YES (NO)
8. **Are all locks and zip-ties secure?** (YES) NO
9. **Do the these fall to zero when system is turned off?**
   Flow Gauge (YES) NO
   Pressure Gauges (YES) NO
   Vacuum Gauges (YES) NO
10. **Was there a GAC change out?** YES (NO)
11. **How many unused GAC units are at this location?**
    NEW 3
    SPENT 0

FIELD REP. SIGNATURE: Dawn L Mahan **Time:** 1348

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 2/29/12 Time: 0913 Personnel: DLM / DC Room Temp: 44°F

GENERAL SYSTEM MONITORING							
Time	Vacuum post-KO (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filters (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
0926	1.3	9.0	15	6	24	100	160

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	*Flow (scfm)	Comments
North Leg - Ground Floor	0936	0.70	786	68.62	
South Leg - Ground Floor	0938	0.79	259	22.61	
North Leg - Basement	1022	0.94	32	2.79	
South Leg - Basement	1025	0.90	607	52.99	

* Flow = Velocity x 0.0873

VACUUM MONITORING			
Well	Time	Vacuum (in. H_2O)	
SV-1-A	0942	0.09	
SV-12-A	0944	0.14	
SV-11-A	0947	0.18	
SV-13-A	0951	0.16	
SV-2-A	0954	0.58	
SV-16-A	0957	0.39	
015-A-SV	0959	0.67	
SV-3-A	1002	0.38	H_2O
SV-19-A	1006	0.00	
SV-20-A	1010	0.66	
SV-21-A	1013	0.61	H_2O
SV-22-A	1016	0.33	wet

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-PRE	—	—
A-MID	—	—
A-POST	—	—

1. Was the blower running upon arrival?
(YES) NO

2. Where there any alarm conditions upon arrival?
YES (NO)

Comment: _____

3. Was the blower ambient air valve open?
YES (NO)

4. Was there water in the knockout tank?
(YES) NO Volume: ~18gal.

5. Was the vacuum/flow on either leg adjusted?
YES (NO)

Comment: _____

6. Are there any leaks or damage to system hoses?
YES (NO)

7. Is there any damage to system components?
YES (NO)

8. Are all locks and zip-ties secure?
(YES) NO

9. Do the these fall to zero when system is turned off?
Flow Gauge (YES) NO
Pressure Gauges (YES) NO
Vacuum Gauges (YES) NO

10. Was there a GAC change out?
YES (NO)

11. How many unused GAC units are at this location?
NEW 3
SPENT 0

ADDITIONAL COMMENTS:

_____

_____

_____

_____

FIELD REP. SIGNATURE: David L Mueller Time: 2/29/12 @ 1150

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 3/15/12 Time: 0934 Personnel: DLM Room Temp: 65°F

GENERAL SYSTEM MONITORING							
Time	Vacuum post-KO (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filters (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
0943	2.5	10	15.5	5.5	22	107	160

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	*Flow (scfm)	Comments
North Leg - Ground Floor	0947	1.42	1285	112.18	
South Leg - Ground Floor	0959	1.58	464	40.51	
North Leg - Basement	1031	2.44	59	5.15	
South Leg - Basement	1034	2.44	235	20.52	

* Flow = Velocity x 0.0873

VACUUM MONITORING		
Well	Time	Vacuum (in. H_2O)
SV-1-A	1001	0.18
SV-12-A	1003	0.26
SV-11-A	1006	0.45
SV-13-A	1008	0.34
SV-2-A	1010	1.11
SV-16-A	1012	0.74
015-A-SV	1014	1.09
SV-3-A	1016	0.75
SV-19-A	1019	-0.20
SV-20-A	1022	0.15
SV-21-A	1025	-0.34
SV-22-A	1029	0.35

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-PRE	1108	L5169
A-MID	1109	SL-1225
A-POST	1110	L-5192

ADDITIONAL COMMENTS:

1. **Was the blower running upon arrival?** (YES) NO
2. **Where there any alarm conditions upon arrival?** YES (NO)
   Comment: _____
3. **Was the blower ambient air valve open?** YES (NO)
4. **Was there water in the knockout tank?** YES (NO) Volume: _____
5. **Was the vacuum/flow on either leg adjusted?** YES (NO)
   Comment: _____
6. **Are there any leaks or damage to system hoses?** YES (NO)
7. **Is there any damage to system components?** YES (NO)
8. **Are all locks and zip-ties secure?** (YES) NO
9. **Do the these fall to zero when system is turned off?**
   Flow Gauge (YES) NO
   Pressure Gauges (YES) NO
   Vacuum Gauges (YES) NO
10. **Was there a GAC change out?** YES (NO)
11. **How many unused GAC units are at this location?**
    NEW 3
    SPENT 0

FIELD REP. SIGNATURE: Daniel L Mankins Time: 1115

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 3/29/12 **Time:** 08:40 **Personnel:** Dustin Cates **Room Temp:** 65°F

GENERAL SYSTEM MONITORING							
Time	Vacuum post-KO (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filters (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
0845	20	10	15	5	22	108	160

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	*Flow (scfm)	Comments
North Leg - Ground Floor	900	0.52	646	56.40	
South Leg - Ground Floor	905	1.18	388	33.87	
North Leg - Basement	938	1.35	1	0.087	
South Leg - Basement	940	1.31	725	63.29	

* Flow = Velocity x 0.0873

VACUUM MONITORING		
Well	Time	Vacuum (in. H_2O)
SV-1-A	915	0.07
SV-12-A	918	0.12
SV-11-A	920	0.19
SV-13-A	924	0.21
SV-2-A	926	0.86
SV-16-A	929	0.58
015-A-SV	931	0.96
SV-3-A	935	0.53
SV-19-A	948	0.02
SV-20-A	954	1.02
SV-21-A	956	0.80
SV-22-A	1000	0.54

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-PRE		
A-MID		
A-POST		

1. Was the blower running upon arrival?
(YES) NO

2. Where there any alarm conditions upon arrival?
YES (NO)

Comment: _____

3. Was the blower ambient air valve open?
YES (NO)

4. Was there water in the knockout tank?
YES (NO) Volume: _____

5. Was the vacuum/flow on either leg adjusted?
YES (NO)

Comment: _____

6. Are there any leaks or damage to system hoses?
YES (NO)

7. Is there any damage to system components?
YES (NO)

8. Are all locks and zip-ties secure?
(YES) NO

9. Do the these fall to zero when system is turned off?

Flow Gauge	(YES)	NO
Pressure Gauges	YES	(NO)
Vacuum Gauges	(YES)	NO

10. Was there a GAC change out?
YES (NO)

11. How many unused GAC units are at this location?
NEW 3
SPENT 0

ADDITIONAL COMMENTS:
Shut off 10:05
Post-Blower pressure gauge goes to 8 when turned off
Turn on @ 10:08

FIELD REP. SIGNATURE: Dustin Cates **Time:** 1015

BUILDING C - BIWEEKLY SSD SYSTEM CHECK

LMC Middle River Complex, Middle River, Maryland

Date/Time: 10/12/11 @ 1030

Field Personnel: Dawn Markiewicz

Room Temperature: 60°F

Planned Activities:
System Check: X
Vacuum Monitoring: No
GAC Changeout: No
Quarterly Check:
GAC Vapor Samples: No

Location	Time	Vacuum post-KO (in. H2O)	Vacuum post-Filter (in. H2O)	Pressure post-Blower (in. H2O)	Blower Temp (°F)	Flow (scfm)
General System Data	1042	-38	-44	8	128	55

Blower 2

Location	Time	Leg Vacuum (in. H2O)	Leg Air Velocity (ft/min)	Leg Flow (scfm)
SV-21	1047	20.07	626	13.65
SV-23	1045	36.78	2147	46.80

Leg Flow = Velocity x Area of Cross section for a 2" dia sch 40 PVC pipe

Leg Flow = Velocity x (π) x (1/12)² = Velocity x 0.0218

Well	SV-1	SV-22	SV-2	SV-2C	SV-3C	SV-3	SV-4
Time	1037	N/A	1035	1029	1025	1027	1032
Vacuum ("H2O)	0.70	*N/A	0.16	0.40	0.02	2.36	4.78
24 hour	—		—	—	—	—	—

1. **Was the blower shut down upon arrival?**
(YES) NO

2. **Where there any alarm conditions upon arrival?**
YES (NO)
Comment:

3. **Was the blower ambient air valve open?**
YES (NO)

4. **Was there water in the Moisture Separator tank? If Yes, volume?**
YES (NO) Volume (gal):

5. **Was Moisture Separator tank drained?**
YES (NO)

6. **Any leaks on Moisture Separator or piping?**
YES (NO)

7. **Was the vacuum/flow on either leg adjusted?**
YES (NO)
Comment:

8. **Any leaks or damage on GAC drums or piping?**
YES (NO)

9. **Lose cam locks and zip ties on GAC hoses?**
YES (NO)

10. **Diff Pressure (pre/post Air Filter) > 25"WC?**
YES (NO)
Replace filter if > 25" WC

11. **Do these fall to zero when system is turned OFF?**

Flow Meter	(YES)	NO
Pressure Gauges	(YES)	NO
Vacuum Gauges	(YES)	NO
Bi-Metal Thermometer	(YES)	NO

12. **Where Vapor Samples taken?**
YES (NO)

SAMPLING		
Point	Time	Canister-ID
PRE - C	—	—
MID - C	—	—
POST - C	—	—

ADDITIONAL COMMENTS:

* Monitoring point inaccessable due to pallet w/ heavy equipment

1054: Switch to Blower 1

Dawn L Markiewicz

10/12/11 @ 1055

BUILDING C - BIWEEKLY SSD SYSTEM CHECK

LMC Middle River Complex, Middle River, Maryland

Date/Time: 10/28/11 - 1020 **Room Temperature:** 65°F

Field Personnel: SC

Planned Activities: System Check X; Quarterly Check —; Vacuum Monitoring —; GAC Vapor Samples —; GAC Changeout —

Location	Time	Vacuum post-KO (in. H2O)	Vacuum post-Filter (in. H2O)	Pressure post-Blower (in. H2O)	Blower Temp (°F)	Flow (scfm)
General System Data	1020	31	38	9	112	55

Location	Time	Leg Vacuum (in. H2O)	Leg Air Velocity (ft/min)	Leg Flow (scfm)
SV-21	1025	23	436	
SV-23	1029	31.30	2634	

Leg Flow = Velocity x Area of Cross section for a 2" dia sch 40 PVC pipe

Leg Flow = Velocity x (π) x (1/12)² = Velocity x 0.0218

Well	SV-1	SV-22	SV-2	SV-2C	SV-3C	SV-3	SV-4
Time	1034	1036	1041	1044	1046	1056	1056
Vacuum ("H2O)	0.64	0.04	0.13	0.48	0.01	2.58	4.74
24 hour	—						

1. **Was the blower shut down upon arrival?** YES (NO)

2. **Where there any alarm conditions upon arrival?** YES (NO)
   Comment: —

3. **Was the blower ambient air valve open?** YES (NO)

4. **Was there water in the Moisture Separator tank? If Yes, volume?** YES (NO) Volume (gal): —

5. **Was Moisture Separator tank drained?** YES (NO)

6. **Any leaks on Moisture Separator or piping?** YES (NO)

7. **Was the vacuum/flow on either leg adjusted?** YES (NO)
   Comment: —

8. **Any leaks or damage on GAC drums or piping?** YES (NO)

9. **Lose cam locks and zip ties on GAC hoses?** YES (NO)

10. **Diff Pressure (pre/post Air Filter) > 25"WC?** YES (NO)
    Replace filter if > 25" WC

11. **Do these fall to zero when system is turned OFF?**

Flow Meter	(YES)	NO
Pressure Gauges	(YES)	NO
Vacuum Gauges	(YES)	NO
Bi-Metal Thermometer	(YES)	NO

12. **Where Vapor Samples taken?** YES (NO)

SAMPLING		
Point	Time	Canister-ID
PRE - C		
MID - C		
POST - C		

ADDITIONAL COMMENTS:

Blower 2 running upon arrival; Blower 1 running upon departure.

10/28/11 - 1110

BUILDING C - BIWEEKLY SSD SYSTEM CHECK

LMC Middle River Complex, Middle River, Maryland

Date/Time: 11-8-11 / 1200
Field Personnel: SC
Room Temperature: 65°F

Planned Activities: System Check XES
Vacuum Monitoring —
GAC Changeout YES
Quarterly Check —
GAC Vapor Samples YES

Location	Time	Vacuum post-KO (in. H2O)	Vacuum post-Filter (in. H2O)	Pressure post-Blower (in. H2O)	Blower Temp (°F)	Flow (scfm)
General System Data	1200	29	37	10	120	55

Location	Time	Leg Vacuum (in. H2O)	Leg Air Velocity (ft/min)	Leg Flow (scfm)
SV-21	1203	21	475	
SV-23	1204	29.63	2776	

Leg Flow = Velocity x Area of Cross section for a 2" dia sch 40 PVC pipe

Leg Flow = Velocity x (π) x (1/12)² = Velocity x 0.0218

Well	SV-1	SV-22	SV-2	SV-2C	SV-3C	SV-3	SV-4
Time	1210	1214	1216	1219	1222	1225	1228
Vacuum ("H2O)	0.62	0.02	0.14	0.37	0.02	2.53	4.34
24 hour							

1. **Was the blower shut down upon arrival?**
YES (NO)

2. **Where there any alarm conditions upon arrival?**
YES (NO)
Comment: —

3. **Was the blower ambient air valve open?**
YES (NO)

4. **Was there water in the Moisture Separator tank? If Yes, volume?**
YES (NO) Volume (gal): —

5. **Was Moisture Separator tank drained?**
YES (NO)

6. **Any leaks on Moisture Separator or piping?**
YES (NO)

7. **Was the vacuum/flow on either leg adjusted?**
YES (NO)
Comment: —

8. **Any leaks or damage on GAC drums or piping?**
YES (NO)

9. **Lose cam locks and zip ties on GAC hoses?**
YES (NO)

10. **Diff Pressure (pre/post Air Filter) > 25"WC?**
YES (NO)
Replace filter if > 25" WC

11. **Do these fall to zero when system is turned OFF?**

Flow Meter	(YES)	NO
Pressure Gauges	(YES)	NO
Vacuum Gauges	(YES)	NO
Bi-Metal Thermometer	(YES)	NO

12. **Where Vapor Samples taken?**
(YES) NO

SAMPLING		
Point	Time	Canister-ID
PRE - C	1245	L4146
MID - C	1240	SL1215
POST - C	1235	LA7174

ADDITIONAL COMMENTS:

Changed GAC prior to sampling. 1 spent GAC + 1 water drum (full) on-site.
Blower 1 running upon arrival & departure

11-8-11

BUILDING C - BIWEEKLY SSD SYSTEM CHECK

LMC Middle River Complex, Middle River, Maryland

Date/Time: 11-23-11 / 1325
Field Personnel: SC
Room Temperature: 60°F

Planned Activities:
System Check: YES
Vacuum Monitoring: —
GAC Changeout: —
Quarterly Check: —
GAC Vapor Samples: —

Location	Time	Vacuum post-KO (in. H2O)	Vacuum post-Filter (in. H2O)	Pressure post-Blower (in. H2O)	Blower Temp (°F)	Flow (scfm)
General System Data	1325	33	41	9	126	55

Location	Time	Leg Vacuum (in. H2O)	Leg Air Velocity (ft/min)	Leg Flow (scfm)
SV-21	1330	21	576	
SV-23	1334	34.6	2410	

Leg Flow = Velocity x Area of Cross section for a 2" dia sch 40 PVC pipe

Leg Flow = Velocity x (π) x (1/12)² = Velocity x 0.0218

Well	SV-1	SV-22	SV-2	SV-2C	SV-3C	SV-3	SV-4
Time	1334	1337	1339	1342	1346	1350	1352
Vacuum ("H2O)	0.61	0.03	0.16	0.43	0.01	2.86	3.82
24 hour							

1. **Was the blower shut down upon arrival?** YES (NO)

2. **Where there any alarm conditions upon arrival?** YES (NO)
   Comment: —

3. **Was the blower ambient air valve open?** YES (NO)

4. **Was there water in the Moisture Separator tank? If Yes, volume?** (YES) NO Volume (gal): 15 gal

5. **Was Moisture Separator tank drained?** (YES) NO — 15 gal

6. **Any leaks on Moisture Separator or piping?** YES (NO)

7. **Was the vacuum/flow on either leg adjusted?** YES (NO)
   Comment: —

8. **Any leaks or damage on GAC drums or piping?** YES (NO)

9. **Lose cam locks and zip ties on GAC hoses?** YES (NO)

10. **Diff Pressure (pre/post Air Filter) > 25"WC?** YES (NO)
    Replace filter if > 25" WC

11. **Do these fall to zero when system is turned OFF?**

Flow Meter	(YES)	NO
Pressure Gauges	(YES)	NO
Vacuum Gauges	(YES)	NO
Bi-Metal Thermometer	(YES)	NO

12. **Where Vapor Samples taken?** YES (NO)

SAMPLING		
Point	Time	Canister-ID
PRE - C		
MID - C		
POST - C		

ADDITIONAL COMMENTS:

Blower 2 running upon arrival & departure

11-23-11 / 1430

BUILDING C - BIWEEKLY SSD SYSTEM CHECK

LMC Middle River Complex, Middle River, Maryland

Date/Time: 12-6-11 / 1030 **Room Temperature:** 60°F

Field Personnel: SC

Planned Activities: System Check yes; Vacuum Monitoring –; GAC Changeout –; Quarterly Check –; GAC Vapor Samples yes

Location	Time	Vacuum post-KO (in. H2O)	Vacuum post-Filter (in. H2O)	Pressure post-Blower (in. H2O)	Blower Temp (°F)	Flow (scfm)
General System Data	1030	32	40	9	122	55

Location	Time	Leg Vacuum (in. H2O)	Leg Air Velocity (ft/min)	Leg Flow (scfm)
SV-21	1035	20.5	902	
SV-23	1039	33.71	2652	

Leg Flow = Velocity x Area of Cross section for a 2" dia sch 40 PVC pipe

Leg Flow = Velocity x (π) x (1/12)² = Velocity x 0.0218

Well	SV-1	SV-22	SV-2	SV-2C	SV-3C	SV-3	SV-4
Time	1042	1043	1045	1052	1053	1105	1102
Vacuum ("H2O)	0.57	0.01	0.13	0.35	0.04	2.50	3.54
24 hour							

1. **Was the blower shut down upon arrival?** YES (NO)

2. **Where there any alarm conditions upon arrival?** YES (NO)
   Comment: _____

3. **Was the blower ambient air valve open?** YES (NO)

4. **Was there water in the Moisture Separator tank? If Yes, volume?** YES (NO) Volume (gal): _____

5. **Was Moisture Separator tank drained?** YES (NO)

6. **Any leaks on Moisture Separator or piping?** YES (NO)

7. **Was the vacuum/flow on either leg adjusted?** YES (NO)
   Comment: _____

8. **Any leaks or damage on GAC drums or piping?** YES (NO)

9. **Lose cam locks and zip ties on GAC hoses?** YES (NO)

10. **Diff Pressure (pre/post Air Filter) > 25"WC?** YES (NO)
    Replace filter if > 25" WC

11. **Do these fall to zero when system is turned OFF?**

Flow Meter	(YES)	NO
Pressure Gauges	(YES)	NO
Vacuum Gauges	(YES)	NO
Bi-Metal Thermometer	(YES)	NO

12. **Where Vapor Samples taken?** (YES) NO

1120

SAMPLING		
Point	Time	Canister-ID
PRE - C	~~1107~~ SC	L-5167
MID - C	1115	L-5118
POST - C	1110	LA7077

ADDITIONAL COMMENTS:

Blower 1 running upon arrival, Blower 2 running upon departure.

BUILDING C - BIWEEKLY SSD SYSTEM CHECK

LMC Middle River Complex, Middle River, Maryland

Date/Time: 12-22-11 / 1040

Field Personnel: SC

Room Temperature: 65°F

Planned Activities: System Check Yes; Quarterly Check ~; Vacuum Monitoring ~; GAC Vapor Samples ~; GAC Changeout ~

Location	Time	Vacuum post-KO (in. H2O)	Vacuum post-Filter (in. H2O)	Pressure post-Blower (in. H2O)	Blower Temp (°F)	Flow (scfm)
General System Data	1041	32	38	10	120	55

Location	Time	Leg Vacuum (in. H2O)	Leg Air Velocity (ft/min)	Leg Flow (scfm)
SV-21	1044	19.5	701	
SV-23	1046	31.82	2418	

Leg Flow = Velocity x Area of Cross section for a 2" dia sch 40 PVC pipe

Leg Flow = Velocity x (π) x (1/12)² = Velocity x 0.0218

Well	SV-1	SV-22	SV-2	SV-2C	SV-3C	SV-3	SV-4
Time	1059	1055	1057	1100	1102	1104	1106
Vacuum ("H2O)	0.53	0.02	0.12	0.33	0.04	2.27	3.02
24 hour							

1. **Was the blower shut down upon arrival?** YES (NO)

2. **Where there any alarm conditions upon arrival?** YES (NO)
   Comment: _____

3. **Was the blower ambient air valve open?** YES (NO)

4. **Was there water in the Moisture Separator tank? If Yes, volume?** YES (NO) Volume (gal): _____

5. **Was Moisture Separator tank drained?** YES (NO) - No water

6. **Any leaks on Moisture Separator or piping?** YES (NO)

7. **Was the vacuum/flow on either leg adjusted?** YES (NO)
   Comment: _____

8. **Any leaks or damage on GAC drums or piping?** YES (NO)

9. **Lose cam locks and zip ties on GAC hoses?** YES (NO)

10. **Diff Pressure (pre/post Air Filter) > 25"WC?** YES (NO)
    Replace filter if > 25" WC

11. **Do these fall to zero when system is turned OFF?**

Flow Meter	(YES)	NO
Pressure Gauges	(YES)	NO
Vacuum Gauges	(YES)	NO
Bi-Metal Thermometer	(YES)	NO

12. **Where Vapor Samples taken?** YES (NO)

SAMPLING		
Point	Time	Canister-ID
PRE - C		
MID - C		
POST - C		

ADDITIONAL COMMENTS:

Blower 2 running upon arrival & departure
Dropped off 1 55-gal drum for K.O water

12-22-11 / 1130

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 11/3/12 Time: 1315 Personnel: DLM/SC Room Temp: 55°F

GENERAL SYSTEM MONITORING							
Time	Blower Number	Vacuum ~~Pre-Filter~~ post-KO (in. H_2O)	Vacuum post-Filter (in. H_2O)	*Diff Pressure of Filters (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
1315	2	40	44	4	8	120	50

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	**Flow (scfm)	Comments
SV-21-C	1320	19	708	15,434	
SV-23-C	1321	41.74	2078	45,300	

** Flow = Velocity x 0.0218

VACUUM MONITORING		
Well	Time	Vacuum (in. H_2O)
001-C-SV	1323	0.50
SV-22-C	1324	0.03
SV-2-C	1326	0.13
SV-24-C	1327	0.33
SV-25-C	1328	0.01
SV-3-C	1329	2.40
SV-4-C	1330	3.57

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
C-PRE	1335	L-5177
C-MID	1336	L-A7111
C-POST	1337	L-4147

ADDITIONAL COMMENTS:

*Switch to pump 1

1. Was the blower running upon arrival?
(YES) NO

2. Where there any alarm conditions upon arrival?
YES (NO)
Comment: _____

3. Was the blower ambient air valve open?
YES (NO)

4. Was there water in the knockout tank?
YES (NO) Volume: _____

5. Was the vacuum/flow on either leg adjusted?
YES (NO)
Comment: _____

6. Are there any leaks or damage to system hoses?
YES (NO)

7. Is there any damage to system components?
YES (NO)

8. Are all locks and zip-ties secure?
(YES) NO

9. Do the these fall to zero when system is turned off?
Flow Gauge (YES) NO
Pressure Gauges (YES) NO
Vacuum Gauges (YES) NO

10. Was there a GAC change out?
YES (NO)

11. How many unused GAC units are at this location?
NEW 1 SPENT 3

12. How many water drums are on-site?
EMPTY 0 PART FULL 0 FULL 3

FIELD REP. SIGNATURE: Dawn L Marhuss Time: 1417

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 1/17/12 Time: 1105 Personnel: DLM Room Temp: 70°F

GENERAL SYSTEM MONITORING

Time	Blower Number	Vacuum Pre-Filter ~~post-KO~~ (in. H_2O)	Vacuum post-Filter (in. H_2O)	*Diff Pressure of Filters (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
1110	1	50	58	8	7	126	45

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	**Flow (scfm)	Comments
SV-21-C	1113	16.05	865	18.86	
SV-23-C	1115	46.35	> max		

** Flow = Velocity x 0.0218

VACUUM MONITORING

Well	Time	Vacuum (in. H_2O)
001-C-SV	1118	0.50
SV-22-C	1122	0.02
SV-2-C	1125	0.11
SV-24-C	1128	0.36
SV-25-C	1130	0.02
SV-3-C	1133	2.80
SV-4-C	1136	3.62

MONTHLY VAPOR SAMPLING

Location	Time	Canister ID
C-PRE	—	—
C-MID	—	—
C-POST	—	—

ADDITIONAL COMMENTS:

1104 - System Shutdown - water in basement. Talked to worker who said the water was coming from outside, in through the door.

*Drained H_2O from exhaust stack

1. **Was the blower running upon arrival?** (YES) NO
2. **Where there any alarm conditions upon arrival?** YES (NO)
   Comment: _____
3. **Was the blower ambient air valve open?** YES (NO)
4. **Was there water in the knockout tank?** (YES) NO Volume: ~7.5 gal
5. **Was the vacuum/flow on either leg adjusted?** YES (NO)
   Comment: _____
6. **Are there any leaks or damage to system hoses?** YES (NO)
7. **Is there any damage to system components?** YES (NO)
8. **Are all locks and zip-ties secure?** (YES) NO
9. **Do the these fall to zero when system is turned off?**
   Flow Gauge (YES) NO
   Pressure Gauges (YES) NO
   Vacuum Gauges (YES) NO
10. **Was there a GAC change out?** (YES) 1/16/12 ~~(NO)~~
11. **How many unused GAC units are at this location?** NEW 1 SPENT 3
12. **How many water drums are on-site?** EMPTY 2 PART FULL 1 FULL 2

FIELD REP. SIGNATURE: Daniel L Mahoney Time: 1157

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 11/31/12 **Time:** 1622 **Personnel:** DLM **Room Temp:** 70°F

GENERAL SYSTEM MONITORING

Time	Blower Number	Vacuum ~~post-KO~~ Pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	*Diff Pressure of Filters (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
1127	1	40	48	8	8	122	~52

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	**Flow (scfm)	Comments
SV-21-C	1135	13.63	778	16.96	
SV-23-C	1138	40.18	2029	44.23	

** Flow = Velocity x 0.0218

VACUUM MONITORING

Well	Time	Vacuum (in. H_2O)
001-C-SV	1141	0.46
SV-22-C	1143	0.02
SV-2-C	1145	0.11
SV-24-C	1148	0.33
SV-25-C	1150	0.02
SV-3-C	1152	2.27
SV-4-C	1155	2.98

MONTHLY VAPOR SAMPLING

Location	Time	Canister ID
C-PRE	—	—
C-MID	—	—
C-POST	—	—

1. Was the blower running upon arrival?
(YES) NO

2. Where there any alarm conditions upon arrival?
YES (NO)

Comment: _____

3. Was the blower ambient air valve open?
YES (NO)

4. Was there water in the knockout tank?
(YES) NO Volume: ~9.5gal

5. Was the vacuum/flow on either leg adjusted?
YES (NO)

Comment: _____

6. Are there any leaks or damage to system hoses?
YES (NO)

7. Is there any damage to system components?
*(YES)

8. Are all locks and zip-ties secure?
(YES) NO

9. Do the these fall to zero when system is turned off?

Flow Gauge	YES	NO
Pressure Gauges	YES	NO
Vacuum Gauges	YES	NO

10. Was there a GAC change out?
YES (NO)

11. How many unused GAC units are at this location?
NEW 3 SPENT 0

12. How many water drums are on-site?
EMPTY 1 PART FULL 1 FULL 3

ADDITIONAL COMMENTS:

SV-24-C needs a fitting for the tubing.
1156: Turn off system
1222: Turn on system - Pump 2
*Note: Emergency shut-off doesn't work

FIELD REP. SIGNATURE: Dawn L Markey **Time:** 1237

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 2/16/12 **Time:** 1350 **Personnel:** DLM **Room Temp:** 73°F

GENERAL SYSTEM MONITORING

Time	Blower Number	Vacuum ~~post KO~~ Pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	*Diff Pressure of Filters (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
1359	2	38	44	6	9	120	54

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	**Flow (scfm)	Comments
SV-21-C	1401	13.46	729	15.89	
SV-23-C	1405	37.60	2116	46.13	

** Flow = Velocity x 0.0218

VACUUM MONITORING

Well	Time	Vacuum (in. H_2O)
001-C-SV	1408	0.47
SV-22-C	1410	0.00
SV-2-C	1413	0.09
SV-24-C	1415	0.29
SV-25-C	1417	0.03
SV-3-C	1419	2.[illegible]14
SV-4-C	1422	3.35

MONTHLY VAPOR SAMPLING

Location	Time	Canister ID
C-PRE	1427	L5200
C-MID	1428	L5194
C-POST **	1429	LA7124

ADDITIONAL COMMENTS:

* Emergency shut-off lever is broken

** Sample may have gotten H_2O in it.

1. **Was the blower running upon arrival?** (YES) NO
2. **Where there any alarm conditions upon arrival?** YES (NO)
   Comment: _____
3. **Was the blower ambient air valve open?** YES (NO)
4. **Was there water in the knockout tank?** YES (NO) Volume: _____
5. **Was the vacuum/flow on either leg adjusted?** YES (NO)
   Comment: _____
6. **Are there any leaks or damage to system hoses?** YES (NO)
7. **Is there any damage to system components?** (YES)* NO
8. **Are all locks and zip-ties secure?** (YES) NO
9. **Do the these fall to zero when system is turned off?**
   Flow Gauge (YES) NO
   Pressure Gauges (YES) NO
   Vacuum Gauges (YES) NO
10. **Was there a GAC change out?** YES (NO)
11. **How many unused GAC units are at this location?** NEW 3 SPENT 0
12. **How many water drums are on-site?** EMPTY 2 PART FULL 0 FULL 3

FIELD REP. SIGNATURE: Dawn L Martin **Time:** 1448

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 2/29/12 Time: 1030 Personnel: DLM/DC Room Temp: 50

GENERAL SYSTEM MONITORING							
Time	Blower Number	~~Pre-Filter~~ ~~post-KO~~ Vacuum (in. H_2O)	Vacuum post-Filter (in. H_2O)	*Diff Pressure of Filters (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
1037	Pump 2	-38	-42	4	9	114	55

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	**Flow (scfm)	Comments
SV-21-C	1042	13.13	783	17.07	
SV-23-C	1045	36.94	2034	44.34	

** Flow = Velocity x 0.0218

VACUUM MONITORING		
Well	Time	Vacuum (in. H_2O)
001-C-SV	1048	0.45
SV-22-C	1049	0.01
SV-2-C	1051	0.09
SV-24-C	1053	0.30
SV-25-C	1056	0.01
SV-3-C	1101	2.05
SV-4-C	1107	2.90

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
C-PRE	—	—
C-MID	—	—
C-POST	—	—

ADDITIONAL COMMENTS:

7. Emergency shut off not working
SV-3-C - tubing was clipped and repaired!
1108 - Turn system off
1119 - Turn system on - Pump 2
*Changed batteries in auto-dialer

1. **Was the blower running upon arrival?**
   (YES) NO
2. **Where there any alarm conditions upon arrival?**
   YES (NO)
   Comment: _____
3. **Was the blower ambient air valve open?**
   YES (NO)
4. **Was there water in the knockout tank?**
   YES (NO) Volume: _____
5. **Was the vacuum/flow on either leg adjusted?**
   YES (NO)
   Comment: _____
6. **Are there any leaks or damage to system hoses?**
   YES (NO)
7. **Is there any damage to system components?**
   (YES) NO
8. **Are all locks and zip-ties secure?**
   (YES) NO
9. **Do the these fall to zero when system is turned off?**
   Flow Gauge (YES) NO
   Pressure Gauges (YES) NO
   Vacuum Gauges (YES) NO
10. **Was there a GAC change out?**
    YES (NO)
11. **How many unused GAC units are at this location?**
    NEW 3 SPENT 0
12. **How many water drums are on-site?**
    EMPTY 1 PART FULL 1 FULL 3

FIELD REP. SIGNATURE: Dawn L Machuca Time: 1202

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 3/15/12 **Time:** 1118 **Personnel:** DLM **Room Temp:** 73°F

GENERAL SYSTEM MONITORING							
Time	Blower Number	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	*Diff Pressure of Filters (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
1128	2	38	44	6	9	130	55

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	**Flow (scfm)	Comments
SV-21-C	1132	13.26	747	16.28	
SV-23-C	1133	37.26	2045	44.58	

** Flow = Velocity x 0.0218

VACUUM MONITORING		
Well	Time	Vacuum (in. H_2O)
001-C-SV	1136	0.49
SV-22-C	1138	0.01
SV-2-C	1140	0.11
SV-24-C	1142	0.34
SV-25-C	1144	0.03
SV-3-C	1146	2.06
SV-4-C	1148	3.27

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
C-PRE	1157	L5176
C-MID	1158	L5151
C-POST	1159	L3841

ADDITIONAL COMMENTS:

Switch to Pump 1

1. Was the blower running upon arrival?
(YES) NO

2. Where there any alarm conditions upon arrival?
YES (NO)
Comment: _____

3. Was the blower ambient air valve open?
YES (NO)

4. Was there water in the knockout tank?
YES (NO) Volume: _____

5. Was the vacuum/flow on either leg adjusted?
YES (NO)
Comment: _____

6. Are there any leaks or damage to system hoses?
YES (NO)

7. Is there any damage to system components?
(YES) NO Emergency Shut off

8. Are all locks and zip-ties secure?
(YES) NO

9. Do the these fall to zero when system is turned off?
Flow Gauge (YES) NO
Pressure Gauges (YES) NO
Vacuum Gauges (YES) NO

10. Was there a GAC change out?
YES (NO)

11. How many unused GAC units are at this location?
NEW 3 SPENT 0

12. How many water drums are on-site?
EMPTY 1 PART FULL 1 FULL 3

FIELD REP. SIGNATURE: Dawn L Mullaney **Time:** 1212

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 3/29/12 Time: 1025 Personnel: Dustin Cates Room Temp: 70°F

GENERAL SYSTEM MONITORING							
Time	Blower Number	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	*Diff Pressure of Filters (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
1025	Pump 1	39	47	8	8	130	53

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	**Flow (scfm)	Comments
SV-21-C	1030	8.53	725	15.81	
SV-23-C	1033	35.60	2030	44.25	

** Flow = Velocity x 0.0218

VACUUM MONITORING		
Well	Time	Vacuum (in. H_2O)
001-C-SV	1040	0.50
SV-22-C	1045	0.00
SV-2-C	1100	0.13
SV-24-C	1054	0.30
SV-25-C	1103	0.04
SV-3-C	1108	2.02
SV-4-C	1049	2.95

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
C-PRE		
C-MID		
C-POST		

ADDITIONAL COMMENTS:

~~SV-2-C not accessible~~ DC

1110 - Turn system off

1113 - Turn system on

1. Was the blower running upon arrival?
(YES) NO

2. Where there any alarm conditions upon arrival?
YES (NO)

Comment: _____

3. Was the blower ambient air valve open?
YES (NO)

4. Was there water in the knockout tank?
YES (NO) Volume: _____

5. Was the vacuum/flow on either leg adjusted?
YES (NO)

Comment: _____

6. Are there any leaks or damage to system hoses?
YES (NO)

7. Is there any damage to system components?
YES (NO)

8. Are all locks and zip-ties secure?
(YES) NO

9. Do the these fall to zero when system is turned off?
Flow Gauge (YES) NO
Pressure Gauges (YES) NO
Vacuum Gauges (YES) NO

10. Was there a GAC change out?
YES (NO)

11. How many unused GAC units are at this location?
NEW 3 SPENT 0

12. How many water drums are on-site?
EMPTY 1 PART FULL 1 FULL 3

FIELD REP. SIGNATURE: Dustin Cates Time: 1126

APPENDIX B—QUARTERLY SYSTEM CHECKS FORMS

BUILDING A - QUARTERLY SSD SYSTEM CHECK

LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Date/Time: 12-15-11 / 0806 **Personnel:** MS + SC

Main Alarm Functions

	Zone	Light?	Call?	Comments:
High Liquid Level Alarm	Zone 1	✓	✓	
High Pressure Alarm	Zone 2	✓	✓	
High Temperature Alarm	Zone 3	✓	✓	Set @ 130°F
Low Pressure Alarm	Zone 4	✓	✓	
Power Alarm	Power	✓	✓	
Batteries	Batteries	✓	N/A	

Visual Inspections

	Condition			
Surrounding Pipes	(Excellent)	Fair	Poor	Comments:
Inlet Filter	(Excellent)	Fair	Poor	Comments:
Exhaust Filter	(Excellent)	Fair	Poor	Comments:
Blower	(Excellent)	Fair	Poor	Comments:
Moisture Separator	(Excellent)	Fair	Poor	Comments: Drained ≈ 30 gallons
GAC Units	(Excellent)	Fair	Poor	Comments:
Sampling Ports	(Excellent)	Fair	Poor	Comments:
Hoses	(Excellent)	Fair	Poor	Comments:
Camlocks	(Excellent)	Fair	Poor	Comments:
Cover Lids of Monitoring Points	(Excellent)	Fair	Poor	Comments:
Tubing of Monitoring Points	(Excellent)	Fair	Poor	Comments:
Vacuum Relief Valve	(Excellent)	Fair	Poor	Comments:

Carbon Units

Spent Carbon Units On-site: 0

Unused Carbon Units On-site: 3

Carbon Units w/ non-haz labels: 2-Unused

Amperage Draw for Blower

Yellow = 4.71

Orange = 5.23

Brown = 5.25

ADDITIONAL COMMENTS

Personnel's Signature: [signature] Date: 12-15-11 / 0830

SSD SYSTEM QUARTERLY SYSTEM CHECK

LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Date: 12/21/10 **Time:** 1705

Personnel: TM & M.S. **Building:** C

BLOWER SKID

Check Water Level Switch? (YES) NO Comments: O.K. Zone 1

Visually Inspect Air Filter? Blower 1: (YES) NO Need Replaced? YES (NO)

Blower 2: (YES) NO Need Replaced? YES (NO)
(replace filter when AP = 2-3 in. Hg)

Check Vacuum Relief Valve? Blower 1: (YES) NO Comments: Works

Blower 2: (YES) NO Comments: Works

Check Temperature Switch? (YES) NO Comments: ~155°

Check Pressure Switch? (YES) NO Comments: Zone 2

Check Low Vacuum Switch? (YES) NO Comments: Brand New October 2010

Measure and Record Amperage Draw on Blower? Line 1 = 2.21 Line 2 = 2.48 Line 3 = 2.18

CARBON UNITS

Check GAC Units for Corrosion and Leaks? (YES) NO Comments: Possible New Hose Needed

Check Condition of Sample Ports? (YES) NO Comments: Slight Rust

Number of Spent Carbon Units On-site: 0 Contain Non-Haz Waste Labels? (YES) NO

Number of Unused Carbon Units On-site: 3

MONITORING POINTS

Cover Lids on the Monitoring Points in Good Condition? (YES) NO Comments:

Vacuum Ports at Extraction Points in Good Condition? (YES) NO Comments:

AUTO-DIALER

Did the Auto-Dialer Dial Out When Alarm Swtich was Triggered?

Zone 1: (YES) NO (High Water level)

Zone 2: (YES) NO (High Pressure)

Zone 3: (YES) NO (temp)

Zone 4: (YES) NO

Does the Battery Need Replaced? YES (NO) Comments: A needs 6 C Batteries

ADDITIONAL COMMENTS

6 C for Building A Batteries ok for C New Drain Hose

Personnel's Signature: [signature] Date: 12/21/10

SSD SYSTEM QUARTERLY SYSTEM CHECK - BUILDING A
LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Date: 3/23/12 **Time:** 0724 **Personnel:** DLM

GENERAL SYSTEM

Check System Components? YES NO Comments: _____

Check System Pipes for Leaks? YES NO Comments: _____

Visually Inspect Air Filter? YES NO Need Replaced? YES NO
(replace filter when AP = 2-3 in. Hg)

Visually Inspect Intake Air Filter? YES NO Need Replaced? YES NO
(replace filter when AP = 2-3 in. Hg)

Check Vacuum Relief Valve? YES NO Comments: _____

Measure and Record Amperage Draw on Blower? Yellow = 4.60 Orange = 5.25 Brown = 5.29

Clean System and Area Around System? YES NO Comments: _____

SYSTEM ALARM SWITCHES AND AUTO-DIALER

Check Water Level Switch? YES NO Did Auto-Dialer Indicate Zone 1 Alarm? YES NO

Check Pressure Switch? YES NO Did Auto-Dialer Indicate Zone 2 Alarm? YES NO

Check Temperature Switch? YES NO Did Auto-Dialer Indicate Zone 3 Alarm? YES NO

Check Low Pressure Switch? YES NO Did Auto-Dialer Indicate Zone 4 Alarm? YES NO

Do the Auto-Dialer Batteries Need Replaced? YES NO

CARBON UNITS

Check GAC Units for Corrosion and Leaks? YES NO Comments: _____

Check Condition of Sample Ports? YES NO Comments: _____

Number of used GAC Units On-site: 0 Contain Non-Haz Waste Labels? YES NO

Number of Unused GAC Units On-site: 3

VACUUM MONITORING POINTS

Check Condition of Well Lids and Bolts? YES NO Comments: _____

Check Condition of Tubing and Seal? YES NO Comments: Need better seal in 015-A-SV

ADDITIONAL COMMENTS

Personnel's Signature: [signature] Date: 3/23/12

SSD SYSTEM QUARTERLY SYSTEM CHECK - BUILDING C

LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Date: 3/23/12 **Time:** 0844 **Personnel:** DLM

GENERAL SYSTEM

Check System Components? (YES) NO Comments: Emergency Shut-off switch was replaced

Check System Pipes for Leaks? (YES) NO Comments: _____

Visually Inspect Air Filter? Blower 1: (YES) NO Need Replaced? YES (NO)
(replace filter when AP = 2-3 in. Hg)

Blower 2: (YES) NO Need Replaced? YES (NO)
(replace filter when AP = 2-3 in. Hg)

Visually Inspect Intake Air Filter? Blower 1: (YES) NO Need Replaced? YES (NO)

Blower 2: (YES) NO Need Replaced? YES (NO)

Check Vacuum Relief Valve? Blower 1: (YES) NO Comments: _____

Blower 2: (YES) NO Comments: _____

Measure and Record Amperage Draw on Blower? Yellow = 2.40 Orange = 2.42 Brown = 2.60

Clean System and Area Around System? (YES) NO Comments: _____

SYSTEM ALARM SWITCHES AND AUTO-DIALER

Check Water Level Switch? (YES) NO Did Auto-Dialer Indicate Zone 1 Alarm? (YES) NO

Check Pressure Switch? (YES) NO Did Auto-Dialer Indicate Zone 2 Alarm? (YES) NO

Check Temperature Switch? (YES) NO Did Auto-Dialer Indicate Zone 3 Alarm? (YES) NO

Check Low Vacuum Switch? (YES)* NO Did Auto-Dialer Indicate Zone 4 Alarm? (YES) NO

Do the Auto-Dialer Batteries Need Replaced? YES (NO)

CARBON UNITS

Check GAC Units for Corrosion and Leaks? (YES) NO Comments: _____

Check Condition of Sample Ports? (YES) NO Comments: _____

Number of used GAC Units On-site: 0 Contain Non-Haz Waste Labels? YES NO

Number of Unused GAC Units On-site: 3

VACUUM MONITORING POINTS

Check Condition of Well Lids and Bolts? (YES) NO Comments: Need new bolt on SV-25-C / SV-3-C

Check Condition of Tubing and Seal? (YES) NO Comments: _____

ADDITIONAL COMMENTS

*Vacuum switch needs replaced and mounted higher to prevent water from getting into the switch

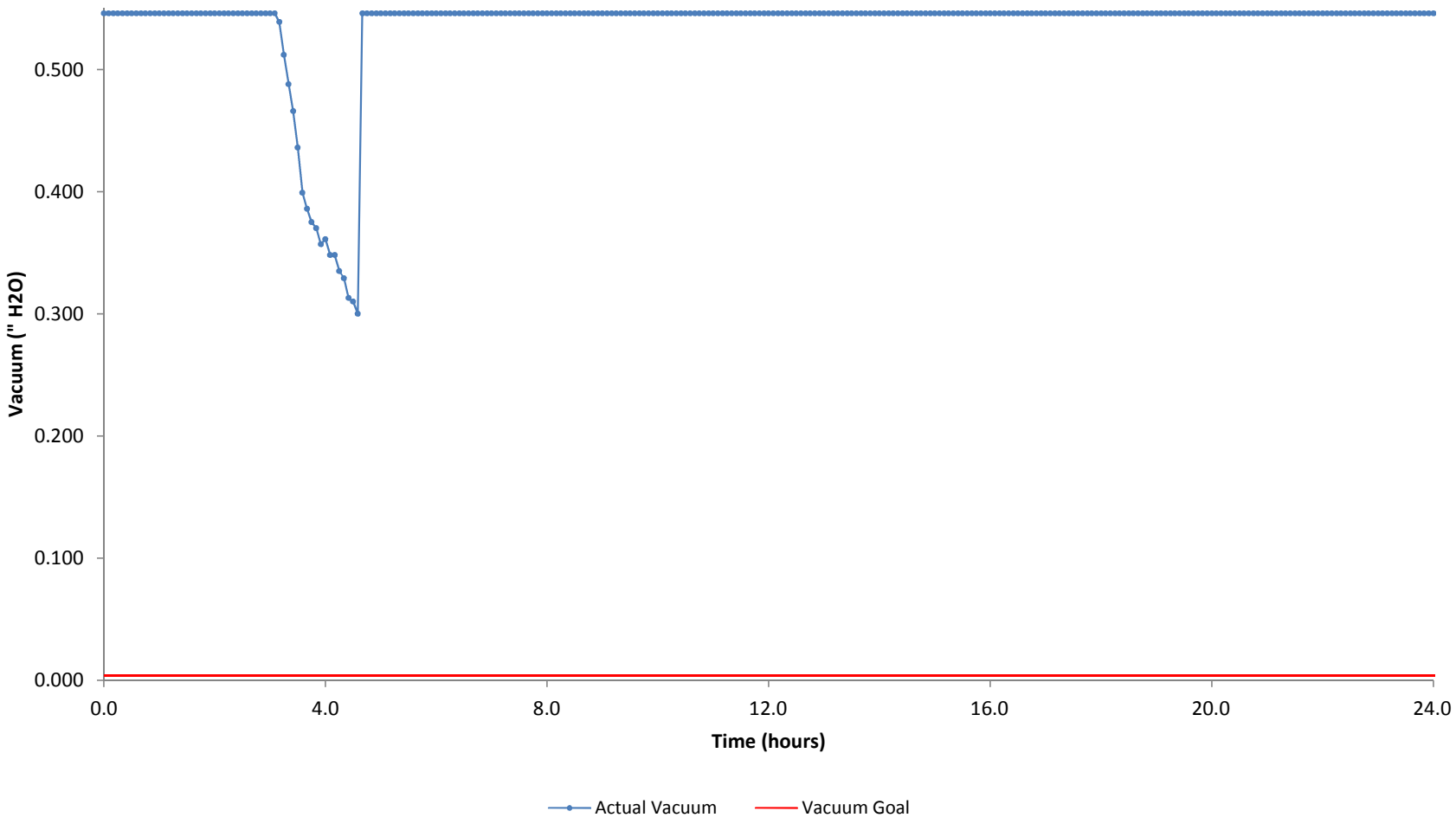
Personnel's Signature: Daniel L Mulvey Date: 3/23/12

APPENDIX C—24-HOUR MONITORING GRAPHS OF RADIUS OF INFLUENCE

24-HOUR VACUUM MONITORING DATA FOR SV-3A

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING A

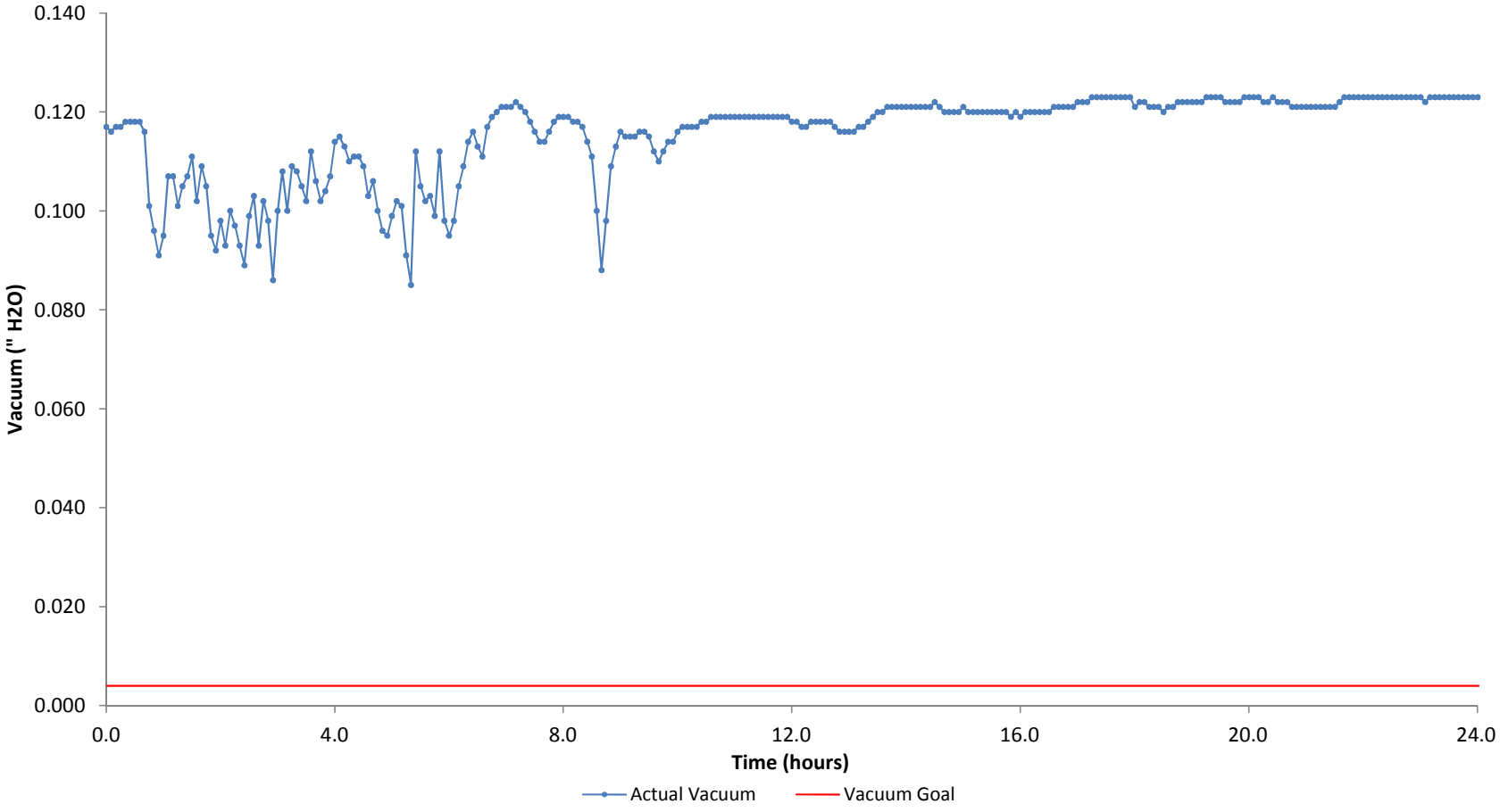
October 2011



24-HOUR VACUUM MONITORING DATA FOR SV-12

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING A

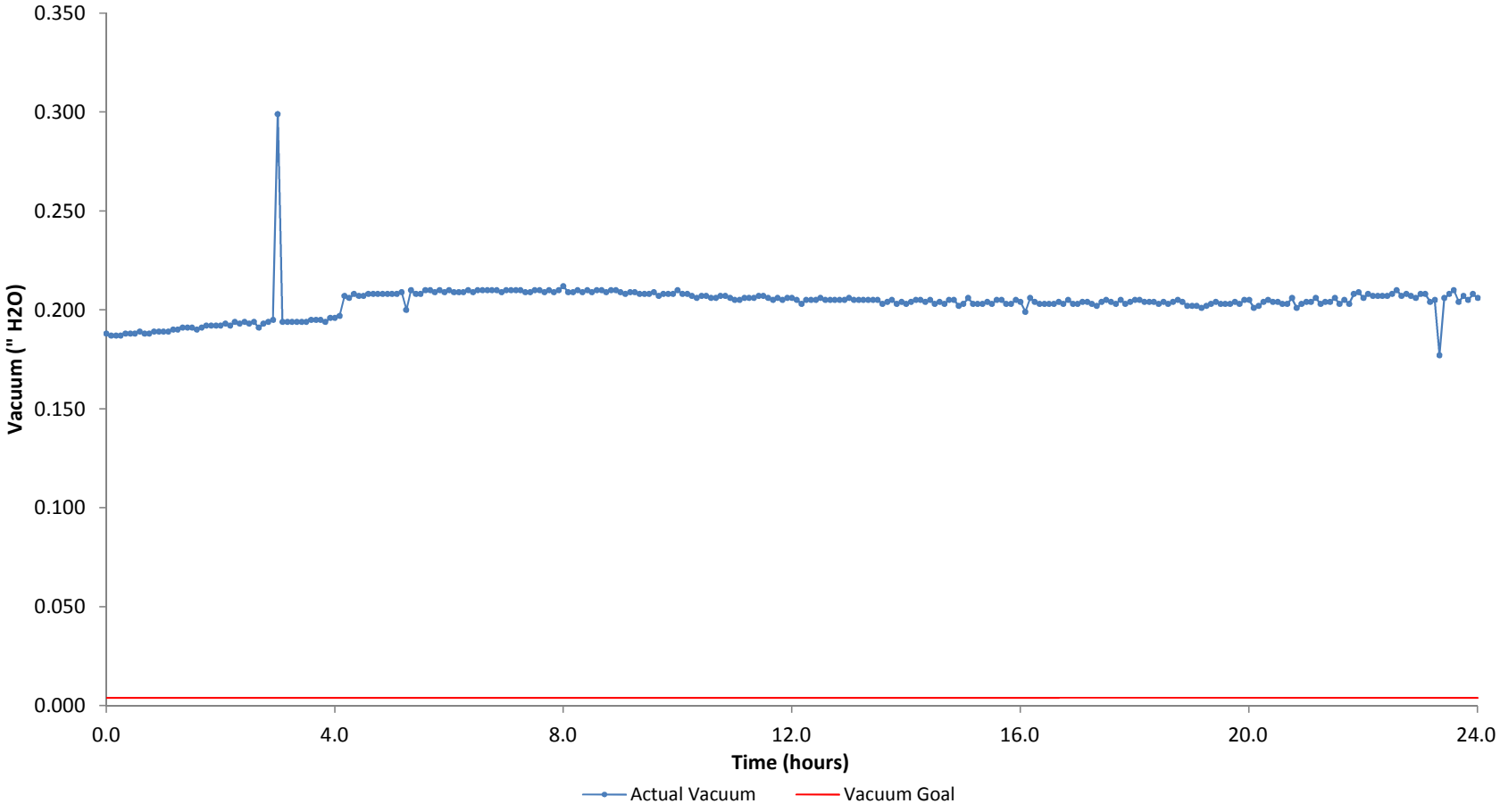
October 2011



24-HOUR VACUUM MONITORING DATA FOR SV-13

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING A

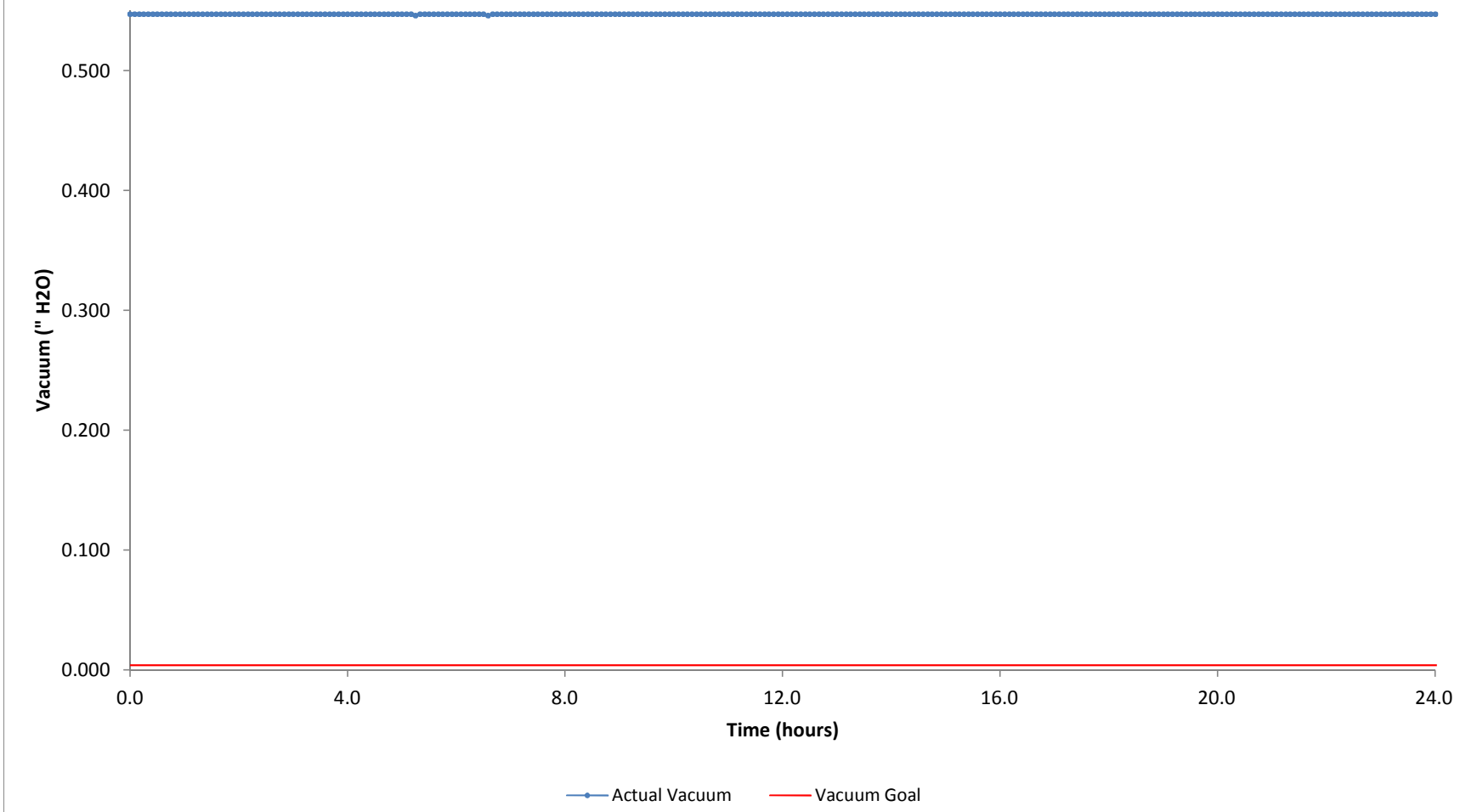
October 2011



24-HOUR VACUUM MONITORING DATA FOR SV-1

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING C

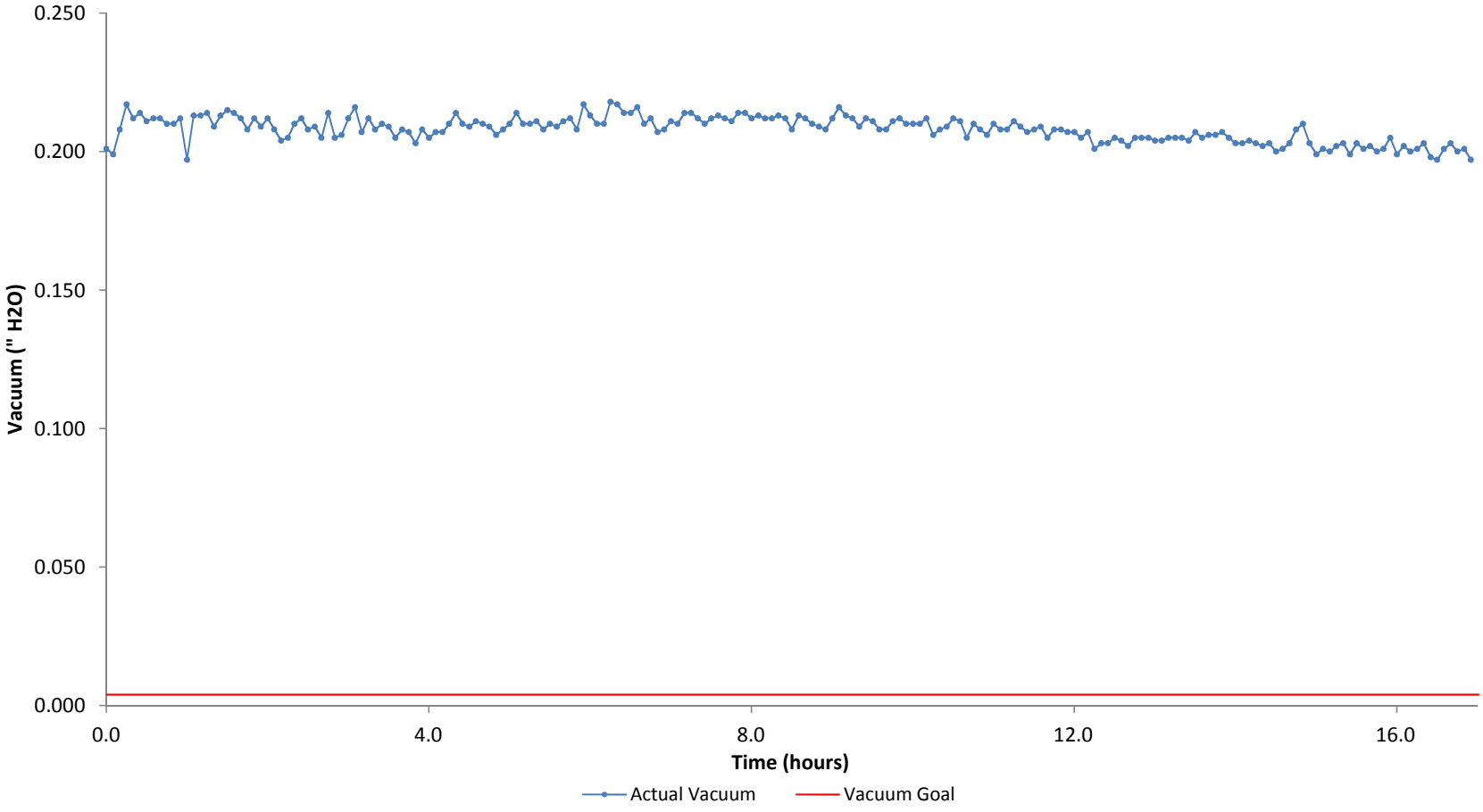
October 2011



24-HOUR VACUUM MONITORING DATA FOR SV-2

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING C

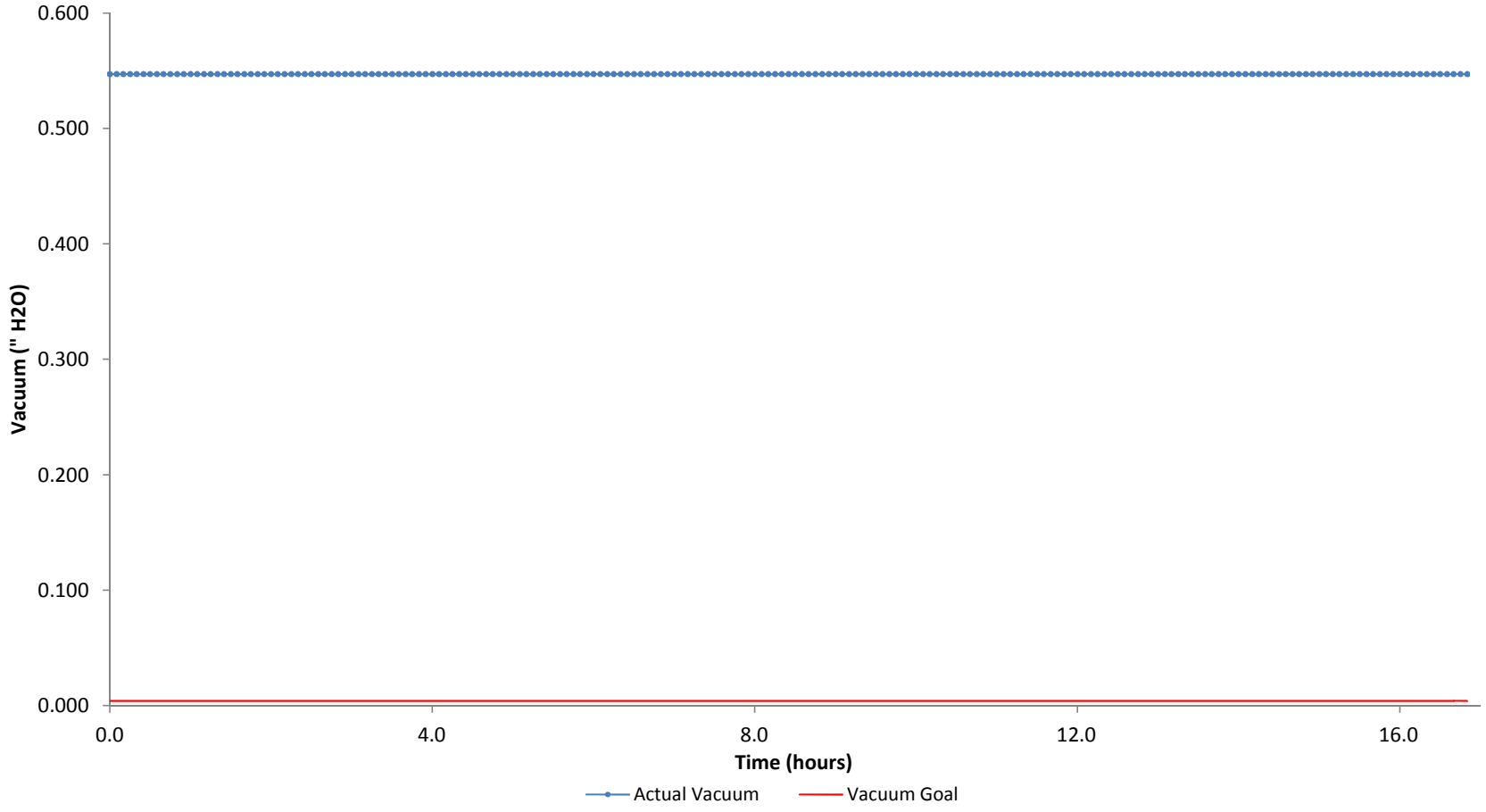
October 2011



24-HOUR VACUUM MONITORING DATA FOR SV-2C

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING C

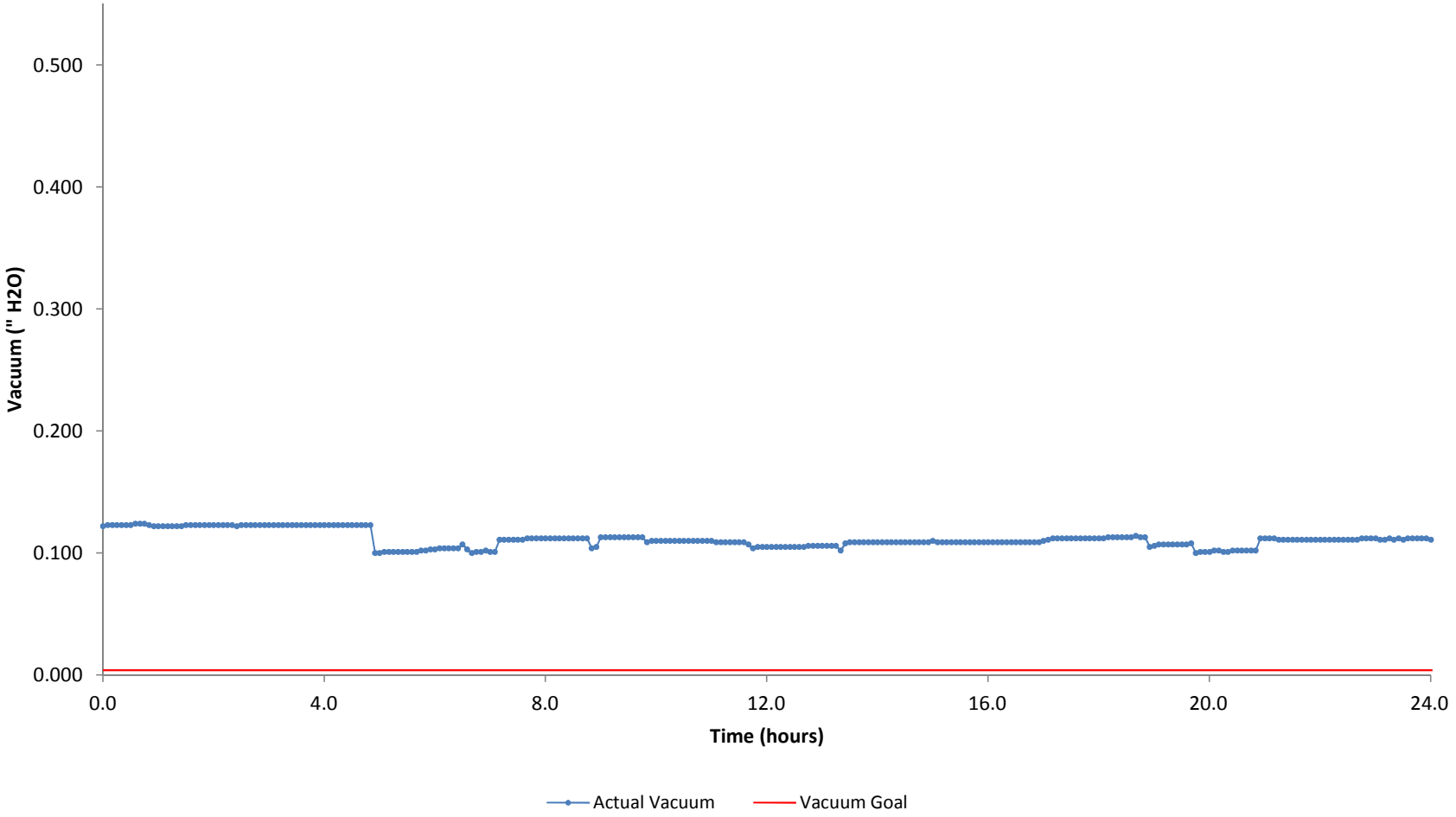
October 2011



24-HOUR VACUUM MONITORING DATA FOR SV-11

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING A

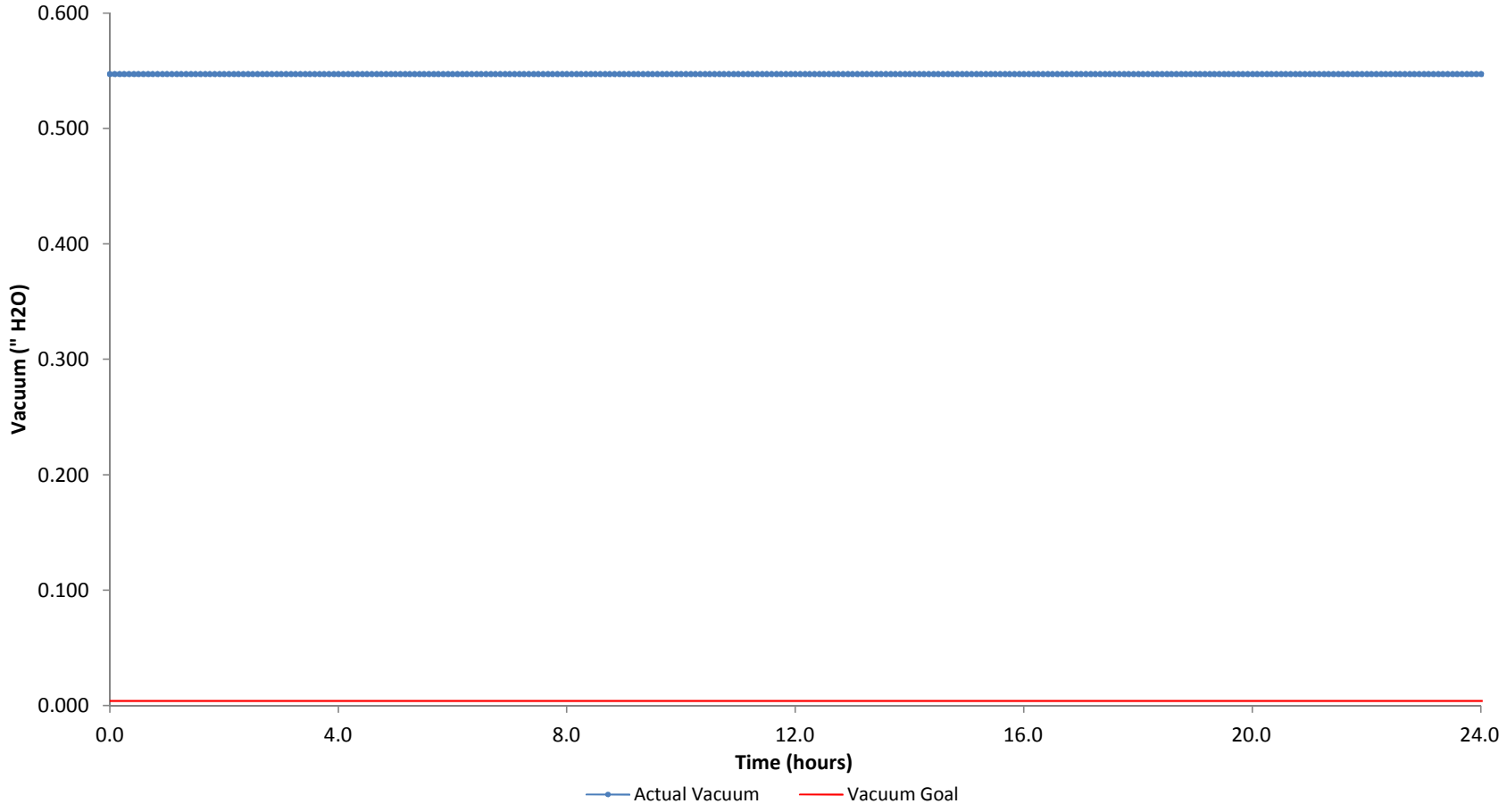
November 2011



24-HOUR VACUUM MONITORING DATA FOR SV-21

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING A

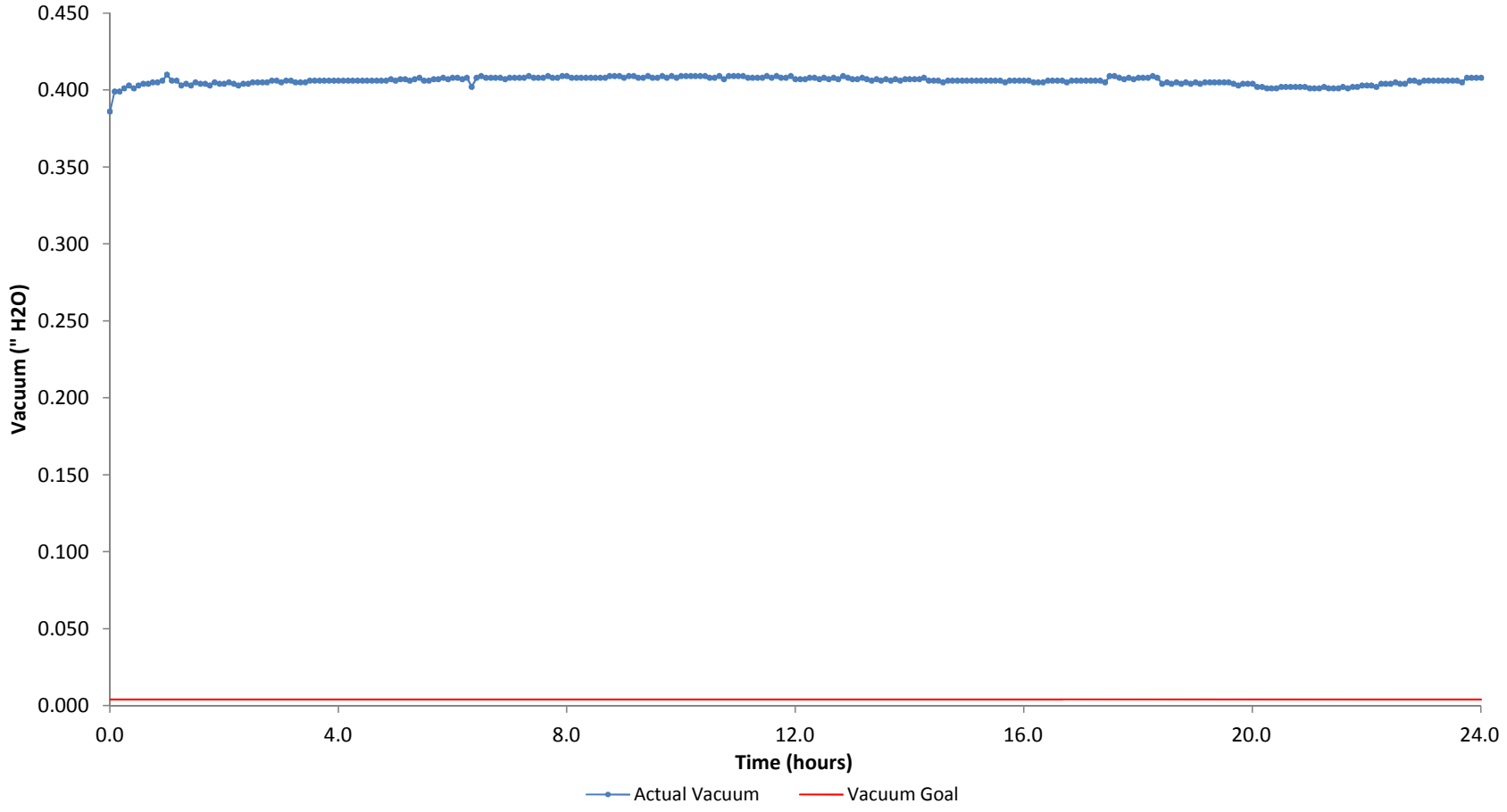
November 2011



24-HOUR VACUUM MONITORING DATA FOR SV-16

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING A

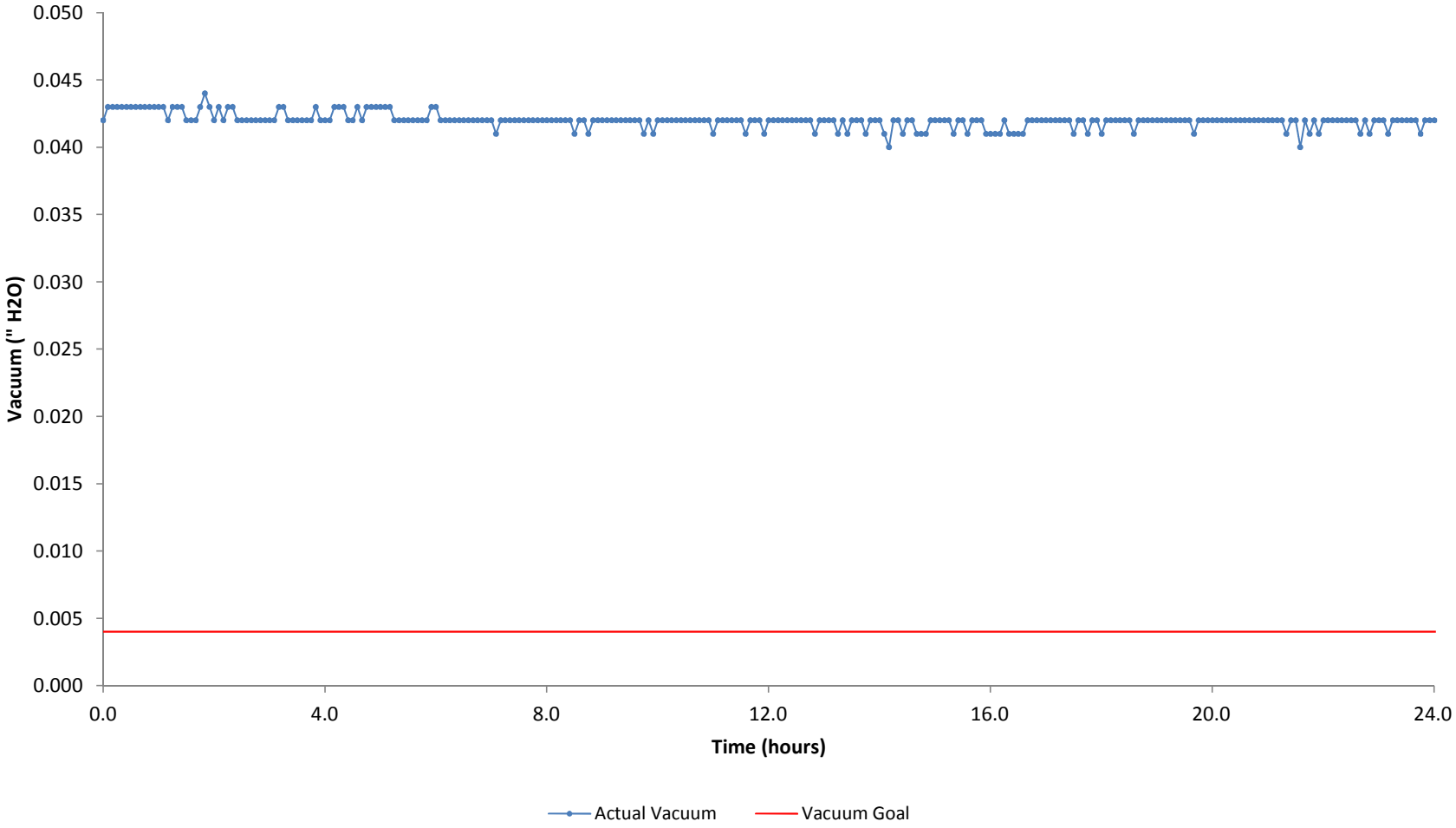
November 2011

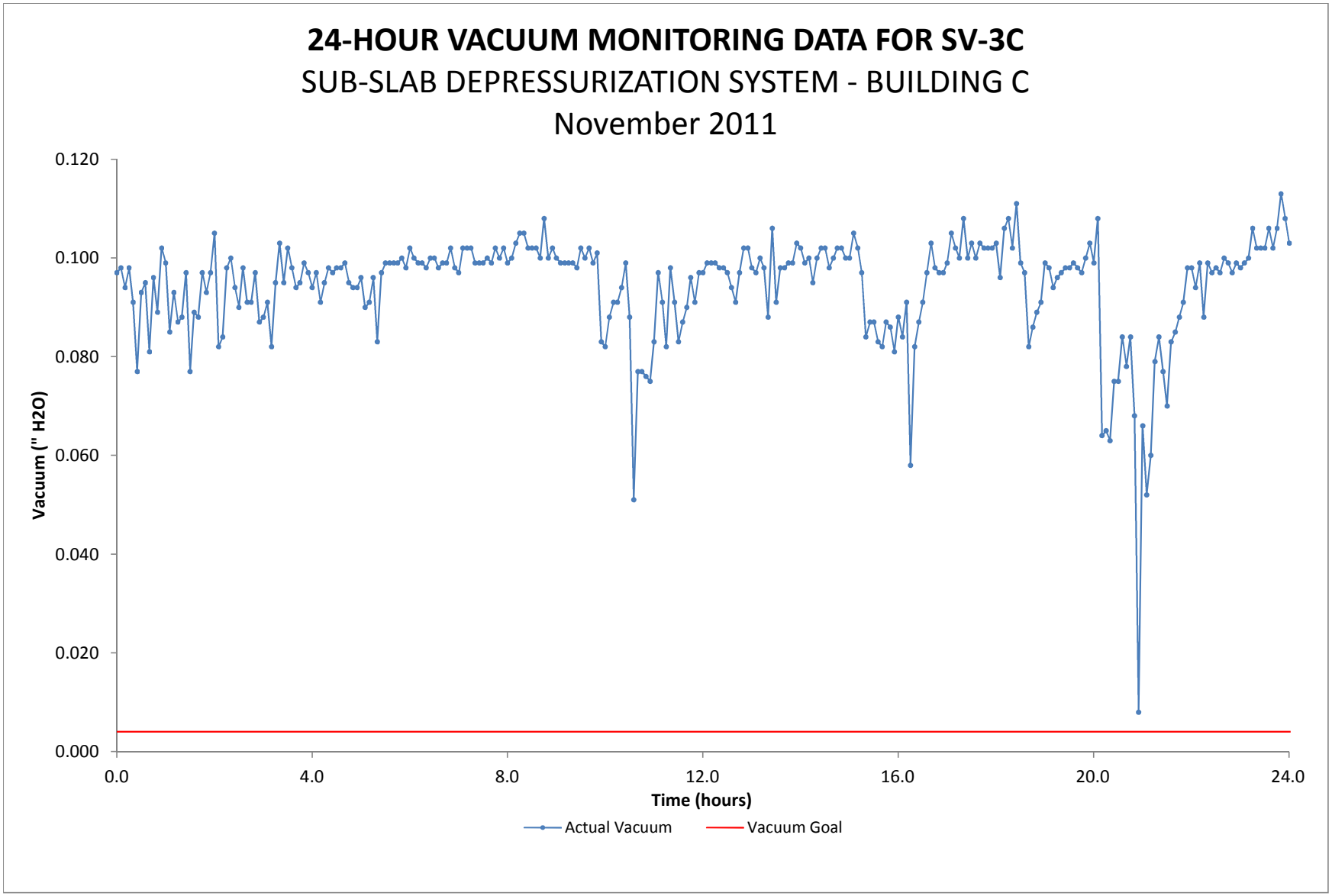


24-HOUR VACUUM MONITORING DATA FOR SV-22

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING C

November 2011

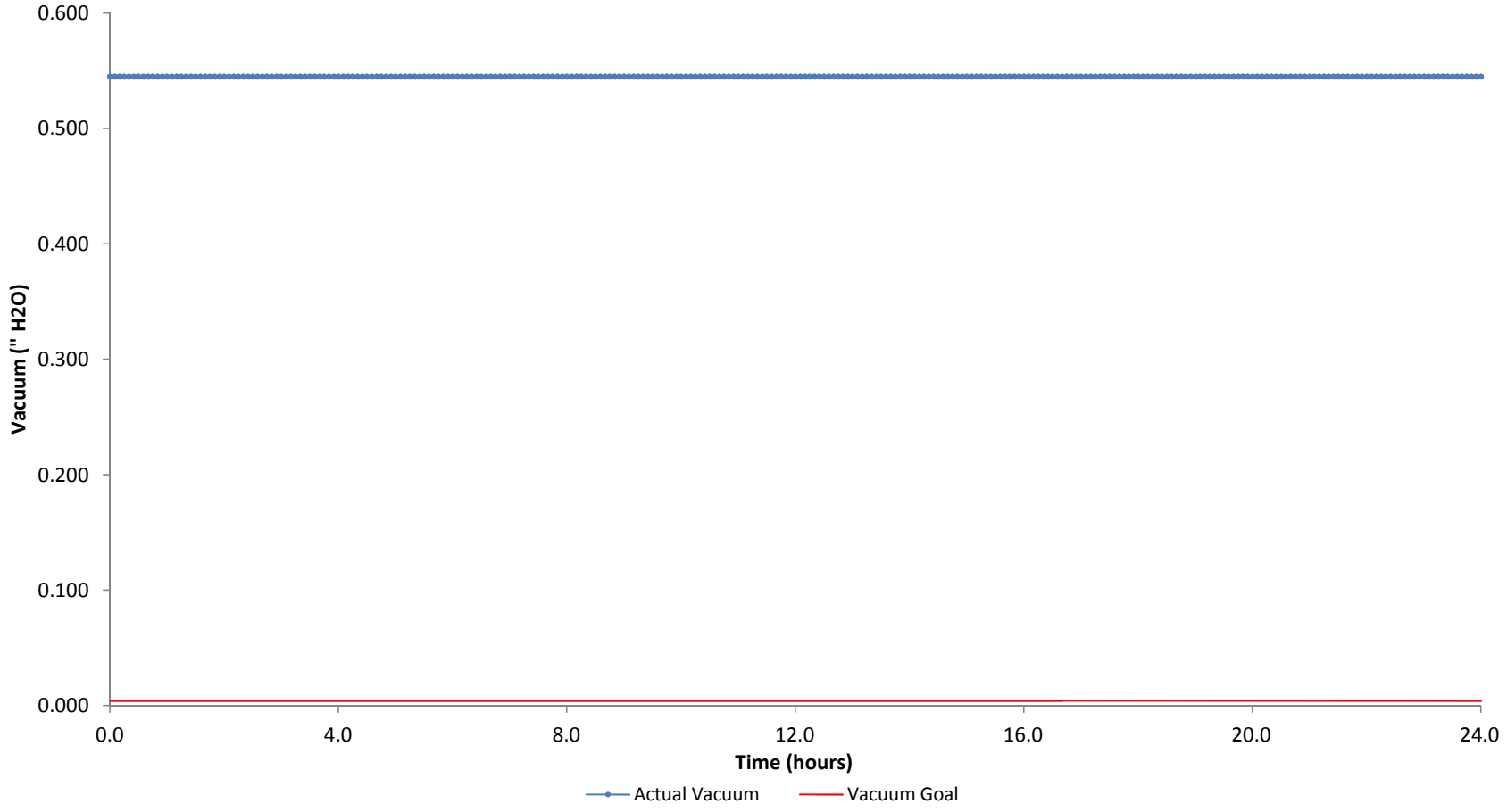



24-HOUR VACUUM MONITORING DATA FOR SV-3C
SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING C
November 2011
0.120
0.100
0.080
0.060
0.040
0.020
0.000
Vacuum (" H2O)
0.0
4.0
8.0
12.0
16.0
20.0
24.0
Time (hours)
Actual Vacuum
Vacuum Goal

24-HOUR VACUUM MONITORING DATA FOR SV-1

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING C

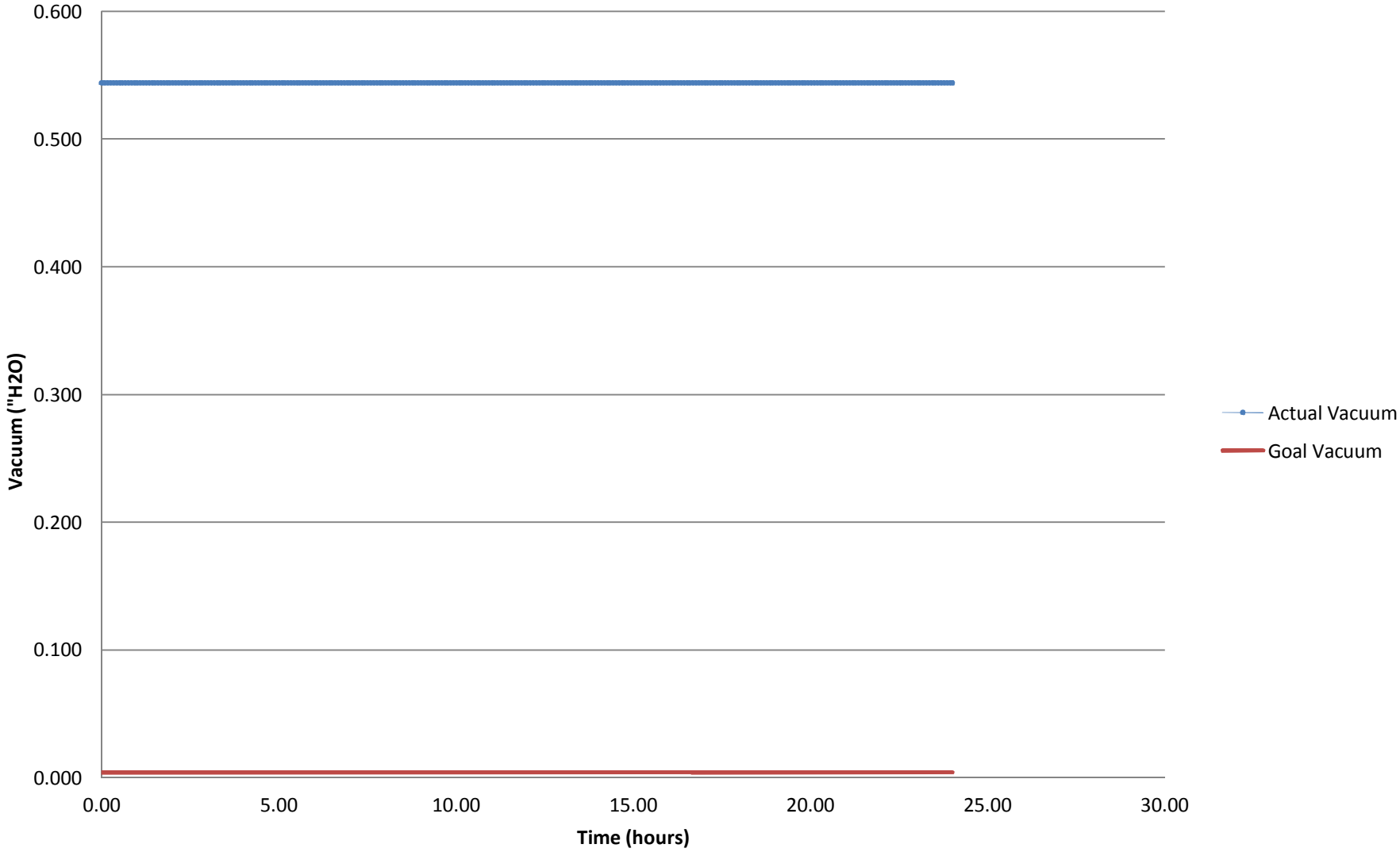
November 2011



24-HOUR VACUUM MONITORING DATA FOR SV-2-A

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING A

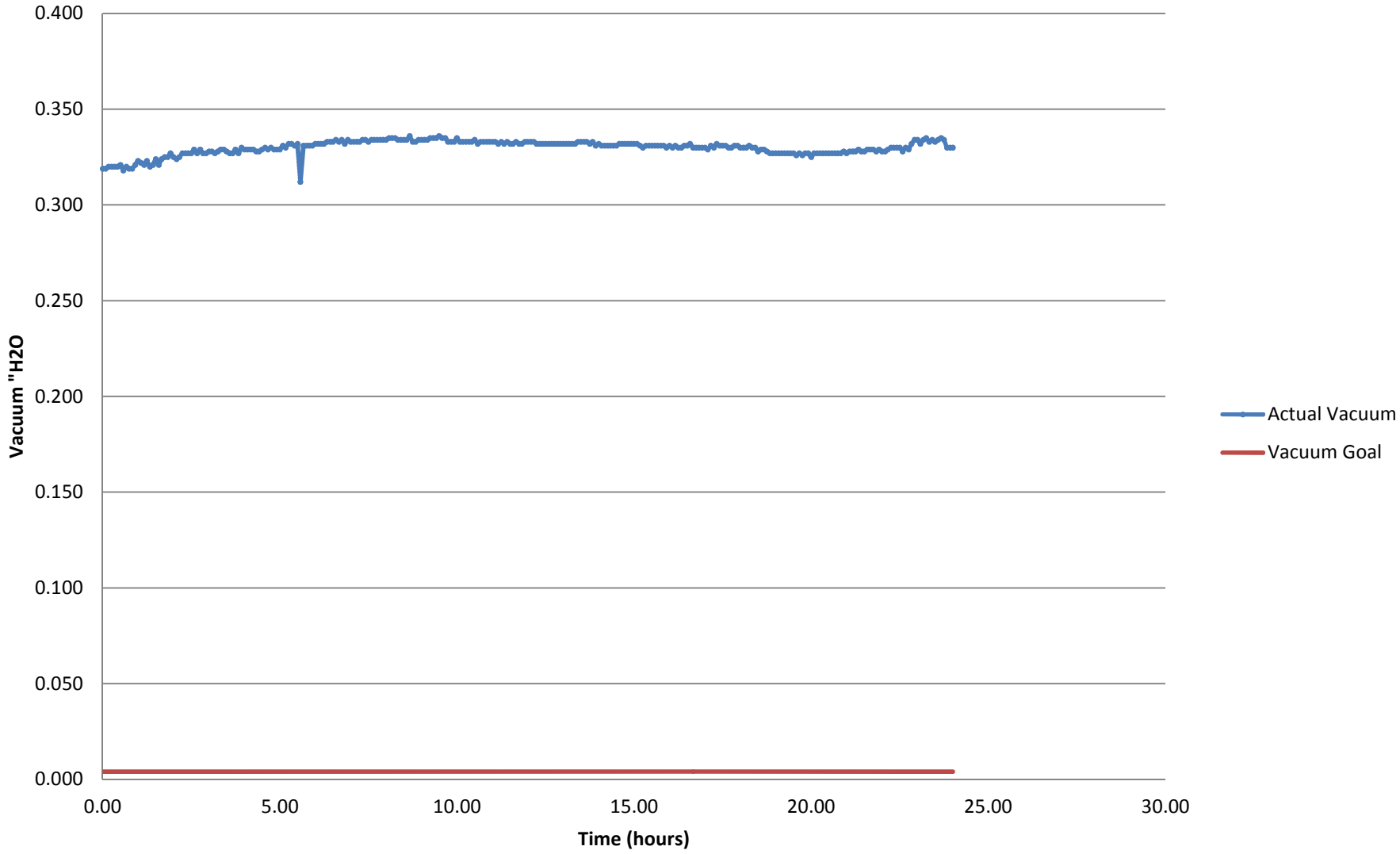
January 2012



24-HOUR VACUUM MONITORING DATA FOR SV-16-A

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING A

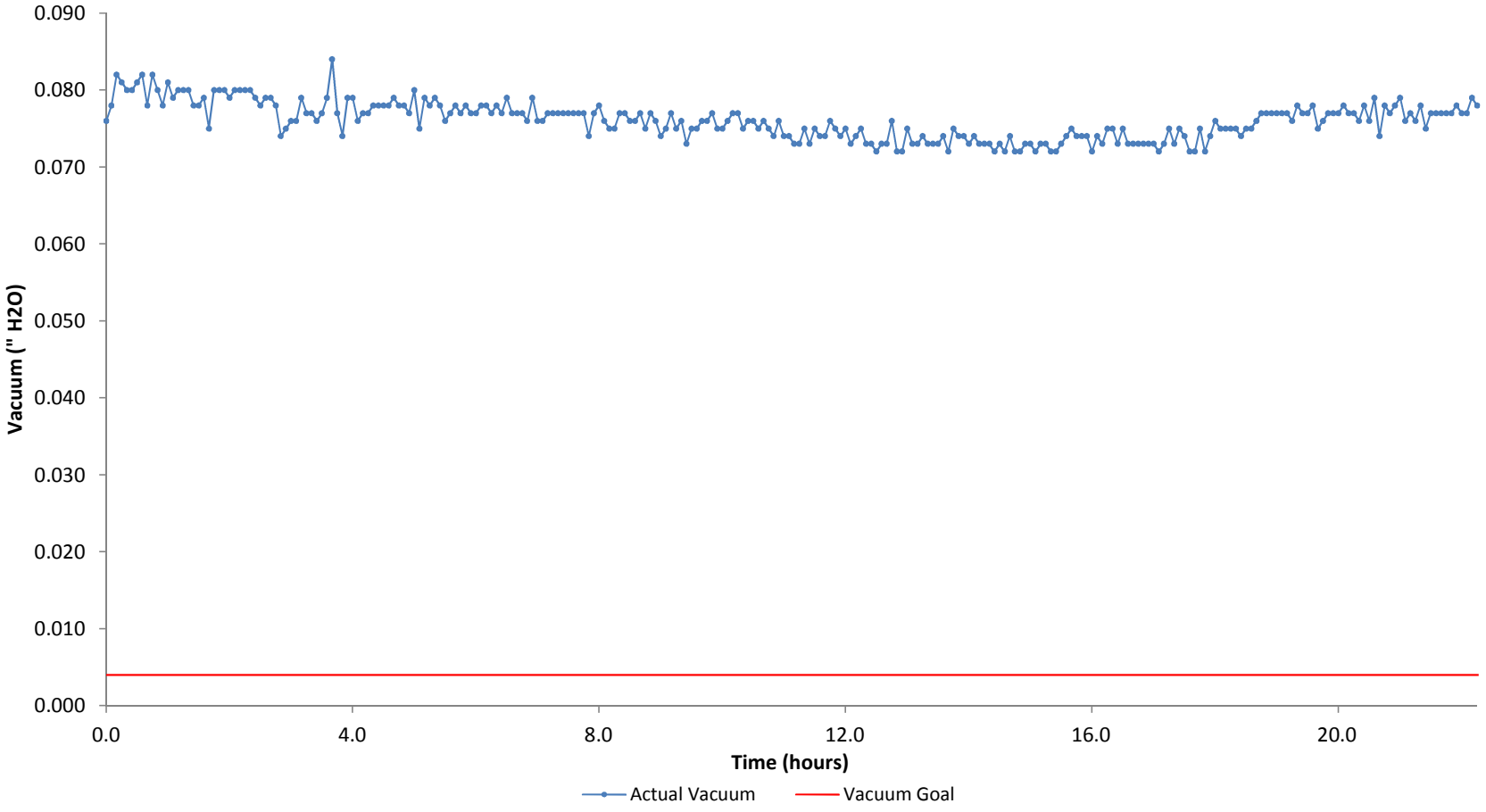
January 2012



24-HOUR VACUUM MONITORING DATA FOR SV-1-A

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING A

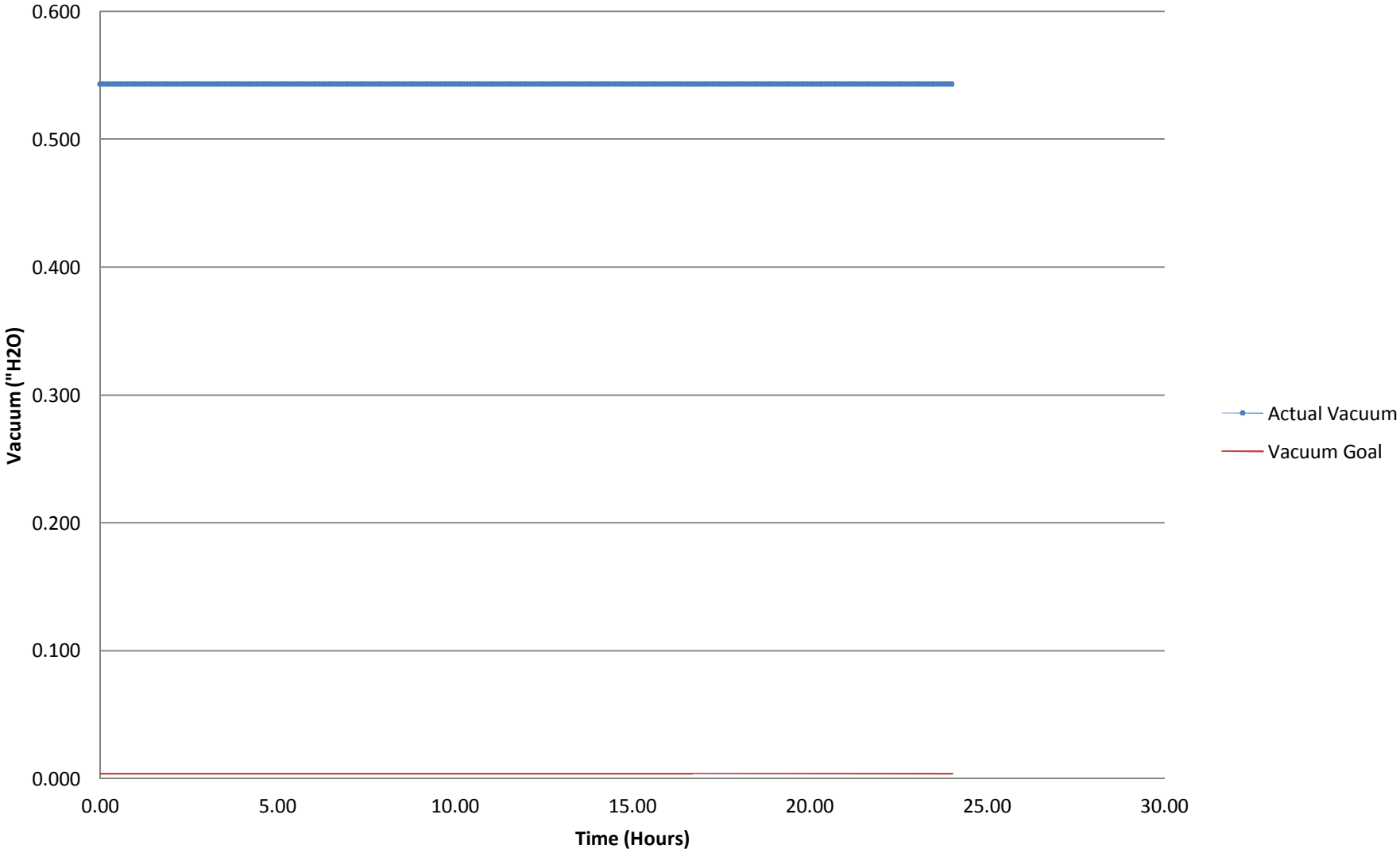
January 2012



24-HOUR VACUUM MONITORING DATA FOR 001-C-SV

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING C

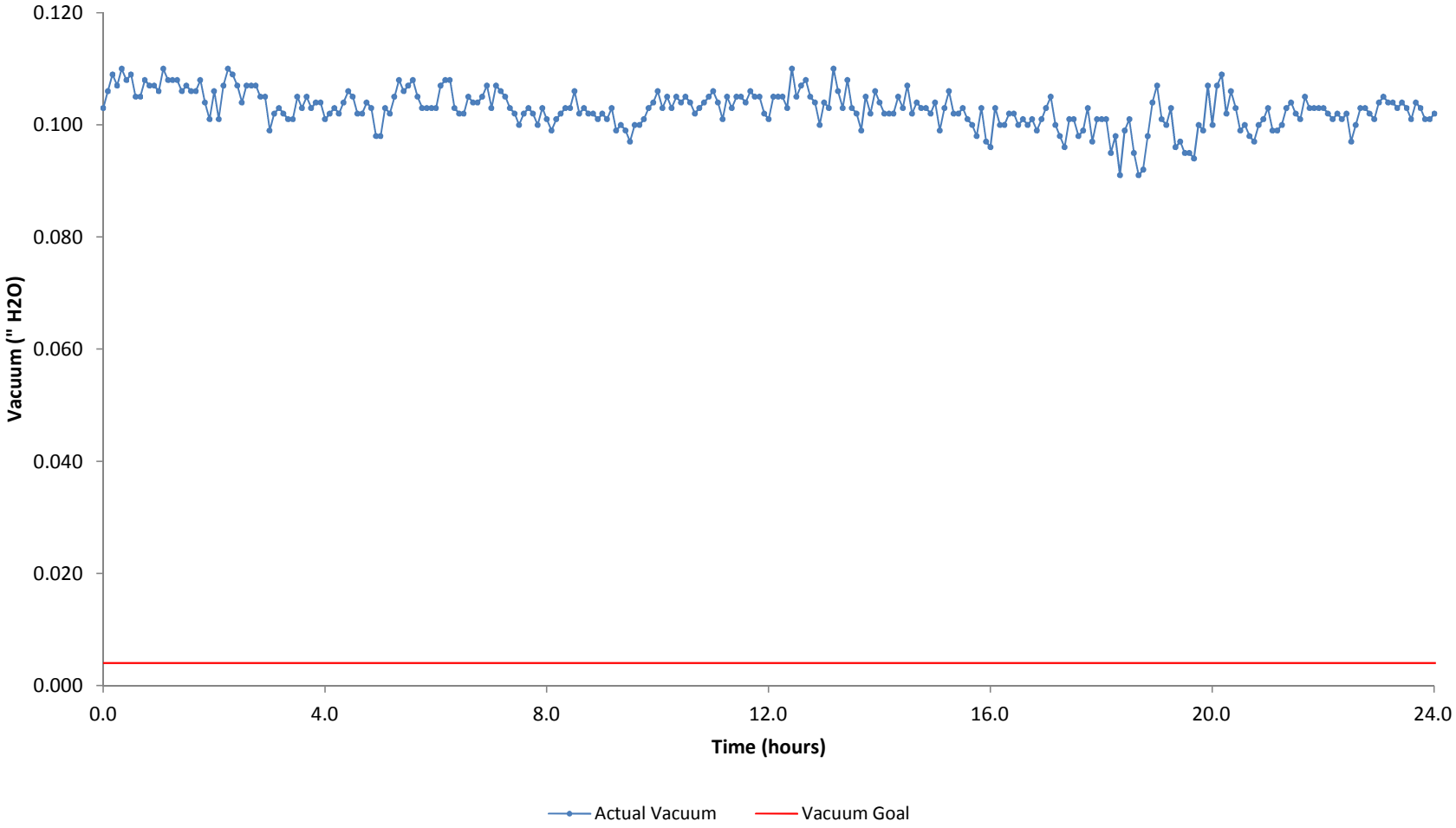
January 2012



24-HOUR VACUUM MONITORING DATA FOR SV-2-C

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING C

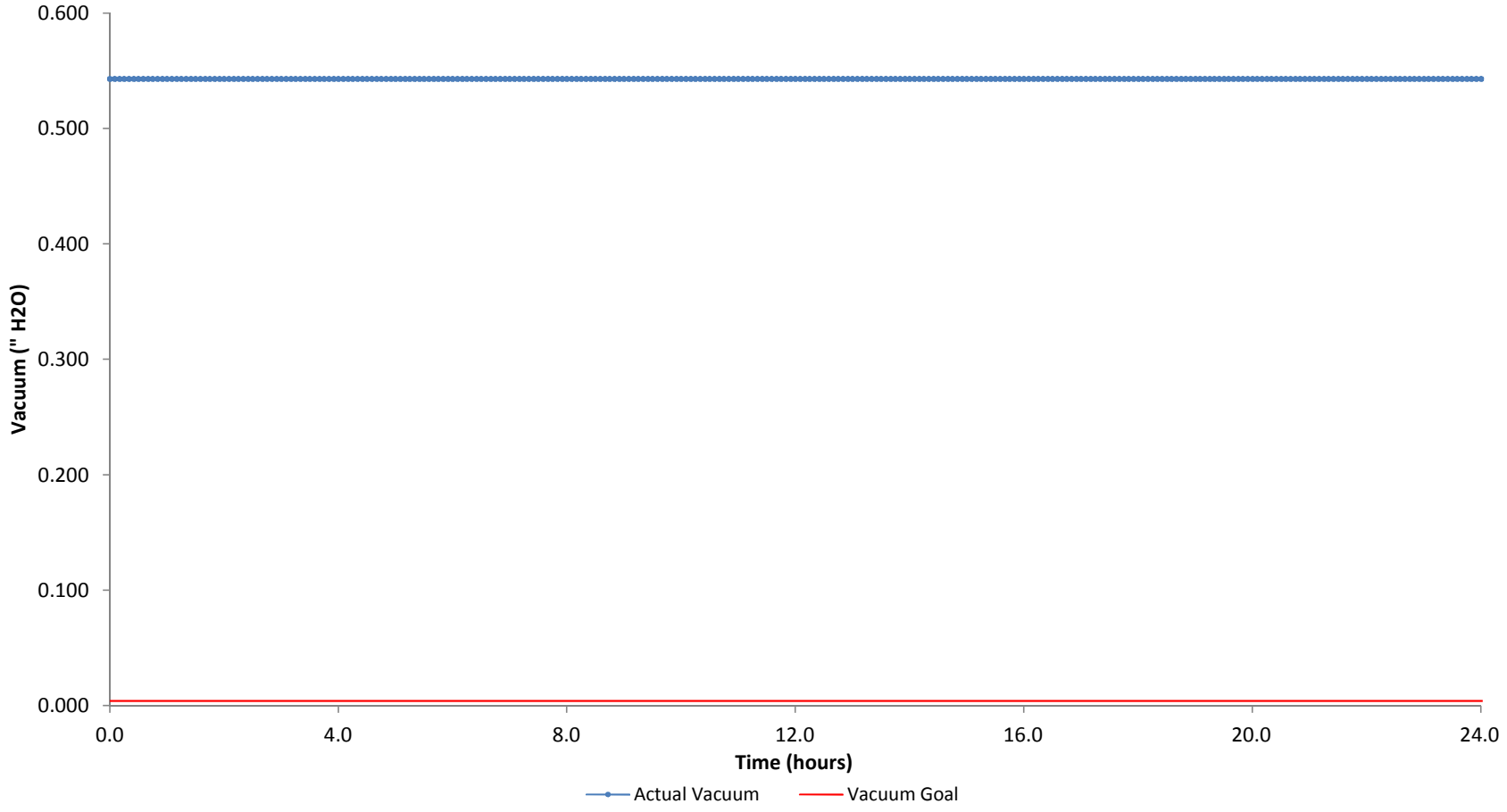
January 2012



24-HOUR VACUUM MONITORING DATA FOR SV-24-C

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING C

January 2012



APPENDIX D—GAC BILL OF LADING

SWT 4066

SIEMENS

WATER TECHNOLOGIES CORP.

Bill of Lading

CONSIGNEE (TO): SIEMENS WATER TECHNOLOGIES CORP.	SHIPPER (FROM):
☐ 2523 Mutahar Street Parker, AZ 85344	1 Lockheed Martin 2 2323 Eastern Blvd Middle River MD
☐ 11711 Reading Road Red Buff, CA 96080	
☒ 118 Park Road Darlington, PA 16115	

Job#: 3 50260337

No. Shipping Units	TYPE*	DESCRIPTION	WEIGHT
4	5	**Spent Carbon - Non Hazardous Waste**	6
		Not DOT Regulated Material	
4	DM	**Circle one: AQUA VAPOR**	1000
		Profile #, SWTC-LockMDAF	

CUSTOMER INFORMATION:

DATE	PRINT NAME:	SIGNATURE:
8 1-23-12	9 X Dawn Mackiewicz	10 X

TRANSPORTER:

NAME OF CARRIER #1: Siemens Industry TWC	DATE: 11 1-23-12	SIGNATURE: 12
NAME OF CARRIER #2: 13	DATE: 14	SIGNATURE: 15
RECEIVED BY (FULL NAME): 16	DATE: 17	SIGNATURE: 18

1.) Name of Generator
2.) Generator site address
3.) Given job number
4.) Number of units being picked up
5.) Type of unit being picked up
6.) Total weight
7.) Profile number, MANDATORY
8.) Date service and/or pick up performed
9.) Name of person signing for Generator
10.) Signature of person in box 9
11.) Same as box 8
12.) Signature of driver for Transporter #1
13.) Name of carrier transporting to Plant
14.) Date the load was picked up to go to the Plant
15.) Driver's signature for Transporter #2
16.) Full name of Receiving person
17.) Date received to Plant
18.) Signature of Receiving person

WHITE: THE PLANT YELLOW: TRANSPORTER #2 PINK: FILE REV 2/09

APPENDIX E—TEST AMERICA ANALYTICAL REPORTS

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **P. RICH** **DATE:** **NOVEMBER 4, 2011**

FROM: **A. COGNETTI** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SAMPLE DELIVERY GROUP (SDG) – H1J190435

SAMPLES: 3/Air/VOC

MID-A POST-A PRE-A

Overview

The sample set for LMC – Middle River, SDG H1J190435 consisted of three (3) air samples. All samples were analyzed for volatile organic compounds (VOC). No field duplicate pair is included in this SDG.

The samples were collected by Geo Trans on October 18, 2011 and analyzed by Test America Laboratories, Inc. All analyses were conducted in accordance with EPA Method TO-15 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, blank spike results, internal standard recoveries, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major

No major noncompliances were noted.

Minor

No minor noncompliances were noted.

Notes

The chain of custody indicated that no gauges were provided with the summa canisters. This means that the canister pressure before and after sampling could not be evaluated. No validation action was taken.

All samples were analyzed at a 10X dilution.

The laboratory did not provide summary forms for the internal standard quality control criteria. The forms from the raw data were used in the evaluation of the data.

Nondetected results were reported to the reporting limit.

Executive Summary

Laboratory Performance: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to Region III modifications to U.S. EPA National Functional Guidelines for Organic Data Validation (Sept. 1994) and EPA Method TO-15. The text of this report has been formulated to address only those problem areas affecting data quality.

Ann Cognetti

Tetra Tech NUS
Ann Cognetti
Chemist/Data Validator

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Appendix A

Qualified Analytical Results

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed

PROJ_NO: 03265 SDG: H1J190435 FRACTION: OV MEDIA: AIR	NSAMPLE	MID-A			POST-A			PRE-A		
	LAB_ID	H1J190435002			H1J190435003			H1J190435001		
	SAMP_DATE	10/18/2011			10/18/2011			10/18/2011		
	QC_TYPE	NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS									
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		200			11	U		640		
1,1,2,2-TETRACHLOROETHANE		14	U		14	U		14	U	
1,1,2-TRICHLOROETHANE		11	U		11	U		11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		15	U		15	U		15	U	
1,1-DICHLOROETHANE		27			35			28		
1,1-DICHLOROETHENE		80			77			93		
1,2,4-TRICHLOROBENZENE		74	U		74	U		74	U	
1,2,4-TRIMETHYLBENZENE		9.8	U		9.8	U		9.8	U	
1,2-DIBROMOETHANE		15	U		15	U		15	U	
1,2-DICHLOROBENZENE		12	U		12	U		12	U	
1,2-DICHLOROETHANE		8.1	U		8.1	U		8.1	U	
1,2-DICHLOROPROPANE		9.2	U		9.2	U		9.2	U	
1,2-DICHLOROTETRAFLUOROETHANE		14	U		14	U		14	U	
1,3,5-TRIMETHYLBENZENE		9.8	U		9.8	U		9.8	U	
1,3-DICHLOROBENZENE		12	U		12	U		12	U	
1,4-DICHLOROBENZENE		12	U		12	U		12	U	
BENZENE		6.4	U		6.4	U		8.3		
BENZYL CHLORIDE		21	U		21	U		21	U	
BROMOMETHANE		7.8	U		7.8	U		7.8	U	
CARBON TETRACHLORIDE		13	U		13	U		13	U	
CHLOROBENZENE		9.2	U		9.2	U		9.2	U	
CHLOROETHANE		5.3	U		5.3	U		5.3	U	
CHLOROFORM		9.8	U		9.8	U		9.8	U	
CHLOROMETHANE		10	U		10	U		10	U	
CIS-1,2-DICHLOROETHENE		110			130			120		
CIS-1,3-DICHLOROPROPENE		9.1	U		9.1	U		9.1	U	
DICHLORODIFLUOROMETHANE		9.9	U		9.9	U		9.9	U	
ETHYLBENZENE		8.7	U		8.7	U		8.7	U	
HEXACHLOROBUTADIENE		110	U		110	U		110	U	
M+P-XYLENES		8.7	U		8.7	U		8.7	U	
METHYLENE CHLORIDE		17	U		17	U		17	U	
O-XYLENE		8.7	U		8.7	U		8.7	U	
STYRENE		8.5	U		8.5	U		8.5	U	
TETRACHLOROETHENE		14	U		14	U		14	U	
TOLUENE		22			25			51		

PROJ_NO: 03265 SDG: H1J190435 FRACTION: OV MEDIA: AIR	NSAMPLE	MID-A			POST-A			PRE-A		
	LAB_ID	H1J190435002			H1J190435003			H1J190435001		
	SAMP_DATE	10/18/2011			10/18/2011			10/18/2011		
	QC_TYPE	NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS									
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
TRANS-1,3-DICHLOROPROPENE		9.1	U		9.1	U		9.1	U	
TRICHLOROETHENE		11	U		11	U		780		
TRICHLOROFLUOROMETHANE		11	U		11	U		11	U	
VINYL CHLORIDE		5.1	U		5.1	U		5.1	U	

Appendix B

Results as Reported by the Laboratory

Tetra Tech GEO

Client Sample ID: MID-A

GC/MS Volatiles

Lot-Sample # H1J190435 - 002 **Work Order #** MNAG81AA **Matrix.....:** AIR

Date Sampled...: 10/18/2011 **Date Received..:** 10/19/2011
Prep Date.....: 10/21/2011 **Analysis Date...** 10/21/2011
Prep Batch #.....: 1297041
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**20**	**2.0**	**80**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**6.8**	**2.0**	**27**	**8.1**
cis-1,2-Dichloroethene	**29**	**2.0**	**110**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**38**	**2.0**	**200**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	**5.7**	**2.0**	**22**	**7.5**
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: MID-A

GC/MS Volatiles

Lot-Sample # H1J190435 - 002 **Work Order #** MNAG81AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: POST-A

GC/MS Volatiles

Lot-Sample # H1J190435 - 003 **Work Order #** MNAG91AA **Matrix.....:** AIR

Date Sampled...: 10/18/2011 **Date Received..:** 10/19/2011
Prep Date.....: 10/21/2011 **Analysis Date...** 10/21/2011
Prep Batch #.....: 1297041
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**19**	**2.0**	**77**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**8.5**	**2.0**	**35**	**8.1**
cis-1,2-Dichloroethene	**34**	**2.0**	**130**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	**6.6**	**2.0**	**25**	**7.5**
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: POST-A

GC/MS Volatiles

Lot-Sample # H1J190435 - 003 **Work Order #** MNAG91AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: PRE-A

GC/MS Volatiles

Lot-Sample # H1J190435 - 001 **Work Order #** MNAG71AA **Matrix.....:** AIR

Date Sampled...: 10/18/2011 **Date Received..:** 10/19/2011
Prep Date.....: 10/21/2011 **Analysis Date...** 10/21/2011
Prep Batch #.....: 1297041
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**24**	**2.0**	**93**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**7.0**	**2.0**	**28**	**8.1**
cis-1,2-Dichloroethene	**30**	**2.0**	**120**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**120**	**2.0**	**640**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	**2.6**	**2.0**	**8.3**	**6.4**
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**150**	**2.0**	**780**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	**13**	**2.0**	**51**	**7.5**
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: PRE-A

GC/MS Volatiles

Lot-Sample # H1J190435 - 001 **Work Order #** MNAG71AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Appendix C

Support Documentation

PROJECT NARRATIVE
H1J190435

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

HJJ150435

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Peter Rich	Sampled By: Sean Couch	1 of 1 COCs
Company: IRM Tech GEO	Phone: 410-990-4607		
Address: 51 Franklin St, Ste 400	Site Contact: Sean Couch		
City/State/Zip Annapolis, MD 21401	TAL Contact: T. Wagsmund		
Phone: 410-990-4607			
FAX: 410-990-4749			
Project Name: LMC-MRC-5505	Analysis Turnaround Time		
Site/location: Middle River, MD	Standard (Specify) Standard TAT		
PO # 117-0505426.01	Rush (Specify) NA		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
Pre-A	10-18-11	0855					L-5196	X									X		
Mid-A	↓	0880					L-5113	X									X		
Post-A	↓	0845					L-17112	X									X		

Sampled by :
Sean Couch

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

1 cooler Rec'd @ Ambient Temp with custody seal intact JRK 10/19/11

1 cooler FedEx # 8747 5591 7308

4 CANS / NO FLOWS

Special Instructions/QC Requirements & Comments:

Canisters Shipped by:	Date/Time: 10-18-11 / 1300	Canisters Received by:	10/19/11 1005
Samples Relinquished by:	Date/Time:	Received by:	
Relinquished by:	Date/Time:	Received by:	

Lab Use Only: Shipper Name: Opened by: Condition:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: 1-415190431

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)			✓	☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____ ☐ 2c Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ 3a Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	✓			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?			✓	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	✓			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?	✓				

Quote #: 78944 PM Instructions: NA

Sample Receiving Associate: _____ Date: 10/19/11

QA026R22.doc, 012811

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H1J190435*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
DDF 10-19-11	NA	28.34	MNAG7	L5195	+0.9													9412
↓	↓	↓	MNAG8	L5113	+0.6													↓
↓	↓	↓	MNAG9	LA7112	+0.4													↓

HOLDTIME

PROJ_NO 03265

SDG	SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
H1J190435	OV	UG/M3	PRE-A	H1J190435001	NM	10/18/2011		10/21/2011			)555555555
H1J190435	OV	UG/M3	POST-A	H1J190435003	NM	10/18/2011		10/21/2011			3472222222
H1J190435	OV	UG/M3	MID-A	H1J190435002	NM	10/18/2011		10/21/2011			1513888889
H1J190435	OV	PPBV	PRE-A	H1J190435001	NM	10/18/2011		10/21/2011			)555555555
H1J190435	OV	PPBV	POST-A	H1J190435003	NM	10/18/2011		10/21/2011			3472222222
H1J190435	OV	PPBV	MID-A	H1J190435002	NM	10/18/2011		10/21/2011			1513888889

SAMPLE SUMMARY

H1J190435

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MNAG7	001	PRE-A	10/18/11	08:55
MNAG8	002	MID-A	10/18/11	08:50
MNAG9	003	POST-A	10/18/11	08:45

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

ANALYTICAL METHODS SUMMARY

H1J190435

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	8/25/11	Instrument#:	MJ	ICAL Batch/Scan Name:	J082511I	Scanned: ✓

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad	✓				NA
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)	✓	✓		acetaldehyde @ 37%	✓
11. If curves were used, is correlation coefficient ≥0.990?	✓				NA
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.	✓				NA
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).	✓				NA
14. Is the "Y" intercept less than the RL for each curve?	✓				NA
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?	✓				NA
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			✓
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)		✓			✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 8/26/11	2nd Level Reviewer: JB	Date: 8/28/11
Comments:		Comments: RB levels 1&2 bad std.	

TestAmerica Laboratories, Inc. – Knoxville 61
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MJ

Analyst: AFB Qtims Batch: RR sampled due to ICAL points being RR.

Date: 8/25/11 ICAL Batch: J082511I Target Batch: J082511I IS #1 Area: 494199

Surr/IS ID & Vol.: 40mL V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily cleaned source

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1546	✓	tune	JBFBH25	–	16	100	1	
1612	✓	MDL	JMDL H	CX2263	1	50		
1701	✓N	ICAL 1 X	JICH251			100		N > can ↓ CCl4.
1752	✓N	2 X	2			200		N
1841	✓	3	3	CX2261	2	100		
1932	✓	4	4		2	200		
2024	✓	5	5	CX2260	3			
2116	✓	6	6	CX2259	4			
2207	✓	7	7	CX2258	5			
2258	✓	8	8	CX2257	6			
2350	✓	9	9	CX2256	7			
0040	ok	Blk	Blk 1	–	16			
0131	✓	ICV	JICVH25	CX2252	8			
0222	✓	LCJ	JLCJ H		8	100		
0316	✓	Blk	JBlkH25	–	16	500		tr3 8/25/11
0410	✓		JBlkH25	–	16	500	1	
0555	✓	H1H240412	MLODR1AA	6137	9			ankrf
0650	✓		DV	1518	10			
0742	✓		D0	6124	11			
0835	✓		D2	12824	12			
1015	✓		D5	21639	13			
Not Run		lot 9408	2966 D5 tr 8/25/11	2966	14			
↓			04750 →		15			
Not Run		lot 9406	6434 →		16			STD can
Not Run			1747 →		STD			
0458	✓	H1H220414	MLV9W2AA	7497	1	11	4.81	C12dce 87.45
0944	✓	ICAL 2	JICH252R	CX2261	2	50	1	
1105	✓	↓ 1	JICH251R	↓	2	25	1	

8/26/11

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: Date: 8/26/11

Data File: /chem/gcms/mj.i/J082511I.b/jbfbh25.d

Date : 25-AUG-2011 15:46

Client ID: BFB

Instrument: mj.i

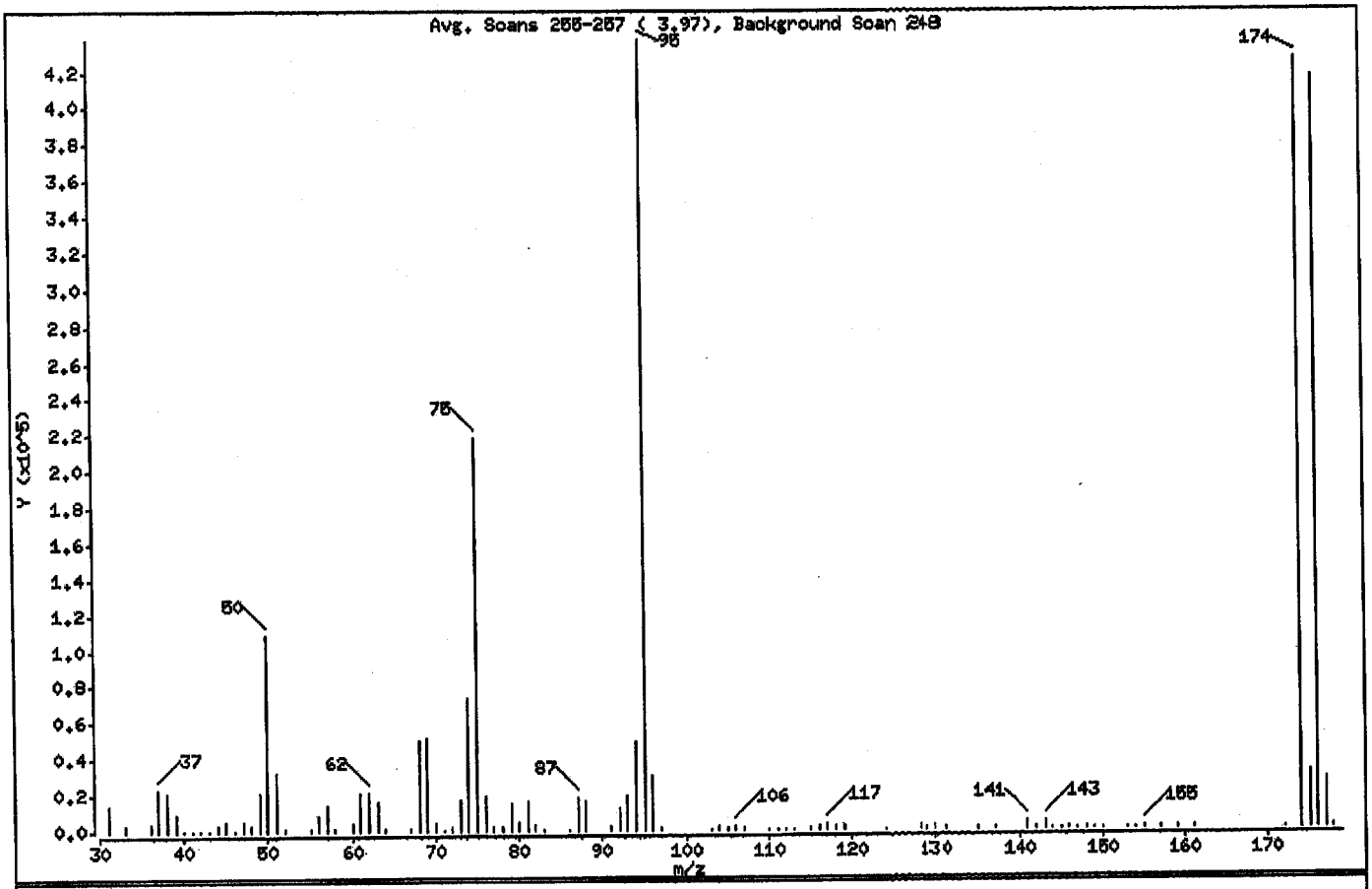
Sample Info: BFB,,3,,,BFB

Operator: 403648

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	24.92
75	30.00 - 60.00% of mass 95	49.79
96	5.00 - 9.00% of mass 95	6.97
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	97.40
175	5.00 - 9.00% of mass 174	7.11 (7.30)
176	95.00 - 101.00% of mass 174	95.24 (97.78)
177	5.00 - 9.00% of mass 176	6.29 (6.60)

Report Date : 26-Aug-2011 12:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2011 18:41
End Cal Date : 26-AUG-2011 11:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcms/mj.i/J082511I.b/jich251r.d
Level 2: /var/chem/gcms/mj.i/J082511I.b/jich252r.d
Level 3: /var/chem/gcms/mj.i/J082511I.b/jich253.d
Level 4: /var/chem/gcms/mj.i/J082511I.b/jich254.d
Level 5: /var/chem/gcms/mj.i/J082511I.b/jich255.d
Level 6: /var/chem/gcms/mj.i/J082511I.b/jich256.d
Level 7: /var/chem/gcms/mj.i/J082511I.b/jich257.d
Level 8: /var/chem/gcms/mj.i/J082511I.b/jich258.d
Level 9: /var/chem/gcms/mj.i/J082511I.b/jich259.d

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
5 Chlorodifluoromethane	+++++	0.67700	0.58423	0.45261	0.47395	0.43611		
	0.43258	0.45160	0.41650				0.49057	18.647
6 Propene	+++++	3.06715	2.66209	2.01759	1.82704	1.71212		
	1.70821	1.75839	1.60849				2.04513	25.945
7 Dichlorodifluoromethane	7.37501	6.45040	5.78540	4.39348	4.53855	4.25536		
	4.22569	4.31729	3.97652				5.03530	23.913
8 Chloromethane	+++++	0.83461	0.84235	0.61496	0.63943	0.60011		
	0.60048	0.60013	0.55503				0.66089	16.958
9 1,2-Dichlorotetrafluoroethane	4.23144	3.77897	3.28687	2.56685	2.63694	2.48903		
	2.49683	2.58850	2.43448				2.94554	22.461

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	4.000 Level 7	8.000 Level 8	16.000 Level 9					
10 Methanol	+++++	+++++	+++++	+++++	0.61369	0.53438		
	0.45070	0.37213	0.35626				0.46543	23.432
11 ~ acetaldehyde	+++++	+++++	0.59494	0.53249	0.34725	0.27052		
	0.27709	0.24704	0.26201				0.36162	39.487
12 Vinyl Chloride	3.09448	2.69526	2.28356	1.78760	1.86932	1.76277		
	1.80767	1.80570	1.72881				2.09280	23.597
13 n-Butane	4.96068	4.50188	3.69353	2.95051	3.13402	2.95734		
	3.01634	2.90003	2.74042				3.42831	23.129
14 1,3-Butadiene	2.32766	1.94039	1.68568	1.33249	1.40939	1.34139		
	1.37930	1.36588	1.31174				1.56599	22.618
15 Bromomethane	+++++	1.92787	1.67671	1.24389	1.34806	1.31182		
	1.31207	1.32858	1.28383				1.42910	16.927
16 Chloroethane	1.39545	1.14994	1.00525	0.76372	0.79406	0.77316		
	0.77841	0.79540	0.75970				0.91279	24.766
17 ~ ethanol	+++++	0.85852	0.73384	0.57289	0.59219	0.53848		
	0.53571	0.49902	0.48750				0.60227	21.399
18 Vinyl Bromide	2.22064	1.94336	1.67202	1.30697	1.36342	1.30339		
	1.32164	1.35912	1.32882				1.53549	21.961

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Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
19 2-methyl butane	4.72298	4.00028	3.25289	2.57534	2.64123	2.51001		
	2.51794	2.57752	2.42665				3.02498	26.949
20 Trichlorofluoromethane	5.93556	5.28718	4.64074	3.60785	3.72068	3.54083		
	3.57976	3.65957	3.51479				4.16522	21.705
21 Acrolein	+++++	+++++	0.33140	0.33884	0.38104	0.32205		
	0.35555	0.32987	0.49433				0.36472	16.589
22 Acetonitrile	0.66356	0.60385	0.55034	0.57933	0.56622	0.51949		
	0.53688	0.49945	0.63728				0.57293	9.452
23 Acetone	+++++	+++++	+++++	+++++	0.74270	0.62599		
	0.58714	0.48144	0.52620				0.59270	16.965
24 Isopropyl alcohol	+++++	3.31603	3.04046	2.06005	2.12264	1.91909		
	1.96246	1.92568	1.86076				2.27590	24.950
25 Pentane	0.42542	0.34059	0.30648	0.24766	0.25315	0.24097		
	0.24536	0.25143	0.24056				0.28351	22.402
26 Ethyl Ether	2.11849	2.24693	2.18073	2.24058	2.22615	1.92724		
	2.05765	1.87191	2.13254				2.11136	6.435
27 1,1-Dichloroethene	2.04906	1.80903	1.63686	1.24383	1.25911	1.20798		
	1.21988	1.24823	1.21215				1.43179	22.189

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	4.000 Level 7	8.000 Level 8	16.000 Level 9					
28 tert-butanol	4.16157	3.54909	3.32162	2.19956	2.38710	2.18406		
	2.28000	2.28547	2.16699				2.72616	27.463
29 Acrylonitrile	1.08124	1.02220	0.94492	0.90070	0.93321	0.85233		
	0.92322	0.87374	1.11004				0.96018	9.455
30 1,1,2-Trichlorotrifluoroethan	4.16201	3.77150	3.31067	2.55437	2.63273	2.51177		
	2.56766	2.60678	2.53288				2.96115	21.224
31 Methylene Chloride	+++++	2.26769	1.78539	1.30482	1.32600	1.20333		
	1.19292	1.19111	1.14941				1.42758	27.741
32 3-Chloropropene	2.80150	2.60553	2.09839	1.69967	1.66362	1.58946		
	1.68409	1.69191	1.23406				1.89647	26.858
33 Carbon Disulfide	7.16982	6.40416	5.59071	4.47088	4.54193	4.34620		
	4.40831	4.44250	4.23886				5.06815	21.095
34 trans-1,2-Dichloroethene	2.31240	1.99948	1.77831	1.43125	1.48280	1.41341		
	1.44000	1.47205	1.43246				1.64024	19.654
35 ~ 2-Methyl Pentane	7.53421	6.89379	6.03909	4.80481	4.86290	4.58759		
	4.65133	4.70217	4.34848				5.38049	21.441
36 Methyl-t-Butyl Ether	3.39829	2.79192	3.03542	2.92708	2.82779	2.51635		
	2.64571	2.45994	2.77028				2.81920	10.094

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	4.000 Level 7	8.000 Level 8	16.000 Level 9					
37 1,1-Dichloroethane	4.75637	4.37656	3.94753	3.08045	3.10377	2.89501		
	2.90046	2.85914	2.77708				3.41071	21.909
38 Vinyl Acetate	3.05999	3.03761	3.30674	3.59396	3.35586	3.04595		
	3.26576	2.96501	3.75720				3.26534	8.332
39 2-Butanone	+++++	+++++	0.63324	0.55580	0.47718	0.43493		
	0.43625	0.42074	0.46019				0.48833	15.994
40 Hexane	2.78160	2.43035	2.06278	1.65229	1.64456	1.53486		
	1.53978	1.56125	1.51259				1.85779	24.984
41 cis 1,2-Dichloroethene	2.19742	1.97444	1.81627	1.44671	1.44486	1.37759		
	1.36363	1.36345	1.34020				1.59162	20.111
42 Ethyl acetate	3.70077	3.07341	3.31005	3.01753	2.83746	2.66963		
	2.67236	2.58656	2.90732				2.97501	11.942
43 Chloroform	4.61950	4.43357	3.93469	3.06107	3.05514	2.79631		
	2.77041	2.68424	2.72061				3.34173	23.129
44 Tetrahydrofuran	1.82264	1.71183	1.73164	1.69096	1.63621	1.48019		
	1.52193	1.42082	1.64774				1.62933	8.005
45 1,1,1-Trichloroethane	4.65510	4.25147	3.81699	3.03559	3.06145	2.86251		
	2.83738	2.71851	2.67554				3.32384	21.965

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	4.000 Level 7	8.000 Level 8	16.000 Level 9					
46 1,2-Dichloroethane	0.57437	0.60891	0.57991	0.44427	0.45334	0.46601		
	0.45162	0.44829	0.47403				0.50008	13.397
47 1-Butanol	0.27814	0.24319	0.24034	0.15062	0.16121	0.16394		
	0.16032	0.16510	0.15738				0.19114	25.324
48 Benzene	1.24376	1.23605	1.17403	0.87830	0.86896	0.88765		
	0.86646	0.86741	0.90991				0.99250	17.197
49 Cyclohexane	0.29439	0.25006	0.24668	0.16936	0.17383	0.18431		
	0.17496	0.17671	0.17401				0.20492	22.556
50 Carbon Tetrachloride	0.96175	0.88108	0.81738	0.60641	0.57042	0.52297		
	0.65431	0.65683	0.52931				0.68894	23.176
51 ~ 2,3-dimethylpentane	0.32206	0.29509	0.28351	0.20868	0.21385	0.22096		
	0.20527	0.20514	0.20911				0.24041	19.212
52 ~ Thiophene	0.62651	0.70380	0.67919	0.50845	0.50418	0.51888		
	0.49189	0.48364	0.51498				0.55906	15.395
53 2,2,4-trimethylpentane	2.84300	2.72362	2.52292	1.86179	1.88284	1.88309		
	1.76879	1.74354	1.78906				2.11318	21.181
54 Heptane	0.49391	0.44832	0.43966	0.32241	0.31415	0.32182		
	0.30500	0.30696	0.32712				0.36437	20.307

Report Date : 26-Aug-2011 12:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2011 18:41
End Cal Date : 26-AUG-2011 11:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
55 1,2-Dichloropropane	0.43111	0.41129	0.42567	0.35300	0.34060	0.34331		
	0.34141	0.33869	0.38743				0.37472	10.467
56 Trichloroethene	0.60756	0.60983	0.56014	0.38176	0.41404	0.42660		
	0.39922	0.40429	0.42770				0.47013	19.971
180 ~ 2-nitropropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
57 Dibromomethane	0.56655	0.52446	0.51091	0.38044	0.38242	0.39184		
	0.37028	0.36716	0.39946				0.43261	18.031
58 Bromodichloromethane	0.88483	0.83229	0.86891	0.64746	0.65456	0.65970		
	0.64903	0.65036	0.68434				0.72572	14.287
59 1,4-dioxane	0.13511	0.11025	0.11965	0.08510	0.09561	0.10127		
	0.09021	0.09150	0.08787				0.10184	16.473
60 Methyl Methacrylate	0.44474	0.34045	0.40702	0.36639	0.34933	0.37263		
	0.36704	0.37201	0.43728				0.38410	9.666
61 ~ methyl cyclohexane	0.83478	0.75152	0.73192	0.54306	0.55436	0.56546		
	0.53327	0.52262	0.53268				0.61885	19.270
62 4-Methyl-2-pentanone	1.07072	0.75727	0.85159	0.60948	0.64375	0.68831		
	0.64217	0.71762	0.69009				0.74122	19.296

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Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
63 cis-1,3-Dichloropropene	0.51789	0.52376	0.56152	0.45116	0.44267	0.45942		
	0.45782	0.46010	0.50825				0.48695	8.559
64 trans-1,3-Dichloropropene	0.54802	0.52270	0.56264	0.48168	0.48408	0.48455		
	0.49167	0.47715	0.53217				0.50941	6.362
65 Toluene	1.15577	1.09856	1.16262	0.97940	0.94959	0.92906		
	0.95947	0.90008	1.04873				1.02036	9.720
66 1,1,2-Trichloroethane	0.39776	0.38089	0.40072	0.32814	0.32436	0.31156		
	0.31767	0.30041	0.34181				0.34481	11.114
67 ~ 2-methyl thiophene	0.99056	0.97970	0.98157	0.84215	0.80549	0.79319		
	0.81334	0.76790	0.87910				0.87256	10.212
68 ~ 3-methyl thiophene	0.98866	0.96565	1.02609	0.84075	0.81108	0.79400		
	0.81127	0.76757	0.87691				0.87577	10.786
69 2-Hexanone	0.48405	0.40809	0.43329	0.30984	0.33101	0.34815		
	0.34095	0.35888	0.35607				0.37448	14.946
70 Octane	0.48427	0.44728	0.46776	0.34750	0.35344	0.34270		
	0.34957	0.33113	0.36086				0.38717	15.677
71 Dibromochloromethane	0.73929	0.69578	0.78108	0.60963	0.62609	0.61487		
	0.65309	0.63288	0.66411				0.66854	8.865

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TestAmerica Knoxville

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Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	___ RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
72 1,2-Dibromoethane	0.66556	0.63832	0.70557	0.56489	0.55329	0.54886		
	0.55024	0.52278	0.59428				0.59375	10.495
73 Tetrachloroethene	0.57905	0.51402	0.52464	0.38846	0.37286	0.37146		
	0.35950	0.34654	0.38596				0.42694	20.359
74 Chlorobenzene	1.03261	0.90468	0.96441	0.77392	0.74802	0.73516		
	0.73669	0.70871	0.80307				0.82303	14.069
75 ~ 2,3-dimethylheptane	2.02368	1.83740	1.86838	1.48420	1.56754	1.47682		
	1.47515	1.33653	1.28936				1.59545	15.962
76 Ethylbenzene	1.42119	1.11740	1.27470	1.15971	1.09989	1.06158		
	1.09779	1.02333	1.20737				1.16255	10.589
77 ~ 2-ethyl thiophene	1.11675	0.90799	1.04201	0.92364	0.88026	0.85378		
	0.88119	0.82846	0.96481				0.93321	10.027
78 m&p-Xylene	1.11424	0.84862	0.96634	0.88379	0.84343	0.82219		
	0.84903	0.78766	0.91868				0.89266	11.029
79 Nonane	1.05886	0.89637	0.99392	0.85693	0.88558	0.83329		
	0.86434	0.81940	0.89163				0.90004	8.644
80 Bromoform	+++++	0.52021	0.64721	0.52875	0.53967	0.52408		
	0.58176	0.58743	0.58882				0.56474	7.846

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Origin : Disabled
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Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	___ RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
81 Styrene	0.73117	0.53810	0.70586	0.63256	0.63376	0.61040		
	0.64976	0.62306	0.73546				0.65113	9.771
82 o-Xylene	1.18314	0.88016	1.03697	0.90565	0.88266	0.84124		
	0.87491	0.79751	0.95307				0.92837	12.620
M 83 Xylene (total)	1.13721	0.85913	0.98988	0.89108	0.85650	0.82854		
	0.85766	0.79094	0.93014				0.90456	11.562
84 1,1,2,2-Tetrachloroethane	1.00519	0.68779	0.84685	0.70343	0.71050	0.68718		
	0.68950	0.65624	0.74967				0.74848	14.823
85 1,2,3-Trichloropropane	0.22617	0.15751	0.19655	0.16054	0.15906	0.15296		
	0.15318	0.14697	0.17111				0.16934	15.237
86 Cumene	1.55507	1.12400	1.30124	1.17396	1.15217	1.09508		
	1.13693	1.05730	1.24987				1.20507	12.539
87 n-Propylbenzene	0.39792	0.27386	0.34497	0.30523	0.29470	0.28915		
	0.29583	0.28321	0.34801				0.31476	12.860
88 2-chlorotoluene	0.42369	0.29678	0.38002	0.31328	0.31252	0.30243		
	0.30544	0.29064	0.34163				0.32960	13.575
89 4-Ethyltoluene	1.52398	1.08357	1.29995	1.07594	1.08321	1.06055		
	1.06913	1.02216	1.19887				1.15748	13.980

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Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
90 1,3,5-Trimethylbenzene	0.66153	0.45218	0.58114	0.49362	0.49724	0.48625		
	0.49185	0.47270	0.58018				0.52408	13.016
91 Alpha-Methylstyrene	0.55471	0.35304	0.49055	0.42262	0.44674	0.44406		
	0.45053	0.43568	0.53225				0.45891	13.133
92 Decane	1.18287	0.77274	0.94673	0.80546	0.94585	0.88877		
	0.96336	0.91276	0.99387				0.93471	12.642
93 tert-butylbenzene	1.21157	0.84322	1.02356	0.89293	0.89921	0.86691		
	0.88957	0.84800	1.02392				0.94432	12.818
94 1,2,4-Trimethylbenzene	1.21046	0.80863	0.99585	0.84643	0.84301	0.83017		
	0.84061	0.80347	0.95199				0.90340	14.662
95 sec-butylbenzene	1.70984	1.13664	1.41562	1.24619	1.25535	1.21104		
	1.22913	1.16246	1.32230				1.29873	13.482
96 1,3-Dichlorobenzene	0.93507	0.61304	0.77848	0.61748	0.63633	0.62583		
	0.63974	0.63463	0.73182				0.69027	15.654
97 Benzyl Chloride	1.15508	0.72733	0.92647	0.70465	0.76843	0.78680		
	0.80152	0.79097	0.89408				0.83948	16.448
98 1,4-Dichlorobenzene	0.94260	0.60227	0.76729	0.59325	0.61585	0.61044		
	0.62326	0.62037	0.70867				0.67600	17.072

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Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	___ RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
99 p-Cymene	1.40613	0.86557	1.10665	0.92795	0.96015	0.93351		
	0.93975	0.89875	1.05214				1.01007	16.465
100 ~ 1,2,3- Trimethylbenzene	1.02569	0.69725	0.85348	0.70463	0.70456	0.68723		
	0.67634	0.63999	0.74524				0.74827	16.029
101 ~ n-butylcyclohexane	1.04085	0.76747	0.92153	0.82682	0.87532	0.81820		
	0.84770	0.79190	0.86914				0.86210	9.438
102 ~ Indane	1.18390	0.74354	0.93903	0.79514	0.77273	0.74515		
	0.74683	0.70900	0.82619				0.82906	17.985
103 1,2-Dichlorobenzene	0.87762	0.57039	0.70112	0.56178	0.58249	0.56401		
	0.57305	0.55534	0.64360				0.62549	16.959
104 n-butylbenzene	1.49502	0.91088	1.15236	0.88777	0.96640	0.94814		
	0.95364	0.91487	1.02065				1.02775	18.701
105 ~ Indene	0.84987	0.53699	0.71135	0.56670	0.58876	0.57564		
	0.57587	0.55907	0.65350				0.62420	16.069
106 Undecane	+++++	+++++	0.92466	0.54104	0.64534	0.63985		
	0.72731	0.77021	0.91997				0.73834	19.636
107 ~ 1,2-dimethyl-4-ethylenzene	1.25507	0.78668	0.96083	0.67868	0.76081	0.74964		
	0.75548	0.74094	0.84238				0.83672	21.002

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Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
108 ~ 1,2,4,5-tetramethylbenzene	1.23653	0.77286	0.89926	0.54083	0.68699	0.68504		
	0.70479	0.71208	0.79151				0.78110	25.119
109 ~ 1,2,3,5-tetramethylbenzene	+++++	0.65272	0.70433	0.41910	0.36894	0.53397		
	0.53645	0.54618	0.60257				0.54553	20.476
110 ~ 1,2,3,4-tetramethylbenzene	+++++	0.71891	0.79004	0.41755	0.55333	0.55328		
	0.56237	0.58345	0.63606				0.60187	18.930
111 Dodecane	+++++	+++++	0.87796	0.43100	0.64739	0.46041		
	0.58293	0.67585	0.68047				0.62229	24.247
112 1,2,4-Trichlorobenzene	+++++	0.37992	0.47379	0.22745	0.33628	0.33435		
	0.33754	0.36940	0.41512				0.35923	19.897
113 Napthalene	+++++	0.88465	1.03658	0.48288	0.71108	0.69869		
	0.68421	0.72090	0.74605				0.74563	21.554
114 ~ benzo(b) thiophene	+++++	0.56847	0.68804	0.32898	0.44775	0.46328		
	0.43743	0.47327	0.47209				0.48491	21.623
115 Hexachlorobutadiene	+++++	0.33561	0.39325	0.24895	0.36821	0.34021		
	0.35297	0.35597	0.44654				0.35521	15.733
116 1,2,3-trichlorobenzene	+++++	0.38766	0.43773	0.19394	0.28416	0.27643		
	0.25799	0.28629	0.28943				0.30170	25.289

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Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	___ RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
117 ~ 2-Methylnaphthalene	+++++	+++++	0.09964	0.04912	0.08238	0.05514		
	0.06333	0.07138	0.06642				0.06963	24.505
118 ~ 1-Methylnaphthalene	+++++	+++++	0.09021	0.04931	0.07682	0.04770		
	0.05134	0.05583	0.05289				0.06059	26.968
$ 4 4-Bromofluorobenzene	0.74639	0.74405	0.75618	0.73761	0.75642	0.77804		
	0.76777	0.78187	0.76495				0.75925	2.004

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	10/21/11	CCAL Batch/ Scan Name:	J102111	Instrument:	MJ	ICAL Batch/ Scan Name:	J082511I	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓		1-40NM 39% Bromoform 33%	✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		□ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				NA
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.			✓	□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected NO 1-butanol -out 10/20/11	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 10/25/11	2nd Level Reviewer :	Date: 10/27/11
Comments: 10/24/11 #		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MJ

Analyst: HMT Qtims Batch: 1297041 MNEP8 7M 1297042 MNEP9

Date: 10/21/11 ICAL Batch: J082511I Target Batch: J102111 IS #1 Area: 384029

Surr/IS ID & Vol.: 40mCV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1051	✓	tune	JBFBJ21	–	16	100	1	
1119	✓	CCV	CCV	CX2277	15	↓	↓	1-40xN 38%. Bromoform 33%
1119	✓	LCS	LCS	↓	↓	↓	↓	1-butanol (NT) out 10/20/11 for LCS
1224	OK	Blk	Flush	–	16	500	↓	
1324	✓	↓	JBlkJ21	–	↓	↓	↓	
1414	✓	HIJ210404	MNDA31AA	bag	1	40	1	haley.
1510	✓	HIJ200448	CJ2	12536	2	100	1	gei 1/5
1602	RR 10mL	HIJ200413	A9N	3275	3	20	1	to 14 ni
1654	✓	↓	A9Q	0126	4	↓	↓	
1746	✓		A9R	3276N	5	↓	↓	
1839	✓	HIJ190435	AG7	L5195	6	20	1	
1931	✓	↓	AG8	L5113	7	↓	↓	
2023	✓		AG9	LA7122	8	↓	↓	
2119	✓	HIJ190409	938	1340N	9	200	1	to 14
2213	✓	↓	94C	6678	10	↓	↓	
2306	dup		94CD	↓	10	↓	↓	
not Run		HIJ200406	MNA8A1AA	12582	11	25	1216.87	honey. 9734.96
analyst		↓	A8C	03852	12	60	9285.17	30950.57
error			A8D	0074	13	45	9264.07	41173.64
↓			A79	93026	14	15	28603.99	381386.53
		10+✓	9510	6131	15	500	1	
		↓	9511	6522	16	↓	↓	

10/24/11 [signature]

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 10/24/11

MS027r16.DOC, 051210

Data File: /ohem/gcms/mj.i/J102111.b/jbfbj21.d

Date : 21-OCT-2011 10:51

Client ID: BFB

Instrument: mj.i

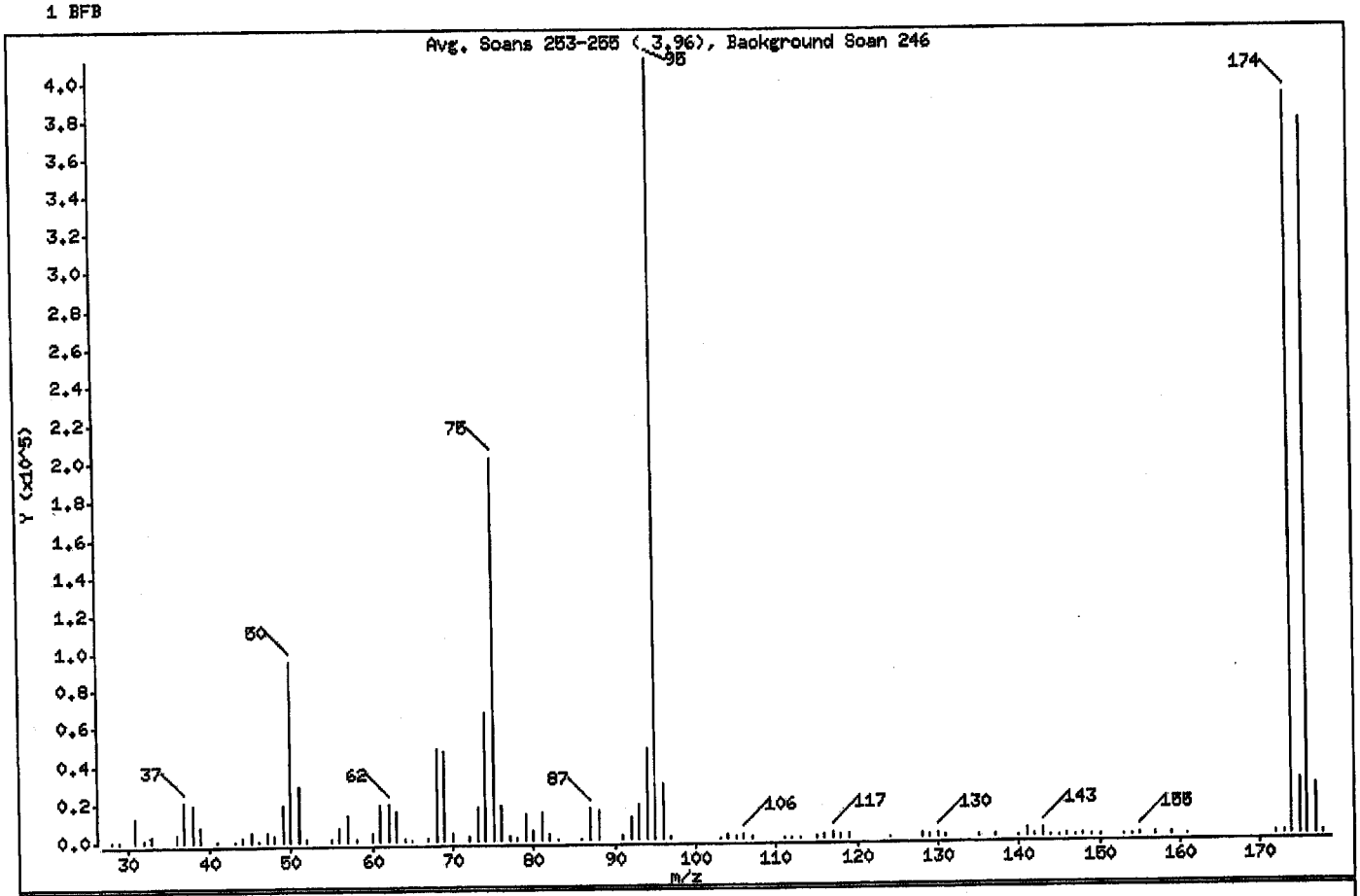
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	23.31
75	30.00 - 60.00% of mass 95	49.29
96	5.00 - 9.00% of mass 95	6.89
173	Less than 2.00% of mass 174	0.16 (0.17)
174	50.00 - 120.00% of mass 95	95.25
175	5.00 - 9.00% of mass 174	6.80 (7.14)
176	95.00 - 101.00% of mass 174	91.90 (96.48)
177	5.00 - 9.00% of mass 176	6.16 (6.70)

Data File: /var/chem/gcms/mj.i/J102111.b/jccvj21.d
Report Date: 21-Oct-2011 12:49

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvj21.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mj.i/J102111.b/TO15.m

Injection Date: 21-OCT-2011 11:19
Init. Cal. Date(s): 25-AUG-2011 26-AUG-2011
Init. Cal. Times: 18:41 11:05
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 4-Bromofluorobenzene	0.75925	0.74269	0.000	2.18201	30.00000	Averaged	
5 Chlorodifluoromethane	0.49057	0.50274	0.000	-2.48043	30.00000	Averaged	
6 Propene	2.04513	1.77312	0.000	13.30074	30.00000	Averaged	
7 Dichlorodifluoromethane	5.03530	4.64452	0.000	7.76076	30.00000	Averaged	
8 Chloromethane	0.66089	0.61403	0.000	7.09031	30.00000	Averaged	
9 1,2-Dichlorotetrafluoroetha	2.94554	2.70095	0.000	8.30399	30.00000	Averaged	
10 Methanol	0.46543	0.60371	0.000	-29.70953	30.00000	Averaged	
11 ~ acetaldehyde	0.36162	0.24970	0.000	30.95068	30.00000	Averaged	<-OK
12 Vinyl Chloride	2.09280	1.81838	0.000	13.11227	30.00000	Averaged	
13 n-Butane	3.42831	3.03016	0.000	11.61343	30.00000	Averaged	
14 1,3-Butadiene	1.56599	1.40792	0.000	10.09380	30.00000	Averaged	
15 Bromomethane	1.42910	1.25838	0.000	11.94599	30.00000	Averaged	
16 Chloroethane	0.91279	0.72306	0.000	20.78576	30.00000	Averaged	
17 ~ ethanol	0.60227	0.48513	0.000	19.44897	30.00000	Averaged	
18 Vinyl Bromide	1.53549	1.44245	0.000	6.05882	30.00000	Averaged	
19 2-methyl butane	3.02498	2.62746	0.000	13.14138	30.00000	Averaged	
20 Trichlorofluoromethane	4.16522	4.08611	0.000	1.89922	30.00000	Averaged	
21 Acrolein	0.36472	0.32410	0.000	11.13791	30.00000	Averaged	
22 Acetonitrile	0.57293	0.55945	0.000	2.35267	30.00000	Averaged	
23 Acetone	0.59270	0.56404	0.000	4.83422	30.00000	Averaged	
24 Isopropyl alcohol	2.27590	1.72180	0.000	24.34617	30.00000	Averaged	
25 Pentane	0.28351	0.24216	0.000	14.58519	30.00000	Averaged	
26 Ethyl Ether	2.11136	2.13935	0.000	-1.32571	30.00000	Averaged	
27 1,1-Dichloroethene	1.43179	1.45091	0.000	-1.33556	30.00000	Averaged	
28 tert-butanol	2.72616	1.98655	0.000	27.13031	30.00000	Averaged	
29 Acrylonitrile	0.96018	0.96406	0.000	-0.40456	30.00000	Averaged	
30 1,1,2-Trichlorotrifluoroeth	2.96115	3.15232	0.000	-6.45578	30.00000	Averaged	
31 Methylene Chloride	1.42758	1.37342	0.000	3.79411	30.00000	Averaged	
32 3-Chloropropene	1.89647	1.63137	0.000	13.97874	30.00000	Averaged	
33 Carbon Disulfide	5.06815	4.50354	0.000	11.14048	30.00000	Averaged	
34 trans-1,2-Dichloroethene	1.64024	1.44568	0.000	11.86175	30.00000	Averaged	
35 ~ 2-Methyl Pentane	5.38049	5.11197	0.000	4.99065	30.00000	Averaged	
36 Methyl-t-Butyl Ether	2.81920	2.90734	0.000	-3.12663	30.00000	Averaged	
37 1,1-Dichloroethane	3.41071	3.21425	0.000	5.75994	30.00000	Averaged	
38 Vinyl Acetate	3.26534	3.48936	0.000	-6.86045	30.00000	Averaged	

Data File: /var/chem/gcms/mj.i/J102111.b/jccvj21.d
Report Date: 21-Oct-2011 12:49

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvj21.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mj.i/J102111.b/TO15.m

Injection Date: 21-OCT-2011 11:19
Init. Cal. Date(s): 25-AUG-2011 26-AUG-2011
Init. Cal. Times: 18:41 11:05
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
39 2-Butanone	0.48833	0.42572	0.000	12.82185	30.00000	Averaged	
40 Hexane	1.85779	1.53058	0.000	17.61258	30.00000	Averaged	
41 cis 1,2-Dichloroethene	1.59162	1.43220	0.000	10.01614	30.00000	Averaged	
42 Ethyl acetate	2.97501	2.72380	0.000	8.44408	30.00000	Averaged	
43 Chloroform	3.34173	3.07424	0.000	8.00445	30.00000	Averaged	
44 Tetrahydrofuran	1.62933	1.58489	0.000	2.72719	30.00000	Averaged	
45 1,1,1-Trichloroethane	3.32384	3.14855	0.000	5.27361	30.00000	Averaged	
46 1,2-Dichloroethane	0.50008	0.45807	0.000	8.40083	30.00000	Averaged	
47 1-Butanol	0.19114	0.10880	0.000	43.07625	30.00000	Averaged	<-60.140 -out 10/21/11 ~~10/19/11~~ 10/20/11 also
48 Benzene	0.99250	0.78606	0.000	20.79985	30.00000	Averaged	
49 Cyclohexane	0.20492	0.15047	0.000	26.57129	30.00000	Averaged	
50 Carbon Tetrachloride	0.68894	0.65702	0.000	4.63306	30.00000	Averaged	
51 ~ 2,3-dimethylpentane	0.24041	0.18183	0.000	24.36624	30.00000	Averaged	
52 ~ Thiophene	0.55906	0.43897	0.000	21.48079	30.00000	Averaged	
53 2,2,4-trimethylpentane	2.11318	1.62007	0.000	23.33520	30.00000	Averaged	
54 Heptane	0.36437	0.27481	0.000	24.57934	30.00000	Averaged	
55 1,2-Dichloropropane	0.37472	0.33061	0.000	11.77122	30.00000	Averaged	
56 Trichloroethene	0.47013	0.37243	0.000	20.78117	30.00000	Averaged	
180 ~ 2-nitropropane	++++	0.71002	0.000	++++	30.00000	Averaged	<-NA
57 Dibromomethane	0.43261	0.35668	0.000	17.55264	30.00000	Averaged	
58 Bromodichloromethane	0.72572	0.60969	0.000	15.98866	30.00000	Averaged	
59 1,4-dioxane	0.10184	0.06257	0.000	38.56272	30.00000	Averaged	<-60.140
60 Methyl Methacrylate	0.38410	0.31757	0.000	17.32088	30.00000	Averaged	
61 ~ methyl cyclohexane	0.61885	0.46455	0.000	24.93393	30.00000	Averaged	
62 4-Methyl-2-pentanone	0.74122	0.53289	0.000	28.10695	30.00000	Averaged	
63 cis-1,3-Dichloropropene	0.48695	0.42612	0.000	12.49200	30.00000	Averaged	
64 trans-1,3-Dichloropropene	0.50941	0.46578	0.000	8.56355	30.00000	Averaged	
65 Toluene	1.02036	0.89956	0.000	11.83905	30.00000	Averaged	
66 1,1,2-Trichloroethane	0.34481	0.28956	0.000	16.02310	30.00000	Averaged	
67 ~ 2-methyl thiophene	0.87256	0.75905	0.000	13.00853	30.00000	Averaged	
68 ~ 3-methyl thiophene	0.87577	0.75436	0.000	13.86322	30.00000	Averaged	
69 2-Hexanone	0.37448	0.26185	0.000	30.07746	30.00000	Averaged	<- OK
70 Octane	0.38717	0.31057	0.000	19.78514	30.00000	Averaged	
71 Dibromochloromethane	0.66854	0.54906	0.000	17.87176	30.00000	Averaged	
72 1,2-Dibromoethane	0.59375	0.50201	0.000	15.45093	30.00000	Averaged	

Data File: /var/chem/gcms/mj.i/J102111.b/jccvj21.d
Report Date: 21-Oct-2011 12:49

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvj21.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mj.i/J102111.b/TO15.m

Injection Date: 21-OCT-2011 11:19
Init. Cal. Date(s): 25-AUG-2011 26-AUG-2011
Init. Cal. Times: 18:41 11:05
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 Tetrachloroethene	0.42694	0.33843	0.000	20.73258	30.00000	Averaged
74 Chlorobenzene	0.82303	0.68091	0.000	17.26826	30.00000	Averaged
75 ~ 2,3-dimethylheptane	1.59545	1.40038	0.000	12.22699	30.00000	Averaged
76 Ethylbenzene	1.16255	1.03716	0.000	10.78548	30.00000	Averaged
77 ~ 2-ethyl thiophene	0.93321	0.82450	0.000	11.64882	30.00000	Averaged
78 m&p-Xylene	0.89266	0.79440	0.000	11.00747	30.00000	Averaged
79 Nonane	0.90004	0.78806	0.000	12.44083	30.00000	Averaged
80 Bromoform	0.56474	0.37639	0.000	33.35233	30.00000	Averaged
81 Styrene	0.65113	0.56621	0.000	13.04212	30.00000	Averaged
82 o-Xylene	0.92837	0.81107	0.000	12.63512	30.00000	Averaged
M 83 Xylene (total)	0.90456	0.79996	0.000	11.56430	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.74848	0.62914	0.000	15.94521	30.00000	Averaged
85 1,2,3-Trichloropropane	0.16934	0.14287	0.000	15.62933	30.00000	Averaged
86 Cumene	1.20507	1.03687	0.000	13.95736	30.00000	Averaged
87 n-Propylbenzene	0.31476	0.26575	0.000	15.57217	30.00000	Averaged
88 2-chlorotoluene	0.32960	0.28031	0.000	14.95513	30.00000	Averaged
89 4-Ethyltoluene	1.15748	0.98333	0.000	15.04585	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.52408	0.45478	0.000	13.22270	30.00000	Averaged
91 Alpha-Methylstyrene	0.45891	0.37754	0.000	17.73073	30.00000	Averaged
92 Decane	0.93471	0.85978	0.000	8.01647	30.00000	Averaged
93 tert-butylbenzene	0.94432	0.82903	0.000	12.20920	30.00000	Averaged
94 1,2,4-Trimethylbenzene	0.90340	0.78262	0.000	13.36924	30.00000	Averaged
95 sec-butylbenzene	1.29873	1.12150	0.000	13.64671	30.00000	Averaged
96 1,3-Dichlorobenzene	0.69027	0.56057	0.000	18.78993	30.00000	Averaged
97 Benzyl Chloride	0.83948	0.68200	0.000	18.75942	30.00000	Averaged
98 1,4-Dichlorobenzene	0.67600	0.54266	0.000	19.72542	30.00000	Averaged
99 p-Cymene	1.01007	0.85412	0.000	15.43916	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.74827	0.63637	0.000	14.95458	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86210	0.77490	0.000	10.11512	30.00000	Averaged
102 ~ Indane	0.82906	0.66457	0.000	19.83995	30.00000	Averaged
103 1,2-Dichlorobenzene	0.62549	0.49093	0.000	21.51225	30.00000	Averaged
104 n-butylbenzene	1.02775	0.84429	0.000	17.85009	30.00000	Averaged
105 ~ Indene	0.62420	0.48346	0.000	22.54599	30.00000	Averaged
106 Undecane	0.73834	0.58665	0.000	20.54538	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.83672	0.63949	0.000	23.57210	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.78110	0.57285	0.000	26.66088	30.00000	Averaged

<60-140

Data File: /var/chem/gcms/mj.i/J102111.b/jccvj21.d
Report Date: 21-Oct-2011 12:49

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvj21.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mj.i/J102111.b/TO15.m

Injection Date: 21-OCT-2011 11:19
Init. Cal. Date(s): 25-AUG-2011 26-AUG-2011
Init. Cal. Times: 18:41 11:05
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.54553	0.43572	0.000	20.12953	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.60187	0.44468	0.000	26.11676	30.00000	Averaged	
111 Dodecane	0.62229	0.52794	0.000	15.16181	30.00000	Averaged	
112 1,2,4-Trichlorobenzene	0.35923	0.30464	0.000	15.19769	30.00000	Averaged	
113 Napthalene	0.74563	0.58022	0.000	22.18373	30.00000	Averaged	
114 ~ benzo(b) thiophene	0.48491	0.34167	0.000	29.54098	30.00000	Averaged	
115 Hexachlorobutadiene	0.35521	0.33077	0.000	6.88055	30.00000	Averaged	
116 1,2,3-trichlorobenzene	0.30170	0.23479	0.000	22.17995	30.00000	Averaged	
117 ~ 2-Methylnaphthalene	0.06963	0.04122	0.000	40.79704	30.00000	Averaged	<- ok
118 ~ 1-Methylnaphthalene	0.06059	0.02833	0.000	53.23325	30.00000	Averaged	<- ok

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H1J240000 - 041B **Work Order #** MNEP81AA **Matrix.....:** AIR

	10/17/2011	**Date Received..:**	10/19/2011
Prep Date.....:	10/21/2011	**Analysis Date...**	10/21/2011
Prep Batch #.....:	1297041		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	0.20	ND	0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Chloromethane	ND	0.50	ND	1.0
Vinyl chloride	ND	0.20	ND	0.51
Bromomethane	ND	0.20	ND	0.78
Chloroethane	ND	0.20	ND	0.53
Trichlorofluoromethane	ND	0.20	ND	1.1
1,1-Dichloroethene	ND	0.20	ND	0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.20	ND	1.5
Methylene chloride	ND	0.50	ND	1.7
1,1-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
Chloroform	ND	0.20	ND	0.98
1,1,1-Trichloroethane	ND	0.20	ND	1.1
Carbon tetrachloride	ND	0.20	ND	1.3
Benzene	ND	0.20	ND	0.64
1,2-Dichloroethane	ND	0.20	ND	0.81
Trichloroethene	ND	0.20	ND	1.1
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91
Toluene	ND	0.20	ND	0.75
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Tetrachloroethene	ND	0.20	ND	1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
Chlorobenzene	ND	0.20	ND	0.92
Ethylbenzene	ND	0.20	ND	0.87
m-Xylene & p-Xylene	ND	0.20	ND	0.87
o-Xylene	ND	0.20	ND	0.87
Styrene	ND	0.20	ND	0.85
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4
1,3,5-Trimethylbenzene	ND	0.20	ND	0.98
1,2,4-Trimethylbenzene	ND	0.20	ND	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	ND	0.20	ND	1.2
1,2-Dichlorobenzene	ND	0.20	ND	1.2
Benzyl chloride	ND	0.40	ND	2.1

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H1J240000 - 041B **Work Order #** MNEP81AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	1.0	ND	7.4
Hexachlorobutadiene	ND	1.0	ND	11

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H1J240000 - 041C **Work Order #** MNEP81AC **Matrix.....:** AIR

	10/17/2011	**Date Received..:**	10/19/2011
Prep Date.....:	10/21/2011	**Analysis Date...**	10/21/2011
Prep Batch #.....:	1297041		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Dichlorodifluoromethane	5.00	4.61	25	22.8	92	60 - 140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	5.00	4.58	35	32.1	92	60 - 140
Chloromethane	5.00	4.64	10	9.59	93	60 - 140
Vinyl chloride	5.00	4.34	13	11.1	87	70 - 130
Bromomethane	5.00	4.40	19	17.1	88	70 - 130
Chloroethane	5.00	3.96	13	10.5	79	70 - 130
Trichlorofluoromethane	5.00	4.90	28	27.6	98	60 - 140
1,1-Dichloroethene	5.00	5.07	20	20.1	101	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.32	38	40.8	106	70 - 130
Methylene chloride	5.00	4.81	17	16.7	96	70 - 130
1,1-Dichloroethane	5.00	4.71	20	19.1	94	70 - 130
cis-1,2-Dichloroethene	5.00	4.50	20	17.8	90	70 - 130
Chloroform	5.00	4.60	24	22.5	92	70 - 130
1,1,1-Trichloroethane	5.00	4.74	27	25.8	95	70 - 130
Carbon tetrachloride	5.00	4.77	31	30.0	95	70 - 130
Benzene	5.00	3.96	16	12.7	79	70 - 130
1,2-Dichloroethane	5.00	4.58	20	18.5	92	70 - 130
Trichloroethene	5.00	3.96	27	21.3	79	70 - 130
1,2-Dichloropropane	5.00	4.41	23	20.4	88	70 - 130
cis-1,3-Dichloropropene	5.00	4.38	23	19.9	88	70 - 130
Toluene	5.00	4.41	19	16.6	88	70 - 130
trans-1,3-Dichloropropene	5.00	4.57	23	20.8	91	70 - 130
1,1,2-Trichloroethane	5.00	4.20	27	22.9	84	70 - 130
Tetrachloroethene	5.00	3.96	34	26.9	79	70 - 130
1,2-Dibromoethane (EDB)	5.00	4.23	38	32.5	85	70 - 130
Chlorobenzene	5.00	4.14	23	19.0	83	70 - 130
Ethylbenzene	5.00	4.46	22	19.4	89	70 - 130
m-Xylene & p-Xylene	10.0	8.90	43	38.6	89	70 - 130
o-Xylene	5.00	4.37	22	19.0	87	70 - 130
Styrene	5.00	4.35	21	18.5	87	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.20	34	28.9	84	70 - 130
1,3,5-Trimethylbenzene	5.00	4.34	25	21.3	87	70 - 130
1,2,4-Trimethylbenzene	5.00	4.33	25	21.3	87	70 - 130
1,3-Dichlorobenzene	5.00	4.06	30	24.4	81	70 - 130
1,4-Dichlorobenzene	5.00	4.01	30	24.1	80	70 - 130
1,2-Dichlorobenzene	5.00	3.92	30	23.6	78	70 - 130

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H1J240000 - 041C **Work Order #** MNEP81AC **Matrix.....:** AIR

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzyl chloride	5.00	4.06	26	21.0	81	70 - 130
1,2,4-Trichlorobenzene	5.00	4.24	37	31.5	85	60 - 140
Hexachlorobutadiene	5.00	4.66	53	49.7	93	60 - 140

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Data File: /var/chem/gcms/mj.i/J102111.b/mnag81aa.d
Report Date: 24-Oct-2011 11:08

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mnag81aa.d
Lab Smp Id: MNAG81AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J102111.b/TO15.m
Misc Info: J102111,TO15,to14nj.sub,,,

Calibration Date: 21-OCT-2011
Calibration Time: 11:19
Client Smp ID: MID-A
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	384029	228497	539561	336040	-12.50
2 1,4-Difluorobenze	1927704	1146984	2708424	1715865	-10.99
3 Chlorobenzene-d5	1679297	999182	2359412	1456212	-13.28

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.21	8.88	9.54	9.20	-0.08
2 1,4-Difluorobenze	11.38	11.05	11.71	11.38	-0.02
3 Chlorobenzene-d5	16.08	15.75	16.41	16.08	0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J102111.b/mnag91aa.d
Report Date: 24-Oct-2011 11:09

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mnag91aa.d
Lab Smp Id: MNAG91AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J102111.b/TO15.m
Misc Info: J102111,TO15,to14nj.sub,,,

Calibration Date: 21-OCT-2011
Calibration Time: 11:19
Client Smp ID: POST-A
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	384029	228497	539561	346399	-9.80
2 1,4-Difluorobenze	1927704	1146984	2708424	1751978	-9.12
3 Chlorobenzene-d5	1679297	999182	2359412	1480615	-11.83

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.21	8.88	9.54	9.20	-0.03
2 1,4-Difluorobenze	11.38	11.05	11.71	11.38	0.02
3 Chlorobenzene-d5	16.08	15.75	16.41	16.08	0.01

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J102111.b/mnag71aa.d
Report Date: 24-Oct-2011 11:08

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mnag71aa.d
Lab Smp Id: MNAG71AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J102111.b/TO15.m
Misc Info: J102111,TO15,to14nj.sub,,,

Calibration Date: 21-OCT-2011
Calibration Time: 11:19
Client Smp ID: PRE-A
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	384029	228497	539561	345446	-10.05
2 1,4-Difluorobenze	1927704	1146984	2708424	1721554	-10.69
3 Chlorobenzene-d5	1679297	999182	2359412	1466823	-12.65

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.21	8.88	9.54	9.20	-0.08
2 1,4-Difluorobenze	11.38	11.05	11.71	11.38	-0.02
3 Chlorobenzene-d5	16.08	15.75	16.41	16.08	0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

TETRA TECH NUS, INC. **CALCULATION WORKSHEET** PAGE 1 OF 1

CLIENT LMC-Middle River		JOB NUMBER SDG HIJ190435	
SUBJECT Sample Calculation			
BASED ON		DRAWING NUMBER	
BY Conn Cognetti	CHECKED BY	APPROVED BY JAF 11-4-11	DATE November 1, 2011

Sample PRE-A; trichloroethene

$$\frac{1176527}{1721554} * 10 * \frac{500\ \text{m}^3}{200\ \text{m}^3} * \frac{4\ \text{ppbv}}{0.47013} = 145.4\ \text{ppbv}$$

$$145.4\ \text{ppbv} * \frac{131.4\ \text{g/mole}}{24.45\ \text{L/mole}} = 781.41\ \text{ug/m}^3$$

Sample Calculation

Tetra Tech GEO

Client Sample ID: PRE-A

GC/MS Volatiles

Lot-Sample # H1J190435 - 001 **Work Order #** MNAG71AA **Matrix.....:** AIR

Date Sampled...: 10/18/2011 **Date Received..:** 10/19/2011
Prep Date.....: 10/21/2011 **Analysis Date...** 10/21/2011
Prep Batch #.....: 1297041
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**24**	**2.0**	**93**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**7.0**	**2.0**	**28**	**8.1**
cis-1,2-Dichloroethene	**30**	**2.0**	**120**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**120**	**2.0**	**640**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	**2.6**	**2.0**	**8.3**	**6.4**
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**150**	**2.0**	**780**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	**13**	**2.0**	**51**	**7.5**
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Sample Calculation

Data File: /var/chem/gcms/mj.i/J102111.b/mnag71aa.d
Report Date: 24-Oct-2011 11:08

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/mj.i/J102111.b/mnag71aa.d
Lab Smp Id: MNAG71AA Client Smp ID: PRE-A
Inj Date : 21-OCT-2011 18:39
Operator : 7126 Inst ID: mj.i
Smp Info : ,10,0,,,
Misc Info : J102111,TO15,to14nj.sub,,,
Comment :
Method : /var/chem/gcms/mj.i/J102111.b/TO15.m
Meth Date : 24-Oct-2011 11:07 tajh Quant Type: ISTD
Cal Date : 25-AUG-2011 21:16 Cal File: jich256.d
Als bottle: 6
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: to14nj.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	10.00000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	200.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	CONCENTRATIONS FINAL (ppb(v/v))
*	1 Bromochloromethane	128	9.200	9.207	(1.000)	345446	4.00000	4.000
*	2 1,4-Difluorobenzene	114	11.379	11.381	(1.000)	1721554	4.00000	4.000
*	3 Chlorobenzene-d5	117	16.080	16.077	(1.000)	1466823	4.00000	4.000
$	4 4-Bromofluorobenzene	95	17.705	17.707	(1.101)	1108043	3.97972	9.949
	27 1,1-Dichloroethene	96	6.247	6.249	(0.679)	116618	0.94312	23.58
	37 1,1-Dichloroethane	63	7.860	7.868	(0.854)	82623	0.28050	7.012
	41 cis 1,2-Dichloroethene	96	8.866	8.869	(0.964)	163864	1.19213	29.80
	45 1,1,1-Trichloroethane	97	10.260	10.267	(1.115)	1344266	4.68301	117.1
	48 Benzene	78	10.851	10.854	(0.954)	44196	0.10346	2.587
	56 Trichloroethene	130	12.089	12.091	(1.062)	1176527	5.81469	145.4
	65 Toluene	91	14.122	14.124	(0.878)	200719	0.53643	13.41

Report Date : 26-Aug-2011 12:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2011 18:41
End Cal Date : 26-AUG-2011 11:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
55 1,2-Dichloropropane	0.43111	0.41129	0.42567	0.35300	0.34060	0.34331		
	0.34141	0.33869	0.38743				0.37472	10.467
56 Trichloroethene	0.60756	0.60983	0.56014	0.38176	0.41404	0.42660		
	0.39922	0.40429	0.42770				0.47013	19.971
180 ~ 2-nitropropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
57 Dibromomethane	0.56655	0.52446	0.51091	0.38044	0.38242	0.39184		
	0.37028	0.36716	0.39946				0.43261	18.031
58 Bromodichloromethane	0.88483	0.83229	0.86891	0.64746	0.65456	0.65970		
	0.64903	0.65036	0.68434				0.72572	14.287
59 1,4-dioxane	0.13511	0.11025	0.11965	0.08510	0.09561	0.10127		
	0.09021	0.09150	0.08787				0.10184	16.473
60 Methyl Methacrylate	0.44474	0.34045	0.40702	0.36639	0.34933	0.37263		
	0.36704	0.37201	0.43728				0.38410	9.666
61 ~ methyl cyclohexane	0.83478	0.75152	0.73192	0.54306	0.55436	0.56546		
	0.53327	0.52262	0.53268				0.61885	19.270
62 4-Methyl-2-pentanone	1.07072	0.75727	0.85159	0.60948	0.64375	0.68831		
	0.64217	0.71762	0.69009				0.74122	19.296

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **P. RICH** **DATE:** **NOVEMBER 15, 2011**

FROM: **A. COGNETTI** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SAMPLE DELIVERY GROUP (SDG) – H1J260434

SAMPLES: 3/Air/VOC

MID-C POST-C PRE-C

Overview

The sample set for LMC – Middle River, SDG H1J260434 consisted of three (3) air samples. All samples were analyzed for volatile organic compounds (VOC). No field duplicate pair is included in this SDG.

The samples were collected by Geo Trans on October 25, 2011 and analyzed by Test America Laboratories, Inc. All analyses were conducted in accordance with EPA Method TO-15 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, blank spike results, internal standard recoveries, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major

No major noncompliances were noted.

Minor

No minor noncompliances were noted.

Notes

The chain of custody indicated that no gauges were provided with the summa canisters. This means that the canister pressure before and after sampling could not be evaluated. No validation action was taken.

All samples were analyzed at a 10X dilution, except sample MID-C which was 9.09X.

The laboratory did not provide summary forms for the internal standard quality control criteria. The forms from the raw data were used in the evaluation of the data.

Sample MID-C was listed on the chain of custody as MD-C. The laboratory changed the sample identification.

Nondetected results were reported to the reporting limit.

TO: P. Rich
FROM: A. Cognetti
SDG: H1J260434
DATE: November 15, 2011

Executive Summary

Laboratory Performance: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to Region III modifications to U.S. EPA National Functional Guidelines for Organic Data Validation (Sept. 1994) and EPA Method TO-15. The text of this report has been formulated to address only those problem areas affecting data quality.

Ann Cognetti

Tetra Tech NUS
Ann Cognetti
Chemist/Data Validator

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Appendix A

Qualified Analytical Results

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed

PROJ_NO: 03265 SDG: H1J260434 FRACTION: OV-M3 MEDIA: AIR	NSAMPLE	MID-C			POST-C			PRE-C		
	LAB_ID	H1J260434002			H1J260434003			H1J260434001		
	SAMP_DATE	10/25/2011			10/25/2011			10/25/2011		
	QC_TYPE	NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS									
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		9.9	U		11	U		11	U	
1,1,2,2-TETRACHLOROETHANE		12	U		14	U		14	U	
1,1,2-TRICHLOROETHANE		9.9	U		11	U		11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		14	U		15	U		15	U	
1,1-DICHLOROETHANE		7.4	U		8.1	U		8.1	U	
1,1-DICHLOROETHENE		7.2	U		7.9	U		7.9	U	
1,2,4-TRICHLOROBENZENE		67	U		74	U		74	U	
1,2,4-TRIMETHYLBENZENE		8.9	U		9.8	U		9.8	U	
1,2-DIBROMOETHANE		14	U		15	U		15	U	
1,2-DICHLOROBENZENE		11	U		12	U		12	U	
1,2-DICHLOROETHANE		7.4	U		8.1	U		8.1	U	
1,2-DICHLOROPROPANE		8.4	U		9.2	U		9.2	U	
1,2-DICHLOROTETRAFLUOROETHANE		13	U		14	U		14	U	
1,3,5-TRIMETHYLBENZENE		8.9	U		9.8	U		9.8	U	
1,3-DICHLOROBENZENE		11	U		12	U		12	U	
1,4-DICHLOROBENZENE		11	U		12	U		12	U	
BENZENE		16			6.4	U		6.4	U	
BENZYL CHLORIDE		19	U		21	U		21	U	
BROMOMETHANE		7.1	U		7.8	U		7.8	U	
CARBON TETRACHLORIDE		11	U		13	U		13	U	
CHLOROBENZENE		8.4	U		9.2	U		9.2	U	
CHLOROETHANE		4.8	U		5.3	U		5.3	U	
CHLOROFORM		8.9	U		9.8	U		9.8	U	
CHLOROMETHANE		9.4	U		10	U		10	U	
CIS-1,2-DICHLOROETHENE		19			7.9	U		38		
CIS-1,3-DICHLOROPROPENE		8.3	U		9.1	U		9.1	U	
DICHLORODIFLUOROMETHANE		9	U		9.9	U		9.9	U	
ETHYLBENZENE		7.9	U		8.7	U		8.7	U	
HEXACHLOROBUTADIENE		97	U		110	U		110	U	
M+P-XYLENES		13			11			11		
METHYLENE CHLORIDE		24			23			27		
O-XYLENE		7.9	U		8.7	U		8.7	U	
STYRENE		7.7	U		8.5	U		8.5	U	
TETRACHLOROETHENE		12	U		14	U		14	U	
TOLUENE		20			21			20		

PROJ_NO: 03265 SDG: H1J260434 FRACTION: OV-M3 MEDIA: AIR	NSAMPLE	MID-C			POST-C			PRE-C		
	LAB_ID	H1J260434002			H1J260434003			H1J260434001		
	SAMP_DATE	10/25/2011			10/25/2011			10/25/2011		
	QC_TYPE	NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS									
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
TRANS-1,3-DICHLOROPROPENE		8.3	U		9.1	U		9.1	U	
TRICHLOROETHENE		9.8	U		11	U		11	U	
TRICHLOROFLUOROMETHANE		10	U		11	U		11	U	
VINYL CHLORIDE		4.6	U		5.1	U		5.1	U	

Appendix B

Results as Reported by the Laboratory

Tetra Tech GEO

Client Sample ID: MID-C

GC/MS Volatiles

Lot-Sample #	H1J260434 - 002	**Work Order #**	MNG3L1AA	**Matrix.....:**	AIR
Date Sampled...:	10/25/2011	**Date Received..:**	10/26/2011		
Prep Date.....:	10/27/2011	**Analysis Date...**	10/27/2011		
Prep Batch #.....:	1300178				
Dilution Factor.:	9.09	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	1.8	ND	9.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.8	ND	13
Chloromethane	ND	4.5	ND	9.4
Vinyl chloride	ND	1.8	ND	4.6
Bromomethane	ND	1.8	ND	7.1
Chloroethane	ND	1.8	ND	4.8
Trichlorofluoromethane	ND	1.8	ND	10
1,1-Dichloroethene	ND	1.8	ND	7.2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.8	ND	14
Methylene chloride	**7.0**	**4.5**	**24**	**16**
1,1-Dichloroethane	ND	1.8	ND	7.4
cis-1,2-Dichloroethene	**4.9**	**1.8**	**19**	**7.2**
Chloroform	ND	1.8	ND	8.9
1,1,1-Trichloroethane	ND	1.8	ND	9.9
Carbon tetrachloride	ND	1.8	ND	11
Benzene	**5.1**	**1.8**	**16**	**5.8**
1,2-Dichloroethane	ND	1.8	ND	7.4
Trichloroethene	ND	1.8	ND	9.8
1,2-Dichloropropane	ND	1.8	ND	8.4
cis-1,3-Dichloropropene	ND	1.8	ND	8.3
Toluene	**5.4**	**1.8**	**20**	**6.9**
trans-1,3-Dichloropropene	ND	1.8	ND	8.3
1,1,2-Trichloroethane	ND	1.8	ND	9.9
Tetrachloroethene	ND	1.8	ND	12
1,2-Dibromoethane (EDB)	ND	1.8	ND	14
Chlorobenzene	ND	1.8	ND	8.4
Ethylbenzene	ND	1.8	ND	7.9
m-Xylene & p-Xylene	**2.9**	**1.8**	**13**	**7.9**
o-Xylene	ND	1.8	ND	7.9
Styrene	ND	1.8	ND	7.7
1,1,2,2-Tetrachloroethane	ND	1.8	ND	12
1,3,5-Trimethylbenzene	ND	1.8	ND	8.9
1,2,4-Trimethylbenzene	ND	1.8	ND	8.9
1,3-Dichlorobenzene	ND	1.8	ND	11
1,4-Dichlorobenzene	ND	1.8	ND	11
1,2-Dichlorobenzene	ND	1.8	ND	11
Benzyl chloride	ND	3.6	ND	19

Tetra Tech GEO

Client Sample ID: MID-C

GC/MS Volatiles

Lot-Sample # H1J260434 - 002 **Work Order #** MNG3L1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	9.1	ND	67
Hexachlorobutadiene	ND	9.1	ND	97

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	108	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: POST-C

GC/MS Volatiles

Lot-Sample # H1J260434 - 003 **Work Order #** MNG3M1AA **Matrix.....:** AIR

Date Sampled...: 10/25/2011 **Date Received..:** 10/26/2011
Prep Date.....: 10/27/2011 **Analysis Date...** 10/28/2011
Prep Batch #.....: 1300178
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	**6.5**	**5.0**	**23**	**17**
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	ND	2.0	ND	7.9
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	**5.5**	**2.0**	**21**	**7.5**
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	**2.6**	**2.0**	**11**	**8.7**
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: POST-C

GC/MS Volatiles

Lot-Sample # H1J260434 - 003 **Work Order #** MNG3M1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: PRE-C

GC/MS Volatiles

Lot-Sample # H1J260434 - 001 **Work Order #** MNG3K1AA **Matrix.....:** AIR

Date Sampled...: 10/25/2011 **Date Received..:** 10/26/2011
Prep Date.....: 10/27/2011 **Analysis Date...** 10/27/2011
Prep Batch #.....: 1300178
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	**7.8**	**5.0**	**27**	**17**
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	**9.5**	**2.0**	**38**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	**5.4**	**2.0**	**20**	**7.5**
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	**2.6**	**2.0**	**11**	**8.7**
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: PRE-C

GC/MS Volatiles

Lot-Sample # H1J260434 - 001 **Work Order #** MNG3K1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Appendix C

Support Documentation

PROJECT NARRATIVE
H1J260434

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Per client instruction by email dated 10/31/11, Sample ID MD-C as shown on the COC was changed to MID-C.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

TAL Knoxville HIJ260434
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Peter Rich	Sampled By: Sean Couch	1 of 1 COCs
Company: Tetra Tech GEO	Phone: 410-990-4607		
Address: 51 Franklin St, Ste 400	Site Contact: S. Couch		
City/State/Zip Annapolis, MD 21401	TAL Contact: T. Wajmund		
Phone: 410-990-4607			
FAX: 410-990-4749			
Project Name: LMC-MRC-SSDS	Analysis Turnaround Time		
Site/location: Middle River, MD	Standard (Specify) Standard		
PO # 117-050742601	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
Pre-C	10-25-11	0915					L-5188	X									X		
Md-C	↓	0910					L-4149	↓									↓		
Post-C	↓	0905					L-5109	↓									↓		

Sampled by :

Sean Couch

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

1 cooler Reid@ Ambient Temp with custody seal intact @PH 10/26/11

1 cooler Fed Ex # 8747 5591 7271

3 CANS / NO Flows.

Special Instructions/QC Requirements & Comments:

Canisters Shipped by:	Date/Time: 10-25-11 / 1100	Canisters Received by:	10/26/11 1000
Samples Relinquished by:	Date/Time:	Received by:	
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

SAMPLE SUMMARY

H1J260434

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MNG3K	001	PRE-C	10/25/11	09:15
MNG3L	002	MID-C	10/25/11	09:10
MNG3M	003	POST-C	10/25/11	09:05

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

ANALYTICAL METHODS SUMMARY

H1J260434

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HIJ260434

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?			✓	☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?	✓				

Quote #: 78944 PM Instructions: _____

Sample Receiving Associate: _____ Date: 10/26/11

QA026R22.doc, 012811

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H1J260434*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
AB 10/26/4	MA	28.78	MNG3K	L5188 ✓	+0.3	-												9412
↓	↓	↓	MNG3L	L4149 ✓	+0.1	-												↓
↓	↓	↓	MNG3M	L5109 ✓	+0.4	-												↓

HOLDTIME

PROJ_NO 03265

SDG	SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
H1J260434	OV-M3	UG/M3	PRE-C	H1J260434001	NM	10/25/2011	10/27/2011	10/27/2011	583333	111111110	756944444
H1J260434	OV-M3	UG/M3	POST-C	H1J260434003	NM	10/25/2011	10/27/2011	10/28/2011	527777	916666666	5069444444
H1J260434	OV-M3	UG/M3	MID-C	H1J260434002	NM	10/25/2011	10/27/2011	10/27/2011	055555	513888888	1319444444
H1J260434	OV-V	PPBV	PRE-C	H1J260434001	NM	10/25/2011	10/27/2011	10/27/2011	583333	111111110	756944444
H1J260434	OV-V	PPBV	POST-C	H1J260434003	NM	10/25/2011	10/27/2011	10/28/2011	527777	916666666	5069444444
H1J260434	OV-V	PPBV	MID-C	H1J260434002	NM	10/25/2011	10/27/2011	10/27/2011	055555	513888888	1319444444

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	8/25/11	Instrument:	MJ	ICAL Batch/Scan Name:	J082511I	Scanned

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad	✓				NA
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓		Acetaldehyde @ 39%	✓
11. If curves were used, is correlation coefficient ≥0.990?	✓				NA
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.	✓				NA
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).	✓				NA
14. Is the "Y" intercept less than the RL for each curve?	✓				NA
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?	✓				NA
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			✓
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)		✓			✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 8/26/11	2nd Level Reviewer:	Date: 8/28/11
Comments:		Comments: RR levels 1&2 bad std.	

TestAmerica Laboratories, Inc. – Knoxville 61
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MJ

Analyst: AFB Qtims Batch: RR sampled due to ICAL points being RR.

Date: 8/25/11 ICAL Batch: J082511 I Target Batch: J082511 I IS #1 Area: 494199

Surr/IS ID & Vol.: 40mL V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily cleaned source

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1546	✓	tune	JBFBH25	–	16	100	1	
1612	✓	MDL	↓MDL ↓	CX2263	1	50	↓	
1701	✓N	ICAL 1 X	JICH251	↓	↓	100	↓	N > can ↓ CCly.
1752	✓N	2 X	2	↓	↓	200	↓	N
1841	✓	3	3	CX2261	2	100	↓	
1932	✓	4	4	↓	2	200	↓	
2024	✓	5	5	CX2260	3	↓	↓	
2116	✓	6	6	CX2259	4	↓	↓	
2207	✓	7	7	CX2258	5	↓	↓	
2258	✓	8	8	CX2257	6	↓	↓	
2350	✓	9	9	CX2256	7	↓	↓	
0040	ok	Blk	Blk 1	–	16	↓	↓	
0131	✓	ICV	JICVH25	CX2252	8	↓	↓	
0222	✓	LCJ	↓LCJ ↓	↓	8	100	↓	
0316	✓	Blk	JBlk ~~H25~~	–	16	500	↓	AB 8/25/11
0410	✓	↓	JBlkH25	–	16	500	1	
0555	✓	HIH240412	MLODR1AA	6137	9	↓	↓	akrf
0650	✓	↓	DV	1518	10	↓	↓	
0742	✓	↓	D0	6124	11	↓	↓	
0835	✓	↓	D2	12824	12	↓	↓	
1015	✓	↓	D5	21639	13	↓	↓	
Not Run		lot 9408	2966 ~~D5~~ AB 8/25/11	2966	14	↓	↓	
↓		↓	04750 →		15	↓	↓	
Not Run		lot 9406	6434 →		16	↓	↓	STD cans
Not Run		↓	1747 →		STD	↓	↓	
0458	✓	HIH220414	MLV9W2AA	7497	1	11	4.81	C12dce 87.45
0974	✓	ICAL 2	JICH252R	CX2261	2	50	1	
1105	✓	↓ 1	JICH251R	↓	2	25	1	
								8/26/11

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 8/26/11

Data File: /chem/gcms/mj.i/J082611I.b/jbfbh25.d

Date : 25-AUG-2011 15:46

Client ID: BFB

Instrument: mj.i

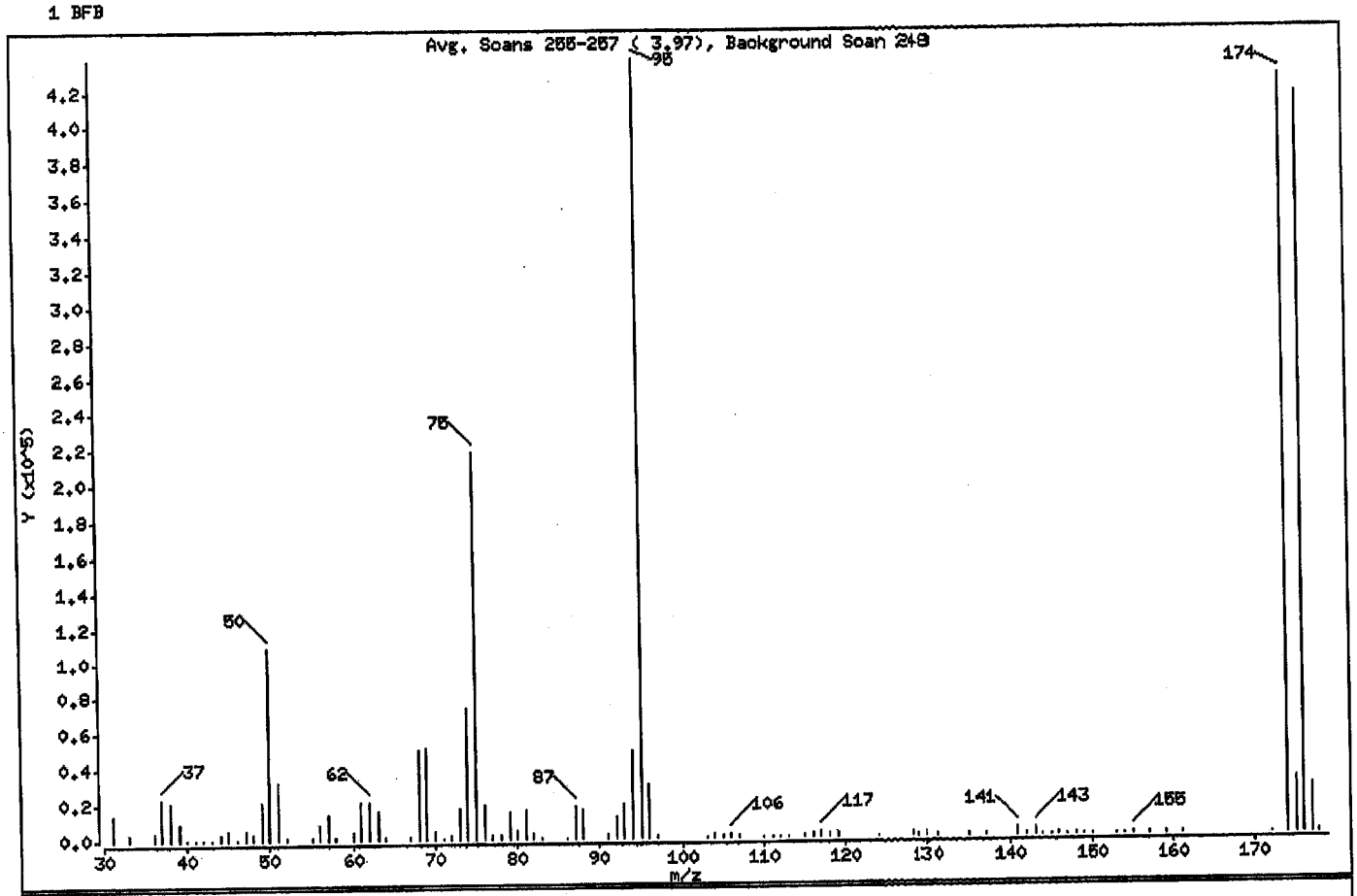
Sample Info: BFB,,3,,,BFB

Operator: 403648

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	24.92
75	30.00 - 60.00% of mass 95	49.79
96	5.00 - 9.00% of mass 95	6.97
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	97.40
175	5.00 - 9.00% of mass 174	7.11 (7.30)
176	95.00 - 101.00% of mass 174	95.24 (97.78)
177	5.00 - 9.00% of mass 176	6.29 (6.60)

Report Date : 26-Aug-2011 12:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2011 18:41
End Cal Date : 26-AUG-2011 11:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcms/mj.i/J082511I.b/jich251r.d
Level 2: /var/chem/gcms/mj.i/J082511I.b/jich252r.d
Level 3: /var/chem/gcms/mj.i/J082511I.b/jich253.d
Level 4: /var/chem/gcms/mj.i/J082511I.b/jich254.d
Level 5: /var/chem/gcms/mj.i/J082511I.b/jich255.d
Level 6: /var/chem/gcms/mj.i/J082511I.b/jich256.d
Level 7: /var/chem/gcms/mj.i/J082511I.b/jich257.d
Level 8: /var/chem/gcms/mj.i/J082511I.b/jich258.d
Level 9: /var/chem/gcms/mj.i/J082511I.b/jich259.d

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
5 Chlorodifluoromethane	+++++	0.67700	0.58423	0.45261	0.47395	0.43611	0.49057	18.647
	0.43258	0.45160	0.41650					
6 Propene	+++++	3.06715	2.66209	2.01759	1.82704	1.71212	2.04513	25.945
	1.70821	1.75839	1.60849					
7 Dichlorodifluoromethane	7.37501	6.45040	5.78540	4.39348	4.53855	4.25536	5.03530	23.913
	4.22569	4.31729	3.97652					
8 Chloromethane	+++++	0.83461	0.84235	0.61496	0.63943	0.60011	0.66089	16.958
	0.60048	0.60013	0.55503					
9 1,2-Dichlorotetrafluoroethane	4.23144	3.77897	3.28687	2.56685	2.63694	2.48903	2.94554	22.461
	2.49683	2.58850	2.43448					

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Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
10 Methanol	+++++	+++++	+++++	+++++	0.61369	0.53438		
	0.45070	0.37213	0.35626				0.46543	23.432
11 ~ acetaldehyde	+++++	+++++	0.59494	0.53249	0.34725	0.27052		
	0.27709	0.24704	0.26201				0.36162	39.487 NT
12 Vinyl Chloride	3.09448	2.69526	2.28356	1.78760	1.86932	1.76277		
	1.80767	1.80570	1.72881				2.09280	23.597
13 n-Butane	4.96068	4.50188	3.69353	2.95051	3.13402	2.95734		
	3.01634	2.90003	2.74042				3.42831	23.129
14 1,3-Butadiene	2.32766	1.94039	1.68568	1.33249	1.40939	1.34139		
	1.37930	1.36588	1.31174				1.56599	22.618
15 Bromomethane	+++++	1.92787	1.67671	1.24389	1.34806	1.31182		
	1.31207	1.32858	1.28383				1.42910	16.927
16 Chloroethane	1.39545	1.14994	1.00525	0.76372	0.79406	0.77316		
	0.77841	0.79540	0.75970				0.91279	24.766
17 ~ ethanol	+++++	0.85852	0.73384	0.57289	0.59219	0.53848		
	0.53571	0.49902	0.48750				0.60227	21.399
18 Vinyl Bromide	2.22064	1.94336	1.67202	1.30697	1.36342	1.30339		
	1.32164	1.35912	1.32882				1.53549	21.961

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Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
19 2-methyl butane	4.72298	4.00028	3.25289	2.57534	2.64123	2.51001		
	2.51794	2.57752	2.42665				3.02498	26.949
20 Trichlorofluoromethane	5.93556	5.28718	4.64074	3.60785	3.72068	3.54083		
	3.57976	3.65957	3.51479				4.16522	21.705
21 Acrolein	+++++	+++++	0.33140	0.33884	0.38104	0.32205		
	0.35555	0.32987	0.49433				0.36472	16.589
22 Acetonitrile	0.66356	0.60385	0.55034	0.57933	0.56622	0.51949		
	0.53688	0.49945	0.63728				0.57293	9.452
23 Acetone	+++++	+++++	+++++	+++++	0.74270	0.62599		
	0.58714	0.48144	0.52620				0.59270	16.965
24 Isopropyl alcohol	+++++	3.31603	3.04046	2.06005	2.12264	1.91909		
	1.96246	1.92568	1.86076				2.27590	24.950
25 Pentane	0.42542	0.34059	0.30648	0.24766	0.25315	0.24097		
	0.24536	0.25143	0.24056				0.28351	22.402
26 Ethyl Ether	2.11849	2.24693	2.18073	2.24058	2.22615	1.92724		
	2.05765	1.87191	2.13254				2.11136	6.435
27 1,1-Dichloroethene	2.04906	1.80903	1.63686	1.24383	1.25911	1.20798		
	1.21988	1.24823	1.21215				1.43179	22.189

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Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
28 tert-butanol	4.16157	3.54909	3.32162	2.19956	2.38710	2.18406		
	2.28000	2.28547	2.16699				2.72616	27.463
29 Acrylonitrile	1.08124	1.02220	0.94492	0.90070	0.93321	0.85233		
	0.92322	0.87374	1.11004				0.96018	9.455
30 1,1,2-Trichlorotrifluoroethan	4.16201	3.77150	3.31067	2.55437	2.63273	2.51177		
	2.56766	2.60678	2.53288				2.96115	21.224
31 Methylene Chloride	+++++	2.26769	1.78539	1.30482	1.32600	1.20333		
	1.19292	1.19111	1.14941				1.42758	27.741
32 3-Chloropropene	2.80150	2.60553	2.09839	1.69967	1.66362	1.58946		
	1.68409	1.69191	1.23406				1.89647	26.858
33 Carbon Disulfide	7.16982	6.40416	5.59071	4.47088	4.54193	4.34620		
	4.40831	4.44250	4.23886				5.06815	21.095
34 trans-1,2-Dichloroethene	2.31240	1.99948	1.77831	1.43125	1.48280	1.41341		
	1.44000	1.47205	1.43246				1.64024	19.654
35 ~ 2-Methyl Pentane	7.53421	6.89379	6.03909	4.80481	4.86290	4.58759		
	4.65133	4.70217	4.34848				5.38049	21.441
36 Methyl-t-Butyl Ether	3.39829	2.79192	3.03542	2.92708	2.82779	2.51635		
	2.64571	2.45994	2.77028				2.81920	10.094

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	4.000 Level 7	8.000 Level 8	16.000 Level 9					
37 1,1-Dichloroethane	4.75637	4.37656	3.94753	3.08045	3.10377	2.89501		
	2.90046	2.85914	2.77708				3.41071	21.909
38 Vinyl Acetate	3.05999	3.03761	3.30674	3.59396	3.35586	3.04595		
	3.26576	2.96501	3.75720				3.26534	8.332
39 2-Butanone	+++++	+++++	0.63324	0.55580	0.47718	0.43493		
	0.43625	0.42074	0.46019				0.48833	15.994
40 Hexane	2.78160	2.43035	2.06278	1.65229	1.64456	1.53486		
	1.53978	1.56125	1.51259				1.85779	24.984
41 cis 1,2-Dichloroethene	2.19742	1.97444	1.81627	1.44671	1.44486	1.37759		
	1.36363	1.36345	1.34020				1.59162	20.111
42 Ethyl acetate	3.70077	3.07341	3.31005	3.01753	2.83746	2.66963		
	2.67236	2.58656	2.90732				2.97501	11.942
43 Chloroform	4.61950	4.43357	3.93469	3.06107	3.06514	2.79631		
	2.77041	2.68424	2.72061				3.34173	23.129
44 Tetrahydrofuran	1.82264	1.71183	1.73164	1.69096	1.63621	1.48019		
	1.52193	1.42082	1.64774				1.62933	8.005
45 1,1,1-Trichloroethane	4.65510	4.25147	3.81699	3.03559	3.06145	2.86251		
	2.83738	2.71851	2.67554				3.32384	21.965

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Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
46 1,2-Dichloroethane	0.57437	0.60891	0.57991	0.44427	0.45334	0.46601		
	0.45162	0.44829	0.47403				0.50008	13.397
47 1-Butanol	0.27814	0.24319	0.24034	0.15062	0.16121	0.16394		
	0.16032	0.16510	0.15738				0.19114	25.324
48 Benzene	1.24376	1.23605	1.17403	0.87830	0.86896	0.88765		
	0.86646	0.86741	0.90991				0.99250	17.197
49 Cyclohexane	0.29439	0.25006	0.24668	0.16936	0.17383	0.18431		
	0.17496	0.17671	0.17401				0.20492	22.556
50 Carbon Tetrachloride	0.96175	0.88108	0.81738	0.60641	0.57042	0.52297		
	0.65431	0.65683	0.52931				0.68894	23.176
51 ~ 2,3-dimethylpentane	0.32206	0.29509	0.28351	0.20868	0.21385	0.22096		
	0.20527	0.20514	0.20911				0.24041	19.212
52 ~ Thiophene	0.62651	0.70380	0.67919	0.50845	0.50418	0.51888		
	0.49189	0.48364	0.51498				0.55906	15.395
53 2,2,4-trimethylpentane	2.84300	2.72362	2.52292	1.86179	1.88284	1.88309		
	1.76879	1.74354	1.78906				2.11318	21.181
54 Heptane	0.49391	0.44832	0.43966	0.32241	0.31415	0.32182		
	0.30500	0.30696	0.32712				0.36437	20.307

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	4.000 Level 7	8.000 Level 8	16.000 Level 9					
55 1,2-Dichloropropane	0.43111	0.41129	0.42567	0.35300	0.34060	0.34331		
	0.34141	0.33869	0.38743				0.37472	10.467
56 Trichloroethene	0.60756	0.60983	0.56014	0.38176	0.41404	0.42660		
	0.39922	0.40429	0.42770				0.47013	19.971
180 - 2-nitropropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
57 Dibromomethane	0.56655	0.52446	0.51091	0.38044	0.38242	0.39184		
	0.37028	0.36716	0.39946				0.43261	18.031
58 Bromodichloromethane	0.88483	0.83229	0.86891	0.64746	0.65456	0.65970		
	0.64903	0.65036	0.68434				0.72572	14.287
59 1,4-dioxane	0.13511	0.11025	0.11965	0.08510	0.09561	0.10127		
	0.09021	0.09150	0.08787				0.10184	16.473
60 Methyl Methacrylate	0.44474	0.34045	0.40702	0.36639	0.34933	0.37263		
	0.36704	0.37201	0.43728				0.38410	9.666
61 - methyl cyclohexane	0.83478	0.75152	0.73192	0.54306	0.55436	0.56546		
	0.53327	0.52262	0.53268				0.61885	19.270
62 4-Methyl-2-pentanone	1.07072	0.75727	0.85159	0.60948	0.64375	0.68831		
	0.64217	0.71762	0.69009				0.74122	19.296

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	4.000 Level 7	8.000 Level 8	16.000 Level 9					
63 cis-1,3-Dichloropropene	0.51789	0.52376	0.56152	0.45116	0.44267	0.45942		
	0.45782	0.46010	0.50825				0.48695	8.559
64 trans-1,3-Dichloropropene	0.54802	0.52270	0.56264	0.48168	0.48408	0.48455		
	0.49167	0.47715	0.53217				0.50941	6.362
65 Toluene	1.15577	1.09856	1.16262	0.97940	0.94959	0.92906		
	0.95947	0.90008	1.04873				1.02036	9.720
66 1,1,2-Trichloroethane	0.39776	0.38089	0.40072	0.32814	0.32436	0.31156		
	0.31767	0.30041	0.34181				0.34481	11.114
67 ~ 2-methyl thiophene	0.99056	0.97970	0.98157	0.84215	0.80549	0.79319		
	0.81334	0.76790	0.87910				0.87256	10.212
68 ~ 3-methyl thiophene	0.98866	0.96565	1.02609	0.84075	0.81108	0.79400		
	0.81127	0.76757	0.87691				0.87577	10.786
69 2-Hexanone	0.48405	0.40809	0.43329	0.30984	0.33101	0.34815		
	0.34095	0.35888	0.35607				0.37448	14.946
70 Octane	0.48427	0.44728	0.46776	0.34750	0.35344	0.34270		
	0.34957	0.33113	0.36086				0.38717	15.677
71 Dibromochloromethane	0.73929	0.69578	0.78108	0.60963	0.62609	0.61487		
	0.65309	0.63288	0.66411				0.66854	8.865

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Method file : /var/chem/gcms/mj.i/J082511I.b/TQ15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
72 1,2-Dibromoethane	0.66556	0.63832	0.70557	0.56489	0.55329	0.54886		
	0.55024	0.52278	0.59428				0.59375	10.495
73 Tetrachloroethene	0.57905	0.51402	0.52464	0.38846	0.37286	0.37146		
	0.35950	0.34654	0.38596				0.42694	20.359
74 Chlorobenzene	1.03261	0.90468	0.96441	0.77392	0.74802	0.73516		
	0.73669	0.70871	0.80307				0.82303	14.069
75 ~ 2,3-dimethylheptane	2.02368	1.83740	1.86838	1.48420	1.56754	1.47682		
	1.47515	1.33653	1.28936				1.59545	15.962
76 Ethylbenzene	1.42119	1.11740	1.27470	1.15971	1.09989	1.06158		
	1.09779	1.02333	1.20737				1.16255	10.589
77 ~ 2-ethyl thiophene	1.11675	0.90799	1.04201	0.92364	0.88026	0.85378		
	0.88119	0.82846	0.96481				0.93321	10.027
78 m&p-Xylene	1.11424	0.84862	0.96634	0.88379	0.84343	0.82219		
	0.84903	0.78766	0.91868				0.89266	11.029
79 Nonane	1.05886	0.89637	0.99392	0.85693	0.88558	0.83329		
	0.86434	0.81940	0.89163				0.90004	8.644
80 Bromoform	+++++	0.52021	0.64721	0.52875	0.53967	0.52408		
	0.58176	0.58743	0.58882				0.56474	7.846

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Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
81 Styrene	0.73117	0.53810	0.70586	0.63256	0.63376	0.61040		
	0.64976	0.62306	0.73546				0.65113	9.771
82 o-Xylene	1.18314	0.88016	1.03697	0.90565	0.88266	0.84124		
	0.87491	0.79751	0.95307				0.92837	12.620
M 83 Xylene (total)	1.13721	0.85913	0.98988	0.89108	0.85650	0.82854		
	0.85766	0.79094	0.93014				0.90456	11.562
84 1,1,2,2-Tetrachloroethane	1.00519	0.68779	0.84685	0.70343	0.71050	0.68718		
	0.68950	0.65624	0.74967				0.74848	14.823
85 1,2,3-Trichloropropane	0.22617	0.15751	0.19655	0.16054	0.15906	0.15296		
	0.15318	0.14697	0.17111				0.16934	15.237
86 Cumene	1.55507	1.12400	1.30124	1.17396	1.15217	1.09508		
	1.13693	1.05730	1.24987				1.20507	12.539
87 n-Propylbenzene	0.39792	0.27386	0.34497	0.30523	0.29470	0.28915		
	0.29583	0.28321	0.34801				0.31476	12.860
88 2-chlorotoluene	0.42369	0.29678	0.38002	0.31328	0.31252	0.30243		
	0.30544	0.29064	0.34163				0.32960	13.575
89 4-Ethyltoluene	1.52398	1.08357	1.29995	1.07594	1.08321	1.06055		
	1.06913	1.02216	1.19887				1.15748	13.980

Report Date : 26-Aug-2011 12:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2011 18:41
End Cal Date : 26-AUG-2011 11:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
90 1,3,5-Trimethylbenzene	0.66153	0.45218	0.58114	0.49362	0.49724	0.48625		
	0.49185	0.47270	0.58018				0.52408	13.016
91 Alpha-Methylstyrene	0.55471	0.35304	0.49055	0.42262	0.44674	0.44406		
	0.45053	0.43568	0.53225				0.45891	13.133
92 Decane	1.18287	0.77274	0.94673	0.80546	0.94585	0.88877		
	0.96336	0.91276	0.99387				0.93471	12.642
93 tert-butylbenzene	1.21157	0.84322	1.02356	0.89293	0.89921	0.86691		
	0.88957	0.84800	1.02392				0.94432	12.818
94 1,2,4-Trimethylbenzene	1.21046	0.80863	0.99585	0.84643	0.84301	0.83017		
	0.84061	0.80347	0.95199				0.90340	14.662
95 sec-butylbenzene	1.70984	1.13664	1.41562	1.24619	1.25535	1.21104		
	1.22913	1.16246	1.32230				1.29873	13.482
96 1,3-Dichlorobenzene	0.93507	0.61304	0.77848	0.61748	0.63633	0.62583		
	0.63974	0.63463	0.73182				0.69027	15.654
97 Benzyl Chloride	1.15508	0.72733	0.92647	0.70465	0.76843	0.78680		
	0.80152	0.79097	0.89408				0.83948	16.448
98 1,4-Dichlorobenzene	0.94260	0.60227	0.76729	0.59325	0.61585	0.61044		
	0.62326	0.62037	0.70867				0.67600	17.072

Report Date : 26-Aug-2011 12:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2011 18:41
End Cal Date : 26-AUG-2011 11:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
99 p-Cymene	1.40613	0.86557	1.10665	0.92795	0.96015	0.93351		
	0.93975	0.89875	1.05214				1.01007	16.465
100 ~ 1,2,3- Trimethylbenzene	1.02569	0.69725	0.85348	0.70463	0.70456	0.68723		
	0.67634	0.63999	0.74524				0.74827	16.029
101 ~ n-butylcyclohexane	1.04085	0.76747	0.92153	0.82682	0.87532	0.81820		
	0.84770	0.79190	0.86914				0.86210	9.438
102 ~ Indane	1.18390	0.74354	0.93903	0.79514	0.77273	0.74515		
	0.74683	0.70900	0.82619				0.82906	17.985
103 1,2-Dichlorobenzene	0.87762	0.57039	0.70112	0.56178	0.58249	0.56401		
	0.57305	0.55534	0.64360				0.62549	16.959
104 n-butylbenzene	1.49502	0.91088	1.15236	0.88777	0.96640	0.94814		
	0.95364	0.91487	1.02065				1.02775	18.701
105 ~ Indene	0.84987	0.53699	0.71135	0.56670	0.58876	0.57564		
	0.57587	0.55907	0.65350				0.62420	16.069
106 Undecane	+++++	+++++	0.92466	0.54104	0.64534	0.63985		
	0.72731	0.77021	0.91997				0.73834	19.636
107 ~ 1,2-dimethyl-4-ethylenzene	1.25507	0.78668	0.96083	0.67868	0.76081	0.74964		
	0.75548	0.74094	0.84238				0.83672	21.002

Report Date : 26-Aug-2011 12:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2011 18:41
End Cal Date : 26-AUG-2011 11:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
108 ~ 1,2,4,5-tetramethylbenzene	1.23653	0.77286	0.89926	0.54083	0.68699	0.68504		
	0.70479	0.71208	0.79151				0.78110	25.119
109 ~ 1,2,3,5-tetramethylbenzene	+++++	0.65272	0.70433	0.41910	0.36894	0.53397		
	0.53645	0.54618	0.60257				0.54553	20.476
110 ~ 1,2,3,4-tetramethylbenzene	+++++	0.71891	0.79004	0.41755	0.55333	0.55328		
	0.56237	0.58345	0.63606				0.60187	18.930
111 Dodecane	+++++	+++++	0.87796	0.43100	0.64739	0.46041		
	0.58293	0.67585	0.68047				0.62229	24.247
112 1,2,4-Trichlorobenzene	+++++	0.37992	0.47379	0.22745	0.33628	0.33435		
	0.33754	0.36940	0.41512				0.35923	19.897
113 Napthalene	+++++	0.88465	1.03658	0.48288	0.71108	0.69869		
	0.68421	0.72090	0.74605				0.74563	21.554
114 ~ benzo(b) thiophene	+++++	0.56847	0.68804	0.32898	0.44775	0.46328		
	0.43743	0.47327	0.47209				0.48491	21.623
115 Hexachlorobutadiene	+++++	0.33561	0.39325	0.24895	0.36821	0.34021		
	0.35297	0.35597	0.44654				0.35521	15.733
116 1,2,3-trichlorobenzene	+++++	0.38766	0.43773	0.19394	0.28416	0.27643		
	0.25799	0.28629	0.28943				0.30170	25.289

Report Date : 26-Aug-2011 12:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2011 18:41
End Cal Date : 26-AUG-2011 11:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	___ RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
117 ~ 2-Methylnaphthalene	+++++	+++++	0.09964	0.04912	0.08238	0.05514		
	0.06333	0.07138	0.06642				0.06963	24.505
118 ~ 1-Methylnaphthalene	+++++	+++++	0.09021	0.04931	0.07682	0.04770		
	0.05134	0.05583	0.05289				0.06059	26.968
$ 4 4-Bromofluorobenzene	0.74639	0.74405	0.75618	0.73761	0.75642	0.77804		
	0.76777	0.78187	0.76495				0.75925	2.004

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	10/27/11	CCAL Batch/ Scan Name:	J102711	Instrument:	MJ	ICAL Batch/ Scan Name:	J082511I	Scanned?

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓		1Butanol -31% Bromoform -33%	✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		☒ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:	✓				✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	✓
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?		✓			✓
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 10/28/11	2nd Level Reviewer:	Date: 10/28/11
Comments:		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MJ

Analyst: FKB Qtims Batch: 1300178 (MNJJF) 1300179 (MNJJG)

Date: 10/27/11 ICAL Batch: J082511I Target Batch: J102711 IS #1 Area: 348966 fh 10/27/11

Surr/IS ID & Vol.: 40mL V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1142	✓	tune	JBFBJ27	–	186	100	1	
1217	N	CCV	CCV	CX2277	165			
1277 1306	✓	CCV	CCV A		15			time 1306 Bromofluorin -33%
1306	✓	LCS	LCS A					
1608	ok	Blk	flush	–	16	500		
1702		Lot✓	9516	6126	15			
1757	✓	Blk	JBlk J27	–	16			
1855	✓	HIJ270404	MNHRA1AA	Bag	1	10		cleaners
1946	✓		RC		2	10		
2035	✓		RD		3	10		
2125	✓		RE		4	10		
2214	✓	HIJ260453	MNG8E	7783	5	20		tolu
2304	✓	HIJ260434	3K	L5188	6			tolunj
2353	✓		3L	L4149	7	22mL		22mL
0042	✓		3M	L5109	8			
0133	✓	HIJ260448	6K	1365	9	200		btexn
0222	✓		6R	6600	10			
0312	✓		6T	6363	11			
0402	✓		6V	1328	12			
0452	✓		6W	2996	13			
0542	den		6WD		13			
0631	✓	HIJ270406	MNHRG1AA	93083	14	3025	3275.9	polyone (25mL) 26207.2
0722	✓	HIJ270422	W81AD	1520	15	200	1	tolunj
0811	✓		XD	0112	1			
0901	✓		XG	04731	2			
0951	✓		XH	1361	3			
1045	✓	Lot✓	9517	6135	16	500		
								10/28/11

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 10/28/11

Data File: /chem/gcms/mj.i/J102711.b/jbfbj27.d

Date : 27-OCT-2011 11:42

Client ID: BFB

Instrument: mj.i

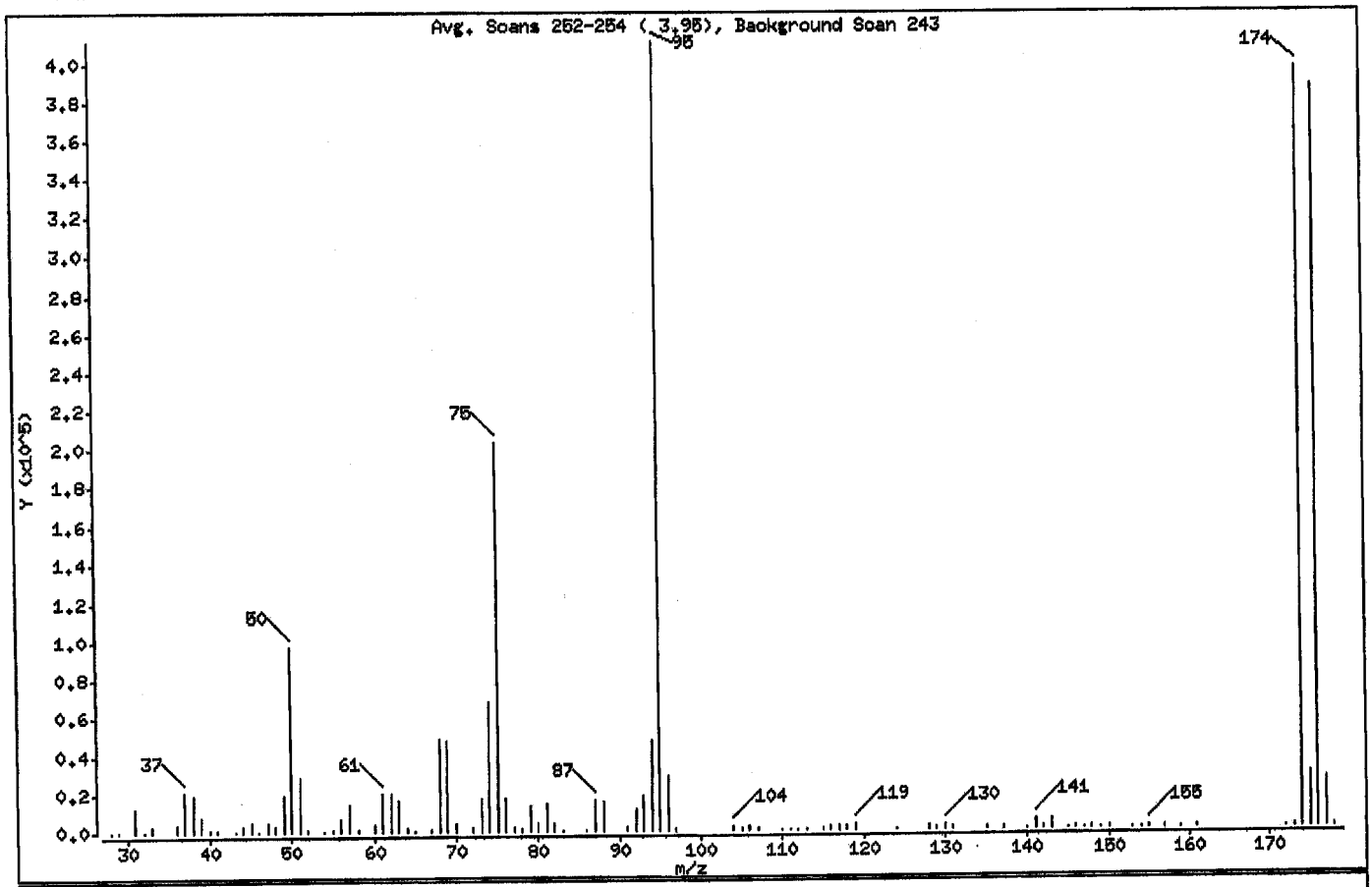
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	23.71
75	30.00 - 60.00% of mass 95	49.40
96	5.00 - 9.00% of mass 95	6.86
173	Less than 2.00% of mass 174	0.19 (0.19)
174	50.00 - 120.00% of mass 95	96.54
175	5.00 - 9.00% of mass 174	7.00 (7.26)
176	95.00 - 101.00% of mass 174	94.29 (97.67)
177	5.00 - 9.00% of mass 176	6.19 (6.56)

Data File: /var/chem/gcms/mj.i/J102711.b/jccvj27a.d
Report Date: 27-Oct-2011 17:41

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvj27a.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mj.i/J102711.b/TO15.m

Injection Date: 27-OCT-2011 13:06
Init. Cal. Date(s): 25-AUG-2011 26-AUG-2011
Init. Cal. Times: 18:41 11:05
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.75925	0.78545	0.000	-3.45006	30.00000	Averaged
5 Chlorodifluoromethane	0.49057	0.55111	0.000	-12.33975	30.00000	Averaged
6 Propene	2.04513	1.92027	0.000	6.10553	30.00000	Averaged
7 Dichlorodifluoromethane	5.03530	4.99300	0.000	0.84013	30.00000	Averaged
8 Chloromethane	0.66089	0.63776	0.000	3.49996	30.00000	Averaged
9 1,2-Dichlorotetrafluoroetha	2.94554	2.80380	0.000	4.81221	30.00000	Averaged
10 Methanol	0.46543	0.59216	0.000	-27.22819	30.00000	Averaged
11 ~ acetaldehyde	0.36162	0.22523	0.000	37.71647	30.00000	Averaged <-OK
12 Vinyl Chloride	2.09280	1.78773	0.000	14.57682	30.00000	Averaged
13 n-Butane	3.42831	2.90342	0.000	15.31028	30.00000	Averaged
14 1,3-Butadiene	1.56599	1.38021	0.000	11.86332	30.00000	Averaged
15 Bromomethane	1.42910	1.27765	0.000	10.59805	30.00000	Averaged
16 Chloroethane	0.91279	0.71636	0.000	21.51911	30.00000	Averaged
17 ~ ethanol	0.60227	0.50342	0.000	16.41296	30.00000	Averaged
18 Vinyl Bromide	1.53549	1.49534	0.000	2.61443	30.00000	Averaged
19 2-methyl butane	3.02498	2.72851	0.000	9.80076	30.00000	Averaged
20 Trichlorofluoromethane	4.16522	4.33596	0.000	-4.09929	30.00000	Averaged
21 Acrolein	0.36472	0.26401	0.000	27.61306	30.00000	Averaged
22 Acetonitrile	0.57293	0.49169	0.000	14.18005	30.00000	Averaged
23 Acetone	0.59270	0.51911	0.000	12.41529	30.00000	Averaged
24 Isopropyl alcohol	2.27590	1.94017	0.000	14.75123	30.00000	Averaged
25 Pentane	0.28351	0.25714	0.000	9.30336	30.00000	Averaged
26 Ethyl Ether	2.11136	1.84490	0.000	12.62032	30.00000	Averaged
27 1,1-Dichloroethene	1.43179	1.52345	0.000	-6.40139	30.00000	Averaged
28 tert-butanol	2.72616	2.22954	0.000	18.21688	30.00000	Averaged
29 Acrylonitrile	0.96018	0.83698	0.000	12.83124	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.96115	3.29365	0.000	-11.22863	30.00000	Averaged
31 Methylene Chloride	1.42758	1.45200	0.000	-1.71067	30.00000	Averaged
32 3-Chloropropene	1.89647	1.72890	0.000	8.83619	30.00000	Averaged
33 Carbon Disulfide	5.06815	4.70204	0.000	7.22371	30.00000	Averaged
34 trans-1,2-Dichloroethene	1.64024	1.53123	0.000	6.64573	30.00000	Averaged
35 ~ 2-Methyl Pentane	5.38049	5.38293	0.000	-0.04540	30.00000	Averaged
36 Methyl-t-Butyl Ether	2.81920	2.55279	0.000	9.44959	30.00000	Averaged
37 1,1-Dichloroethane	3.41071	3.35490	0.000	1.63624	30.00000	Averaged
38 Vinyl Acetate	3.26534	2.90148	0.000	11.14312	30.00000	Averaged

Data File: /var/chem/gcms/mj.i/J102711.b/jccvj27a.d
Report Date: 27-Oct-2011 17:41

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvj27a.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mj.i/J102711.b/TO15.m

Injection Date: 27-OCT-2011 13:06
Init. Cal. Date(s): 25-AUG-2011 26-AUG-2011
Init. Cal. Times: 18:41 11:05
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
39 2-Butanone	0.48833	0.44251	0.000	9.38338	30.00000	Averaged	
40 Hexane	1.85779	1.63181	0.000	12.16381	30.00000	Averaged	
41 cis 1,2-Dichloroethene	1.59162	1.51241	0.000	4.97680	30.00000	Averaged	
42 Ethyl acetate	2.97501	2.85215	0.000	4.12962	30.00000	Averaged	
43 Chloroform	3.34173	3.28047	0.000	1.83299	30.00000	Averaged	
44 Tetrahydrofuran	1.62933	1.48102	0.000	9.10231	30.00000	Averaged	
45 1,1,1-Trichloroethane	3.32384	3.28945	0.000	1.03452	30.00000	Averaged	
46 1,2-Dichloroethane	0.50008	0.50257	0.000	-0.49754	30.00000	Averaged	
47 1-Butanol	0.19114	0.13163	0.000	31.13486	30.00000	Averaged	<-60-140 NT
48 Benzene	0.99250	0.85748	0.000	13.60431	30.00000	Averaged	
49 Cyclohexane	0.20492	0.16557	0.000	19.20152	30.00000	Averaged	
50 Carbon Tetrachloride	0.68894	0.71917	0.000	-4.38843	30.00000	Averaged	
51 ~ 2,3-dimethylpentane	0.24041	0.19447	0.000	19.10759	30.00000	Averaged	
52 ~ Thiophene	0.55906	0.48466	0.000	13.30805	30.00000	Averaged	
53 2,2,4-trimethylpentane	2.11318	1.79066	0.000	15.26219	30.00000	Averaged	
54 Heptane	0.36437	0.30313	0.000	16.80793	30.00000	Averaged	
55 1,2-Dichloropropane	0.37472	0.34819	0.000	7.08116	30.00000	Averaged	
56 Trichloroethene	0.47013	0.41240	0.000	12.27848	30.00000	Averaged	
180 ~ 2-nitropropane	++++	0.79895	0.000	++++	30.00000	Averaged	<-NA
57 Dibromomethane	0.43261	0.39902	0.000	7.76553	30.00000	Averaged	
58 Bromodichloromethane	0.72572	0.67654	0.000	6.77674	30.00000	Averaged	
59 1,4-dioxane	0.10184	0.07645	0.000	24.93772	30.00000	Averaged	
60 Methyl Methacrylate	0.38410	0.33776	0.000	12.06317	30.00000	Averaged	
61 ~ methyl cyclohexane	0.61885	0.50417	0.000	18.53091	30.00000	Averaged	
62 4-Methyl-2-pentanone	0.74122	0.62497	0.000	15.68404	30.00000	Averaged	
63 cis-1,3-Dichloropropene	0.48695	0.45537	0.000	6.48517	30.00000	Averaged	
64 trans-1,3-Dichloropropene	0.50941	0.46846	0.000	8.03782	30.00000	Averaged	
65 Toluene	1.02036	0.87693	0.000	14.05708	30.00000	Averaged	
66 1,1,2-Trichloroethane	0.34481	0.28662	0.000	16.87812	30.00000	Averaged	
67 ~ 2-methyl thiophene	0.87256	0.76024	0.000	12.87148	30.00000	Averaged	
68 ~ 3-methyl thiophene	0.87577	0.76592	0.000	12.54364	30.00000	Averaged	
69 2-Hexanone	0.37448	0.30309	0.000	19.06405	30.00000	Averaged	
70 Octane	0.38717	0.31529	0.000	18.56422	30.00000	Averaged	
71 Dibromochloromethane	0.66854	0.56922	0.000	14.85577	30.00000	Averaged	
72 1,2-Dibromoethane	0.59375	0.52307	0.000	11.90410	30.00000	Averaged	

Data File: /var/chem/gcms/mj.i/J102711.b/jccvj27a.d
Report Date: 27-Oct-2011 17:41

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvj27a.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mj.i/J102711.b/TO15.m

Injection Date: 27-OCT-2011 13:06
Init. Cal. Date(s): 25-AUG-2011 26-AUG-2011
Init. Cal. Times: 18:41 11:05
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 Tetrachloroethene	0.42694	0.37060	0.000	13.19724	30.00000	Averaged
74 Chlorobenzene	0.82303	0.71044	0.000	13.68021	30.00000	Averaged
75 ~ 2,3-dimethylheptane	1.59545	1.37034	0.000	14.10981	30.00000	Averaged
76 Ethylbenzene	1.16255	0.96052	0.000	17.37850	30.00000	Averaged
77 ~ 2-ethyl thiophene	0.93321	0.79516	0.000	14.79270	30.00000	Averaged
78 m&p-Xylene	0.89266	0.72921	0.000	18.31052	30.00000	Averaged
79 Nonane	0.90004	0.75237	0.000	16.40671	30.00000	Averaged
80 Bromoform	0.56474	0.37733	0.000	33.18523	30.00000	Averaged
81 Styrene	0.65113	0.52329	0.000	19.63378	30.00000	Averaged
82 o-Xylene	0.92837	0.73041	0.000	21.32336	30.00000	Averaged
M 83 Xylene (total)	0.90456	0.72961	0.000	19.34123	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.74848	0.59764	0.000	20.15256	30.00000	Averaged
85 1,2,3-Trichloropropane	0.16934	0.13991	0.000	17.37893	30.00000	Averaged
86 Cumene	1.20507	0.91981	0.000	23.67181	30.00000	Averaged
87 n-Propylbenzene	0.31476	0.23908	0.000	24.04501	30.00000	Averaged
88 2-chlorotoluene	0.32960	0.27168	0.000	17.57292	30.00000	Averaged
89 4-Ethyltoluene	1.15748	0.91681	0.000	20.79309	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.52408	0.41653	0.000	20.52077	30.00000	Averaged
91 Alpha-Methylstyrene	0.45891	0.35519	0.000	22.60013	30.00000	Averaged
92 Decane	0.93471	0.78496	0.000	16.02090	30.00000	Averaged
93 tert-butylbenzene	0.94432	0.73896	0.000	21.74688	30.00000	Averaged
94 1,2,4-Trimethylbenzene	0.90340	0.72474	0.000	19.77667	30.00000	Averaged
95 sec-butylbenzene	1.29873	1.02837	0.000	20.81705	30.00000	Averaged
96 1,3-Dichlorobenzene	0.69027	0.54401	0.000	21.18893	30.00000	Averaged
97 Benzyl Chloride	0.83948	0.69994	0.000	16.62292	30.00000	Averaged
98 1,4-Dichlorobenzene	0.67600	0.53426	0.000	20.96789	30.00000	Averaged
99 p-Cymene	1.01007	0.81653	0.000	19.16048	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.74827	0.59670	0.000	20.25510	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86210	0.71884	0.000	16.61819	30.00000	Averaged
102 ~ Indane	0.82906	0.63508	0.000	23.39734	30.00000	Averaged
103 1,2-Dichlorobenzene	0.62549	0.48424	0.000	22.58161	30.00000	Averaged
104 n-butylbenzene	1.02775	0.85101	0.000	17.19694	30.00000	Averaged
105 ~ Indene	0.62420	0.47660	0.000	23.64616	30.00000	Averaged
106 Undecane	0.73834	0.68233	0.000	7.58539	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.83672	0.69059	0.000	17.46538	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.78110	0.64836	0.000	16.99381	30.00000	Averaged

<- 60-140 NT

Data File: /var/chem/gcms/mj.i/J102711.b/jccvj27a.d
Report Date: 27-Oct-2011 17:41

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvj27a.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mj.i/J102711.b/TO15.m

Injection Date: 27-OCT-2011 13:06
Init. Cal. Date(s): 25-AUG-2011 26-AUG-2011
Init. Cal. Times: 18:41 11:05
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.54553	0.49324	0.000	9.58496	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.60187	0.53520	0.000	11.07710	30.00000	Averaged	
111 Dodecane	0.62229	0.65364	0.000	-5.03813	30.00000	Averaged	
112 1,2,4-Trichlorobenzene	0.35923	0.33488	0.000	6.77914	30.00000	Averaged	
113 Napthalene	0.74563	0.67921	0.000	8.90787	30.00000	Averaged	
114 ~ benzo(b) thiophene	0.48491	0.39180	0.000	19.20105	30.00000	Averaged	
115 Hexachlorobutadiene	0.35521	0.30814	0.000	13.25100	30.00000	Averaged	
116 1,2,3-trichlorobenzene	0.30170	0.26536	0.000	12.04678	30.00000	Averaged	
117 ~ 2-Methylnaphthalene	0.06963	0.04406	0.000	36.72744	30.00000	Averaged	<- DNT
118 ~ 1-Methylnaphthalene	0.06059	0.03052	0.000	49.62445	30.00000	Averaged	<- DNT

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H1J270000 - 178B	**Work Order #**	MNJJF1AA	**Matrix.....:**	AIR
	10/25/2011	**Date Received..:**	10/26/2011		
Prep Date.....:	10/27/2011	**Analysis Date...**	10/27/2011		
Prep Batch #.....:	1300178				
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	0.20	ND	0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Chloromethane	ND	0.50	ND	1.0
Vinyl chloride	ND	0.20	ND	0.51
Bromomethane	ND	0.20	ND	0.78
Chloroethane	ND	0.20	ND	0.53
Trichlorofluoromethane	ND	0.20	ND	1.1
1,1-Dichloroethene	ND	0.20	ND	0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.20	ND	1.5
Methylene chloride	ND	0.50	ND	1.7
1,1-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
Chloroform	ND	0.20	ND	0.98
1,1,1-Trichloroethane	ND	0.20	ND	1.1
Carbon tetrachloride	ND	0.20	ND	1.3
Benzene	ND	0.20	ND	0.64
1,2-Dichloroethane	ND	0.20	ND	0.81
Trichloroethene	ND	0.20	ND	1.1
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91
Toluene	ND	0.20	ND	0.75
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Tetrachloroethene	ND	0.20	ND	1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
Chlorobenzene	ND	0.20	ND	0.92
Ethylbenzene	ND	0.20	ND	0.87
m-Xylene & p-Xylene	ND	0.20	ND	0.87
o-Xylene	ND	0.20	ND	0.87
Styrene	ND	0.20	ND	0.85
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4
1,3,5-Trimethylbenzene	ND	0.20	ND	0.98
1,2,4-Trimethylbenzene	ND	0.20	ND	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	ND	0.20	ND	1.2
1,2-Dichlorobenzene	ND	0.20	ND	1.2
Benzyl chloride	ND	0.40	ND	1.0

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H1J270000 - 178B **Work Order #** MNJJF1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	1.0	ND	7.4
Hexachlorobutadiene	ND	1.0	ND	11

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H1J270000 - 178C **Work Order #** MNJJF1AC **Matrix.....:** AIR

	10/25/2011	**Date Received..:**	10/26/2011
Prep Date.....:	10/27/2011	**Analysis Date...**	10/27/2011
Prep Batch #.....:	1300178		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Dichlorodifluoromethane	5.00	4.96	25	24.5	99	60 - 140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	5.00	4.76	35	33.3	95	60 - 140
Chloromethane	5.00	4.82	10	9.96	96	60 - 140
Vinyl chloride	5.00	4.27	13	10.9	85	70 - 130
Bromomethane	5.00	4.47	19	17.4	89	70 - 130
Chloroethane	5.00	3.92	13	10.4	78	70 - 130
Trichlorofluoromethane	5.00	5.20	28	29.2	104	60 - 140
1,1-Dichloroethene	5.00	5.32	20	21.1	106	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.56	38	42.6	111	70 - 130
Methylene chloride	5.00	5.09	17	17.7	102	70 - 130
1,1-Dichloroethane	5.00	4.92	20	19.9	98	70 - 130
cis-1,2-Dichloroethene	5.00	4.75	20	18.8	95	70 - 130
Chloroform	5.00	4.91	24	24.0	98	70 - 130
1,1,1-Trichloroethane	5.00	4.95	27	27.0	99	70 - 130
Carbon tetrachloride	5.00	5.22	31	32.8	104	70 - 130
Benzene	5.00	4.32	16	13.8	86	70 - 130
1,2-Dichloroethane	5.00	5.02	20	20.3	100	70 - 130
Trichloroethene	5.00	4.39	27	23.6	88	70 - 130
1,2-Dichloropropane	5.00	4.65	23	21.5	93	70 - 130
cis-1,3-Dichloropropene	5.00	4.68	23	21.2	94	70 - 130
Toluene	5.00	4.30	19	16.2	86	70 - 130
trans-1,3-Dichloropropene	5.00	4.60	23	20.9	92	70 - 130
1,1,2-Trichloroethane	5.00	4.16	27	22.7	83	70 - 130
Tetrachloroethene	5.00	4.34	34	29.4	87	70 - 130
1,2-Dibromoethane (EDB)	5.00	4.40	38	33.8	88	70 - 130
Chlorobenzene	5.00	4.32	23	19.9	86	70 - 130
Ethylbenzene	5.00	4.13	22	17.9	83	70 - 130
m-Xylene & p-Xylene	10.0	8.17	43	35.5	82	70 - 130
o-Xylene	5.00	3.93	22	17.1	79	70 - 130
Styrene	5.00	4.02	21	17.1	80	70 - 130
1,1,2,2-Tetrachloroethane	5.00	3.99	34	27.4	80	70 - 130
1,3,5-Trimethylbenzene	5.00	3.97	25	19.5	79	70 - 130
1,2,4-Trimethylbenzene	5.00	4.01	25	19.7	80	70 - 130
1,3-Dichlorobenzene	5.00	3.94	30	23.7	79	70 - 130
1,4-Dichlorobenzene	5.00	3.95	30	23.8	79	70 - 130
1,2-Dichlorobenzene	5.00	3.87	30	23.3	77	70 - 130

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H1J270000 - 178C **Work Order #** MNJJF1AC **Matrix.....:** AIR

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzyl chloride	5.00	4.17	26	21.6	83	70 - 130
1,2,4-Trichlorobenzene	5.00	4.66	37	34.6	93	60 - 140
Hexachlorobutadiene	5.00	4.34	53	46.3	87	60 - 140

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Data File: /var/chem/gcms/mj.i/J102711.b/mng311aa.d
Report Date: 28-Oct-2011 10:52

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mng311aa.d
Lab Smp Id: MNG3L1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mj.i/J102711.b/TO15.m
Misc Info: J102711,TO15,to14nj.sub,,,

Calibration Date: 27-OCT-2011
Calibration Time: 13:06
Client Smp ID: MD-C
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	348966	207635	490297	323538	-7.29
2 1,4-Difluorobenze	1690055	1005583	2374527	1420835	-15.93
3 Chlorobenzene-d5	1523378	906410	2140346	1275052	-16.30

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.21	8.88	9.54	9.20	-0.05
2 1,4-Difluorobenze	11.38	11.05	11.71	11.38	0.01
3 Chlorobenzene-d5	16.08	15.75	16.41	16.08	0.01

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J102711.b/mng3m1aa.d
Report Date: 28-Oct-2011 10:52

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mng3m1aa.d
Lab Smp Id: MNG3M1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mj.i/J102711.b/TO15.m
Misc Info: J102711,TO15,to14nj.sub,,,

Calibration Date: 27-OCT-2011
Calibration Time: 13:06
Client Smp ID: POST-C
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	348966	207635	490297	323346	-7.34
2 1,4-Difluorobenze	1690055	1005583	2374527	1660353	-1.76
3 Chlorobenzene-d5	1523378	906410	2140346	1476792	-3.06

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.21	8.88	9.54	9.21	-0.01
2 1,4-Difluorobenze	11.38	11.05	11.71	11.38	-0.01
3 Chlorobenzene-d5	16.08	15.75	16.41	16.07	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J102711.b/mng3k1aa.d
Report Date: 28-Oct-2011 10:52

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mng3k1aa.d
Lab Smp Id: MNG3K1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mj.i/J102711.b/TO15.m
Misc Info: J102711,TO15,to14nj.sub,,,

Calibration Date: 27-OCT-2011
Calibration Time: 13:06
Client Smp ID: PRE-C
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	348966	207635	490297	314986	-9.74
2 1,4-Difluorobenze	1690055	1005583	2374527	1496983	-11.42
3 Chlorobenzene-d5	1523378	906410	2140346	1331605	-12.59

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.21	8.88	9.54	9.20	-0.02
2 1,4-Difluorobenze	11.38	11.05	11.71	11.38	-0.01
3 Chlorobenzene-d5	16.08	15.75	16.41	16.08	0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

TETRA TECH **CALCULATION WORKSHEET** PAGE 1 OF 1

CLIENT: RMC - Middle River		JOB NUMBER: SDG HS260434	
SUBJECT: Sample Calculation			
BASED ON:		DRAWING NUMBER:	
BY: Ann Cognetta	CHECKED BY:	APPROVED BY: JAT 11-16-11	DATE: November 15, 2011

Sample PRE-C; cis-1,2-dichloroethene

$$\frac{47827}{314986} * 10 * \frac{500}{200} * \frac{4}{1.5916Z} = 9.54 \text{ ppbv}$$

$$9.54 \text{ ppbv} * \frac{96.949 \text{ g/mole}}{24.454 \text{ L/mole}} = 37.82 \text{ g/m}^3$$

Sample Calculation

Tetra Tech GEO

Client Sample ID: PRE-C

GC/MS Volatiles

Lot-Sample # H1J260434 - 001 **Work Order #** MNG3K1AA **Matrix.....:** AIR

Date Sampled...: 10/25/2011 **Date Received..:** 10/26/2011
Prep Date.....: 10/27/2011 **Analysis Date...** 10/27/2011
Prep Batch #.....: 1300178
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	**7.8**	**5.0**	**27**	**17**
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	**9.5**	**2.0**	**38**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	**5.4**	**2.0**	**20**	**7.5**
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	**2.6**	**2.0**	**11**	**8.7**
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Sample Calculation

Data File: /var/chem/gcms/mj.i/J102711.b/mng3k1aa.d
Report Date: 28-Oct-2011 10:52

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/mj.i/J102711.b/mng3k1aa.d
Lab Smp Id: MNG3K1AA Client Smp ID: PRE-C
Inj Date : 27-OCT-2011 23:04
Operator : 403648 Inst ID: mj.i
Smp Info : ,10,0,,,
Misc Info : J102711,TO15,to14nj.sub,,,
Comment :
Method : /var/chem/gcms/mj.i/J102711.b/TO15.m
Meth Date : 28-Oct-2011 10:51 tajh Quant Type: ISTD
Cal Date : 25-AUG-2011 21:16 Cal File: jich256.d
Als bottle: 6
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: to14nj.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	10.00000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	200.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	CONCENTRATIONS FINAL (ppb(v/v))
*	1 Bromochloromethane	128	9.204	9.206	(1.000)	314986	4.00000	4.000
*	2 1,4-Difluorobenzene	114	11.378	11.379	(1.000)	1496983	4.00000	4.000
*	3 Chlorobenzene-d5	117	16.079	16.075	(1.000)	1331605	4.00000	4.000
$	4 4-Bromofluorobenzene	95	17.704	17.705	(1.101)	1055599	4.17635	10.44
	31 Methylene Chloride	84	6.601	6.602	(0.717)	35129	0.31249	7.812
	41 cis 1,2-Dichloroethene	96	8.871	8.867	(0.964)	47827	0.38160	9.540
	56 Trichloroethene	130	12.093	12.089	(1.063)	13597	0.07728	1.932
	65 Toluene	91	14.121	14.123	(0.878)	73362	0.21597	5.399
	78 m&p-Xylene	91	16.569	16.570	(1.030)	30387	0.10226	2.556
M	83 Xylene (total)	100				30387	0.10226	2.556

Sample Calculation

Report Date : 26-Aug-2011 12:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2011 18:41
End Cal Date : 26-AUG-2011 11:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
37 1,1-Dichloroethane	4.75637	4.37656	3.94753	3.08045	3.10377	2.89501		
	2.90046	2.85914	2.77708				3.41071	21.909
38 Vinyl Acetate	3.05999	3.03761	3.30674	3.59396	3.35586	3.04595		
	3.26576	2.96501	3.75720				3.26534	8.332
39 2-Butanone	+++++	+++++	0.63324	0.55580	0.47718	0.43493		
	0.43625	0.42074	0.46019				0.48833	15.994
40 Hexane	2.78160	2.43035	2.06278	1.65229	1.64456	1.53486		
	1.53978	1.56125	1.51259				1.85779	24.984
41 cis 1,2-Dichloroethene	2.19742	1.97444	1.81627	1.44671	1.44486	1.37759		
	1.36363	1.36345	1.34020				1.59162	20.111
42 Ethyl acetate	3.70077	3.07341	3.31005	3.01753	2.83746	2.66963		
	2.67236	2.58656	2.90732				2.97501	11.942
43 Chloroform	4.61950	4.43357	3.93469	3.06107	3.05514	2.79631		
	2.77041	2.68424	2.72061				3.34173	23.129
44 Tetrahydrofuran	1.82264	1.71183	1.73164	1.69096	1.63621	1.48019		
	1.52193	1.42082	1.64774				1.62933	8.005
45 1,1,1-Trichloroethane	4.65510	4.25147	3.81699	3.03559	3.06145	2.86251		
	2.83738	2.71851	2.67554				3.32384	21.965

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **P. RICH** **DATE:** **DECEMBER 12, 2011**

FROM: **A. COGNETTI** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SAMPLE DELIVERY GROUP (SDG) – H1K090431

SAMPLES: 6/Air/VOC

MID A	MID C	POST A
POST C	PRE A	PRE C

Overview

The sample set for LMC – Middle River, SDG H1K090431 consisted of six (6) air samples. All samples were analyzed for volatile organic compounds (VOC). No field duplicate pair is included in this SDG.

The samples were collected by Geo Trans on November 8, 2011 and analyzed by Test America Laboratories, Inc. All analyses were conducted in accordance with EPA Method TO-15 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, blank spike results, internal standard recoveries, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major

No major noncompliances were noted.

Minor

No minor noncompliances were noted.

Notes

The continuing calibration percent differences (%Ds) for 1,2,4-trichlorobenzene was greater than the 30% quality control limit but less than 50% on November 10, 2011 @ 10:48 on instrument mj.i. No action was taken on the nondetected 1,2,4-trichlorobenzene in the affected samples.

The chain of custody indicated that no gauges were provided with the summa canisters. This means that the canister pressure before and after sampling could not be evaluated. No validation action was taken.

All samples were analyzed at a 10X dilution.

The laboratory did not provide summary forms for the internal standard quality control criteria. The forms from the raw data were used in the evaluation of the data.

Nondetected results were reported to the reporting limit.

TO: P. Rich
FROM: A. Cognetti
SDG: H1K090431
DATE: December 12, 2011

Executive Summary

Laboratory Performance: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to Region III modifications to U.S. EPA National Functional Guidelines for Organic Data Validation (Sept. 1994) and EPA Method TO-15. The text of this report has been formulated to address only those problem areas affecting data quality.

Ann Cognetti

Tetra Tech NUS
Ann Cognetti
Chemist/Data Validator

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Appendix A

Qualified Analytical Results

Data Validation Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (e.g. base-line drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can be any number of issues; e.g. poor chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 03265	NSAMPLE	MID-A_20011108			MID-C_20011108			POST-A_20011108			POST-C_20011108		
SDG: H1K090431	LAB_ID	H1K090431005			H1K090431002			H1K090431006			H1K090431003		
FRACTION: OV-M3	SAMP_DATE	11/8/2011			11/8/2011			11/8/2011			11/8/2011		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		330			11	U		15			11	U	
1,1,2,2-TETRACHLOROETHANE		14	U		14	U		14	U		14	U	
1,1,2-TRICHLOROETHANE		11	U		11	U		11	U		11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		15	U		15	U		15	U		15	U	
1,1-DICHLOROETHANE		33			8.1	U		39			8.1	U	
1,1-DICHLOROETHENE		110			7.9	U		95			7.9	U	
1,2,4-TRICHLOROBENZENE		74	U		74	U		74	U		74	U	
1,2,4-TRIMETHYLBENZENE		9.8	U		9.8	U		9.8	U		9.8	U	
1,2-DIBROMOETHANE		15	U		15	U		15	U		15	U	
1,2-DICHLOROBENZENE		12	U		12	U		12	U		12	U	
1,2-DICHLOROETHANE		8.1	U		8.1	U		8.1	U		8.1	U	
1,2-DICHLOROPROPANE		9.2	U		9.2	U		9.2	U		9.2	U	
1,2-DICHLOROTETRAFLUOROETHANE		14	U		14	U		14	U		14	U	
1,3,5-TRIMETHYLBENZENE		9.8	U		9.8	U		9.8	U		9.8	U	
1,3-DICHLOROBENZENE		12	U		12	U		12	U		12	U	
1,4-DICHLOROBENZENE		12	U		12	U		12	U		12	U	
BENZENE		6.4	U		16			6.4	U		6.4	U	
BENZYL CHLORIDE		21	U		21	U		21	U		21	U	
BROMOMETHANE		7.8	U		7.8	U		7.8	U		7.8	U	
CARBON TETRACHLORIDE		13	U		13	U		13	U		13	U	
CHLOROBENZENE		9.2	U		9.2	U		9.2	U		9.2	U	
CHLOROETHANE		5.3	U		5.3	U		5.3	U		5.3	U	
CHLOROFORM		9.8	U		9.8	U		9.8	U		9.8	U	
CHLOROMETHANE		10	U		10	U		10	U		10	U	
CIS-1,2-DICHLOROETHENE		130			7.9	U		150			7.9	U	
CIS-1,3-DICHLOROPROPENE		9.1	U		9.1	U		9.1	U		9.1	U	
DICHLORODIFLUOROMETHANE		9.9	U		9.9	U		9.9	U		9.9	U	
ETHYLBENZENE		8.7	U		8.7	U		8.7	U		8.7	U	
HEXACHLOROBUTADIENE		110	U		110	U		110	U		110	U	
M+P-XYLENES		8.7	U		8.7	U		8.7	U		8.7	U	
METHYLENE CHLORIDE		17	U		17	U		17	U		17	U	
O-XYLENE		8.7	U		8.7	U		8.7	U		8.7	U	
STYRENE		8.5	U		8.5	U		8.5	U		8.5	U	
TETRACHLOROETHENE		14	U		14	U		14	U		14	U	
TOLUENE		7.5	U		7.5	U		7.5	U		7.5	U	

PROJ_NO: 03265	NSAMPLE	PRE-A_20011108			PRE-C_20011108		
SDG: H1K090431	LAB_ID	H1K090431004			H1K090431001		
FRACTION: OV-M3	SAMP_DATE	11/8/2011			11/8/2011		
MEDIA: AIR	QC_TYPE	NM			NM		
	UNITS	UG/M3			UG/M3		
	PCT_SOLIDS						
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		730			11	U	
1,1,2,2-TETRACHLOROETHANE		14	U		14	U	
1,1,2-TRICHLOROETHANE		11	U		11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		15	U		15	U	
1,1-DICHLOROETHANE		34			8.1	U	
1,1-DICHLOROETHENE		110			7.9	U	
1,2,4-TRICHLOROBENZENE		74	U		74	U	
1,2,4-TRIMETHYLBENZENE		9.8	U		9.8	U	
1,2-DIBROMOETHANE		15	U		15	U	
1,2-DICHLOROBENZENE		12	U		12	U	
1,2-DICHLOROETHANE		8.1	U		8.1	U	
1,2-DICHLOROPROPANE		9.2	U		9.2	U	
1,2-DICHLOROTETRAFLUOROETHANE		14	U		14	U	
1,3,5-TRIMETHYLBENZENE		9.8	U		9.8	U	
1,3-DICHLOROBENZENE		12	U		12	U	
1,4-DICHLOROBENZENE		12	U		12	U	
BENZENE		10			12		
BENZYL CHLORIDE		21	U		21	U	
BROMOMETHANE		7.8	U		7.8	U	
CARBON TETRACHLORIDE		13	U		13	U	
CHLOROBENZENE		9.2	U		9.2	U	
CHLOROETHANE		5.3	U		5.3	U	
CHLOROFORM		9.8	U		9.8	U	
CHLOROMETHANE		10	U		10	U	
CIS-1,2-DICHLOROETHENE		140			45		
CIS-1,3-DICHLOROPROPENE		9.1	U		9.1	U	
DICHLORODIFLUOROMETHANE		9.9	U		9.9	U	
ETHYLBENZENE		8.7	U		8.7	U	
HEXACHLOROBUTADIENE		110	U		110	U	
M+P-XYLENES		8.7	U		8.7	U	
METHYLENE CHLORIDE		17	U		17	U	
O-XYLENE		8.7	U		8.7	U	
STYRENE		8.5	U		8.5	U	
TETRACHLOROETHENE		14	U		14	U	
TOLUENE		9.2			7.5	U	

PROJ_NO: 03265	NSAMPLE	MID-A_20011108			MID-C_20011108			POST-A_20011108			POST-C_20011108		
SDG: H1K090431	LAB_ID	H1K090431005			H1K090431002			H1K090431006			H1K090431003		
FRACTION: OV-M3	SAMP_DATE	11/8/2011			11/8/2011			11/8/2011			11/8/2011		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
TRANS-1,3-DICHLOROPROPENE		9.1	U		9.1	U		9.1	U		9.1	U	
TRICHLOROETHENE		11	U		11	U		11	U		11	U	
TRICHLOROFLUOROMETHANE		11	U		11	U		11	U		11	U	
VINYL CHLORIDE		5.1	U		5.1	U		5.1	U		5.1	U	

PROJ_NO: 03265	NSAMPLE	PRE-A_20011108			PRE-C_20011108		
SDG: H1K090431	LAB_ID	H1K090431004			H1K090431001		
FRACTION: OV-M3	SAMP_DATE	11/8/2011			11/8/2011		
MEDIA: AIR	QC_TYPE	NM			NM		
	UNITS	UG/M3			UG/M3		
	PCT_SOLIDS						
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
TRANS-1,3-DICHLOROPROPENE		9.1	U		9.1	U	
TRICHLOROETHENE		930			16		
TRICHLOROFLUOROMETHANE		11	U		11	U	
VINYL CHLORIDE		5.1	U		5.1	U	

Appendix B

Results as Reported by the Laboratory

Tetra Tech GEO

Client Sample ID: MID-A

GC/MS Volatiles

Lot-Sample # H1K090431 - 005 **Work Order #** MNVJC1AA **Matrix.....:** AIR

Date Sampled...: 11/08/2011 **Date Received..:** 11/09/2011
Prep Date.....: 11/10/2011 **Analysis Date...** 11/11/2011
Prep Batch #.....: 1314201
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroeth ane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**27**	**2.0**	**110**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroetha ne	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**8.1**	**2.0**	**33**	**8.1**
cis-1,2-Dichloroethene	**32**	**2.0**	**130**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**60**	**2.0**	**330**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: MID-A

GC/MS Volatiles

Lot-Sample # H1K090431 - 005 **Work Order #** MNVJC1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: MID-C

GC/MS Volatiles

Lot-Sample # H1K090431 - 002 **Work Order #** MNVH81AA **Matrix.....:** AIR

Date Sampled...: 11/08/2011 **Date Received..:** 11/09/2011
Prep Date.....: 11/10/2011 **Analysis Date...** 11/10/2011
Prep Batch #.....: 1314201
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	ND	2.0	ND	7.9
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	**5.0**	**2.0**	**16**	**6.4**
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: MID-C

GC/MS Volatiles

Lot-Sample # H1K090431 - 002 **Work Order #** MNVH81AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: POST-A

GC/MS Volatiles

Lot-Sample # H1K090431 - 006 **Work Order #** MNVJD1AA **Matrix.....:** AIR

Date Sampled...: 11/08/2011 **Date Received..:** 11/09/2011
Prep Date.....: 11/10/2011 **Analysis Date...** 11/11/2011
Prep Batch #.....: 1314201
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**24**	**2.0**	**95**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**9.7**	**2.0**	**39**	**8.1**
cis-1,2-Dichloroethene	**39**	**2.0**	**150**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**2.7**	**2.0**	**15**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: POST-A

GC/MS Volatiles

Lot-Sample # H1K090431 - 006 **Work Order #** MNVJD1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: POST-C

GC/MS Volatiles

Lot-Sample # H1K090431 - 003 **Work Order #** MNVH91AA **Matrix.....:** AIR

Date Sampled...: 11/08/2011 **Date Received..:** 11/09/2011
Prep Date.....: 11/10/2011 **Analysis Date...** 11/10/2011
Prep Batch #.....: 1314201
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	ND	2.0	ND	7.9
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: POST-C

GC/MS Volatiles

Lot-Sample # H1K090431 - 003 **Work Order #** MNVH91AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: PRE-A

GC/MS Volatiles

Lot-Sample # H1K090431 - 004 **Work Order #** MNVJA1AA **Matrix.....:** AIR

Date Sampled...: 11/08/2011 **Date Received..:** 11/09/2011
Prep Date.....: 11/10/2011 **Analysis Date...** 11/10/2011
Prep Batch #.....: 1314201
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**28**	**2.0**	**110**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**8.3**	**2.0**	**34**	**8.1**
cis-1,2-Dichloroethene	**35**	**2.0**	**140**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**130**	**2.0**	**730**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	**3.2**	**2.0**	**10**	**6.4**
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**170**	**2.0**	**930**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	**2.4**	**2.0**	**9.2**	**7.5**
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: PRE-A

GC/MS Volatiles

Lot-Sample # H1K090431 - 004 **Work Order #** MNVJA1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: PRE-C

GC/MS Volatiles

Lot-Sample # H1K090431 - 001 **Work Order #** MNVH51AA **Matrix.....:** AIR

Date Sampled...: 11/08/2011 **Date Received..:** 11/09/2011
Prep Date.....: 11/10/2011 **Analysis Date...** 11/10/2011
Prep Batch #.....: 1314201
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	**11**	**2.0**	**45**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	**3.7**	**2.0**	**12**	**6.4**
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**2.9**	**2.0**	**16**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: PRE-C

GC/MS Volatiles

Lot-Sample # H1K090431 - 001 **Work Order #** MNVH51AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Appendix C

Support Documentation

PROJECT NARRATIVE
H1K090431

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

The EPA method requires that all target analytes in the continuing calibration verification standard be within 30% difference from the initial calibration. According to the laboratory standard operating procedure, the continuing calibration is acceptable if it meets the laboratory control sample acceptance criteria. Even though the calibration verification analyzed on 11/10/11 exhibited a % difference of > 30% for 1,2,4-trichlorobenzene, the results were within the LCS acceptance limits.

H1K090431

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Peter Rich	**Sampled By:** Sean Crouch	1 of 1 COCs
Company: TetraTech GEO	**Phone:** 410-990-4607		
Address: 51 Franklin St, Ste 400	**Site Contact:** Sean Crouch		
City/State/Zip Annapolis, MD 21401	**TAL Contact:** To Wasmund		
Phone: 410-990-4607			
FAX: 410-990-4749			
Project Name: LMC-MRC-SSDS	**Analysis Turnaround Time**		
Site/location: Middle River, MD	Standard (Specify) Standard TAT		
PO # 117-0507426.01	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
Pre-C	11-8-11	1245					L4146	X									X		
Mid-C		1240					SL1215												
Post-C		1235					LA7174												
Pre-A		1100					L5162												
Mid-A		1055					L8191												
Post-A		1050					L5137												

Sampled by: Sean Crouch

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

1 cooler Rec'd @ Ambient temp with custody seal intact
[signature] 11/9/11
1 cooler Fed x # 8747 5591 7293

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

6 cans / no flows

Special Instructions/QC Requirements & Comments:

Canisters Shipped by: [signature]	Date/Time: 11-8-11 / 1400	Canisters Received by: [signature] 11/9/11 9:50
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: H1K090431

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?			✓	☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?	✓				

Quote #: 78944 PM Instructions: _____

Sample Receiving Associate: _____ Date: 11/9/11

QA026R22.doc, 012811

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H1K090431*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
JM 11/19/11	NA	28.93	MNVH5	L4146 ✓	-0.3	–												9449
			MNVH8	SL1215 ✓	-0.9	–												
			MNVH9	LA7174 ✓	-0.9	–												
			MNVJA	L5162 ✓	+0.8	–												
			MNVJC	L8191 ✓	+0.5	–												
↓	↓	↓	MNVJD	L5137 ✓	+0.3	–												↓

SAMPLE SUMMARY

H1K090431

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MNVH5	001	PRE-C	11/08/11	12:45
MNVH8	002	MID-C	11/08/11	12:40
MNVH9	003	POST-C	11/08/11	12:35
MNVJA	004	PRE-A	11/08/11	11:00
MNVJC	005	MID-A	11/08/11	10:55
MNVJD	006	POST-A	11/08/11	10:50

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

ANALYTICAL METHODS SUMMARY

H1K090431

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

HOLDTIME

PROJ_NO 03265

SDG	SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
H1K090431	OV	PPBV	PRE-C	H1K090431001	NM	11/08/2011		11/10/2011			4236111111
H1K090431	OV	PPBV	PRE-A	H1K090431004	NM	11/08/2011		11/10/2011			2291666666
H1K090431	OV	PPBV	POST-C	H1K090431003	NM	11/08/2011		11/10/2011			2083333333
H1K090431	OV	PPBV	POST-A	H1K090431006	NM	11/08/2011		11/11/2011			0138888888
H1K090431	OV	PPBV	MID-C	H1K090431002	NM	11/08/2011		11/10/2011			3194444443
H1K090431	OV	PPBV	MID-A	H1K090431005	NM	11/08/2011		11/11/2011			3180555556
H1K090431	OV	UG/M3	PRE-C	H1K090431001	NM	11/08/2011		11/10/2011			4236111111
H1K090431	OV	UG/M3	PRE-A	H1K090431004	NM	11/08/2011		11/10/2011			2291666666
H1K090431	OV	UG/M3	POST-C	H1K090431003	NM	11/08/2011		11/10/2011			2083333333
H1K090431	OV	UG/M3	POST-A	H1K090431006	NM	11/08/2011		11/11/2011			0138888888
H1K090431	OV	UG/M3	MID-C	H1K090431002	NM	11/08/2011		11/10/2011			3194444443
H1K090431	OV	UG/M3	MID-A	H1K090431005	NM	11/08/2011		11/11/2011			3180555556

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	8/25/11	Instrument:	MJ	ICAL Batch/Scan Name:	J082511I	Scanned

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?					✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad	✓				NA
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)	✓	✓		acetaldehyde @ 39%	✓
11. If curves were used, is correlation coefficient ≥0.990?	✓				NA
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.	✓				NA
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).	✓				NA
14. Is the "Y" intercept less than the RL for each curve?	✓				NA
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?	✓				NA
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			✓
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)		✓			✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 8/26/11	2nd Level Reviewer:	Date: 8/28/11
Comments:		Comments: RR levels 1&2 bad std.	

TestAmerica Laboratories, Inc. – Knoxville 61
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MJ

Analyst: AFB Qtims Batch: RR sampled due to ICAL points being RR.

Date: 8/25/11 ICAL Batch: J082511 I Target Batch: J082511 I IS #1 Area: 494199

Surr/IS ID & Vol.: 40mL V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily cleaned source

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1546	✓	tune	JBFBH25	–	16	100	1	
1612	✓	MDL	↓MDL ↓	CX2263	1	50		
1701	✓N	ICAL 1 X	JICH251			100		N > can ↓ CCly.
1752	✓N	2 X	2	↓	↓	200		N
1841	✓	3	3	CX2261	2	100		
1932	✓	4	4	↓	2	200		
2024	✓	5	5	CX2260	3			
2116	✓	6	6	CX2259	4			
2207	✓	7	7	CX2258	5			
2258	✓	8	8	CX2257	6			
2350	✓	9	9	CX2256	7			
0040	ok	Blk	Blk 1	–	16			
0131	✓	ICV	JICVH25	CX2252	8			
0222	✓	LCJ	↓LCJ ↓	↓	8	100		
0316	✓	Blk	JBlk ~~H25~~	–	16	500		AB 8/25/11
0410	✓	↓	JBlkH25	–	16	500	1	
0555	✓	HIH240412	MLØDR1AA	6137	9			akrf
0650	✓		DV	1518	10			
0742	✓		DØ	6124	11			
0835	✓		D2	12824	12			
1015	✓	↓	D5	21639	13	↓	↓	
Not Run		Lot 9408	2966 ~~D5~~ AB 8/25/11	2966	14			
↓		↓	04750 →		15			
Not Run		Lot 9406	6434 →		16			STD cans
Not Run		↓	1747 →		STD	↓	↓	
0458	✓	HIH220414	MLV9W2AA	7497	1	11	4.81	C12dce 87.45
0974	✓	ICAL 2	JICH252R	CX2261	2	50	1	
1105	✓	↓ 1	JICH251R	↓	2	25	1	
								8/26/11

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 8/26/11

Data File: /chem/goms/mj.i/J082511I.b/jbfbh25.d

Date : 25-AUG-2011 15:46

Client ID: BFB

Instrument: mj.i

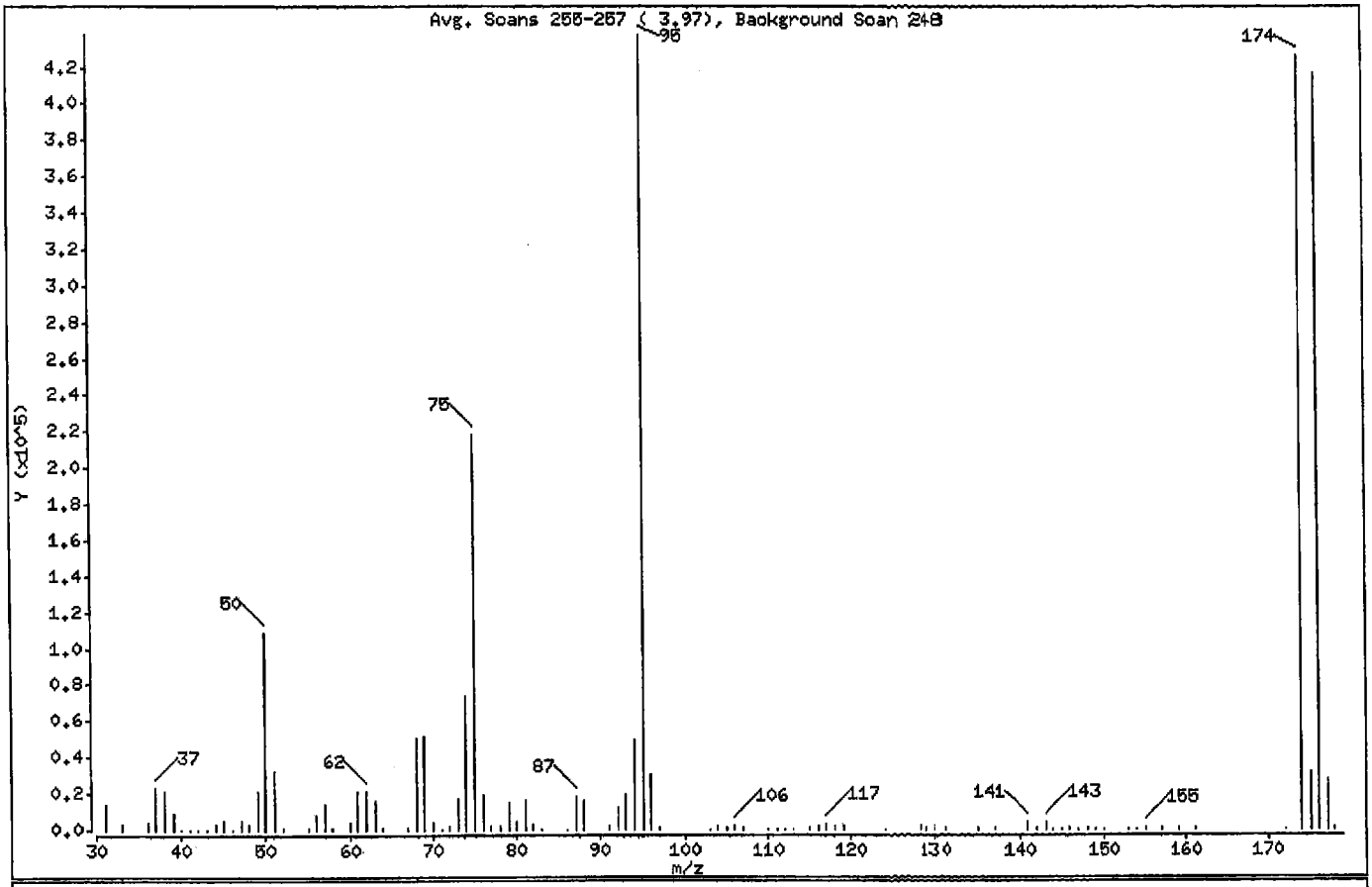
Sample Info: BFB,,3,,,BFB

Operator: 403648

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	24.92
75	30.00 - 60.00% of mass 95	49.79
96	5.00 - 9.00% of mass 95	6.97
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	97.40
175	5.00 - 9.00% of mass 174	7.11 (7.30)
176	95.00 - 101.00% of mass 174	95.24 (97.78)
177	5.00 - 9.00% of mass 176	6.29 (6.60)

Report Date : 26-Aug-2011 12:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2011 18:41
End Cal Date : 26-AUG-2011 11:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcms/mj.i/J082511I.b/jich251r.d
Level 2: /var/chem/gcms/mj.i/J082511I.b/jich252r.d
Level 3: /var/chem/gcms/mj.i/J082511I.b/jich253.d
Level 4: /var/chem/gcms/mj.i/J082511I.b/jich254.d
Level 5: /var/chem/gcms/mj.i/J082511I.b/jich255.d
Level 6: /var/chem/gcms/mj.i/J082511I.b/jich256.d
Level 7: /var/chem/gcms/mj.i/J082511I.b/jich257.d
Level 8: /var/chem/gcms/mj.i/J082511I.b/jich258.d
Level 9: /var/chem/gcms/mj.i/J082511I.b/jich259.d

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
5 Chlorodifluoromethane	+++++	0.67700	0.58423	0.45261	0.47395	0.43611		
	0.43258	0.45160	0.41650				0.49057	18.647
6 Propene	+++++	3.06715	2.66209	2.01759	1.82704	1.71212		
	1.70821	1.75839	1.60849				2.04513	25.945
7 Dichlorodifluoromethane	7.37501	6.45040	5.78540	4.39348	4.53855	4.25536		
	4.22569	4.31729	3.97652				5.03530	23.913
8 Chloromethane	+++++	0.83461	0.84235	0.61496	0.63943	0.60011		
	0.60048	0.60013	0.55503				0.66089	16.958
9 1,2-Dichlorotetrafluoroethane	4.23144	3.77897	3.28687	2.56685	2.63694	2.48903		
	2.49683	2.58850	2.43448				2.94554	22.461

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	4.000 Level 7	8.000 Level 8	16.000 Level 9					
10 Methanol	+++++	+++++	+++++	+++++	0.61369	0.53438		
	0.45070	0.37213	0.35626				0.46543	23.432
11 ~ acetaldehyde	+++++	+++++	0.59494	0.53249	0.34725	0.27052		
	0.27709	0.24704	0.26201				0.36162	39.487
12 Vinyl Chloride	3.09448	2.69526	2.28356	1.78760	1.86932	1.76277		
	1.80767	1.80570	1.72881				2.09280	23.597
13 n-Butane	4.96068	4.50188	3.69353	2.95051	3.13402	2.95734		
	3.01634	2.90003	2.74042				3.42831	23.129
14 1,3-Butadiene	2.32766	1.94039	1.68568	1.33249	1.40939	1.34139		
	1.37930	1.36588	1.31174				1.56599	22.618
15 Bromomethane	+++++	1.92787	1.67671	1.24389	1.34806	1.31182		
	1.31207	1.32858	1.28383				1.42910	16.927
16 Chloroethane	1.39545	1.14994	1.00525	0.76372	0.79406	0.77316		
	0.77841	0.79540	0.75970				0.91279	24.766
17 ~ ethanol	+++++	0.85852	0.73384	0.57289	0.59219	0.53848		
	0.53571	0.49902	0.48750				0.60227	21.399
18 Vinyl Bromide	2.22064	1.94336	1.67202	1.30697	1.36342	1.30339		
	1.32164	1.35912	1.32882				1.53549	21.961

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Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	___ RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
19 2-methyl butane	4.72298	4.00028	3.25289	2.57534	2.64123	2.51001		
	2.51794	2.57752	2.42665				3.02498	26.949
20 Trichlorofluoromethane	5.93556	5.28718	4.64074	3.60785	3.72068	3.54083		
	3.57976	3.65957	3.51479				4.16522	21.705
21 Acrolein	+++++	+++++	0.33140	0.33884	0.38104	0.32205		
	0.35555	0.32987	0.49433				0.36472	16.589
22 Acetonitrile	0.66356	0.60385	0.55034	0.57933	0.56622	0.51949		
	0.53688	0.49945	0.63728				0.57293	9.452
23 Acetone	+++++	+++++	+++++	+++++	0.74270	0.62599		
	0.58714	0.48144	0.52620				0.59270	16.965
24 Isopropyl alcohol	+++++	3.31603	3.04046	2.06005	2.12264	1.91909		
	1.96246	1.92568	1.86076				2.27590	24.950
25 Pentane	0.42542	0.34059	0.30648	0.24766	0.25315	0.24097		
	0.24536	0.25143	0.24056				0.28351	22.402
26 Ethyl Ether	2.11849	2.24693	2.18073	2.24058	2.22615	1.92724		
	2.05765	1.87191	2.13254				2.11136	6.435
27 1,1-Dichloroethene	2.04906	1.80903	1.63686	1.24383	1.25911	1.20798		
	1.21988	1.24823	1.21215				1.43179	22.189

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	4.000 Level 7	8.000 Level 8	16.000 Level 9					
28 tert-butanol	4.16157	3.54909	3.32162	2.19956	2.38710	2.18406		
	2.28000	2.28547	2.16699				2.72616	27.463
29 Acrylonitrile	1.08124	1.02220	0.94492	0.90070	0.93321	0.85233		
	0.92322	0.87374	1.11004				0.96018	9.455
30 1,1,2-Trichlorotrifluoroethan	4.16201	3.77150	3.31067	2.55437	2.63273	2.51177		
	2.56766	2.60678	2.53288				2.96115	21.224
31 Methylene Chloride	+++++	2.26769	1.78539	1.30482	1.32600	1.20333		
	1.19292	1.19111	1.14941				1.42758	27.741
32 3-Chloropropene	2.80150	2.60553	2.09839	1.69967	1.66362	1.58946		
	1.68409	1.69191	1.23406				1.89647	26.858
33 Carbon Disulfide	7.16982	6.40416	5.59071	4.47088	4.54193	4.34620		
	4.40831	4.44250	4.23886				5.06815	21.095
34 trans-1,2-Dichloroethene	2.31240	1.99948	1.77831	1.43125	1.48280	1.41341		
	1.44000	1.47205	1.43246				1.64024	19.654
35 ~ 2-Methyl Pentane	7.53421	6.89379	6.03909	4.80481	4.86290	4.58759		
	4.65133	4.70217	4.34848				5.38049	21.441
36 Methyl-t-Butyl Ether	3.39829	2.79192	3.03542	2.92708	2.82779	2.51635		
	2.64571	2.45994	2.77028				2.81920	10.094

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	4.000 Level 7	8.000 Level 8	16.000 Level 9					
37 1,1-Dichloroethane	4.75637	4.37656	3.94753	3.08045	3.10377	2.89501		
	2.90046	2.85914	2.77708				3.41071	21.909
38 Vinyl Acetate	3.05999	3.03761	3.30674	3.59396	3.35586	3.04595		
	3.26576	2.96501	3.75720				3.26534	8.332
39 2-Butanone	+++++	+++++	0.63324	0.55580	0.47718	0.43493		
	0.43625	0.42074	0.46019				0.48833	15.994
40 Hexane	2.78160	2.43035	2.06278	1.65229	1.64456	1.53486		
	1.53978	1.56125	1.51259				1.85779	24.984
41 cis 1,2-Dichloroethene	2.19742	1.97444	1.81627	1.44671	1.44486	1.37759		
	1.36363	1.36345	1.34020				1.59162	20.111
42 Ethyl acetate	3.70077	3.07341	3.31005	3.01753	2.83746	2.66963		
	2.67236	2.58656	2.90732				2.97501	11.942
43 Chloroform	4.61950	4.43357	3.93469	3.06107	3.05514	2.79631		
	2.77041	2.68424	2.72061				3.34173	23.129
44 Tetrahydrofuran	1.82264	1.71183	1.73164	1.69096	1.63621	1.48019		
	1.52193	1.42082	1.64774				1.62933	8.005
45 1,1,1-Trichloroethane	4.65510	4.25147	3.81699	3.03559	3.06145	2.86251		
	2.83738	2.71851	2.67554				3.32384	21.965

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Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
46 1,2-Dichloroethane	0.57437	0.60891	0.57991	0.44427	0.45334	0.46601		
	0.45162	0.44829	0.47403				0.50008	13.397
47 1-Butanol	0.27814	0.24319	0.24034	0.15062	0.16121	0.16394		
	0.16032	0.16510	0.15738				0.19114	25.324
48 Benzene	1.24376	1.23605	1.17403	0.87830	0.86896	0.88765		
	0.86646	0.86741	0.90991				0.99250	17.197
49 Cyclohexane	0.29439	0.25006	0.24668	0.16936	0.17383	0.18431		
	0.17496	0.17671	0.17401				0.20492	22.556
50 Carbon Tetrachloride	0.96175	0.88108	0.81738	0.60641	0.57042	0.52297		
	0.65431	0.65683	0.52931				0.68894	23.176
51 ~ 2,3-dimethylpentane	0.32206	0.29509	0.28351	0.20868	0.21385	0.22096		
	0.20527	0.20514	0.20911				0.24041	19.212
52 ~ Thiophene	0.62651	0.70380	0.67919	0.50845	0.50418	0.51888		
	0.49189	0.48364	0.51498				0.55906	15.395
53 2,2,4-trimethylpentane	2.84300	2.72362	2.52292	1.86179	1.88284	1.88309		
	1.76879	1.74354	1.78906				2.11318	21.181
54 Heptane	0.49391	0.44832	0.43966	0.32241	0.31415	0.32182		
	0.30500	0.30696	0.32712				0.36437	20.307

Report Date : 26-Aug-2011 12:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2011 18:41
End Cal Date : 26-AUG-2011 11:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
55 1,2-Dichloropropane	0.43111	0.41129	0.42567	0.35300	0.34060	0.34331		
	0.34141	0.33869	0.38743				0.37472	10.467
56 Trichloroethene	0.60756	0.60983	0.56014	0.38176	0.41404	0.42660		
	0.39922	0.40429	0.42770				0.47013	19.971
180 ~ 2-nitropropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
57 Dibromomethane	0.56655	0.52446	0.51091	0.38044	0.38242	0.39184		
	0.37028	0.36716	0.39946				0.43261	18.031
58 Bromodichloromethane	0.88483	0.83229	0.86891	0.64746	0.65456	0.65970		
	0.64903	0.65036	0.68434				0.72572	14.287
59 1,4-dioxane	0.13511	0.11025	0.11965	0.08510	0.09561	0.10127		
	0.09021	0.09150	0.08787				0.10184	16.473
60 Methyl Methacrylate	0.44474	0.34045	0.40702	0.36639	0.34933	0.37263		
	0.36704	0.37201	0.43728				0.38410	9.666
61 ~ methyl cyclohexane	0.83478	0.75152	0.73192	0.54306	0.55436	0.56546		
	0.53327	0.52262	0.53268				0.61885	19.270
62 4-Methyl-2-pentanone	1.07072	0.75727	0.85159	0.60948	0.64375	0.68831		
	0.64217	0.71762	0.69009				0.74122	19.296

Report Date : 26-Aug-2011 12:58

TestAmerica Knoxville

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Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
63 cis-1,3-Dichloropropene	0.51789	0.52376	0.56152	0.45116	0.44267	0.45942		
	0.45782	0.46010	0.50825				0.48695	8.559
64 trans-1,3-Dichloropropene	0.54802	0.52270	0.56264	0.48168	0.48408	0.48455		
	0.49167	0.47715	0.53217				0.50941	6.362
65 Toluene	1.15577	1.09856	1.16262	0.97940	0.94959	0.92906		
	0.95947	0.90008	1.04873				1.02036	9.720
66 1,1,2-Trichloroethane	0.39776	0.38089	0.40072	0.32814	0.32436	0.31156		
	0.31767	0.30041	0.34181				0.34481	11.114
67 ~ 2-methyl thiophene	0.99056	0.97970	0.98157	0.84215	0.80549	0.79319		
	0.81334	0.76790	0.87910				0.87256	10.212
68 ~ 3-methyl thiophene	0.98866	0.96565	1.02609	0.84075	0.81108	0.79400		
	0.81127	0.76757	0.87691				0.87577	10.786
69 2-Hexanone	0.48405	0.40809	0.43329	0.30984	0.33101	0.34815		
	0.34095	0.35888	0.35607				0.37448	14.946
70 Octane	0.48427	0.44728	0.46776	0.34750	0.35344	0.34270		
	0.34957	0.33113	0.36086				0.38717	15.677
71 Dibromochloromethane	0.73929	0.69578	0.78108	0.60963	0.62609	0.61487		
	0.65309	0.63288	0.66411				0.66854	8.865

Report Date : 26-Aug-2011 12:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2011 18:41
End Cal Date : 26-AUG-2011 11:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TQ15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
72 1,2-Dibromoethane	0.66556	0.63832	0.70557	0.56489	0.55329	0.54886		
	0.55024	0.52278	0.59428				0.59375	10.495
73 Tetrachloroethene	0.57905	0.51402	0.52464	0.38846	0.37286	0.37146		
	0.35950	0.34654	0.38596				0.42694	20.359
74 Chlorobenzene	1.03261	0.90468	0.96441	0.77392	0.74802	0.73516		
	0.73669	0.70871	0.80307				0.82303	14.069
75 ~ 2,3-dimethylheptane	2.02368	1.83740	1.86838	1.48420	1.56754	1.47682		
	1.47515	1.33653	1.28936				1.59545	15.962
76 Ethylbenzene	1.42119	1.11740	1.27470	1.15971	1.09989	1.06158		
	1.09779	1.02333	1.20737				1.16255	10.589
77 ~ 2-ethyl thiophene	1.11675	0.90799	1.04201	0.92364	0.88026	0.85378		
	0.88119	0.82846	0.96481				0.93321	10.027
78 m&p-Xylene	1.11424	0.84862	0.96634	0.88379	0.84343	0.82219		
	0.84903	0.78766	0.91868				0.89266	11.029
79 Nonane	1.05886	0.89637	0.99392	0.85693	0.88558	0.83329		
	0.86434	0.81940	0.89163				0.90004	8.644
80 Bromoform	+++++	0.52021	0.64721	0.52875	0.53967	0.52408		
	0.58176	0.58743	0.58882				0.56474	7.846

Report Date : 26-Aug-2011 12:58

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Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

	0.04000	0.08000	0.16000	0.40000	1.000	2.000	___	
Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	RRF	% RSD
	4.000	8.000	16.000					
	Level 7	Level 8	Level 9					
81 Styrene	0.73117	0.53810	0.70586	0.63256	0.63376	0.61040		
	0.64976	0.62306	0.73546				0.65113	9.771
82 o-Xylene	1.18314	0.88016	1.03697	0.90565	0.88266	0.84124		
	0.87491	0.79751	0.96307				0.92837	12.620
M 83 Xylene (total)	1.13721	0.85913	0.98988	0.89108	0.85650	0.82854		
	0.85766	0.79094	0.93014				0.90456	11.562
84 1,1,2,2-Tetrachloroethane	1.00519	0.68779	0.84685	0.70343	0.71050	0.68718		
	0.68950	0.65624	0.74967				0.74848	14.823
85 1,2,3-Trichloropropane	0.22617	0.15751	0.19655	0.16054	0.15906	0.15296		
	0.15318	0.14697	0.17111				0.16934	15.237
86 Cumene	1.55507	1.12400	1.30124	1.17396	1.15217	1.09508		
	1.13693	1.05730	1.24987				1.20507	12.539
87 n-Propylbenzene	0.39792	0.27386	0.34497	0.30523	0.29470	0.28915		
	0.29583	0.28321	0.34801				0.31476	12.860
88 2-chlorotoluene	0.42369	0.29678	0.38002	0.31328	0.31252	0.30243		
	0.30544	0.29064	0.34163				0.32960	13.575
89 4-Ethyltoluene	1.52398	1.08357	1.29995	1.07594	1.08321	1.06055		
	1.06913	1.02216	1.19887				1.15748	13.980

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Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
90 1,3,5-Trimethylbenzene	0.66153	0.45218	0.58114	0.49362	0.49724	0.48625		
	0.49185	0.47270	0.58018				0.52408	13.016
91 Alpha-Methylstyrene	0.55471	0.35304	0.49055	0.42262	0.44674	0.44406		
	0.45053	0.43568	0.53225				0.45891	13.133
92 Decane	1.18287	0.77274	0.94673	0.80546	0.94585	0.88877		
	0.96336	0.91276	0.99387				0.93471	12.642
93 tert-butylbenzene	1.21157	0.84322	1.02356	0.89293	0.89921	0.86691		
	0.88957	0.84800	1.02392				0.94432	12.818
94 1,2,4-Trimethylbenzene	1.21046	0.80863	0.99585	0.84643	0.84301	0.83017		
	0.84061	0.80347	0.95199				0.90340	14.662
95 sec-butylbenzene	1.70984	1.13664	1.41562	1.24619	1.25535	1.21104		
	1.22913	1.16246	1.32230				1.29873	13.482
96 1,3-Dichlorobenzene	0.93507	0.61304	0.77848	0.61748	0.63633	0.62583		
	0.63974	0.63463	0.73182				0.69027	15.654
97 Benzyl Chloride	1.15508	0.72733	0.92647	0.70465	0.76843	0.78680		
	0.80152	0.79097	0.89408				0.83948	16.448
98 1,4-Dichlorobenzene	0.94260	0.60227	0.76729	0.59325	0.61585	0.61044		
	0.62326	0.62037	0.70867				0.67600	17.072

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Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
99 p-Cymene	1.40613	0.86557	1.10665	0.92795	0.96015	0.93351		
	0.93975	0.89875	1.05214				1.01007	16.465
100 ~ 1,2,3- Trimethylbenzene	1.02569	0.69725	0.85348	0.70463	0.70456	0.68723		
	0.67634	0.63999	0.74524				0.74827	16.029
101 ~ n-butylcyclohexane	1.04085	0.76747	0.92153	0.82682	0.87532	0.81820		
	0.84770	0.79190	0.86914				0.86210	9.438
102 ~ Indane	1.18390	0.74354	0.93903	0.79514	0.77273	0.74515		
	0.74683	0.70900	0.82619				0.82906	17.985
103 1,2-Dichlorobenzene	0.87762	0.57039	0.70112	0.56178	0.58249	0.56401		
	0.57305	0.55534	0.64360				0.62549	16.959
104 n-butylbenzene	1.49502	0.91088	1.15236	0.88777	0.96640	0.94814		
	0.95364	0.91487	1.02065				1.02775	18.701
105 ~ Indene	0.84987	0.53699	0.71135	0.56670	0.58876	0.57564		
	0.57587	0.55907	0.65350				0.62420	16.069
106 Undecane	+++++	+++++	0.92466	0.54104	0.64534	0.63985		
	0.72731	0.77021	0.91997				0.73834	19.636
107 ~ 1,2-dimethyl-4-ethylenzene	1.25507	0.78668	0.96083	0.67868	0.76081	0.74964		
	0.75548	0.74094	0.84238				0.83672	21.002

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
108 ~ 1,2,4,5-tetramethylbenzene	1.23653	0.77286	0.89926	0.54083	0.68699	0.68504		
	0.70479	0.71208	0.79151				0.78110	25.119
109 ~ 1,2,3,5-tetramethylbenzene	+++++	0.65272	0.70433	0.41910	0.36894	0.53397		
	0.53645	0.54618	0.60257				0.54553	20.476
110 ~ 1,2,3,4-tetramethylbenzene	+++++	0.71891	0.79004	0.41755	0.55333	0.55328		
	0.56237	0.58345	0.63606				0.60187	18.930
111 Dodecane	+++++	+++++	0.87796	0.43100	0.64739	0.46041		
	0.58293	0.67585	0.68047				0.62229	24.247
112 1,2,4-Trichlorobenzene	+++++	0.37992	0.47379	0.22745	0.33628	0.33435		
	0.33754	0.36940	0.41512				0.35923	19.897
113 Napthalene	+++++	0.88465	1.03658	0.48288	0.71108	0.69869		
	0.68421	0.72090	0.74605				0.74563	21.554
114 ~ benzo(b) thiophene	+++++	0.56847	0.68804	0.32898	0.44775	0.46328		
	0.43743	0.47327	0.47209				0.48491	21.623
115 Hexachlorobutadiene	+++++	0.33561	0.39325	0.24895	0.36821	0.34021		
	0.35297	0.35597	0.44654				0.35521	15.733
116 1,2,3-trichlorobenzene	+++++	0.38766	0.43773	0.19394	0.28416	0.27643		
	0.25799	0.28629	0.28943				0.30170	25.289

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Target Version : 3.50
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Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	___ RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
117 ~ 2-Methylnaphthalene	+++++	+++++	0.09964	0.04912	0.08238	0.05514		
	0.06333	0.07138	0.06642				0.06963	24.505
118 ~ 1-Methylnaphthalene	+++++	+++++	0.09021	0.04931	0.07682	0.04770		
	0.05134	0.05583	0.05289				0.06059	26.968
$ 4 4-Bromofluorobenzene	0.74639	0.74405	0.75618	0.73761	0.75642	0.77804		
	0.76777	0.78187	0.76495				0.75925	2.004

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	11/10/11	CCAL Batch/ Scan Name:	J111011	Instrument:	MJ	ICAL Batch/ Scan Name:	J082511I	Scanned ☐ ✓

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		☐ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓		124TCBZ 32 Naph 37 123TCBZ 38	✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		☐ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				NA
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		☐ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits ☐ [lcs5] LCS outside marginal exceedences high, but analytes were not detected	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 11/10/11	2nd Level Reviewer :	Date: 11/11/11
Comments:		Comments:	

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MJ

Analyst: [illegible] Qtims Batch: 1314174 (MNWN3) 1314201 (MNW6R)

Date: 11/10/11 ICAL Batch: J082511I Target Batch: J111061 IS #1 Area: 322934

Surr/IS ID & Vol.: 40mlV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily _____

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1019	✓	fume	JBFBK10	-	16	100	1	
1048	✓	CCV	CCV	CX2793	15	↓	↓	124TCBZ 32%, 123TCBZ 38%, Naph 38%,
1048	✓	LCS	LCS	↓	↓	↓		
1150	OK	BLK	Flush	-	16	500		
1251	✓	↓	JBLKK10	-	↓	↓	↓	
1345	✓ 1539	H1K100423	MNWLN1AA	6640	1	200	1	time 1539
1724	—		WLT	12759	2	↓	↓	
1827	✓		WLV	1324N	3	1000	6.02	cancelled 1.2
1916	✓		WLW	12636	4	200	1	
2007	✓		WLO	03859	5	↓	1	
1345	✓	H1K100404	WF2	92095	6	100	↓	cash nj
1440	✓	↓	WF3	6621	7	50	↓	
1631	✓	↓	WF4 ↓	6117	8	20	3.5	87.5
2058	✓	H1K090431	MNVH51AA	L4146	6	↓	1	tol/cj
2150	✓		H8	SL1215	7			
2241	✓		H9	LA7174	8			
2333	✓		JA	L5162	9			
0024	✓		JC	L8191	10			
0116	✓		JD ↓	L5137	11			
0207	dup	↓	JDD ↓	↓	11	22ml ↓		
0257	N	H1K100426	MNWL51AA	13308	12	20	5.71	redspot needs IX1 RR
0349	N	↓	L6 ↓	6641	13	↓	5.59	needs IX1 RR1D 11/14/11
0446	N	lot 9538	1549 →		14	500	1	std can
0540	N	lot 9538	1549A	1579	14	500	1	

11/10/11

11/11/11

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 11/11/11

Data File: /chem/gcms/mj.i/J111011.b/jbfbk10.d

Date : 10-NOV-2011 10:19

Client ID: BFB

Instrument: mj.i

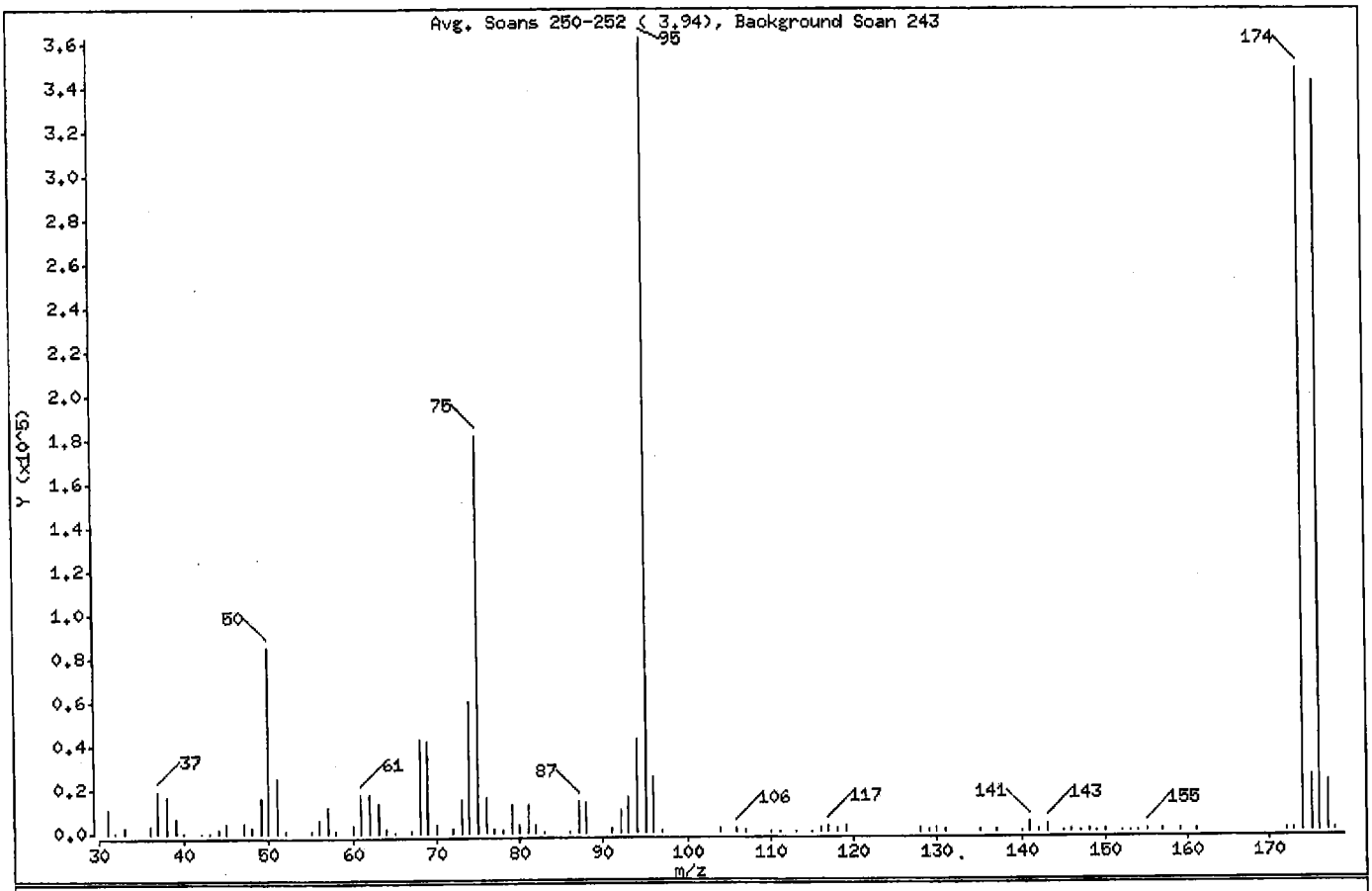
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	23.46
75	30.00 - 60.00% of mass 95	50.06
96	5.00 - 9.00% of mass 95	6.93
173	Less than 2.00% of mass 174	0.24 (0.25)
174	50.00 - 120.00% of mass 95	95.98
175	5.00 - 9.00% of mass 174	6.93 (7.22)
176	95.00 - 101.00% of mass 174	94.47 (98.43)
177	5.00 - 9.00% of mass 176	6.17 (6.53)

Data File: /var/chem/gcms/mj.i/J111011.b/jccvk10.d
Report Date: 10-Nov-2011 13:22

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvk10.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mj.i/J111011.b/TO15.m

Injection Date: 10-NOV-2011 10:48
Init. Cal. Date(s): 25-AUG-2011 26-AUG-2011
Init. Cal. Times: 18:41 11:05
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.75925	0.78036	0.000	-2.77960	30.00000	Averaged
5 Chlorodifluoromethane	0.49057	0.54266	0.000	-10.61771	30.00000	Averaged
6 Propene	2.04513	1.94842	0.000	4.72905	30.00000	Averaged
7 Dichlorodifluoromethane	5.03530	5.10448	0.000	-1.37399	30.00000	Averaged
8 Chloromethane	0.66089	0.66192	0.000	-0.15639	30.00000	Averaged
9 1,2-Dichlorotetrafluoroetha	2.94554	2.86527	0.000	2.72525	30.00000	Averaged
10 Methanol	0.46543	1.81851	0.000	-291	30.00000	Averaged
11 ~ acetaldehyde	0.36162	0.23204	0.000	35.83385	30.00000	Averaged
12 Vinyl Chloride	2.09280	1.90096	0.000	9.16637	30.00000	Averaged
13 n-Butane	3.42831	3.07207	0.000	10.39090	30.00000	Averaged
14 1,3-Butadiene	1.56599	1.38604	0.000	11.49092	30.00000	Averaged
15 Bromomethane	1.42910	1.40667	0.000	1.56952	30.00000	Averaged
16 Chloroethane	0.91279	0.77607	0.000	14.97812	30.00000	Averaged
17 ~ ethanol	0.60227	0.54480	0.000	9.54236	30.00000	Averaged
18 Vinyl Bromide	1.53549	1.46594	0.000	4.52929	30.00000	Averaged
19 2-methyl butane	3.02498	2.81994	0.000	6.77815	30.00000	Averaged
20 Trichlorofluoromethane	4.16522	4.52653	0.000	-8.67444	30.00000	Averaged
21 Acrolein	0.36472	0.39923	0.000	-9.46127	30.00000	Averaged
22 Acetonitrile	0.57293	0.59338	0.000	-3.56935	30.00000	Averaged
23 Acetone	0.59270	0.55134	0.000	6.97703	30.00000	Averaged
24 Isopropyl alcohol	2.27590	1.93603	0.000	14.93351	30.00000	Averaged
25 Pentane	0.28351	0.26503	0.000	6.51811	30.00000	Averaged
26 Ethyl Ether	2.11136	2.31240	0.000	-9.52173	30.00000	Averaged
27 1,1-Dichloroethene	1.43179	1.31085	0.000	8.44666	30.00000	Averaged
28 tert-butanol	2.72616	2.29004	0.000	15.99783	30.00000	Averaged
29 Acrylonitrile	0.96018	0.97977	0.000	-2.04040	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.96115	2.92735	0.000	1.14161	30.00000	Averaged
31 Methylene Chloride	1.42758	1.29268	0.000	9.44981	30.00000	Averaged
32 3-Chloropropene	1.89647	1.92103	0.000	-1.29494	30.00000	Averaged
33 Carbon Disulfide	5.06815	4.69149	0.000	7.43198	30.00000	Averaged
34 trans-1,2-Dichloroethene	1.64024	1.54740	0.000	5.66041	30.00000	Averaged
35 ~ 2-Methyl Pentane	5.38049	5.38438	0.000	-0.07243	30.00000	Averaged
36 Methyl-t-Butyl Ether	2.81920	2.86268	0.000	-1.54242	30.00000	Averaged
37 1,1-Dichloroethane	3.41071	3.43786	0.000	-0.79617	30.00000	Averaged
38 Vinyl Acetate	3.26534	3.50554	0.000	-7.35615	30.00000	Averaged

Data File: /var/chem/gcms/mj.i/J111011.b/jccvk10.d
Report Date: 10-Nov-2011 13:22

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvk10.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mj.i/J111011.b/TO15.m

Injection Date: 10-NOV-2011 10:48
Init. Cal. Date(s): 25-AUG-2011 26-AUG-2011
Init. Cal. Times: 18:41 11:05
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 2-Butanone	0.48833	0.41546	0.000	14.92387	30.00000	Averaged
40 Hexane	1.85779	1.70929	0.000	7.99301	30.00000	Averaged
41 cis 1,2-Dichloroethene	1.59162	1.50510	0.000	5.43595	30.00000	Averaged
42 Ethyl acetate	2.97501	2.77074	0.000	6.86607	30.00000	Averaged
43 Chloroform	3.34173	3.43874	0.000	-2.90310	30.00000	Averaged
44 Tetrahydrofuran	1.62933	1.63346	0.000	-0.25369	30.00000	Averaged
45 1,1,1-Trichloroethane	3.32384	3.46846	0.000	-4.35114	30.00000	Averaged
46 1,2-Dichloroethane	0.50008	0.55116	0.000	-10.21406	30.00000	Averaged
47 1-Butanol	0.19114	0.13534	0.000	29.19202	30.00000	Averaged
48 Benzene	0.99250	0.90937	0.000	8.37581	30.00000	Averaged
49 Cyclohexane	0.20492	0.17385	0.000	15.16459	30.00000	Averaged
50 Carbon Tetrachloride	0.68894	0.76909	0.000	-11.63430	30.00000	Averaged
51 ~ 2,3-dimethylpentane	0.24041	0.21773	0.000	9.43091	30.00000	Averaged
52 ~ Thiophene	0.55906	0.53420	0.000	4.44723	30.00000	Averaged
53 2,2,4-trimethylpentane	2.11318	1.96575	0.000	6.97663	30.00000	Averaged
54 Heptane	0.36437	0.32403	0.000	11.07249	30.00000	Averaged
55 1,2-Dichloropropane	0.37472	0.35574	0.000	5.06665	30.00000	Averaged
56 Trichloroethene	0.47013	0.44424	0.000	5.50540	30.00000	Averaged
180 ~ 2-nitropropane	++++	0.86034	0.000	++++	30.00000	Averaged <-
57 Dibromomethane	0.43261	0.41916	0.000	3.10928	30.00000	Averaged
58 Bromodichloromethane	0.72572	0.72929	0.000	-0.49182	30.00000	Averaged
59 1,4-dioxane	0.10184	0.07635	0.000	25.03360	30.00000	Averaged
60 Methyl Methacrylate	0.38410	0.34064	0.000	11.31486	30.00000	Averaged
61 ~ methyl cyclohexane	0.61885	0.54682	0.000	11.63996	30.00000	Averaged
62 4-Methyl-2-pentanone	0.74122	0.59078	0.000	20.29588	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.48695	0.47442	0.000	2.57376	30.00000	Averaged
64 trans-1,3-Dichloropropene	0.50941	0.50677	0.000	0.51695	30.00000	Averaged
65 Toluene	1.02036	0.92325	0.000	9.51763	30.00000	Averaged
66 1,1,2-Trichloroethane	0.34481	0.31493	0.000	8.66593	30.00000	Averaged
67 ~ 2-methyl thiophene	0.87256	0.81210	0.000	6.92853	30.00000	Averaged
68 ~ 3-methyl thiophene	0.87577	0.81020	0.000	7.48784	30.00000	Averaged
69 2-Hexanone	0.37448	0.27932	0.000	25.41183	30.00000	Averaged
70 Octane	0.38717	0.33264	0.000	14.08456	30.00000	Averaged
71 Dibromochloromethane	0.66854	0.65686	0.000	1.74675	30.00000	Averaged
72 1,2-Dibromoethane	0.59375	0.54980	0.000	7.40219	30.00000	Averaged

Data File: /var/chem/gcms/mj.i/J111011.b/jccvk10.d
Report Date: 10-Nov-2011 13:22

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvk10.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mj.i/J111011.b/TO15.m

Injection Date: 10-NOV-2011 10:48
Init. Cal. Date(s): 25-AUG-2011 26-AUG-2011
Init. Cal. Times: 18:41 11:05
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 Tetrachloroethene	0.42694	0.38029	0.000	10.92822	30.00000	Averaged
74 Chlorobenzene	0.82303	0.72454	0.000	11.96663	30.00000	Averaged
75 ~ 2,3-dimethylheptane	1.59545	1.52790	0.000	4.23405	30.00000	Averaged
76 Ethylbenzene	1.16255	1.05896	0.000	8.91105	30.00000	Averaged
77 ~ 2-ethyl thiophene	0.93321	0.87600	0.000	6.13013	30.00000	Averaged
78 m&p-Xylene	0.89266	0.81144	0.000	9.09936	30.00000	Averaged
79 Nonane	0.90004	0.84795	0.000	5.78734	30.00000	Averaged
80 Bromoform	0.56474	0.54719	0.000	3.10836	30.00000	Averaged
81 Styrene	0.65113	0.57127	0.000	12.26465	30.00000	Averaged
82 o-Xylene	0.92837	0.82738	0.000	10.87814	30.00000	Averaged
M 83 Xylene (total)	0.90456	0.81675	0.000	9.70790	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.74848	0.62117	0.000	17.00956	30.00000	Averaged
85 1,2,3-Trichloropropane	0.16934	0.14522	0.000	14.24162	30.00000	Averaged
86 Cumene	1.20507	1.08070	0.000	10.32073	30.00000	Averaged
87 n-Propylbenzene	0.31476	0.26308	0.000	16.41865	30.00000	Averaged
88 2-chlorotoluene	0.32960	0.28728	0.000	12.84201	30.00000	Averaged
89 4-Ethyltoluene	1.15748	0.95231	0.000	17.72605	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.52408	0.43198	0.000	17.57364	30.00000	Averaged
91 Alpha-Methylstyrene	0.45891	0.36428	0.000	20.61969	30.00000	Averaged
92 Decane	0.93471	0.88771	0.000	5.02813	30.00000	Averaged
93 tert-butylbenzene	0.94432	0.80377	0.000	14.88419	30.00000	Averaged
94 1,2,4-Trimethylbenzene	0.90340	0.74180	0.000	17.88784	30.00000	Averaged
95 sec-butylbenzene	1.29873	1.09884	0.000	15.39144	30.00000	Averaged
96 1,3-Dichlorobenzene	0.69027	0.54713	0.000	20.73605	30.00000	Averaged
97 Benzyl Chloride	0.83948	0.64646	0.000	22.99353	30.00000	Averaged
98 1,4-Dichlorobenzene	0.67600	0.52222	0.000	22.74791	30.00000	Averaged
99 p-Cymene	1.01007	0.81468	0.000	19.34426	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.74827	0.60650	0.000	18.94552	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86210	0.80097	0.000	7.09077	30.00000	Averaged
102 ~ Indane	0.82906	0.64831	0.000	21.80173	30.00000	Averaged
103 1,2-Dichlorobenzene	0.62549	0.48400	0.000	22.62069	30.00000	Averaged
104 n-butylbenzene	1.02775	0.79046	0.000	23.08870	30.00000	Averaged
105 ~ Indene	0.62420	0.46064	0.000	26.20258	30.00000	Averaged
106 Undecane	0.73834	0.55932	0.000	24.24580	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.83672	0.62008	0.000	25.89237	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.78110	0.56563	0.000	27.58542	30.00000	Averaged

Data File: /var/chem/gcms/mj.i/J111011.b/jccvk10.d
Report Date: 10-Nov-2011 13:22

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvk10.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mj.i/J111011.b/TO15.m

Injection Date: 10-NOV-2011 10:48
Init. Cal. Date(s): 25-AUG-2011 26-AUG-2011
Init. Cal. Times: 18:41 11:05
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.54553	0.43482	0.000	20.29476	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.60187	0.45252	0.000	24.81446	30.00000	Averaged	
111 Dodecane	0.62229	0.46462	0.000	25.33627	30.00000	Averaged	
112 1,2,4-Trichlorobenzene	0.35923	0.24436	0.000	31.97659	30.00000	Averaged	<- 60-140 40-140 NT
113 Napthalene	0.74563	0.46693	0.000	37.37716	30.00000	Averaged	
114 ~ benzo(b) thiophene	0.48491	0.33960	0.000	29.96700	30.00000	Averaged	
115 Hexachlorobutadiene	0.35521	0.29428	0.000	17.15519	30.00000	Averaged	
116 1,2,3-trichlorobenzene	0.30170	0.18817	0.000	37.63101	30.00000	Averaged	<- 40-140 NT
117 ~ 2-Methylnaphthalene	0.06963	0.04274	0.000	38.61692	30.00000	Averaged	<- 20-140 J
118 ~ 1-Methylnaphthalene	0.06059	0.03703	0.000	38.88307	30.00000	Averaged	<-

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H1K100000 - 201B **Work Order #** MNW6D1AA **Matrix.....:** AIR

	11/08/2011	**Date Received..:**	11/09/2011
Prep Date.....:	11/10/2011	**Analysis Date...**	11/10/2011
Prep Batch #.....:	1314201		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	0.20	ND	0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Chloromethane	ND	0.50	ND	1.0
Vinyl chloride	ND	0.20	ND	0.51
Bromomethane	ND	0.20	ND	0.78
Chloroethane	ND	0.20	ND	0.53
Trichlorofluoromethane	ND	0.20	ND	1.1
1,1-Dichloroethene	ND	0.20	ND	0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.20	ND	1.5
Methylene chloride	ND	0.50	ND	1.7
1,1-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
Chloroform	ND	0.20	ND	0.98
1,1,1-Trichloroethane	ND	0.20	ND	1.1
Carbon tetrachloride	ND	0.20	ND	1.3
Benzene	ND	0.20	ND	0.64
1,2-Dichloroethane	ND	0.20	ND	0.81
Trichloroethene	ND	0.20	ND	1.1
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91
Toluene	ND	0.20	ND	0.75
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Tetrachloroethene	ND	0.20	ND	1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
Chlorobenzene	ND	0.20	ND	0.92
Ethylbenzene	ND	0.20	ND	0.87
m-Xylene & p-Xylene	ND	0.20	ND	0.87
o-Xylene	ND	0.20	ND	0.87
Styrene	ND	0.20	ND	0.85
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4
1,3,5-Trimethylbenzene	ND	0.20	ND	0.98
1,2,4-Trimethylbenzene	ND	0.20	ND	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	ND	0.20	ND	1.2
1,2-Dichlorobenzene	ND	0.20	ND	1.2
Benzyl chloride	ND	0.40	ND	2.1

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H1K100000 - 201B **Work Order #** MNW6D1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	1.0	ND	7.4
Hexachlorobutadiene	ND	1.0	ND	11

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H1K100000 - 201C **Work Order #** MNW6D1AC **Matrix.....:** AIR

	11/08/2011	**Date Received..:**	11/09/2011
Prep Date.....:	11/10/2011	**Analysis Date...**	11/10/2011
Prep Batch #.....:	1314201		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Dichlorodifluoromethane	5.00	5.07	25	25.1	101	60 - 140
1,2-Dichloro-1,1,2,2-tetrafluo roethane	5.00	4.86	35	34.0	97	60 - 140
Chloromethane	5.00	5.01	10	10.3	100	60 - 140
Vinyl chloride	5.00	4.54	13	11.6	91	70 - 130
Bromomethane	5.00	4.92	19	19.1	98	70 - 130
Chloroethane	5.00	4.25	13	11.2	85	70 - 130
Trichlorofluoromethane	5.00	5.43	28	30.5	109	60 - 140
1,1-Dichloroethene	5.00	4.58	20	18.2	92	70 - 130
1,1,2-Trichloro-1,2,2-trifluoro ethane	5.00	4.94	38	37.9	99	70 - 130
Methylene chloride	5.00	4.53	17	15.7	91	70 - 130
1,1-Dichloroethane	5.00	5.04	20	20.4	101	70 - 130
cis-1,2-Dichloroethene	5.00	4.73	20	18.7	95	70 - 130
Chloroform	5.00	5.14	24	25.1	103	70 - 130
1,1,1-Trichloroethane	5.00	5.22	27	28.5	104	70 - 130
Carbon tetrachloride	5.00	5.58	31	35.1	112	70 - 130
Benzene	5.00	4.58	16	14.6	92	70 - 130
1,2-Dichloroethane	5.00	5.51	20	22.3	110	70 - 130
Trichloroethene	5.00	4.72	27	25.4	94	70 - 130
1,2-Dichloropropane	5.00	4.75	23	21.9	95	70 - 130
cis-1,3-Dichloropropene	5.00	4.87	23	22.1	97	70 - 130
Toluene	5.00	4.52	19	17.0	90	70 - 130
trans-1,3-Dichloropropene	5.00	4.97	23	22.6	99	70 - 130
1,1,2-Trichloroethane	5.00	4.57	27	24.9	91	70 - 130
Tetrachloroethene	5.00	4.45	34	30.2	89	70 - 130
1,2-Dibromoethane (EDB)	5.00	4.63	38	35.6	93	70 - 130
Chlorobenzene	5.00	4.40	23	20.3	88	70 - 130
Ethylbenzene	5.00	4.55	22	19.8	91	70 - 130
m-Xylene & p-Xylene	10.0	9.09	43	39.5	91	70 - 130
o-Xylene	5.00	4.46	22	19.3	89	70 - 130
Styrene	5.00	4.39	21	18.7	88	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.15	34	28.5	83	70 - 130
1,3,5-Trimethylbenzene	5.00	4.12	25	20.3	82	70 - 130
1,2,4-Trimethylbenzene	5.00	4.11	25	20.2	82	70 - 130
1,3-Dichlorobenzene	5.00	3.96	30	23.8	79	70 - 130
1,4-Dichlorobenzene	5.00	3.86	30	23.2	77	70 - 130
1,2-Dichlorobenzene	5.00	3.87	30	23.3	77	70 - 130

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H1K100000 - 201C **Work Order #** MNW6D1AC **Matrix.....:** AIR

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzyl chloride	5.00	3.85	26	19.9	77	70 - 130
1,2,4-Trichlorobenzene	5.00	3.40	37	25.2	68	60 - 140
Hexachlorobutadiene	5.00	4.14	53	44.2	83	60 - 140

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Data File: /var/chem/gcms/mj.i/J111011.b/mnvjc1aa.d
Report Date: 11-Nov-2011 09:39

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mnvjc1aa.d
Lab Smp Id: MNVJC1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J111011.b/TO15.m
Misc Info: J111011,TO15,to14nj.sub,,,

Calibration Date: 10-NOV-2011
Calibration Time: 10:48
Client Smp ID: MID-A
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	322934	192146	453722	262729	-18.64
2 1,4-Difluorobenze	1534470	913010	2155930	1268221	-17.35
3 Chlorobenzene-d5	1376767	819176	1934358	1140117	-17.19

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.19	8.86	9.52	9.18	-0.05
2 1,4-Difluorobenze	11.37	11.04	11.70	11.36	-0.04
3 Chlorobenzene-d5	16.07	15.74	16.40	16.06	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J111011.b/mnvh81aa.d
Report Date: 11-Nov-2011 09:39

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mnvh81aa.d
Lab Smp Id: MNVH81AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J111011.b/TO15.m
Misc Info: J111011,TO15,to14nj.sub,,,

Calibration Date: 10-NOV-2011
Calibration Time: 10:48
Client Smp ID: MID-C
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	322934	192146	453722	295904	-8.37
2 1,4-Difluorobenze	1534470	913010	2155930	1458870	-4.93
3 Chlorobenzene-d5	1376767	819176	1934358	1267714	-7.92

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.19	8.86	9.52	9.19	0.01
2 1,4-Difluorobenze	11.37	11.04	11.70	11.37	0.01
3 Chlorobenzene-d5	16.07	15.74	16.40	16.07	0.01

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J111011.b/mnvjd1aa.d
Report Date: 11-Nov-2011 09:40

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mnvjd1aa.d
Lab Smp Id: MNVJD1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J111011.b/TO15.m
Misc Info: J111011,TO15,to14nj.sub,,,

Calibration Date: 10-NOV-2011
Calibration Time: 10:48
Client Smp ID: POST-A
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	322934	192146	453722	254787	-21.10
2 1,4-Difluorobenze	1534470	913010	2155930	1168292	-23.86
3 Chlorobenzene-d5	1376767	819176	1934358	1043663	-24.19

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.19	8.86	9.52	9.18	-0.09
2 1,4-Difluorobenze	11.37	11.04	11.70	11.36	-0.07
3 Chlorobenzene-d5	16.07	15.74	16.40	16.07	-0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J111011.b/mnvh91aa.d
Report Date: 11-Nov-2011 09:39

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mnvh91aa.d
Lab Smp Id: MNVH91AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J111011.b/TO15.m
Misc Info: J111011,TO15,to14nj.sub,,,

Calibration Date: 10-NOV-2011
Calibration Time: 10:48
Client Smp ID: POST-C
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	322934	192146	453722	289650	-10.31
2 1,4-Difluorobenze	1534470	913010	2155930	1434516	-6.51
3 Chlorobenzene-d5	1376767	819176	1934358	1257825	-8.64

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.19	8.86	9.52	9.18	-0.06
2 1,4-Difluorobenze	11.37	11.04	11.70	11.36	-0.05
3 Chlorobenzene-d5	16.07	15.74	16.40	16.06	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J111011.b/mnvja1aa.d
Report Date: 11-Nov-2011 09:39

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mnvja1aa.d
Lab Smp Id: MNVJA1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J111011.b/TO15.m
Misc Info: J111011,TO15,to14nj.sub,,,

Calibration Date: 10-NOV-2011
Calibration Time: 10:48
Client Smp ID: PRE-A
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	322934	192146	453722	270077	-16.37
2 1,4-Difluorobenze	1534470	913010	2155930	1276956	-16.78
3 Chlorobenzene-d5	1376767	819176	1934358	1152526	-16.29

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.19	8.86	9.52	9.18	-0.10
2 1,4-Difluorobenze	11.37	11.04	11.70	11.36	-0.03
3 Chlorobenzene-d5	16.07	15.74	16.40	16.07	-0.02

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J111011.b/mnvh51aa.d
Report Date: 11-Nov-2011 09:39

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mnvh51aa.d
Lab Smp Id: MNVH51AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J111011.b/TO15.m
Misc Info: J111011,TO15,to14nj.sub,,,

Calibration Date: 10-NOV-2011
Calibration Time: 10:48
Client Smp ID: PRE-C
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	322934	192146	453722	273851	-15.20
2 1,4-Difluorobenze	1534470	913010	2155930	1274301	-16.95
3 Chlorobenzene-d5	1376767	819176	1934358	1143947	-16.91

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.19	8.86	9.52	9.18	-0.05
2 1,4-Difluorobenze	11.37	11.04	11.70	11.36	-0.04
3 Chlorobenzene-d5	16.07	15.74	16.40	16.06	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

TETRA TECH **CALCULATION WORKSHEET** PAGE 1 OF 1

CLIENT		JOB NUMBER	
LMC-Middle River		SDG HIK090431	
SUBJECT: Sample Calculation			
BASED ON		DRAWING NUMBER	
BY: Lynn Cognetta	CHECKED BY	APPROVED BY	DATE: December 12, 2011

Sample POST-A; cis 1,2-dichloroethene

$$\frac{158204}{254787} * 10 * \frac{500}{200} * \frac{4\ ppbv}{1.5962} = 39.0\ ppbv$$

$$\frac{39.0\ ppbv * 96.94\ g/mole}{24.45\ L/mole} = 154.67\ ug/m^3$$

Sample Calculation

Tetra Tech GEO

Client Sample ID: POST-A

GC/MS Volatiles

Lot-Sample # H1K090431 - 006 **Work Order #** MNVJD1AA **Matrix.....:** AIR

Date Sampled...: 11/08/2011 **Date Received..:** 11/09/2011
Prep Date.....: 11/10/2011 **Analysis Date...** 11/11/2011
Prep Batch #.....: 1314201
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**24**	**2.0**	**95**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**9.7**	**2.0**	**39**	**8.1**
cis-1,2-Dichloroethene	**39**	**2.0**	**150**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**2.7**	**2.0**	**15**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Sample Calculation

Data File: /var/chem/gcms/mj.i/J111011.b/mnvjd1aa.d
Report Date: 11-Nov-2011 09:40

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/mj.i/J111011.b/mnvjd1aa.d
Lab Smp Id: MNVJD1AA Client Smp ID: POST-A
Inj Date : 11-NOV-2011 01:16
Operator : 7126 Inst ID: mj.i
Smp Info : ,10,0,,,
Misc Info : J111011,TO15,to14nj.sub,,,
Comment :
Method : /var/chem/gcms/mj.i/J111011.b/TO15.m
Meth Date : 11-Nov-2011 09:38 tajh Quant Type: ISTD
Cal Date : 25-AUG-2011 21:16 Cal File: jich256.d
Als bottle: 11
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: to14nj.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	10.00000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	200.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	CONCENTRATIONS FINAL (ppb(v/v))
*	1 Bromochloromethane	128	9.180	9.188	(1.000)	254787	4.00000	4.000
*	2 1,4-Difluorobenzene	114	11.359	11.367	(1.000)	1168292	4.00000	4.000
*	3 Chlorobenzene-d5	117	16.066	16.069	(1.000)	1043663	4.00000	4.000
$	4 4-Bromofluorobenzene	95	17.696	17.699	(1.101)	823501	4.15698	10.39
	27 1,1-Dichloroethene	96	6.227	6.240	(0.678)	87166	0.95576	23.89
	37 1,1-Dichloroethane	63	7.841	7.849	(0.854)	84098	0.38710	9.678
	41 cis 1,2-Dichloroethene	96	8.847	8.855	(0.964)	158204	1.56049	39.01
	45 1,1,1-Trichloroethane	97	10.240	10.253	(1.115)	23236	0.10975	2.744

Sample Calculations

Report Date : 26-Aug-2011 12:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2011 18:41
End Cal Date : 26-AUG-2011 11:05
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J082511I.b/TO15.m
Cal Date : 26-Aug-2011 12:55 tajh
Curve Type : Average

Compound	0.04000 Level 1	0.08000 Level 2	0.16000 Level 3	0.40000 Level 4	1.000 Level 5	2.000 Level 6	___ RRF	% RSD
	4.000 Level 7	8.000 Level 8	16.000 Level 9					
37 1,1-Dichloroethane	4.75637	4.37656	3.94753	3.08045	3.10377	2.89501		
	2.90046	2.85914	2.77708				3.41071	21.909
38 Vinyl Acetate	3.05999	3.03761	3.30674	3.59396	3.35586	3.04595		
	3.26576	2.96501	3.75720				3.26534	8.332
39 2-Butanone	+++++	+++++	0.63324	0.55580	0.47718	0.43493		
	0.43625	0.42074	0.46019				0.48833	15.994
40 Hexane	2.78160	2.43035	2.06278	1.65229	1.64456	1.53486		
	1.53978	1.56125	1.51259				1.85779	24.984
41 cis 1,2-Dichloroethene	2.19742	1.97444	1.81627	1.44671	1.44486	1.37759		
	1.36363	1.36345	1.34020				1.59162	20.111
42 Ethyl acetate	3.70077	3.07341	3.31005	3.01753	2.83746	2.66963		
	2.67236	2.58656	2.90732				2.97501	11.942
43 Chloroform	4.61950	4.43357	3.93469	3.06107	3.05514	2.79631		
	2.77041	2.68424	2.72061				3.34173	23.129
44 Tetrahydrofuran	1.82264	1.71183	1.73164	1.69096	1.63621	1.48019		
	1.52193	1.42082	1.64774				1.62933	8.005
45 1,1,1-Trichloroethane	4.65510	4.25147	3.81699	3.03559	3.06145	2.86251		
	2.83738	2.71851	2.67554				3.32384	21.965

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **P. RICH** **DATE:** **JANUARY 3, 2012**

FROM: **A. COGNETTI** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SAMPLE DELIVERY GROUP (SDG) – H1L070439

SAMPLES: 6/Air/VOC

MID A	MID C	POST A
POST C	PRE A	PRE C

Overview

The sample set for LMC – Middle River, SDG H1L070439 consisted of six (6) air samples. All samples were analyzed for volatile organic compounds (VOC). No field duplicate pair is included in this SDG.

The samples were collected by Geo Trans on December 6, 2011 and analyzed by Test America Laboratories, Inc. All analyses were conducted in accordance with EPA Method TO-15 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, blank spike results, internal standard recoveries, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major

No major noncompliances were noted.

Minor

No minor noncompliances were noted.

Notes

The continuing calibration percent differences (%Ds) for 1,2,4-trichlorobenzene and hexachlorobutadiene were greater than the 30% quality control limit but less than 50% on December 7, 2011 @ 9:50 on instrument mj.i. No action was taken on the nondetected 1,2,4-trichlorobenzene and hexachlorobutadiene results in the affected samples.

The chain of custody indicated that no gauges were provided with the summa canisters. This means that the canister pressure before and after sampling could not be evaluated. No validation action was taken.

All samples were analyzed at a 10X dilution.

The laboratory did not provide summary forms for the internal standard quality control criteria. The forms from the raw data were used in the evaluation of the data.

Nondetected results were reported to the reporting limit.

TO: P. Rich
FROM: A. Cognetti
SDG: H1L070439
DATE: January 3, 2012

Executive Summary

Laboratory Performance: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to Region III modifications to U.S. EPA National Functional Guidelines for Organic Data Validation (Sept. 1994) and EPA Method TO-15. The text of this report has been formulated to address only those problem areas affecting data quality.

Ann Cognetti

Tetra Tech NUS
Ann Cognetti
Chemist/Data Validator

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Appendix A

Qualified Analytical Results

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed

PROJ_NO: 03265	NSAMPLE	MID-A_20111206			MID-C_20111206			POST-A_20111206			POST-C_20111206		
SDG: H1L070439	LAB_ID	H1L070439002			H1L070439005			H1L070439003			H1L070439006		
FRACTION: OV-M3	SAMP_DATE	12/6/2011			12/6/2011			12/6/2011			12/6/2011		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		310			11	U		16			11	U	
1,1,2,2-TETRACHLOROETHANE		14	U		14	U		14	U		14	U	
1,1,2-TRICHLOROETHANE		11	U		11	U		11	U		11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		15	U		15	U		15	U		15	U	
1,1-DICHLOROETHANE		36			8.1	U		37			8.1	U	
1,1-DICHLOROETHENE		140			7.9	U		110			7.9	U	
1,2,4-TRICHLOROBENZENE		74	U		74	U		74	U		74	U	
1,2,4-TRIMETHYLBENZENE		9.8	U		9.8	U		9.8	U		9.8	U	
1,2-DIBROMOETHANE		15	U		15	U		15	U		15	U	
1,2-DICHLOROBENZENE		12	U		12	U		12	U		12	U	
1,2-DICHLOROETHANE		8.1	U		8.1	U		8.1	U		8.1	U	
1,2-DICHLOROPROPANE		9.2	U		9.2	U		9.2	U		9.2	U	
1,2-DICHLOROTETRAFLUOROETHANE		14	U		14	U		14	U		14	U	
1,3,5-TRIMETHYLBENZENE		9.8	U		9.8	U		9.8	U		9.8	U	
1,3-DICHLOROBENZENE		12	U		12	U		12	U		12	U	
1,4-DICHLOROBENZENE		12	U		12	U		12	U		12	U	
BENZENE		6.4	U		8.4			6.4	U		6.4	U	
BENZYL CHLORIDE		21	U		21	U		21	U		21	U	
BROMOMETHANE		7.8	U		7.8	U		7.8	U		7.8	U	
CARBON TETRACHLORIDE		13	U		13	U		13	U		13	U	
CHLOROBENZENE		9.2	U		9.2	U		9.2	U		9.2	U	
CHLOROETHANE		5.3	U		5.3	U		5.3	U		5.3	U	
CHLOROFORM		9.8	U		9.8	U		9.8	U		9.8	U	
CHLOROMETHANE		10	U		10	U		10	U		10	U	
CIS-1,2-DICHLOROETHENE		140			7.9	U		150			7.9	U	
CIS-1,3-DICHLOROPROPENE		9.1	U		9.1	U		9.1	U		9.1	U	
DICHLORODIFLUOROMETHANE		9.9	U		9.9	U		9.9	U		9.9	U	
ETHYLBENZENE		8.7	U		8.7	U		8.7	U		8.7	U	
HEXACHLOROBUTADIENE		110	U		110	U		110	U		110	U	
M+P-XYLENES		8.7	U		8.7	U		8.7	U		8.7	U	
METHYLENE CHLORIDE		17	U		17	U		17	U		17	U	
O-XYLENE		8.7	U		8.7	U		8.7	U		8.7	U	
STYRENE		8.5	U		8.5	U		8.5	U		8.5	U	
TETRACHLOROETHENE		14	U		14	U		14	U		14	U	
TOLUENE		7.5	U		7.5	U		7.5	U		7.5	U	

PROJ_NO: 03265	NSAMPLE	PRE-A_20111206			PRE-C_20111206		
SDG: H1L070439	LAB_ID	H1L070439001			H1L070439004		
FRACTION: OV-M3	SAMP_DATE	12/6/2011			12/6/2011		
MEDIA: AIR	QC_TYPE	NM			NM		
	UNITS	UG/M3			UG/M3		
	PCT_SOLIDS						
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		600			11	U	
1,1,2,2-TETRACHLOROETHANE		14	U		14	U	
1,1,2-TRICHLOROETHANE		11	U		11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		15	U		15	U	
1,1-DICHLOROETHANE		29			8.1	U	
1,1-DICHLOROETHENE		110			7.9	U	
1,2,4-TRICHLOROBENZENE		74	U		74	U	
1,2,4-TRIMETHYLBENZENE		9.8	U		9.8	U	
1,2-DIBROMOETHANE		15	U		15	U	
1,2-DICHLOROBENZENE		12	U		12	U	
1,2-DICHLOROETHANE		8.1	U		8.1	U	
1,2-DICHLOROPROPANE		9.2	U		9.2	U	
1,2-DICHLOROTETRAFLUOROETHANE		14	U		14	U	
1,3,5-TRIMETHYLBENZENE		9.8	U		9.8	U	
1,3-DICHLOROBENZENE		12	U		12	U	
1,4-DICHLOROBENZENE		12	U		12	U	
BENZENE		7.3			6.4	U	
BENZYL CHLORIDE		21	U		21	U	
BROMOMETHANE		7.8	U		7.8	U	
CARBON TETRACHLORIDE		13	U		13	U	
CHLOROBENZENE		9.2	U		9.2	U	
CHLOROETHANE		5.3	U		5.3	U	
CHLOROFORM		9.8	U		9.8	U	
CHLOROMETHANE		10	U		10	U	
CIS-1,2-DICHLOROETHENE		130			62		
CIS-1,3-DICHLOROPROPENE		9.1	U		9.1	U	
DICHLORODIFLUOROMETHANE		9.9	U		9.9	U	
ETHYLBENZENE		8.7	U		8.7	U	
HEXACHLOROBUTADIENE		110	U		110	U	
M+P-XYLENES		8.7	U		8.7	U	
METHYLENE CHLORIDE		17	U		17	U	
O-XYLENE		8.7	U		8.7	U	
STYRENE		8.5	U		8.5	U	
TETRACHLOROETHENE		14	U		14	U	
TOLUENE		46			7.5	U	

PROJ_NO: 03265	NSAMPLE	MID-A_20111206			MID-C_20111206			POST-A_20111206			POST-C_20111206		
SDG: H1L070439	LAB_ID	H1L070439002			H1L070439005			H1L070439003			H1L070439006		
FRACTION: OV-M3	SAMP_DATE	12/6/2011			12/6/2011			12/6/2011			12/6/2011		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
TRANS-1,3-DICHLOROPROPENE		9.1	U		9.1	U		9.1	U		9.1	U	
TRICHLOROETHENE		11	U		11	U		11	U		11	U	
TRICHLOROFLUOROMETHANE		11	U		11	U		11	U		11	U	
VINYL CHLORIDE		5.1	U		5.1	U		5.1	U		5.1	U	

PROJ_NO: 03265	NSAMPLE	PRE-A_20111206			PRE-C_20111206		
SDG: H1L070439	LAB_ID	H1L070439001			H1L070439004		
FRACTION: OV-M3	SAMP_DATE	12/6/2011			12/6/2011		
MEDIA: AIR	QC_TYPE	NM			NM		
	UNITS	UG/M3			UG/M3		
	PCT_SOLIDS						
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
TRANS-1,3-DICHLOROPROPENE		9.1	U		9.1	U	
TRICHLOROETHENE		800			21		
TRICHLOROFLUOROMETHANE		11	U		11	U	
VINYL CHLORIDE		5.1	U		5.1	U	

Appendix B

Results as Reported by the Laboratory

Tetra Tech GEO

Client Sample ID: MID-A

GC/MS Volatiles

Lot-Sample # H1L070439 - 002 **Work Order #** MPHM21AA **Matrix.....:** AIR

Date Sampled...: 12/06/2011 **Date Received..:** 12/07/2011
Prep Date.....: 12/07/2011 **Analysis Date...** 12/07/2011
Prep Batch #.....: 1341177
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**36**	**2.0**	**140**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**8.9**	**2.0**	**36**	**8.1**
cis-1,2-Dichloroethene	**36**	**2.0**	**140**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**58**	**2.0**	**310**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: MID-A

GC/MS Volatiles

Lot-Sample # H1L070439 - 002 **Work Order #** MPHM21AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: MID-C

GC/MS Volatiles

Lot-Sample # H1L070439 - 005 **Work Order #** MPHNH1AA **Matrix.....:** AIR

Date Sampled...: 12/06/2011 **Date Received..:** 12/07/2011
Prep Date.....: 12/07/2011 **Analysis Date...** 12/08/2011
Prep Batch #.....: 1341177
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	ND	2.0	ND	7.9
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	**2.6**	**2.0**	**8.4**	**6.4**
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: MID-C

GC/MS Volatiles

Lot-Sample # H1L070439 - 005 **Work Order #** MPHNH1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: POST-A

GC/MS Volatiles

Lot-Sample # H1L070439 - 003 **Work Order #** MPHM51AA **Matrix.....:** AIR

Date Sampled...: 12/06/2011 **Date Received..:** 12/07/2011
Prep Date.....: 12/07/2011 **Analysis Date...** 12/08/2011
Prep Batch #.....: 1341177
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**29**	**2.0**	**110**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**9.1**	**2.0**	**37**	**8.1**
cis-1,2-Dichloroethene	**38**	**2.0**	**150**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**2.9**	**2.0**	**16**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: POST-A

GC/MS Volatiles

Lot-Sample # H1L070439 - 003 **Work Order #** MPHM51AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: POST-C

GC/MS Volatiles

Lot-Sample # H1L070439 - 006 **Work Order #** MPHNN1AA **Matrix.....:** AIR

Date Sampled...: 12/06/2011 **Date Received..:** 12/07/2011
Prep Date.....: 12/07/2011 **Analysis Date...** 12/08/2011
Prep Batch #.....: 1341177
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	ND	2.0	ND	7.9
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: POST-C

GC/MS Volatiles

Lot-Sample # H1L070439 - 006 **Work Order #** MPHNN1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: PRE-A

GC/MS Volatiles

Lot-Sample # H1L070439 - 001 **Work Order #** MPHMH1AA **Matrix.....:** AIR

Date Sampled...: 12/06/2011 **Date Received..:** 12/07/2011
Prep Date.....: 12/07/2011 **Analysis Date...** 12/07/2011
Prep Batch #.....: 1341177
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**29**	**2.0**	**110**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**7.2**	**2.0**	**29**	**8.1**
cis-1,2-Dichloroethene	**32**	**2.0**	**130**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**110**	**2.0**	**600**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	**2.3**	**2.0**	**7.3**	**6.4**
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**150**	**2.0**	**800**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	**12**	**2.0**	**46**	**7.5**
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: PRE-A

GC/MS Volatiles

Lot-Sample # H1L070439 - 001 **Work Order #** MPHMH1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: PRE-C

GC/MS Volatiles

Lot-Sample # H1L070439 - 004 **Work Order #** MPHNC1AA **Matrix.....:** AIR

Date Sampled...: 12/06/2011 **Date Received..:** 12/07/2011
Prep Date.....: 12/07/2011 **Analysis Date...** 12/08/2011
Prep Batch #.....: 1341177
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	**16**	**2.0**	**62**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**3.8**	**2.0**	**21**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: PRE-C

GC/MS Volatiles

Lot-Sample # H1L070439 - 004 **Work Order #** MPHNC1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	96	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Appendix C

Support Documentation

PROJECT NARRATIVE
H1L070439

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

The chain of custody documentation was received with incomplete information. The chain of custody list a start time for collection however there is not a stop time.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

The EPA method requires that all target analytes in the continuing calibration verification standard be within 30% difference from the initial calibration. According to the laboratory standard operating procedure, the continuing calibration is acceptable if it meets the laboratory control sample acceptance criteria. Even though the calibration verification analyzed on 12/7/11 exhibited a % difference of > 30% for 1,2,4-trichlorobenzene and hexachlorobutadiene, the results were within the LCS acceptance limits.

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

HIL070439

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Peter Rich	**Sampled By:** Sean Crouch	1 of 1 COCs
Company: Tetra Tech GEO	**Phone:** 410-990-4607		
Address: 51 Franklin St, Ste 400	**Site Contact:** Sean Crouch		
City/State/Zip Annapolis, MD 21401	**TAL Contact:** T. Wasmund		
Phone: 410-990-4607			
FAX:			
Project Name: LMC-MRC-SSDS	**Analysis Turnaround Time**		
Site/location: Middle River, MD	Standard (Specify) Standard TAT		
PO # Call office for new PO #.	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
Pre-A	12-6-11	1010					SL-1231	X											
Mid-A		1005					SL-1224												
Post-A		1000					L-5157												
Pre-C		1120					L-5167												
Mid-C		1115					L-5718												
Post-C		1110					LA7077												

Sampled by: Sean Crouch

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

1 cooler Rec'd @ Ambient Temp with custody seal intact
[signature] 12/7/11
1 cooler fed x #
8747 5591 7282

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

6 cans / No flows

Special Instructions/QC Requirements & Comments:

Canisters Shipped by: [signature]	Date/Time: 12-6-11 / 1230	Canisters Received by: [signature] 12/7/11 ~~1220~~ [initials] 12/7/11 1220
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: H1607043 9

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	15A All sample have Start time, but no stop time
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)	✓			☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____ ☐ 2c Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ 3a Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	✓			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?			✓	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?		✓		☒ 15a Incomplete information	
18. Is the client and project name/# identified?	✓			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?	✓				

Quote #: 78544 PM Instructions: _____

Sample Receiving Associate: [signature] Date: 12/7/11

QA026R22.doc, 012811

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H1L070439*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
HLL 10-7-11	NA	28.69	MPHMH	SL1231	+0.8													
↓	↓	↓	MPHM2	SL1224	+0.7													
			MPHM5	L5157	+0.5													
			MPHNC	L5167	+0.7													
			MPHNH	L5118	+0.6													
		↓	MPHNN	LA7077	+0.3													

ANALYTICAL METHODS SUMMARY

H1L070439

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

SAMPLE SUMMARY

H1L070439

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MPHMH	001	PRE-A	12/06/11	10:10
MPHM2	002	MID-A	12/06/11	10:05
MPHM5	003	POST-A	12/06/11	10:00
MPHNC	004	PRE-C	12/06/11	11:20
MPHNH	005	MID-C	12/06/11	11:15
MPHNN	006	POST-C	12/06/11	11:10

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

HOLDTIME

PROJ_NO 03265

SDG	SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
H1L070439	OV-M3	UG/M3	PRE-C	H1L070439004	NM	12/06/2011	12/07/2011	12/08/2011	777777	111111111	3888888889
H1L070439	OV-M3	UG/M3	PRE-A	H1L070439001	NM	12/06/2011	12/07/2011	12/07/2011	888888	736111111	9375000000
H1L070439	OV-M3	UG/M3	POST-C	H1L070439006	NM	12/06/2011	12/07/2011	12/08/2011	222222	263888889	5736111111
H1L070439	OV-M3	UG/M3	POST-A	H1L070439003	NM	12/06/2011	12/07/2011	12/08/2011	333333	500000000	0833333333
H1L070439	OV-M3	UG/M3	MID-C	H1L070439005	NM	12/06/2011	12/07/2011	12/08/2011	0.53125	722222221	2847222221
H1L070439	OV-M3	UG/M3	MID-A	H1L070439002	NM	12/06/2011	12/07/2011	12/07/2011	611111	347222222	8333333333
H1L070439	OV-V	PPBV	PRE-C	H1L070439004	NM	12/06/2011	12/07/2011	12/08/2011	777777	111111111	3888888889
H1L070439	OV-V	PPBV	PRE-A	H1L070439001	NM	12/06/2011	12/07/2011	12/07/2011	888888	736111111	9375000000
H1L070439	OV-V	PPBV	POST-C	H1L070439006	NM	12/06/2011	12/07/2011	12/08/2011	222222	263888889	5736111111
H1L070439	OV-V	PPBV	POST-A	H1L070439003	NM	12/06/2011	12/07/2011	12/08/2011	333333	500000000	0833333333
H1L070439	OV-V	PPBV	MID-C	H1L070439005	NM	12/06/2011	12/07/2011	12/08/2011	0.53125	722222221	2847222221
H1L070439	OV-V	PPBV	MID-A	H1L070439002	NM	12/06/2011	12/07/2011	12/07/2011	611111	347222222	8333333333

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	11/14/11	Instrument::	MJ	ICAL Batch/Scan Name:	J111411I	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad		✓		acetaldehyde (Quad)	✓
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓			✓
11. If curves were used, is correlation coefficient ≥0.990?		✓			✓
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.		✓			✓
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).		✓			✓
14. Is the "Y" intercept less than the RL for each curve?		✓		Forced - acetaldehyde	✓
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given? Manually integrated 1/2+3 2-nitropropane	✗ 11/16/11	✓		Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?	✗	✓		11/15/11	✓
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			✓
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3-, 1,4-, and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)		✓			✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 11/15/11	2nd Level Reviewer :	Date: 11/15/11
Comments: Low level O.K. 11/15/11		Comments:	
~~Curve treated for 2-nitropropane~~ 11/16/11			
* Peak auto detected when reprocessed. 11/16/11			
11/16/11			

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MJ

Analyst: DMT Qtims Batch: ICAL

Date: 11/19/11 ICAL Batch: J111911I Target Batch: J111911I IS #1 Area: 308349

Surr/IS ID & Vol.: 40mlV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☐ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1801	✓	tune	JBFBK14	—	16	100	1	
1838	✓	MDL ✓	JMDLK14	CX2302	1	50		
1939	✓	ICAL 1	JICK141	↓	1	100		
2030	✓	2	2		1	200		
2122	✓	3	3	CX2301	2			
2214	✓	4	4	CX2300	3			
2307	✓	5	5	CX2299	4			
2359	✓	6	6	CX2298	5			
0053	✓	7	7	CX2297	6			
0146	✓	8	8	CX2296	7			
0238	✓	9	9	CX2295	8	↓		
0331	N	blk	blk1	—	16	200		
0425	N	ICV	JICVK14	CX2292	9	100		
0526	✓	LCS	JLCSJ	↓	9	200		use as ICV.
0625	✓	blk	JBlkK14	—	16	500		
0722	200mL	lot ✓	9544	1400	10	↓		
0819	✓	↓	9545	93176	11		↓	

11/10/11

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 11/15/11

Data File: /chem/gcms/mj.i/J111411I.b/jbfbk14.d

Date : 14-NOV-2011 18:01

Client ID: BFB

Instrument: mj.i

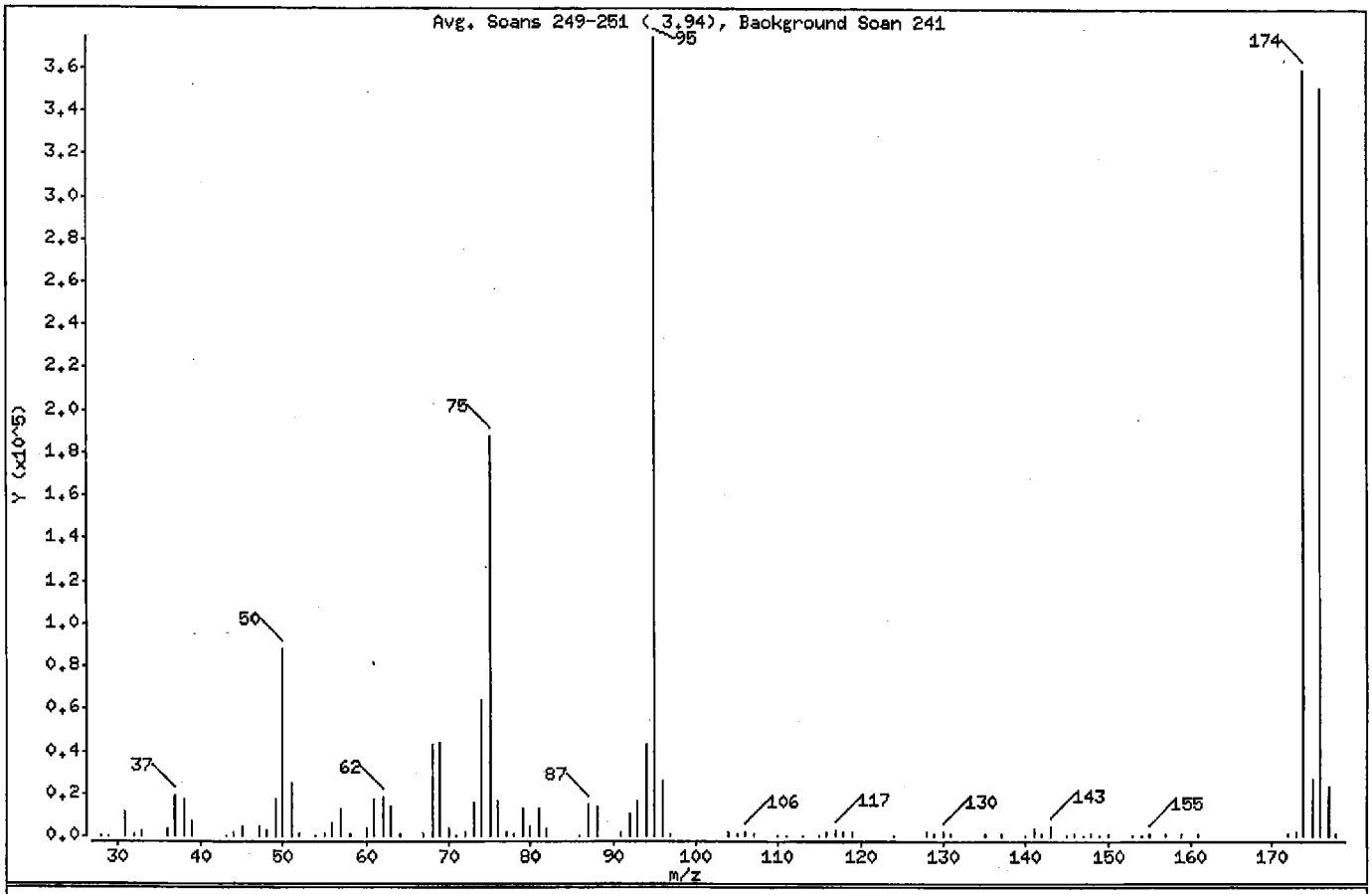
Sample Info: BFB,,3,,,BFB

Operator: 403648

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	23.44
75	30.00 - 60.00% of mass 95	50.03
96	5.00 - 9.00% of mass 95	6.94
173	Less than 2.00% of mass 174	0.37 (0.39)
174	50.00 - 120.00% of mass 95	96.14
175	5.00 - 9.00% of mass 174	7.05 (7.33)
176	95.00 - 101.00% of mass 174	93.90 (97.67)
177	5.00 - 9.00% of mass 176	6.30 (6.71)

Report Date : 16-Nov-2011 08:49

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 14-NOV-2011 19:39
End Cal Date : 15-NOV-2011 02:38
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J111411I.b/TO15.m
Cal Date : 16-Nov-2011 08:47 tajh

Calibration File Names:
Level 1: /var/chem/gcms/mj.i/J111411I.b/jick141.d
Level 2: /var/chem/gcms/mj.i/J111411I.b/jick142.d
Level 3: /var/chem/gcms/mj.i/J111411I.b/jick143.d
Level 4: /var/chem/gcms/mj.i/J111411I.b/jick144.d
Level 5: /var/chem/gcms/mj.i/J111411I.b/jick145.d
Level 6: /var/chem/gcms/mj.i/J111411I.b/jick146.d
Level 7: /var/chem/gcms/mj.i/J111411I.b/jick147.d
Level 8: /var/chem/gcms/mj.i/J111411I.b/jick148.d
Level 9: /var/chem/gcms/mj.i/J111411I.b/jick149.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
5 Chlorodifluoromethane	+++++	0.58367	0.60263	0.50580	0.52857	0.52295					
	0.50645	0.54003	0.48933				AVRG		0.53493		7.37939
6 Propene	+++++	2.54012	2.49127	2.00230	1.94894	2.16695					
	1.80853	1.89358	1.60959				AVRG		2.05766		15.77319
7 Dichlorodifluoromethane	5.78938	5.30184	5.41248	4.74134	5.10657	4.90922					
	4.80883	5.05503	4.50214				AVRG		5.06965		7.68607

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Start Cal Date : 14-NOV-2011 19:39
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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J111411I.b/TO15.m
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Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
8 Chloromethane	+++++	0.70946	0.80936	0.58636	0.56835	0.60673					
	0.56275	0.57026	0.47548				AVRG		0.61109		16.80691
9 1,2-Dichlorotetrafluoroethane	3.23626	2.89515	3.05274	2.63870	2.66476	2.72451					
	2.65612	2.76483	2.48154				AVRG		2.79051		8.36408
10 Methanol	+++++	+++++	+++++	+++++	2.06996	2.29706					
	1.84924	1.83688	1.45838				AVRG		1.90230		16.37442
11 ~ acetaldehyde	+++++	+++++	+++++	95817	96357	259837					
	334910	713303	1180883				QUAD	0.000e+00	2.84734	0.76192	0.99061
12 Vinyl Chloride	2.18016	1.90282	2.04493	1.72044	1.61642	1.74321					
	1.67723	1.74058	1.52411				AVRG		1.79443		11.70249
13 n-Butane	3.81612	3.31409	3.40838	2.67895	2.48902	2.86826					
	2.59913	2.67921	2.19195				AVRG		2.89390		17.82305
14 1,3-Butadiene	1.55765	1.43802	1.46500	1.22991	1.16936	1.26623					
	1.21354	1.26295	1.07539				AVRG		1.29756		12.03283

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Method file : /var/chem/gcms/mj.i/J111411I.b/TO15.m
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Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
15 Bromomethane	+++++	1.57953	1.58045	1.32685	1.20085	1.29221					
	1.25412	1.32543	1.20453				AVRG		1.34550		11.33117
16 Chloroethane	0.93209	0.77985	0.74848	0.72198	0.62927	0.67300					
	0.66404	0.70279	0.64110				AVRG		0.72140		12.91604
17 - ethanol	+++++	0.96870	0.76103	0.68065	0.62270	0.68262					
	0.57205	0.59982	0.50723				AVRG		0.67435		21.03710
18 Vinyl Bromide	1.58507	1.49577	1.46557	1.35154	1.34424	1.37917					
	1.35637	1.43987	1.32334				AVRG		1.41566		6.15695
19 2-methyl butane	3.63390	3.13203	3.03211	2.64437	2.61680	2.67500					
	2.55560	2.65212	2.35654				AVRG		2.81094		13.83613
20 Trichlorofluoromethane	5.16535	4.62089	4.67145	4.15918	4.28131	4.36149					
	4.27096	4.54824	4.18499				AVRG		4.47376		7.14621
21 Acrolein	+++++	+++++	0.51467	0.41651	0.43232	0.44090					
	0.42911	0.44054	0.50446				AVRG		0.45407		8.56498

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Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J111411I.b/TO15.m
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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
22 Acetonitrile	+++++	0.96603	0.94312	0.76380	0.67936	0.68107					
	0.60167	0.62901	0.67816				AVRG		0.74278		18.71582
23 Acetone	+++++	+++++	+++++	+++++	0.85775	0.98679					
	0.58488	0.62387	0.55231				AVRG		0.72112		26.47220
24 Isopropyl alcohol	+++++	2.83064	2.63721	2.32874	2.42459	2.62399					
	2.17904	2.37615	2.03726				AVRG		2.42970		10.68155
25 Pentane	0.18526	0.24672	0.25245	0.23679	0.24606	0.25710					
	0.24425	0.25310	0.22926				AVRG		0.23900		9.15723
26 Ethyl Ether	2.18107	2.60463	2.58279	2.46363	2.27422	2.40268					
	2.10084	2.07794	2.13809				AVRG		2.31399		8.88711
27 1,1-Dichloroethene	1.53662	1.32179	1.29744	1.19084	1.23591	1.26580					
	1.22835	1.28496	1.18949				AVRG		1.28347		8.20764
28 tert-butanol	3.02328	2.82403	3.42685	2.48120	2.78673	2.93894					
	2.57500	2.77206	2.50795				AVRG		2.81511		10.50123

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
29 Acrylonitrile	0.85927	1.04376	1.08061	0.97673	0.99604	1.09450					
	0.97882	1.06172	1.15983				AVRG		1.02792		8.45961
30 1,1,2-Trichlorotrifluoroethan	3.27252	2.92748	2.99352	2.71359	2.77291	2.81955					
	2.73881	2.85946	2.62927				AVRG		2.85857		6.67333
31 Methylene Chloride	+++++	1.88680	1.63329	1.30158	1.23290	1.23306					
	1.18565	1.21615	1.11053				AVRG		1.35000		19.80533
32 3-Chloropropene	2.16980	2.14778	2.16701	1.42084	1.41898	1.85087					
	1.25783	1.88412	1.54792				AVRG		1.76279		20.41457
33 Carbon Disulfide	5.30490	4.77328	4.97310	4.26684	4.33629	4.45441					
	4.33923	4.50355	4.11396				AVRG		4.56284		8.37762
34 trans-1,2-Dichloroethene	1.57745	1.52546	1.48570	1.36350	1.42009	1.47341					
	1.42405	1.49346	1.38676				AVRG		1.46110		4.69153
35 - 2-Methyl Pentane	6.09013	5.42822	5.55295	4.95439	5.00808	5.12500					
	4.88856	5.01218	4.40375				AVRG		5.16258		9.25278

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
36 Methyl-t-Butyl Ether	2.79505	3.39580	3.35016	3.22852	2.89814	3.09340					
	2.73821	2.84528	3.03578				AVRG		3.04226		7.96948
37 1,1-Dichloroethane	3.81002	3.45046	3.47862	3.13196	3.19830	3.26107					
	3.08287	3.17463	2.98521				AVRG		3.28590		7.72102
38 Vinyl Acetate	2.88951	3.93568	3.76718	3.80460	3.55475	3.80053					
	3.43886	3.59478	4.06618				AVRG		3.65023		9.44131
39 2-Butanone	+++++	+++++	0.64321	0.53353	0.47278	0.50342					
	0.43524	0.45853	0.45750				AVRG		0.50060		14.14967
40 Hexane	1.98637	1.82523	1.77136	1.57274	1.58225	1.64377					
	1.59676	1.64792	1.50902				AVRG		1.68171		8.98952
41 cis 1,2-Dichloroethene	1.54272	1.44757	1.47444	1.36740	1.37887	1.42700					
	1.37950	1.41866	1.33655				AVRG		1.41919		4.44893
42 Ethyl acetate	3.19726	3.50997	3.39886	3.36426	3.07774	3.18952					
	2.85966	2.97879	3.06396				AVRG		3.18222		6.64860

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Cal Date : 16-Nov-2011 08:47 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
43 Chloroform	3.85664	3.50395	3.54753	3.21162	3.23603	3.27221					
	3.04811	3.12266	3.00216				AVRG		3.31121		8.32474
44 Tetrahydrofuran	1.81634	2.02140	1.94198	1.86664	1.72830	1.75934					
	1.56482	1.62760	1.72324				AVRG		1.78330		8.15253
45 1,1,1-Trichloroethane	3.84659	3.45707	3.50595	3.24576	3.27872	3.30760					
	3.17551	3.22369	3.13275				AVRG		3.35263		6.61659
46 1,2-Dichloroethane	0.56962	0.52776	0.56524	0.48763	0.57344	0.56773					
	0.54963	0.66123	0.53307				AVRG		0.55948		8.41118
47 1-Butanol	0.29844	0.27037	0.16447	0.13806	0.17893	0.19192					
	0.16986	0.22293	0.16254				AVRG		0.19972		26.89772
48 Benzene	1.19454	1.02822	0.99694	0.83116	0.94994	0.91401					
	0.87915	1.04347	0.80965				AVRG		0.96078		12.53029
49 Cyclohexane	0.16685	0.16032	0.17436	0.15308	0.18392	0.17932					
	0.17444	0.20587	0.15219				AVRG		0.17226		9.77210

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.69458	0.60602	0.71780	0.55349	0.67608	0.78525					
	0.71494	0.97010	0.68188				AVRG		0.71113		16.55476
51 - 2,3-dimethylpentane	0.21718	0.20286	0.20096	0.18796	0.22372	0.21622					
	0.20934	0.25277	0.19118				AVRG		0.21136		9.26040
52 - Thiophene	0.58368	0.50783	0.53818	0.46577	0.55379	0.53612					
	0.51536	0.61460	0.49059				AVRG		0.53399		8.61989
53 2,2,4-trimethylpentane	2.26568	1.96249	2.06528	1.81731	2.06191	2.02277					
	1.88795	2.28130	1.70939				AVRG		2.00823		9.47269
54 Heptane	0.38430	0.34249	0.33257	0.29400	0.33943	0.33770					
	0.31763	0.38784	0.29893				AVRG		0.33721		9.69557
55 1,2-Dichloropropane	0.37604	0.37623	0.39761	0.34285	0.39016	0.39379					
	0.36538	0.43528	0.34796				AVRG		0.38059		7.37729
56 Trichloroethene	0.53463	0.39760	0.44833	0.38369	0.45068	0.43960					
	0.42567	0.50990	0.40446				AVRG		0.44384		11.35724

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
180 - 2-nitropropane	+++++	0.58305	0.47436	0.55381	0.57153	0.57977					
	0.53778	0.69318	0.61388				AVRG		0.57592		10.88981
57 Dibromomethane	0.46867	0.41049	0.42028	0.37298	0.44194	0.43929					
	0.41301	0.50214	0.39940				AVRG		0.42980		8.96597
58 Bromodichloromethane	0.76028	0.71987	0.76780	0.65311	0.77623	0.77894					
	0.74772	0.91552	0.73099				AVRG		0.76116		9.15952
59 1,4-dioxane	0.10089	0.08982	0.10596	0.09050	0.11747	0.11516					
	0.10441	0.12951	0.09086				AVRG		0.10495		13.12613
60 Methyl Methacrylate	0.36999	0.38510	0.39642	0.39218	0.40341	0.43424					
	0.39731	0.51025	0.43026				AVRG		0.41324		10.08034
61 - methyl cyclohexane	0.59412	0.50984	0.54502	0.49662	0.57358	0.56112					
	0.54472	0.63451	0.48373				AVRG		0.54925		8.79530
62 4-Methyl-2-pentanone	0.66511	0.65349	0.70315	0.60624	0.74516	0.78311					
	0.73559	0.93995	0.68014				AVRG		0.72355		13.41520

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
63 cis-1,3-Dichloropropene	0.47153	0.46150	0.48831	0.43041	0.49848	0.52104					
	0.50404	0.61130	0.51860				AVRG		0.50058		10.10376
64 trans-1,3-Dichloropropene	0.46445	0.49322	0.50176	0.46214	0.53874	0.57970					
	0.53261	0.64095	0.55887				AVRG		0.53027		10.90468
65 Toluene	1.02403	1.04952	1.00537	0.89321	1.02538	1.05390					
	0.97831	1.11678	0.97523				AVRG		1.01353		6.15042
66 1,1,2-Trichloroethane	0.33286	0.35781	0.35269	0.31729	0.35526	0.35667					
	0.32681	0.37254	0.31838				AVRG		0.34337		5.78276
67 - 2-methyl thiophene	0.84918	0.87390	0.85084	0.73939	0.90039	0.91188					
	0.84830	0.97239	0.83813				AVRG		0.86493		7.34539
68 - 3-methyl thiophene	0.83766	0.85105	0.87044	0.78095	0.90132	0.92887					
	0.84940	0.96834	0.83971				AVRG		0.86975		6.40063
69 2-Hexanone	0.30073	0.28472	0.30961	0.28062	0.36618	0.39219					
	0.34993	0.43406	0.32324				AVRG		0.33792		15.39238

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
70 Octane	0.35752	0.33755	0.34652	0.31615	0.38275	0.38097					
	0.35554	0.39884	0.32683				AVRG		0.35585		7.72501
71 Dibromochloromethane	0.62433	0.62789	0.66075	0.60654	0.74944	0.76558					
	0.74218	0.86656	0.71934				AVRG		0.70696		11.98228
72 1,2-Dibromoethane	0.60176	0.59616	0.58009	0.53134	0.61914	0.62758					
	0.58222	0.66447	0.57576				AVRG		0.59761		6.27895
73 Tetrachloroethene	0.48131	0.41799	0.43204	0.37822	0.43205	0.41919					
	0.39881	0.44196	0.37930				AVRG		0.42010		7.70740
74 Chlorobenzene	0.85887	0.87001	0.80568	0.72853	0.83308	0.82632					
	0.76414	0.86978	0.75038				AVRG		0.81186		6.55339
75 - 2,3-dimethylheptane	1.71727	1.62961	1.69464	1.54492	1.72430	1.70459					
	1.54344	1.65223	1.19315				AVRG		1.60046		10.46605
76 Ethylbenzene	1.10867	1.20409	1.16102	1.07153	1.18302	1.23498					
	1.12408	1.32877	1.17597				AVRG		1.17691		6.44412

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
77 - 2-ethyl thiophene	0.87972	0.97208	0.91937	0.85772	0.98469	1.02720					
	0.93985	1.10984	0.98067				AVRG		0.96346		7.95615
78 m&p-Xylene	0.83630	0.94771	0.91069	0.85138	0.92653	0.96094					
	0.86733	1.02382	0.89901				AVRG		0.91375		6.46640
79 Nonane	0.76981	0.87292	0.84691	0.80639	0.93161	0.96055					
	0.88719	0.99744	0.78994				AVRG		0.87364		8.99898
80 Bromoform	+++++	0.51635	0.56367	0.50665	0.63659	0.68341					
	0.66293	0.82730	0.67174				AVRG		0.63358		16.56200
81 Styrene	0.47371	0.55908	0.54343	0.54970	0.63344	0.69698					
	0.63908	0.76601	0.67747				AVRG		0.61543		14.85034
82 o-Xylene	0.88296	0.97881	0.95886	0.89016	0.94634	0.98326					
	0.88392	1.04099	0.92719				AVRG		0.94361		5.67018
M 83 Xylene (total)	0.85185	0.95808	0.92675	0.86431	0.93314	0.96838					
	0.87286	1.02954	0.90840				AVRG		0.92370		6.17033

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TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 14-NOV-2011 19:39
End Cal Date : 15-NOV-2011 02:38
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J111411I.b/TO15.m
Cal Date : 16-Nov-2011 08:47 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
84 1,1,2,2-Tetrachloroethane	0.63685	0.72949	0.73995	0.66416	0.73563	0.77827					
	0.67318	0.80569	0.66930				AVRG		0.71472		7.97856
85 1,2,3-Trichloropropane	0.13818	0.17372	0.18063	0.15718	0.17784	0.18685					
	0.16433	0.19872	0.17326				AVRG		0.17230		10.19711
86 Cumene	1.18152	1.30221	1.22962	1.15219	1.24492	1.28942					
	1.15091	1.36870	1.21377				AVRG		1.23703		5.90482
87 n-Propylbenzene	0.25755	0.29913	0.29634	0.28116	0.30836	0.32547					
	0.29617	0.35577	0.31958				AVRG		0.30439		9.16379
88 2-chlorotoluene	0.30471	0.33033	0.33428	0.29360	0.33688	0.34499					
	0.31579	0.37180	0.31971				AVRG		0.32801		7.04692
89 4-Ethyltoluene	0.99567	1.14267	1.06133	1.05287	1.14112	1.21717					
	1.07818	1.31584	1.14551				AVRG		1.12782		8.52835
90 1,3,5-Trimethylbenzene	0.44571	0.51622	0.51745	0.49810	0.51564	0.54944					
	0.48421	0.59036	0.52664				AVRG		0.51597		7.82288

Report Date : 16-Nov-2011 08:49

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 14-NOV-2011 19:39
End Cal Date : 15-NOV-2011 02:38
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J111411I.b/TO15.m
Cal Date : 16-Nov-2011 08:47 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
91 Alpha-Methylstyrene	0.29965	0.34139	0.35038	0.35336	0.42695	0.48883					
	0.43225	0.54025	0.48754				AVRG		0.41340		19.78447
92 Decane	0.75990	0.83952	0.83676	0.88299	0.98852	1.09128					
	0.96765	1.12055	0.90127				AVRG		0.93205		12.91783
93 tert-butylbenzene	0.81836	1.00204	0.98078	0.91334	0.95232	1.02191					
	0.90138	1.09869	0.98874				AVRG		0.96417		8.33550
94 1,2,4-Trimethylbenzene	0.76989	0.90418	0.87506	0.83327	0.90369	0.97566					
	0.84984	1.04074	0.91163				AVRG		0.89600		8.83000
95 sec-butylbenzene	1.12249	1.32993	1.28996	1.24624	1.31925	1.40495					
	1.21642	1.47372	1.27718				AVRG		1.29779		7.91540
96 1,3-Dichlorobenzene	0.68315	0.66269	0.63530	0.56392	0.64931	0.70414					
	0.62742	0.77279	0.66456				AVRG		0.66259		8.63569
97 Benzyl Chloride	0.74312	0.73875	0.71444	0.67549	0.81068	0.90970					
	0.79287	1.00813	0.84067				AVRG		0.80376		12.96358

Report Date : 16-Nov-2011 08:49

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 14-NOV-2011 19:39
End Cal Date : 15-NOV-2011 02:38
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J111411I.b/TO15.m
Cal Date : 16-Nov-2011 08:47 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
98 1,4-Dichlorobenzene	0.68980	0.65617	0.61984	0.52787	0.62560	0.68346					
	0.60769	0.75344	0.64062				AVRG		0.64494		9.73086
99 p-Cymene	0.83840	0.96895	0.95614	0.93605	1.00305	1.09129					
	0.94640	1.18121	1.01574				AVRG		0.99302		9.87687
100 ~ 1,2,3- Trimethylbenzene	0.68108	0.75689	0.74932	0.70626	0.75073	0.79927					
	0.69719	0.85368	0.73390				AVRG		0.74759		7.15421
101 ~ n-butylcyclohexane	0.77507	0.87739	0.90000	0.81335	0.91940	0.95408					
	0.84863	0.97557	0.79794				AVRG		0.87349		8.03145
102 ~ Indane	0.77745	0.82805	0.80693	0.72476	0.79302	0.83601					
	0.72824	0.88399	0.76603				AVRG		0.79383		6.50987
103 1,2-Dichlorobenzene	0.66868	0.63053	0.60368	0.52916	0.59096	0.62705					
	0.55132	0.67381	0.59125				AVRG		0.60738		8.00185
104 n-butylbenzene	0.93375	0.94939	0.93596	0.91965	0.99630	1.07296					
	0.93832	1.14474	0.94855				AVRG		0.98218		7.83616

Report Date : 16-Nov-2011 08:49

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 14-NOV-2011 19:39
End Cal Date : 15-NOV-2011 02:38
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J111411I.b/TO15.m
Cal Date : 16-Nov-2011 08:47 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
105 ~ Indene	0.52618	0.54309	0.52446	0.50006	0.57846	0.62197					
	0.54424	0.67804	0.58188				AVRG		0.56649		9.81822
106 Undecane	+++++	+++++	0.66246	0.55431	0.74711	0.82212					
	0.74366	0.96021	0.81191				AVRG		0.75740		16.94659
107 ~ 1,2-dimethyl-4-ethylenzene	0.78202	0.75525	0.74065	0.71416	0.81206	0.87287					
	0.76864	0.96688	0.79990				AVRG		0.80138		9.61386
108 ~ 1,2,4,5-tetramethylbenzene	0.74536	0.69971	0.66770	0.60252	0.76371	0.81657					
	0.72463	0.93225	0.76295				AVRG		0.74615		12.49927
109 ~ 1,2,3,5-tetramethylbenzene	+++++	0.59070	0.55944	0.46530	0.40897	0.62345					
	0.55651	0.71272	0.58425				AVRG		0.56267		16.53798
110 ~ 1,2,3,4-tetramethylbenzene	+++++	0.60584	0.59065	0.47593	0.62083	0.67451					
	0.58441	0.76405	0.61534				AVRG		0.61645		13.25427
111 Dodecane	+++++	+++++	0.52260	0.42144	0.70672	0.77195					
	0.64698	0.82640	0.60636				AVRG		0.64321		21.91976

Report Date : 16-Nov-2011 08:49

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 14-NOV-2011 19:39
End Cal Date : 15-NOV-2011 02:38
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J111411I.b/TO15.m
Cal Date : 16-Nov-2011 08:47 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
112 1,2,4-Trichlorobenzene	+++++	0.31321	0.35679	0.28035	0.34994	0.39246					
	0.32232	0.43216	0.36810				AVRG		0.35192		13.52952
113 Napthalene	+++++	0.60850	0.66681	0.50782	0.69844	0.74425					
	0.61508	0.79385	0.62691				AVRG		0.65771		13.52852
114 - benzo(b) thiophene	+++++	0.39141	0.49632	0.36717	0.49722	0.54177					
	0.44747	0.57517	0.44860				AVRG		0.47064		15.10113
115 Hexachlorobutadiene	+++++	0.39963	0.40648	0.33805	0.37675	0.40211					
	0.34890	0.46503	0.43434				AVRG		0.39641		10.59199
116 1,2,3-trichlorobenzene	+++++	0.24781	0.31682	0.22051	0.28370	0.29581					
	0.24345	0.31440	0.25514				AVRG		0.27221		13.05859
117 - 2-Methylnaphthalene	+++++	+++++	0.04898	0.04116	0.07141	0.07259					
	0.06908	0.08110	0.06782				AVRG		0.06459		21.95004
118 - 1-Methylnaphthalene	+++++	+++++	0.04708	0.03981	0.05847	0.05960					
	0.05636	0.06385	0.05454				AVRG		0.05425		15.10688

Report Date : 16-Nov-2011 08:49

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 14-NOV-2011 19:39
End Cal Date : 15-NOV-2011 02:38
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J111411I.b/TO15.m
Cal Date : 16-Nov-2011 08:47 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.75594	0.74146	0.77074	0.74912	0.80525	0.79767					
	0.79113	0.85584	0.75768				AVRG		0.78054		4.62476

Report Date : 16-Nov-2011 08:49

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 14-NOV-2011 19:39
End Cal Date : 15-NOV-2011 02:38
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J111411I.b/TO15.m
Cal Date : 16-Nov-2011 08:47 tajh

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Analyst: HLL Qtims Batch: 341177 (MPH8Q) 341178 (MPH8R) OHIO Inst: MJ

Date: 12/7/11 ICAL Batch: J111411 I Target Batch: J120711 IS #1 Area: 259334

Surr/IS ID & Vol.: 40mL V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily _____

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0922	✓	tune	JBFB107	–	16	100	1	
0950	✓	CCV	JCCV	CX2293	15	↓	↓	124TMBZ 32% 32%
0950	✓	LCS	JLCS	↓	↓	↓	↓	
1047	OK	Blk	Flush	–	16	500	↓	
1140	✓	↓	JBLK107	–	↓	↓	↓	
1355	✓	HIL070428	MPHJ21AA	bag	1	11	1	to14mj
1459	✓	HIL070431	MPHKE1AA	bag	1	11	↓	to14 +TPH (E)TPH RR
1553	✓	↓	KD	04402	2	200	62.56	(E)TPH
1644	✓	↓	KF	Bag	X3	11	1	to3 12/7/11 (E)TPH
1735	✓	↓	KER	92017	1	30	6.8	45.33
1829	✓		KDR	04402	2	100	62.56	125.12
1922	✓	↓	KFR	11416	3	25	7.93	63.44
2017	✓	HIL070445	TCIAD	12539	4	200	1	pce
2109	✓	HIL070423	H71AA	Bag	5	11	↓	naph. (10) (OHIO)
2201	✓	HIL070439	MH	SL1231	6	20	1	to14mj
12/8/11 HH ~~2253~~ 2353	✓	↓	M2	SL1224	7	↓	↓	22:53
2344	dup		M2D	↓	7			
0036	✓		M51AA	L5157	8			
0128	✓		NC	L5167	9			
0220	✓		NH	L5118	10			
0311	✓	↓	NN	LA7077	11	↓	↓	
0405	✓	HIL070437	L4	7487	12	200	1	shelby mj E111 RR 50mL
0456	✓	↓	L2	07748	13	20	3.16	needs IA1 RR 10mL E114
0547	RR	HIL070447	TP1AA	12401	14	20	3.61	to14mj
0842	✓	↓	MPHTPR	12401	14	20	3.61	
							12/8/11	

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 12/8/11

Data File: /ohem/gcms/mj.i/J120711.b/jbfb107.d

Date : 07-DEC-2011 09:22

Client ID: BFB

Instrument: mj.i

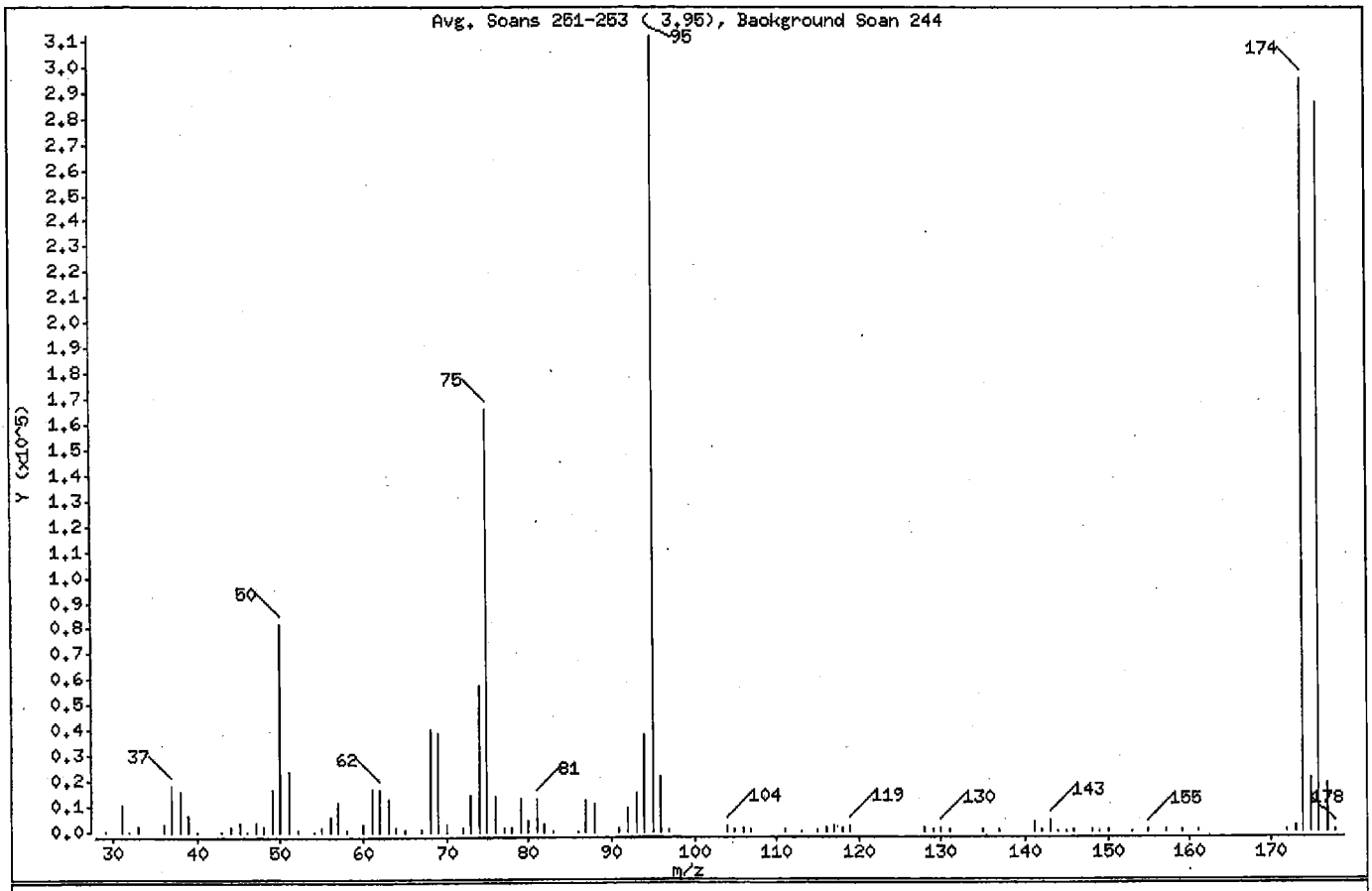
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: Rtx-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	26.16
75	30.00 - 60.00% of mass 95	53.16
96	5.00 - 9.00% of mass 95	6.89
173	Less than 2.00% of mass 174	0.63 (0.67)
174	50.00 - 120.00% of mass 95	94.64
175	5.00 - 9.00% of mass 174	6.77 (7.15)
176	95.00 - 101.00% of mass 174	91.70 (96.89)
177	5.00 - 9.00% of mass 176	6.09 (6.64)

Data File: /var/chem/gcms/mj.i/J120711.b/jccvl07.d
Report Date: 07-Dec-2011 13:34

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccvl07.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J120711.b/TO15.m

Injection Date: 07-DEC-2011 09:50
Init. Cal. Date(s): 14-NOV-2011 15-NOV-2011
Init. Cal. Times: 19:39 02:38
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.78054	0.82062	0.82062	0.000	-5.13604	30.00000	Averaged
5 Chlorodifluoromethane	0.53493	0.59704	0.59704	0.000	-11.61047	30.00000	Averaged
6 Propene	2.05766	2.28587	2.28587	0.000	-11.09087	30.00000	Averaged
7 Dichlorodifluoromethane	5.06965	5.71615	5.71615	0.000	-12.75231	30.00000	Averaged
8 Chloromethane	0.61109	0.79329	0.79329	0.000	-29.81573	30.00000	Averaged
9 1,2-Dichlorotetrafluoroetha	2.79051	3.13878	3.13878	0.000	-12.48046	30.00000	Averaged
10 Methanol	1.90230	2.25953	2.25953	0.000	-18.77858	30.00000	Averaged
11 ~ acetaldehyde	9.85748	10.12000	0.28652	0.000	2.59408	30.00000	Quadratic
12 Vinyl Chloride	1.79443	2.13179	2.13179	0.000	-18.80005	30.00000	Averaged
13 n-Butane	2.89390	3.65737	3.65737	0.000	-26.38207	30.00000	Averaged
14 1,3-Butadiene	1.29756	1.60700	1.60700	0.000	-23.84811	30.00000	Averaged
15 Bromomethane	1.34550	1.47614	1.47614	0.000	-9.70937	30.00000	Averaged
16 Chloroethane	0.72140	0.81602	0.81602	0.000	-13.11654	30.00000	Averaged
17 ~ ethanol	0.67435	0.61334	0.61334	0.000	9.04788	30.00000	Averaged
18 Vinyl Bromide	1.41566	1.48113	1.48113	0.000	-4.62427	30.00000	Averaged
19 2-methyl butane	2.81094	3.04170	3.04170	0.000	-8.20929	30.00000	Averaged
20 Trichlorofluoromethane	4.47376	4.53403	4.53403	0.000	-1.34707	30.00000	Averaged
21 Acrolein	0.45407	0.37713	0.37713	0.000	16.94574	30.00000	Averaged
22 Acetonitrile	0.74278	0.54780	0.54780	0.000	26.24935	30.00000	Averaged
23 Acetone	0.72112	0.51098	0.51098	0.000	29.14044	30.00000	Averaged
24 Isopropyl alcohol	2.42970	1.98936	1.98936	0.000	18.12327	30.00000	Averaged
25 Pentane	0.23900	0.25749	0.25749	0.000	-7.73483	30.00000	Averaged
26 Ethyl Ether	2.31399	2.29014	2.29014	0.000	1.03047	30.00000	Averaged
27 1,1-Dichloroethene	1.28347	1.28067	1.28067	0.000	0.21816	30.00000	Averaged
28 tert-butanol	2.81511	2.24098	2.24098	0.000	20.39477	30.00000	Averaged
29 Acrylonitrile	1.02792	0.93058	0.93058	0.000	9.46949	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.85857	2.86154	2.86154	0.000	-0.10416	30.00000	Averaged
31 Methylene Chloride	1.35000	1.31094	1.31094	0.000	2.89295	30.00000	Averaged
32 3-Chloropropene	1.76279	2.00355	2.00355	0.000	-13.65732	30.00000	Averaged
33 Carbon Disulfide	4.56284	4.65853	4.65853	0.000	-2.09727	30.00000	Averaged
34 trans-1,2-Dichloroethene	1.46110	1.47315	1.47315	0.000	-0.82468	30.00000	Averaged
35 ~ 2-Methyl Pentane	5.16258	5.49241	5.49241	0.000	-6.38880	30.00000	Averaged
36 Methyl-t-Butyl Ether	3.04226	2.55565	2.55565	0.000	15.99511	30.00000	Averaged
37 1,1-Dichloroethane	3.28590	3.44023	3.44023	0.000	-4.69657	30.00000	Averaged
38 Vinyl Acetate	3.65023	3.40195	3.40195	0.000	6.80164	30.00000	Averaged

Data File: /var/chem/gcms/mj.i/J120711.b/jccv107.d
Report Date: 07-Dec-2011 13:34

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccv107.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J120711.b/TO15.m

Injection Date: 07-DEC-2011 09:50
Init. Cal. Date(s): 14-NOV-2011 15-NOV-2011
Init. Cal. Times: 19:39 02:38
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 2-Butanone	0.50060	0.41332	0.41332	0.000	17.43551	30.00000	Averaged
40 Hexane	1.68171	1.78054	1.78054	0.000	-5.87683	30.00000	Averaged
41 cis 1,2-Dichloroethene	1.41919	1.44275	1.44275	0.000	-1.65994	30.00000	Averaged
42 Ethyl acetate	3.18222	2.83281	2.83281	0.000	10.98009	30.00000	Averaged
43 Chloroform	3.31121	3.44762	3.44762	0.000	-4.11965	30.00000	Averaged
44 Tetrahydrofuran	1.78330	1.56212	1.56212	0.000	12.40242	30.00000	Averaged
45 1,1,1-Trichloroethane	3.35263	3.44357	3.44357	0.000	-2.71267	30.00000	Averaged
46 1,2-Dichloroethane	0.55948	0.57108	0.57108	0.000	-2.07330	30.00000	Averaged
47 1-Butanol	0.19972	0.14272	0.14272	0.000	28.54226	30.00000	Averaged
48 Benzene	0.96078	0.89088	0.89088	0.000	7.27555	30.00000	Averaged
49 Cyclohexane	0.17226	0.17028	0.17028	0.000	1.14758	30.00000	Averaged
50 Carbon Tetrachloride	0.71113	0.75686	0.75686	0.000	-6.43100	30.00000	Averaged
51 ~ 2,3-dimethylpentane	0.21136	0.20725	0.20725	0.000	1.94413	30.00000	Averaged
52 ~ Thiophene	0.53399	0.51016	0.51016	0.000	4.46220	30.00000	Averaged
53 2,2,4-trimethylpentane	2.00823	1.97652	1.97652	0.000	1.57887	30.00000	Averaged
54 Heptane	0.33721	0.31942	0.31942	0.000	5.27553	30.00000	Averaged
55 1,2-Dichloropropane	0.38059	0.37117	0.37117	0.000	2.47525	30.00000	Averaged
56 Trichloroethene	0.44384	0.41697	0.41697	0.000	6.05532	30.00000	Averaged
180 ~ 2-nitropropane	0.57592	0.48021	0.48021	0.000	16.61807	30.00000	Averaged
57 Dibromomethane	0.42980	0.43691	0.43691	0.000	-1.65538	30.00000	Averaged
58 Bromodichloromethane	0.76116	0.73625	0.73625	0.000	3.27305	30.00000	Averaged
59 1,4-dioxane	0.10495	0.07418	0.07418	0.000	29.31903	30.00000	Averaged
60 Methyl Methacrylate	0.41324	0.34359	0.34359	0.000	16.85357	30.00000	Averaged
61 ~ methyl cyclohexane	0.54925	0.52673	0.52673	0.000	4.10056	30.00000	Averaged
62 4-Methyl-2-pentanone	0.72355	0.61484	0.61484	0.000	15.02446	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.50058	0.46465	0.46465	0.000	7.17839	30.00000	Averaged
64 trans-1,3-Dichloropropene	0.53027	0.49723	0.49723	0.000	6.23167	30.00000	Averaged
65 Toluene	1.01353	0.91135	0.91135	0.000	10.08155	30.00000	Averaged
66 1,1,2-Trichloroethane	0.34337	0.31244	0.31244	0.000	9.00587	30.00000	Averaged
67 ~ 2-methyl thiophene	0.86493	0.78940	0.78940	0.000	8.73237	30.00000	Averaged
68 ~ 3-methyl thiophene	0.86975	0.79584	0.79584	0.000	8.49765	30.00000	Averaged
69 2-Hexanone	0.33792	0.29350	0.29350	0.000	13.14432	30.00000	Averaged
70 Octane	0.35585	0.34138	0.34138	0.000	4.06642	30.00000	Averaged
71 Dibromochloromethane	0.70696	0.63531	0.63531	0.000	10.13489	30.00000	Averaged
72 1,2-Dibromoethane	0.59761	0.55304	0.55304	0.000	7.45924	30.00000	Averaged

Data File: /var/chem/gcms/mj.i/J120711.b/jccv107.d
Report Date: 07-Dec-2011 13:34

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccv107.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J120711.b/TO15.m

Injection Date: 07-DEC-2011 09:50
Init. Cal. Date(s): 14-NOV-2011 15-NOV-2011
Init. Cal. Times: 19:39 02:38
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 Tetrachloroethene	0.42010	0.38562	0.38562	0.000	8.20584	30.00000	Averaged
74 Chlorobenzene	0.81186	0.69765	0.69765	0.000	14.06785	30.00000	Averaged
75 ~ 2,3-dimethylheptane	1.60046	1.55659	1.55659	0.000	2.74122	30.00000	Averaged
76 Ethylbenzene	1.17691	0.98558	0.98558	0.000	16.25661	30.00000	Averaged
77 ~ 2-ethyl thiophene	0.96346	0.82870	0.82870	0.000	13.98687	30.00000	Averaged
78 m&p-Xylene	0.91375	0.76531	0.76531	0.000	16.24503	30.00000	Averaged
79 Nonane	0.87364	0.83186	0.83186	0.000	4.78278	30.00000	Averaged
80 Bromoform	0.63358	0.47248	0.47248	0.000	25.42661	30.00000	Averaged
81 Styrene	0.61543	0.54088	0.54088	0.000	12.11476	30.00000	Averaged
82 o-Xylene	0.94361	0.78567	0.78567	0.000	16.73803	30.00000	Averaged
M 83 Xylene (total)	0.92370	0.77209	0.77209	0.000	16.41290	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.71472	0.61353	0.61353	0.000	14.15911	30.00000	Averaged
85 1,2,3-Trichloropropane	0.17230	0.13791	0.13791	0.000	19.96114	30.00000	Averaged
86 Cumene	1.23703	0.98706	0.98706	0.000	20.20679	30.00000	Averaged
87 n-Propylbenzene	0.30439	0.24280	0.24280	0.000	20.23579	30.00000	Averaged
88 2-chlorotoluene	0.32801	0.26875	0.26875	0.000	18.06694	30.00000	Averaged
89 4-Ethyltoluene	1.12782	0.87844	0.87844	0.000	22.11165	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.51597	0.39114	0.39114	0.000	24.19340	30.00000	Averaged
91 Alpha-Methylstyrene	0.41340	0.33406	0.33406	0.000	19.19156	30.00000	Averaged
92 Decane	0.93205	0.84992	0.84992	0.000	8.81143	30.00000	Averaged
93 tert-butylbenzene	0.96417	0.72043	0.72043	0.000	25.28026	30.00000	Averaged
94 1,2,4-Trimethylbenzene	0.89600	0.68597	0.68597	0.000	23.44089	30.00000	Averaged
95 sec-butylbenzene	1.29779	1.03511	1.03511	0.000	20.24089	30.00000	Averaged
96 1,3-Dichlorobenzene	0.66259	0.51651	0.51651	0.000	22.04697	30.00000	Averaged
97 Benzyl Chloride	0.80376	0.64012	0.64012	0.000	20.35880	30.00000	Averaged
98 1,4-Dichlorobenzene	0.64494	0.49588	0.49588	0.000	23.11266	30.00000	Averaged
99 p-Cymene	0.99302	0.75668	0.75668	0.000	23.80090	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.74759	0.57297	0.57297	0.000	23.35842	30.00000	Averaged
101 ~ n-butylcyclohexane	0.87349	0.78295	0.78295	0.000	10.36617	30.00000	Averaged
102 ~ Indane	0.79383	0.61253	0.61253	0.000	22.83855	30.00000	Averaged
103 1,2-Dichlorobenzene	0.60738	0.45238	0.45238	0.000	25.51937	30.00000	Averaged
104 n-butylbenzene	0.98218	0.78606	0.78606	0.000	19.96807	30.00000	Averaged
105 ~ Indene	0.56649	0.43081	0.43081	0.000	23.95065	30.00000	Averaged
106 Undecane	0.75740	0.61048	0.61048	0.000	19.39765	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.80138	0.59837	0.59837	0.000	25.33316	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.74615	0.55541	0.55541	0.000	25.56374	30.00000	Averaged

Data File: /var/chem/gcms/mj.i/J120711.b/jccv107.d
Report Date: 07-Dec-2011 13:34

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mj.i
Lab File ID: jccv107.d
Analysis Type: AIR
Lab Sample ID: CCV/LCS
Method: /chem/gcms/mj.i/J120711.b/TO15.m

Injection Date: 07-DEC-2011 09:50
Init. Cal. Date(s): 14-NOV-2011 15-NOV-2011
Init. Cal. Times: 19:39 02:38
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.56267	0.42438	0.42438	0.000	24.57637	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.61645	0.45066	0.45066	0.000	26.89405	30.00000	Averaged	
111 Dodecane	0.64321	0.53815	0.53815	0.000	16.33359	30.00000	Averaged	
112 1,2,4-Trichlorobenzene	0.35192	0.24076	0.24076	0.000	31.58731	30.00000	Averaged	<- 60-140
113 Napthalene	0.65771	0.47823	0.47823	0.000	27.28901	30.00000	Averaged	
114 ~ benzo(b) thiophene	0.47064	0.35529	0.35529	0.000	24.50798	30.00000	Averaged	
115 Hexachlorobutadiene	0.39641	0.24985	0.24985	0.000	36.97163	30.00000	Averaged	<- 60-140
116 1,2,3-trichlorobenzene	0.27221	0.19218	0.19218	0.000	29.39893	30.00000	Averaged	
117 ~ 2-Methylnaphthalene	0.06459	0.04174	0.04174	0.000	35.38736	30.00000	Averaged	<- ok
118 ~ 1-Methylnaphthalene	0.05425	0.03950	0.03950	0.000	27.18448	30.00000	Averaged	

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H1L070000 - 177B **Work Order #** MPH8Q1AA **Matrix.....:** AIR

	12/06/2011	**Date Received..:**	12/07/2011
Prep Date.....:	12/07/2011	**Analysis Date...**	12/07/2011
Prep Batch #.....:	1341177		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	0.20	ND	0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Chloromethane	ND	0.50	ND	1.0
Vinyl chloride	ND	0.20	ND	0.51
Bromomethane	ND	0.20	ND	0.78
Chloroethane	ND	0.20	ND	0.53
Trichlorofluoromethane	ND	0.20	ND	1.1
1,1-Dichloroethene	ND	0.20	ND	0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.20	ND	1.5
Methylene chloride	ND	0.50	ND	1.7
1,1-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
Chloroform	ND	0.20	ND	0.98
1,1,1-Trichloroethane	ND	0.20	ND	1.1
Carbon tetrachloride	ND	0.20	ND	1.3
Benzene	ND	0.20	ND	0.64
1,2-Dichloroethane	ND	0.20	ND	0.81
Trichloroethene	ND	0.20	ND	1.1
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91
Toluene	ND	0.20	ND	0.75
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Tetrachloroethene	ND	0.20	ND	1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
Chlorobenzene	ND	0.20	ND	0.92
Ethylbenzene	ND	0.20	ND	0.87
m-Xylene & p-Xylene	ND	0.20	ND	0.87
o-Xylene	ND	0.20	ND	0.87
Styrene	ND	0.20	ND	0.85
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4
1,3,5-Trimethylbenzene	ND	0.20	ND	0.98
1,2,4-Trimethylbenzene	ND	0.20	ND	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	ND	0.20	ND	1.2
1,2-Dichlorobenzene	ND	0.20	ND	1.2
Benzyl chloride	ND	0.40	ND	2.1

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H1L070000 - 177B **Work Order #** MPH8Q1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	1.0	ND	7.4
Hexachlorobutadiene	ND	1.0	ND	11

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	92	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H1L070000 - 177C **Work Order #** MPH8Q1AC **Matrix.....:** AIR

	12/06/2011	**Date Received..:**	12/07/2011
Prep Date.....:	12/07/2011	**Analysis Date...**	12/07/2011
Prep Batch #.....:	1341177		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Dichlorodifluoromethane	5.00	5.64	25	27.9	113	60 - 140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	5.00	5.62	35	39.3	112	60 - 140
Chloromethane	5.00	6.49	10	13.4	130	60 - 140
Vinyl chloride	5.00	5.94	13	15.2	119	70 - 130
Bromomethane	5.00	5.48	19	21.3	110	70 - 130
Chloroethane	5.00	5.66	13	14.9	113	70 - 130
Trichlorofluoromethane	5.00	5.07	28	28.5	101	60 - 140
1,1-Dichloroethene	5.00	4.99	20	19.8	100	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.00	38	38.4	100	70 - 130
Methylene chloride	5.00	4.86	17	16.9	97	70 - 130
1,1-Dichloroethane	5.00	5.24	20	21.2	105	70 - 130
cis-1,2-Dichloroethene	5.00	5.08	20	20.2	102	70 - 130
Chloroform	5.00	5.21	24	25.4	104	70 - 130
1,1,1-Trichloroethane	5.00	5.14	27	28.0	103	70 - 130
Carbon tetrachloride	5.00	5.32	31	33.5	106	70 - 130
Benzene	5.00	4.64	16	14.8	93	70 - 130
1,2-Dichloroethane	5.00	5.10	20	20.7	102	70 - 130
Trichloroethene	5.00	4.70	27	25.2	94	70 - 130
1,2-Dichloropropane	5.00	4.88	23	22.5	98	70 - 130
cis-1,3-Dichloropropene	5.00	4.64	23	21.1	93	70 - 130
Toluene	5.00	4.50	19	16.9	90	70 - 130
trans-1,3-Dichloropropene	5.00	4.69	23	21.3	94	70 - 130
1,1,2-Trichloroethane	5.00	4.55	27	24.8	91	70 - 130
Tetrachloroethene	5.00	4.59	34	31.1	92	70 - 130
1,2-Dibromoethane (EDB)	5.00	4.63	38	35.6	93	70 - 130
Chlorobenzene	5.00	4.30	23	19.8	86	70 - 130
Ethylbenzene	5.00	4.19	22	18.2	84	70 - 130
m-Xylene & p-Xylene	10.0	8.38	43	36.4	84	70 - 130
o-Xylene	5.00	4.16	22	18.1	83	70 - 130
Styrene	5.00	4.39	21	18.7	88	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.29	34	29.5	86	70 - 130
1,3,5-Trimethylbenzene	5.00	3.79	25	18.6	76	70 - 130
1,2,4-Trimethylbenzene	5.00	3.83	25	18.8	77	70 - 130
1,3-Dichlorobenzene	5.00	3.90	30	23.4	78	70 - 130
1,4-Dichlorobenzene	5.00	3.84	30	23.1	77	70 - 130
1,2-Dichlorobenzene	5.00	3.72	30	22.4	74	70 - 130

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H1L070000 - 177C **Work Order #** MPH8Q1AC **Matrix.....:** AIR

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzyl chloride	5.00	3.98	26	20.6	80	70 - 130
1,2,4-Trichlorobenzene	5.00	3.42	37	25.4	68	60 - 140
Hexachlorobutadiene	5.00	3.15	53	33.6	63	60 - 140

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Data File: /var/chem/gcms/mj.i/J120711.b/mphm21aa.d
Report Date: 08-Dec-2011 10:22

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mphm21aa.d
Lab Smp Id: MPHM21AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J120711.b/TO15.m
Misc Info: J120711,TO15,to14nj.sub,,,

Calibration Date: 07-DEC-2011
Calibration Time: 09:50
Client Smp ID: MID-A
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	259334	154304	364364	302227	16.54
2 1,4-Difluorobenze	1242934	739546	1746322	1488859	19.79
3 Chlorobenzene-d5	1064040	633104	1494976	1268488	19.21

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.18	8.85	9.51	9.17	-0.07
2 1,4-Difluorobenze	11.35	11.02	11.68	11.35	-0.01
3 Chlorobenzene-d5	16.06	15.73	16.39	16.05	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J120711.b/mphnh1aa.d
Report Date: 08-Dec-2011 10:24

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mphnh1aa.d
Lab Smp Id: MPHNH1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Calibration Date: 07-DEC-2011
Calibration Time: 09:50
Client Smp ID: MID-C
Level: LOW
Sample Type: AIR
Method File: /var/chem/gcms/mj.i/J120711.b/TO15.m
Misc Info: J120711,TO15,to14nj.sub,,,

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	259334	154304	364364	307411	18.54
2 1,4-Difluorobenze	1242934	739546	1746322	1494018	20.20
3 Chlorobenzene-d5	1064040	633104	1494976	1261031	18.51

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.18	8.85	9.51	9.17	-0.09
2 1,4-Difluorobenze	11.35	11.02	11.68	11.35	-0.03
3 Chlorobenzene-d5	16.06	15.73	16.39	16.05	-0.05

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J120711.b/mphm51aa.d
Report Date: 08-Dec-2011 10:23

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mphm51aa.d
Lab Smp Id: MPHM51AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J120711.b/TO15.m
Misc Info: J120711,TO15,to14nj.sub,,,

Calibration Date: 07-DEC-2011
Calibration Time: 09:50
Client Smp ID: POST-A
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	259334	154304	364364	309843	19.48
2 1,4-Difluorobenze	1242934	739546	1746322	1506423	21.20
3 Chlorobenzene-d5	1064040	633104	1494976	1278136	20.12

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.18	8.85	9.51	9.18	-0.01
2 1,4-Difluorobenze	11.35	11.02	11.68	11.35	-0.01
3 Chlorobenzene-d5	16.06	15.73	16.39	16.05	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J120711.b/mphnn1aa.d
Report Date: 08-Dec-2011 10:24

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mphnn1aa.d
Lab Smp Id: MPHNN1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J120711.b/TO15.m
Misc Info: J120711,TO15,to14nj.sub,,,

Calibration Date: 07-DEC-2011
Calibration Time: 09:50
Client Smp ID: POST-C
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	259334	154304	364364	306855	18.32
2 1,4-Difluorobenze	1242934	739546	1746322	1489900	19.87
3 Chlorobenzene-d5	1064040	633104	1494976	1257187	18.15

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.18	8.85	9.51	9.17	-0.08
2 1,4-Difluorobenze	11.35	11.02	11.68	11.35	-0.02
3 Chlorobenzene-d5	16.06	15.73	16.39	16.05	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J120711.b/mphmh1aa.d
Report Date: 08-Dec-2011 10:23

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mphmh1aa.d
Lab Smp Id: MPHMH1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J120711.b/TO15.m
Misc Info: J120711,TO15,to14nj.sub,,,

Calibration Date: 07-DEC-2011
Calibration Time: 09:50
Client Smp ID: PRE-A
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	259334	154304	364364	311148	19.98
2 1,4-Difluorobenze	1242934	739546	1746322	1553316	24.97
3 Chlorobenzene-d5	1064040	633104	1494976	1310660	23.18

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.18	8.85	9.51	9.18	-0.03
2 1,4-Difluorobenze	11.35	11.02	11.68	11.35	-0.02
3 Chlorobenzene-d5	16.06	15.73	16.39	16.05	-0.05

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mj.i/J120711.b/mphnc1aa.d
Report Date: 08-Dec-2011 10:23

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mphnc1aa.d
Lab Smp Id: MPHNC1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mj.i/J120711.b/TO15.m
Misc Info: J120711,TO15,to14nj.sub,,,

Calibration Date: 07-DEC-2011
Calibration Time: 09:50
Client Smp ID: PRE-C
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	259334	154304	364364	304680	17.49
2 1,4-Difluorobenze	1242934	739546	1746322	1502415	20.88
3 Chlorobenzene-d5	1064040	633104	1494976	1272899	19.63

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.18	8.85	9.51	9.17	-0.08
2 1,4-Difluorobenze	11.35	11.02	11.68	11.35	-0.02
3 Chlorobenzene-d5	16.06	15.73	16.39	16.05	-0.05

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

TETRA TECH **CALCULATION WORKSHEET** PAGE 1 OF 1

CLIENT	JOB NUMBER		
LMC-Middle River	SDG HIL070439		
SUBJECT: Sample Calculation			
BASED ON	DRAWING NUMBER		
BY: John Cognetti	CHECKED BY	APPROVED BY	DATE: January 3, 2011

Sample PRE-A; 1,1,1-trichloroethane

$$\frac{1142609}{311148} * 10 * \frac{500}{200} * \frac{4\ ppbv}{3.35263} = 109.53\ ppbv$$

$$\frac{109.53 * 133.4\ g/mole}{24.45\ L/mole} = 597.62\ ug/m^3$$

Sample Calculation

Tetra Tech GEO

Client Sample ID: PRE-A

GC/MS Volatiles

Lot-Sample # H1L070439 - 001 **Work Order #** MPHMH1AA **Matrix.....:** AIR

Date Sampled...: 12/06/2011
Prep Date.....: 12/07/2011
Prep Batch #.....: 1341177
Dilution Factor.: 10

Date Received..: 12/07/2011
Analysis Date... 12/07/2011

Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**29**	**2.0**	**110**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**7.2**	**2.0**	**29**	**8.1**
cis-1,2-Dichloroethene	**32**	**2.0**	**130**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**110**	**2.0**	**600**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	**2.3**	**2.0**	**7.3**	**6.4**
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**150**	**2.0**	**800**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	**12**	**2.0**	**46**	**7.5**
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Sample Calculation

Data File: /var/chem/gcms/mj.i/J120711.b/mphmh1aa.d
Report Date: 08-Dec-2011 10:23

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/mj.i/J120711.b/mphmh1aa.d
Lab Smp Id: MPHMH1AA Client Smp ID: PRE-A
Inj Date : 07-DEC-2011 22:01
Operator : 7126 Inst ID: mj.i
Smp Info : ,10,0,,,
Misc Info : J120711,TO15,to14nj.sub,,,
Comment :
Method : /var/chem/gcms/mj.i/J120711.b/TO15.m
Meth Date : 07-Dec-2011 18:13 barlozha Quant Type: ISTD
Cal Date : 14-NOV-2011 20:30 Cal File: jick142.d
Als bottle: 6
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: to14nj.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	10.00000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	200.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	CONCENTRATIONS FINAL (ppb(v/v))
*	1 Bromochloromethane	128	9.177	9.179	(1.000)	311148	4.00000	4.000
*	2 1,4-Difluorobenzene	114	11.350	11.353	(1.000)	1553316	4.00000	4.000
*	3 Chlorobenzene-d5	117	16.052	16.060	(1.000)	1310660	4.00000	4.000
$	4 4-Bromofluorobenzene	95	17.687	17.690	(1.102)	987826	3.86240	9.656
	27 1,1-Dichloroethene	96	6.229	6.231	(0.679)	114287	1.14473	28.62
	37 1,1-Dichloroethane	63	7.843	7.840	(0.855)	74091	0.28987	7.247
	41 cis 1,2-Dichloroethene	96	8.838	8.846	(0.963)	142274	1.28878	32.22
	45 1,1,1-Trichloroethane	97	10.231	10.239	(1.115)	1142609	4.38133	109.5
	48 Benzene	78	10.823	10.825	(0.954)	34200	0.09166	2.292
	56 Trichloroethene	130	12.060	12.063	(1.063)	1028476	5.96715	149.2
	65 Toluene	91	14.094	14.096	(0.878)	163580	0.49257	12.31

Sample Calculation

Report Date : 16-Nov-2011 08:49

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 14-NOV-2011 19:39
End Cal Date : 15-NOV-2011 02:38
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mj.i/J111411I.b/TO15.m
Cal Date : 16-Nov-2011 08:47 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
43 Chloroform	3.85664	3.50395	3.54753	3.21162	3.23603	3.27221					
	3.04811	3.12266	3.00216				AVRG		3.31121		8.32474
44 Tetrahydrofuran	1.81634	2.02140	1.94198	1.86664	1.72830	1.75934					
	1.56482	1.62760	1.72324				AVRG		1.78330		8.15253
45 1,1,1-Trichloroethane	3.84659	3.45707	3.50595	3.24576	3.27872	3.30760					
	3.17551	3.22369	3.13275				AVRG		3.35263		6.61659
46 1,2-Dichloroethane	0.56962	0.52776	0.56524	0.48763	0.57344	0.56773					
	0.54963	0.66123	0.53307				AVRG		0.55948		8.41118
47 1-Butanol	0.29844	0.27037	0.16447	0.13806	0.17893	0.19192					
	0.16986	0.22293	0.16254				AVRG		0.19972		26.89772
48 Benzene	1.19454	1.02822	0.99694	0.83116	0.94994	0.91401					
	0.87915	1.04347	0.80965				AVRG		0.96078		12.53029
49 Cyclohexane	0.16685	0.16032	0.17436	0.15308	0.18392	0.17932					
	0.17444	0.20587	0.15219				AVRG		0.17226		9.77210

Tetra Tech **INTERNAL CORRESPONDENCE**

TO: **P. RICH** **DATE:** **FEBRUARY 9, 2012**

FROM: **A. COGNETTI** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SAMPLE DELIVERY GROUP (SDG) – H2A040415

SAMPLES: 6/Air/VOC

MID A	MID C	POST A
POST C	PRE A	PRE C

Overview

The sample set for LMC – Middle River, SDG H2A040415 consisted of six (6) air samples. All samples were analyzed for volatile organic compounds (VOC). No field duplicate pair is included in this SDG.

The samples were collected by Geo Trans on January 3, 2012 and analyzed by Test America Laboratories, Inc. All analyses were conducted in accordance with EPA Method TO-15 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, blank spike results, internal standard recoveries, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major

No major noncompliances were noted.

Minor

No minor noncompliances were noted.

Notes

The chain of custody indicated that no gauges were provided with the summa canisters. This means that the canister pressure before and after sampling could not be evaluated. No validation action was taken.

All samples were analyzed at a 10X dilution.

The laboratory did not provide summary forms for the internal standard quality control criteria. The forms from the raw data were used in the evaluation of the data.

Nondetected results were reported to the reporting limit.

Executive Summary

Laboratory Performance: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to Region III modifications to U.S. EPA National Functional Guidelines for Organic Data Validation (Sept. 1994) and EPA Method TO-15. The text of this report has been formulated to address only those problem areas affecting data quality.

Ann Cognetti

Tetra Tech
Ann Cognetti
Chemist/Data Validator

Tetra Tech
Joseph A. Samchuck
Quality Assurance Officer

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Appendix A

Qualified Analytical Results

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed

PROJ_NO: 03265	NSAMPLE	MID-A_20120103			MID-C_20120103			POST-A_20120103			POST-C_20120103		
SDG: H2A040415	LAB_ID	H2A040415002			H2A040415005			H2A040415003			H2A040415006		
FRACTION: OV	SAMP_DATE	1/3/2012			1/3/2012			1/3/2012			1/3/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		200			11	U		20			11	U	
1,1,2,2-TETRACHLOROETHANE		14	U		14	U		14	U		14	U	
1,1,2-TRICHLOROETHANE		11	U		11	U		11	U		11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		15	U		15	U		15	U		15	U	
1,1-DICHLOROETHANE		19			8.1	U		15			8.1	U	
1,1-DICHLOROETHENE		82			7.9	U		67			7.9	U	
1,2,4-TRICHLOROBENZENE		74	U		74	U		74	U		74	U	
1,2,4-TRIMETHYLBENZENE		9.8	U		9.8	U		9.8	U		9.8	U	
1,2-DIBROMOETHANE		15	U		15	U		15	U		15	U	
1,2-DICHLOROBENZENE		12	U		12	U		12	U		12	U	
1,2-DICHLOROETHANE		8.1	U		8.1	U		8.1	U		8.1	U	
1,2-DICHLOROPROPANE		9.2	U		9.2	U		9.2	U		9.2	U	
1,2-DICHLOROTETRAFLUOROETHANE		14	U		14	U		14	U		14	U	
1,3,5-TRIMETHYLBENZENE		9.8	U		9.8	U		9.8	U		9.8	U	
1,3-DICHLOROBENZENE		12	U		12	U		12	U		12	U	
1,4-DICHLOROBENZENE		12	U		12	U		12	U		12	U	
BENZENE		6.4	U		6.4	U		6.4	U		6.4	U	
BENZYL CHLORIDE		21	U		21	U		21	U		21	U	
BROMOMETHANE		7.8	U		7.8	U		7.8	U		7.8	U	
CARBON TETRACHLORIDE		13	U		13	U		13	U		13	U	
CHLOROBENZENE		9.2	U		9.2	U		9.2	U		9.2	U	
CHLOROETHANE		5.3	U		5.3	U		5.3	U		5.3	U	
CHLOROFORM		9.8	U		9.8	U		9.8	U		9.8	U	
CHLOROMETHANE		10	U		10	U		10	U		10	U	
CIS-1,2-DICHLOROETHENE		71			7.9	U		56			7.9	U	
CIS-1,3-DICHLOROPROPENE		9.1	U		9.1	U		9.1	U		9.1	U	
DICHLORODIFLUOROMETHANE		9.9	U		9.9	U		9.9	U		9.9	U	
ETHYLBENZENE		8.7	U		8.7	U		8.7	U		8.7	U	
HEXACHLOROBUTADIENE		110	U		110	U		110	U		110	U	
M+P-XYLENES		8.7	U		8.7	U		8.7	U		8.7	U	
METHYLENE CHLORIDE		17	U		17	U		17	U		17	U	
O-XYLENE		8.7	U		8.7	U		8.7	U		8.7	U	
STYRENE		8.5	U		8.5	U		8.5	U		8.5	U	
TETRACHLOROETHENE		14	U		14	U		14	U		14	U	
TOLUENE		7.5	U		7.5	U		7.5	U		7.5	U	

PROJ_NO: 03265	NSAMPLE	PRE-A_20120103			PRE-C_20120103		
SDG: H2A040415	LAB_ID	H2A040415001			H2A040415004		
FRACTION: OV	SAMP_DATE	1/3/2012			1/3/2012		
MEDIA: AIR	QC_TYPE	NM			NM		
	UNITS	UG/M3			UG/M3		
	PCT_SOLIDS						
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		590			11	U	
1,1,2,2-TETRACHLOROETHANE		14	U		14	U	
1,1,2-TRICHLOROETHANE		11	U		11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		15	U		15	U	
1,1-DICHLOROETHANE		30			8.1	U	
1,1-DICHLOROETHENE		140			7.9	U	
1,2,4-TRICHLOROBENZENE		74	U		74	U	
1,2,4-TRIMETHYLBENZENE		9.8	U		9.8	U	
1,2-DIBROMOETHANE		15	U		15	U	
1,2-DICHLOROBENZENE		12	U		12	U	
1,2-DICHLOROETHANE		8.1	U		8.1	U	
1,2-DICHLOROPROPANE		9.2	U		9.2	U	
1,2-DICHLOROTETRAFLUOROETHANE		14	U		14	U	
1,3,5-TRIMETHYLBENZENE		9.8	U		9.8	U	
1,3-DICHLOROBENZENE		12	U		12	U	
1,4-DICHLOROBENZENE		12	U		12	U	
BENZENE		6.4	U		6.4	U	
BENZYL CHLORIDE		21	U		21	U	
BROMOMETHANE		7.8	U		7.8	U	
CARBON TETRACHLORIDE		13	U		13	U	
CHLOROBENZENE		9.2	U		9.2	U	
CHLOROETHANE		5.3	U		5.3	U	
CHLOROFORM		9.8	U		9.8	U	
CHLOROMETHANE		10	U		10	U	
CIS-1,2-DICHLOROETHENE		130			55		
CIS-1,3-DICHLOROPROPENE		9.1	U		9.1	U	
DICHLORODIFLUOROMETHANE		9.9	U		9.9	U	
ETHYLBENZENE		8.7	U		8.7	U	
HEXACHLOROBUTADIENE		110	U		110	U	
M+P-XYLENES		8.7	U		8.7	U	
METHYLENE CHLORIDE		17	U		17	U	
O-XYLENE		8.7	U		8.7	U	
STYRENE		8.5	U		8.5	U	
TETRACHLOROETHENE		14	U		14	U	
TOLUENE		16			7.5	U	

PROJ_NO: 03265	NSAMPLE	MID-A_20120103			MID-C_20120103			POST-A_20120103			POST-C_20120103		
SDG: H2A040415	LAB_ID	H2A040415002			H2A040415005			H2A040415003			H2A040415006		
FRACTION: OV	SAMP_DATE	1/3/2012			1/3/2012			1/3/2012			1/3/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
TRANS-1,3-DICHLOROPROPENE		9.1	U		9.1	U		9.1	U		9.1	U	
TRICHLOROETHENE		11	U		11	U		11			11	U	
TRICHLOROFLUOROMETHANE		11	U		11	U		11	U		11	U	
VINYL CHLORIDE		5.1	U		5.1	U		5.1	U		5.1	U	

PROJ_NO: 03265	NSAMPLE	PRE-A_20120103			PRE-C_20120103		
SDG: H2A040415	LAB_ID	H2A040415001			H2A040415004		
FRACTION: OV	SAMP_DATE	1/3/2012			1/3/2012		
MEDIA: AIR	QC_TYPE	NM			NM		
	UNITS	UG/M3			UG/M3		
	PCT_SOLIDS						
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
TRANS-1,3-DICHLOROPROPENE		9.1	U		9.1	U	
TRICHLOROETHENE		840			21		
TRICHLOROFLUOROMETHANE		11	U		11	U	
VINYL CHLORIDE		5.1	U		5.1	U	

Appendix B

Results as Reported by the Laboratory

Tetra Tech GEO

Client Sample ID: MID-A

GC/MS Volatiles

Lot-Sample # H2A040415 - 002 **Work Order #** MP1L41AA **Matrix.....:** AIR

Date Sampled...: 01/03/2012 **Date Received..:** 01/04/2012
Prep Date.....: 01/05/2012 **Analysis Date...** 01/05/2012
Prep Batch #.....: 2005082
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**21**	**2.0**	**82**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**4.8**	**2.0**	**19**	**8.1**
cis-1,2-Dichloroethene	**18**	**2.0**	**71**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**37**	**2.0**	**200**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: MID-A

GC/MS Volatiles

Lot-Sample # H2A040415 - 002 **Work Order #** MP1L41AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: MID-C

GC/MS Volatiles

Lot-Sample # H2A040415 - 005 **Work Order #** MP1L91AA **Matrix.....:** AIR

Date Sampled...: 01/03/2012 **Date Received..:** 01/04/2012
Prep Date.....: 01/05/2012 **Analysis Date...** 01/05/2012
Prep Batch #.....: 2005082
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	ND	2.0	ND	7.9
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: MID-C

GC/MS Volatiles

Lot-Sample # H2A040415 - 005 **Work Order #** MP1L91AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	108	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: POST-A

GC/MS Volatiles

Lot-Sample # H2A040415 - 003 **Work Order #** MP1L61AA **Matrix.....:** AIR

Date Sampled...: 01/03/2012 **Date Received..:** 01/04/2012
Prep Date.....: 01/05/2012 **Analysis Date...** 01/05/2012
Prep Batch #.....: 2005082
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**17**	**2.0**	**67**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**3.8**	**2.0**	**15**	**8.1**
cis-1,2-Dichloroethene	**14**	**2.0**	**56**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**3.6**	**2.0**	**20**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**2.0**	**2.0**	**11**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: POST-A

GC/MS Volatiles

Lot-Sample # H2A040415 - 003 **Work Order #** MP1L61AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: POST-C

GC/MS Volatiles

Lot-Sample # H2A040415 - 006 **Work Order #** MP1MC1AA **Matrix.....:** AIR

Date Sampled...: 01/03/2012 **Date Received..:** 01/04/2012
Prep Date.....: 01/05/2012 **Analysis Date...** 01/05/2012
Prep Batch #.....: 2005082
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	ND	2.0	ND	7.9
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: POST-C

GC/MS Volatiles

Lot-Sample # H2A040415 - 006 **Work Order #** MP1MC1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	110	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: PRE-A

GC/MS Volatiles

Lot-Sample # H2A040415 - 001 **Work Order #** MP1L31AA **Matrix.....:** AIR

Date Sampled...: 01/03/2012 **Date Received..:** 01/04/2012
Prep Date.....: 01/05/2012 **Analysis Date...** 01/05/2012
Prep Batch #.....: 2005082
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**35**	**2.0**	**140**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**7.3**	**2.0**	**30**	**8.1**
cis-1,2-Dichloroethene	**32**	**2.0**	**130**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**110**	**2.0**	**590**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**160**	**2.0**	**840**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	**4.4**	**2.0**	**16**	**7.5**
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: PRE-A

GC/MS Volatiles

Lot-Sample # H2A040415 - 001 **Work Order #** MP1L31AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: PRE-C

GC/MS Volatiles

Lot-Sample # H2A040415 - 004 **Work Order #** MP1L71AA **Matrix.....:** AIR

Date Sampled...: 01/03/2012 **Date Received..:** 01/04/2012
Prep Date.....: 01/05/2012 **Analysis Date...** 01/05/2012
Prep Batch #.....: 2005082
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	**14**	**2.0**	**55**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**3.9**	**2.0**	**21**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: PRE-C

GC/MS Volatiles

Lot-Sample # H2A040415 - 004 **Work Order #** MP1L71AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	108	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Appendix C

Support Documentation

PROJECT NARRATIVE
H2A040415

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H2A040415

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information
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Site/location: Middle River, MD
PO # 117-0507480.01

Project Manager: Peter Rich
Phone: 410-990-4607
Site Contact: Dawn Markiewicz
TAL Contact: T. Wasmund

Analysis Turnaround Time
Standard (Specify) Standard TAT
Rush (Specify)

Sampled By: Sean Couch & Dawn Markiewicz

1 of 1 COCs

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
Pre-A	1-3-12	1229					L-5102	X											
Mid-A		1233					L-5133												
Post-A		1231					L-4145												
Pre-C		1335					L-5177												
Mid-C		1336					L-A7111												
Post-C		1337					L-4147												

Sampled by: Sean Couch & Dawn Marciewicz

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

1 cooler Rec'd @ Ambient Temp with custody seal intact
[illegible] 1/4/12
1 cooler Fed X # 8768 6956 0364

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

6 cans / no flows

Special Instructions/QC Requirements & Comments:

Canisters Shipped by: [signature]	Date/Time: 1-3-12/1430	Canisters Received by: [signature] 1/4/12 1010
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

Lab Use Only: Shipper Name: Opened by: Condition:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: 120104015

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?			✓	☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?	✓				

Quote #: 78944 PM Instructions: NA

Sample Receiving Associate: [signature] Date: 1/4/12

QA026R22.doc, 012811

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2A040415*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
AO 1/4/12	MA	28.96	MP1L3	L5102 ✓	+1.1	–												9503
			MP1L4	L5133 ✓	+1.2	–												
			MP1L6	L4145 ✓	+0.6	–												
			MP1L7	L5177 ✓	+0.4	–												
			MP1L9	LA7111 ✓	+0.8	–												
			MP1MC	L4147 ✓	+0.9	–												

HOLDTIME

PROJ_NO 03265

SDG	SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
H2A040415	OV	UG/M3	PRE-C	H2A040415004	NM	01/03/2012	01/05/2012	01/05/2012	)27777	366666666	5069444444
H2A040415	OV	UG/M3	PRE-A	H2A040415001	NM	01/03/2012	01/05/2012	01/05/2012	361111	625000000	3611111111
H2A040415	OV	UG/M3	POST-C	H2A040415006	NM	01/03/2012	01/05/2012	01/05/2012	638888	958333332	2222222221
H2A040415	OV	UG/M3	POST-A	H2A040415003	NM	01/03/2012	01/05/2012	01/05/2012	472222	916666666	5763888889
H2A040415	OV	UG/M3	MID-C	H2A040415005	NM	01/03/2012	01/05/2012	01/05/2012	333333	277777777	8611111111
H2A040415	OV	UG/M3	MID-A	H2A040415002	NM	01/03/2012	01/05/2012	01/05/2012	)83333	305555555	2013888888
H2A040415	OV	PPBV	PRE-C	H2A040415004	NM	01/03/2012	01/05/2012	01/05/2012	)27777	366666666	5069444444
H2A040415	OV	PPBV	PRE-A	H2A040415001	NM	01/03/2012	01/05/2012	01/05/2012	361111	625000000	3611111111
H2A040415	OV	PPBV	POST-C	H2A040415006	NM	01/03/2012	01/05/2012	01/05/2012	638888	958333332	2222222221
H2A040415	OV	PPBV	POST-A	H2A040415003	NM	01/03/2012	01/05/2012	01/05/2012	472222	916666666	5763888889
H2A040415	OV	PPBV	MID-C	H2A040415005	NM	01/03/2012	01/05/2012	01/05/2012	333333	277777777	8611111111
H2A040415	OV	PPBV	MID-A	H2A040415002	NM	01/03/2012	01/05/2012	01/05/2012	)83333	305555555	2013888888

SAMPLE SUMMARY

H2A040415

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MP1L3	001	PRE-A	01/03/12	12:29
MP1L4	002	MID-A	01/03/12	12:33
MP1L6	003	POST-A	01/03/12	12:31
MP1L7	004	PRE-C	01/03/12	13:35
MP1L9	005	MID-C	01/03/12	13:36
MP1MC	006	POST-C	01/03/12	13:37

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

ANALYTICAL METHODS SUMMARY

H2A040415

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	12/16/11	Instrument::	MG	ICAL Batch/Scan Name:	G121611I	Scanned ☐

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad		✓			✓
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓		acetaldehyde 43% RSD	✓
11. If curves were used, is correlation coefficient ≥0.990?		✓			✓
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.		✓		123 TCBZ quad	✓
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).		✓			✓
14. Is the "Y" intercept less than the RL for each curve?		✓			✓
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?	✓				NA
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			✓
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)		✓		Dodecane 161%	✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?		✓		123 TCBZ 133% all others 70-130	✓
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 12/19/11	2nd Level Reviewer :	Date: 12/21/11
Comments:		Comments:	
UR · 4ppbv Dodecane, 123 TCBZ			
acetaldehyde not valid 90 RSD 43%			

O.K for Low level 12/21/11
NJ State.

TestAmerica Laboratories, Inc. – Knoxville 2
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MG

Analyst: HMT Qtims Batch: ICAL

Date: 12/16/11 ICAL Batch: G121611I Target Batch: G121611I IS #1 Area: 404705

Surr/IS ID & Vol.: 40mLV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1117	✓	tuke	GBFBL16	-	16	100	1	
1148	✓	MDL	GMDLL16	CX2316	1	50		
1239	✓	ICAL 1	GICL161		1	100		
1330	✓	2	2		1	200		
1428	✓	3	3	CX2315	2			
1523	✓	4	4	CX2314	3			
1617	✓	5	5	CX2313	4			
1710	✓	6	6	CX2312	5			
1804	✓	7	7	CX2311	6			
1858	✓	8	8	CX2310	7			
1951	✓	9	9	CX2309	8			
2044	N	blk	Blank1	-	16	200		
2135	✓	ICV	GICVL16	CX2306	9	100		
2226	not needed	LCS	GLCSL16		9	200		
2322	N ~~✓~~ 12/19/11	blk	BLANK2	-	16	500		
0017	✓	H	GBIKL16	-				

12/19/11

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 12/19/11

MS027r16.DOC, 051210

Data File: /var/ohem/goms/mg.i/G121611I.b/gbfb116.d

Date : 16-DEC-2011 11:17

Client ID: BFB

Instrument: mg.i

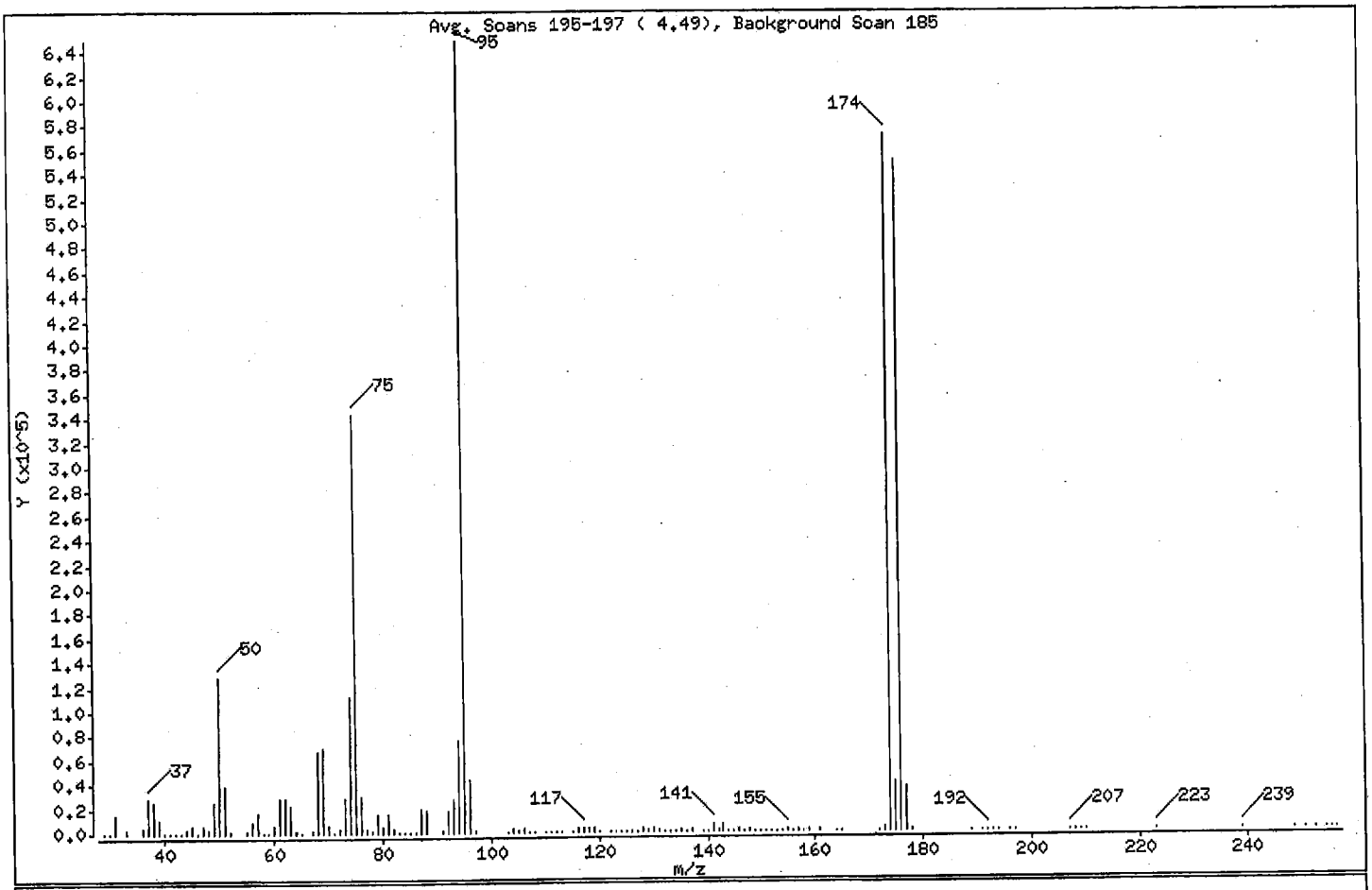
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.70
75	30.00 - 60.00% of mass 95	52.96
96	5.00 - 9.00% of mass 95	6.73
173	Less than 2.00% of mass 174	0.36 (0.41)
174	50.00 - 120.00% of mass 95	87.99
175	5.00 - 9.00% of mass 174	6.25 (7.11)
176	95.00 - 101.00% of mass 174	84.83 (96.40)
177	5.00 - 9.00% of mass 176	5.57 (6.57)

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Calibration File Names:
Level 1: /var/chem/gcms/mg.i/G121611I.b/gicl161.d
Level 2: /var/chem/gcms/mg.i/G121611I.b/gicl162.d
Level 3: /var/chem/gcms/mg.i/G121611I.b/gicl163.d
Level 4: /var/chem/gcms/mg.i/G121611I.b/gicl164.d
Level 5: /var/chem/gcms/mg.i/G121611I.b/gicl165.d
Level 6: /var/chem/gcms/mg.i/G121611I.b/gicl166.d
Level 7: /var/chem/gcms/mg.i/G121611I.b/gicl167.d
Level 8: /var/chem/gcms/mg.i/G121611I.b/gicl168.d
Level 9: /var/chem/gcms/mg.i/G121611I.b/gicl169.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
M 83 Xylene (total)	0.99563	1.10266	0.98912	0.99742	1.01380	0.93697					
	0.95604	0.92856	0.81164				AVRG		0.97020		8.09712
5 Chlorodifluoromethane	0.48906	0.55582	0.46784	0.39678	0.39738	0.39217					
	0.35045	0.33450	0.35528				AVRG		0.41547		17.74523
6 Propene	+++++	+++++	1.44049	1.05829	1.05070	1.05657					
	0.92819	0.85459	0.88078				AVRG		1.03852		18.98866

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2	
7 Dichlorodifluoromethane	4.23725	4.23567	4.00378	3.85502	3.92088	3.95396						
	3.48686	3.33421	3.51231				AVRG		3.83777		8.48755	
8 Chloromethane	0.51212	0.41417	0.42641	0.35502	0.34620	0.35747						
	0.31215	0.31125	0.30526				AVRG		0.37112		18.38919	
9 1,2-Dichlorotetrafluoroethane	2.87034	2.63543	2.46388	2.36146	2.41550	2.47281						
	2.19580	2.27084	2.42413				AVRG		2.45669		8.11289	
10 Methanol	+++++	+++++	+++++	+++++	0.88172	0.68247						
	0.68712	0.64132	0.50378				AVRG		0.67928		19.92788	
11 - acetaldehyde	+++++	+++++	+++++	0.31139	0.18715	0.13462						
	0.17580	0.11397	0.11160				AVRG		0.17242		43.46796	<- MA
12 Vinyl Chloride	1.45753	1.52282	1.38090	1.31344	1.28270	1.31375						
	1.18584	1.19161	1.19174				AVRG		1.31559		9.15250	
13 n-Butane	2.57521	2.41694	2.16234	1.99139	1.93266	1.94034						
	1.77224	1.73771	1.71070				AVRG		2.02661		14.97888	

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
14 1,3-Butadiene	1.16828	1.10205	1.00137	0.94297	0.90346	0.93895					
	0.86535	0.84363	0.84655				AVRG		0.95696		11.94258
15 Bromomethane	1.42293	1.30733	1.24897	1.18414	1.13496	1.20545					
	1.09930	1.14116	1.18974				AVRG		1.21489		8.22309
16 Chloroethane	0.73806	0.73734	0.71544	0.66928	0.61864	0.66426					
	0.61630	0.63421	0.64744				AVRG		0.67122		7.17650
17 ~ ethanol	+++++	0.60224	0.40580	0.37804	0.35359	0.30915					
	0.33616	0.32426	0.26094				AVRG		0.37127		27.76284
18 Vinyl Bromide	1.46929	1.28968	1.18304	1.14031	1.10039	1.16663					
	1.08836	1.12100	1.19142				AVRG		1.19446		9.99178
19 2-methyl butane	1.69146	1.48392	1.45408	1.35308	1.26701	1.34482					
	1.25855	1.30111	1.29435				AVRG		1.38315		10.10395
20 Trichlorofluoromethane	4.31586	3.97925	3.90200	3.82325	3.78344	3.95690					
	3.60367	3.57514	3.72801				AVRG		3.85194		5.83457

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
21 Acrolein	+++++	+++++	0.51312	0.40107	0.33842	0.32691					
	0.36434	0.36884	0.33554				AVRG		0.37832		17.07567
22 Acetonitrile	+++++	+++++	0.42932	0.33491	0.33037	0.31671					
	0.36922	0.42710	0.38097				AVRG		0.36980		12.36361
25 Pentane	+++++	0.27251	0.26552	0.23241	0.22138	0.23775					
	0.22930	0.23685	0.24201				AVRG		0.24222		7.33065
23 Acetone	+++++	+++++	+++++	+++++	0.55018	0.42073					
	0.57597	0.41117	0.33980				AVRG		0.45957		21.74702
24 Isopropyl alcohol	+++++	+++++	1.43224	1.39041	1.39232	1.17278					
	1.33295	1.22559	1.09040				AVRG		1.29096		10.01789
26 Ethyl Ether	1.45164	1.80901	1.51414	1.47803	1.47538	1.33121					
	1.35828	1.27101	1.15037				AVRG		1.42656		12.96893
27 1,1-Dichloroethene	1.42340	1.18308	1.14031	1.09878	1.07921	1.14719					
	1.04969	1.04602	1.08887				AVRG		1.13962		10.15856

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	 m1	 m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
29 Acrylonitrile	0.90987	1.05511	0.85318	0.85168	0.85283	0.77590					
	0.79814	0.76911	0.69195				AVRG		0.83975		12.23377
30 1,1,2-Trichlorotrifluoroethan	2.80161	2.55944	2.51326	2.45106	2.43251	2.49429					
	2.25517	2.25194	2.37792				AVRG		2.45969		6.79409
28 tert-butanol	+++++	+++++	1.23111	1.56074	1.92595	1.40960					
	1.98310	1.38308	1.52900				AVRG		1.57466		17.85872
31 Methylene Chloride	+++++	+++++	1.35610	1.15655	1.08531	1.07768					
	0.96497	0.94988	0.98053				AVRG		1.08157		13.19279
32 3-Chloropropene	1.41799	1.29208	1.29794	1.25925	1.25332	1.27874					
	1.12368	1.08340	1.11859				AVRG		1.23611		8.69686
33 Carbon Disulfide	4.74820	4.17613	4.16900	3.86124	3.83032	3.98973					
	3.61239	3.54923	3.68700				AVRG		3.95814		9.38177
35 ~ 2-Methyl Pentane	3.64770	3.33639	3.14163	3.15440	3.06278	3.12114					
	2.74676	2.62471	2.66314				AVRG		3.05541		10.89192

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
34 trans-1,2-Dichloroethene	1.65098	1.42102	1.43254	1.39217	1.34925	1.40947					
	1.27077	1.25840	1.30204				AVRG		1.38740		8.53358
36 Methyl-t-Butyl Ether	3.74890	4.38165	3.60953	3.62055	3.62934	3.25980					
	3.45069	3.37135	2.95683				AVRG		3.55874		10.98762
37 1,1-Dichloroethane	2.83409	2.64251	2.50560	2.42235	2.40540	2.47979					
	2.22404	2.17914	2.26241				AVRG		2.43948		8.57336
38 Vinyl Acetate	2.76584	3.52283	3.05261	3.09411	3.24242	2.89265					
	3.06663	2.92637	2.62006				AVRG		3.02039		8.76405
39 2-Butanone	+++++	+++++	0.64244	0.57094	0.56980	0.48191					
	0.55845	0.52624	0.44385				AVRG		0.54195		12.02022
40 Hexane	1.49942	1.32186	1.22915	1.13364	1.10260	1.12914					
	1.00586	0.97983	1.02170				AVRG		1.15813		14.52693
41 cis 1,2-Dichloroethene	1.53637	1.38260	1.33989	1.27838	1.27032	1.34337					
	1.20626	1.19799	1.26544				AVRG		1.31340		7.90726

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INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
42 Ethyl acetate	+++++	3.04851	2.42637	2.52786	2.63927	2.28385					
	2.53612	2.44165	2.03083				AVRG		2.49181		11.72459
43 Chloroform	3.30621	3.14731	3.01665	2.90405	2.86759	2.92864					
	2.66717	2.60676	2.67703				AVRG		2.90238		8.00209
44 Tetrahydrofuran	1.24924	1.54515	1.32251	1.32671	1.38547	1.18509					
	1.28375	1.24532	1.06309				AVRG		1.28959		10.36046
45 1,1,1-Trichloroethane	3.57945	3.37565	3.31487	3.21150	3.19523	3.27745					
	2.93473	2.88957	2.97428				AVRG		3.19475		7.10010
46 1,2-Dichloroethane	0.44371	0.41722	0.41001	0.39460	0.39871	0.40159					
	0.37099	0.36064	0.36081				AVRG		0.39537		6.96927
49 Cyclohexane	0.19210	0.15652	0.14640	0.13744	0.13307	0.14188					
	0.12468	0.12367	0.12726				AVRG		0.14256		15.06830
48 Benzene	0.89010	0.80730	0.77696	0.74398	0.73310	0.74727					
	0.69743	0.68694	0.68409				AVRG		0.75191		8.79928

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End Cal Date : 16-DEC-2011 19:51
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Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.73713	0.65084	0.66107	0.63962	0.63646	0.69268					
	0.60572	0.59244	0.61360				AVRG		0.64773		6.98559
51 - 2,3-dimethylpentane	0.24466	0.18939	0.18757	0.17431	0.17338	0.18408					
	0.16429	0.16126	0.16470				AVRG		0.18263		13.94636
47 1-Butanol	+++++	+++++	0.05693	0.06504	0.08195	0.06116					
	0.07918	0.05582	0.06246				AVRG		0.06608		15.76156
52 - Thiophene	0.53321	0.45494	0.44477	0.41651	0.41819	0.43775					
	0.39566	0.39237	0.39462				AVRG		0.43200		10.24958
53 2,2,4-trimethylpentane	1.49821	1.31492	1.34537	1.24913	1.22794	1.26821					
	1.13548	1.11226	1.10267				AVRG		1.25046		10.17567
54 Heptane	0.37634	0.31830	0.31703	0.28959	0.28844	0.29792					
	0.27095	0.26937	0.26756				AVRG		0.29950		11.52499
55 1,2-Dichloropropane	0.31561	0.29415	0.27520	0.26837	0.27090	0.26448					
	0.25327	0.24703	0.23357				AVRG		0.26917		9.15041

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Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
56 Trichloroethene	0.46166	0.38041	0.36774	0.34412	0.34456	0.36458					
	0.32882	0.32972	0.34050				AVRG		0.36246		11.34917
180 ~ 2-nitropropane	+++++	+++++	+++++	0.67760	0.57199	0.50924					
	0.54961	0.53366	0.44038				AVRG		0.54708		14.31353
57 Dibromomethane	0.38205	0.34195	0.32850	0.31131	0.31278	0.32927					
	0.29611	0.29360	0.29454				AVRG		0.32112		8.89225
58 Bromodichloromethane	0.73654	0.66222	0.63466	0.62404	0.63573	0.65878					
	0.60232	0.59673	0.58954				AVRG		0.63784		7.06924
60 Methyl Methacrylate	+++++	0.36384	0.29573	0.30785	0.32861	0.29319					
	0.32289	0.31481	0.26198				AVRG		0.31111		9.58224
59 1,4-dioxane	+++++	0.11373	0.09201	0.09567	0.10035	0.09421					
	0.09764	0.09128	0.08198				AVRG		0.09586		9.44566
61 ~ methyl cyclohexane	0.57069	0.49343	0.49439	0.45808	0.45148	0.47692					
	0.42872	0.42315	0.42946				AVRG		0.46959		9.91899

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Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
69 2-Hexanone	+++++	0.30691	0.21558	0.22876	0.23434	0.23324					
	0.24608	0.23333	0.22067				AVRG		0.23986		11.93089
70 Octane	0.41203	0.37963	0.35313	0.33965	0.34372	0.34309					
	0.32291	0.31870	0.30095				AVRG		0.34598		9.64208
71 Dibromochloromethane	0.66836	0.64318	0.60218	0.61853	0.64518	0.64836					
	0.63894	0.63800	0.61209				AVRG		0.63498		3.22762
72 1,2-Dibromoethane	0.59175	0.56665	0.53027	0.53063	0.54582	0.53556					
	0.53021	0.52928	0.49244				AVRG		0.53918		5.11766
73 Tetrachloroethene	0.47659	0.38636	0.38164	0.36453	0.36153	0.36972					
	0.34505	0.34671	0.33668				AVRG		0.37431		11.16608
75 ~ 2,3-dimethylheptane	1.13261	1.01847	0.92204	0.90346	0.87965	0.84611					
	0.79126	0.73269	0.64385				AVRG		0.87446		16.74443
74 Chlorobenzene	0.90502	0.82887	0.78197	0.76753	0.77945	0.75812					
	0.74637	0.74154	0.69015				AVRG		0.77767		7.78079

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Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
76 Ethylbenzene	1.25479	1.37734	1.25361	1.25304	1.27506	1.18716					
	1.21653	1.19232	1.05493				AVRG		1.22942		7.01635
77 ~ 2-ethyl thiophene	1.01531	1.06793	0.98022	0.98579	1.01313	0.96087					
	0.97198	0.95227	0.85842				AVRG		0.97844		5.83416
78 m&p-Xylene	0.97096	1.08655	0.97589	0.97987	1.00035	0.92615					
	0.94468	0.91976	0.80510				AVRG		0.95659		7.86647
79 Nonane	+++++	0.70712	0.61278	0.62148	0.63092	0.60007					
	0.58452	0.55477	0.49340				AVRG		0.60063		10.28271
80 Bromoform	+++++	0.62359	0.58449	0.61049	0.65721	0.66388					
	0.67947	0.69547	0.65465				AVRG		0.64616		5.74134
81 Styrene	0.62428	0.70266	0.65341	0.72651	0.76532	0.72876					
	0.74326	0.74710	0.67050				AVRG		0.70687		6.75583
82 o-Xylene	1.04491	1.13489	1.01556	1.03251	1.04070	0.95862					
	0.97876	0.94617	0.82473				AVRG		0.99743		8.60183

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Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
84 1,1,2,2-Tetrachloroethane	0.66696	0.77139	0.65774	0.67571	0.70410	0.65355					
	0.67077	0.65242	0.56385				AVRG		0.66850		8.10097
85 1,2,3-Trichloropropane	0.20704	0.25684	0.22137	0.22499	0.23562	0.21405					
	0.22383	0.22064	0.18900				AVRG		0.22149		8.42874
86 Cumene	1.44306	1.67628	1.44982	1.45938	1.48505	1.37975					
	1.42314	1.38629	1.20215				AVRG		1.43388		8.59021
87 n-Propylbenzene	0.32859	0.41187	0.36487	0.37071	0.39804	0.36589					
	0.38769	0.38184	0.33217				AVRG		0.37130		7.47803
88 2-chlorotoluene	0.36106	0.40598	0.35443	0.35295	0.37071	0.35304					
	0.35354	0.34747	0.31319				AVRG		0.35693		6.76449
89 4-Ethyltoluene	1.17383	1.54738	1.31975	1.39265	1.47825	1.35962					
	1.42497	1.40219	1.19110				AVRG		1.36553		8.99498
90 1,3,5-Trimethylbenzene	0.54170	0.72349	0.62256	0.63668	0.67274	0.61980					
	0.65008	0.64451	0.55910				AVRG		0.63007		8.73085

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Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
91 Alpha-Methylstyrene	+++++	+++++	0.47716	0.52260	0.58545	0.56172					
	0.59256	0.58874	0.51754				AVRG		0.54940		8.07688
92 Decane	+++++	0.63587	0.50127	0.59445	0.72095	0.61293					
	0.68870	0.64798	0.55083				AVRG		0.61912		11.50660
93 tert-butylbenzene	1.05066	1.42598	1.18309	1.20842	1.27555	1.15889					
	1.21642	1.19751	1.04085				AVRG		1.19526		9.65424
94 1,2,4-Trimethylbenzene	+++++	1.25451	1.05408	1.12003	1.18976	1.08924					
	1.14411	1.11975	0.95814				AVRG		1.11620		7.93509
95 sec-butylbenzene	1.36398	1.82814	1.54805	1.60532	1.70704	1.56067					
	1.63047	1.58742	1.35716				AVRG		1.57647		9.47677
96 1,3-Dichlorobenzene	+++++	0.80707	0.69990	0.74626	0.79809	0.76482					
	0.78136	0.77816	0.71872				AVRG		0.76180		4.95022
97 Benzyl Chloride	+++++	1.02657	0.85552	0.95632	1.08486	0.99960					
	1.09430	1.07199	0.90495				AVRG		0.99926		8.77293

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Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
98 1,4-Dichlorobenzene	+++++	0.78535	0.67427	0.72295	0.78407	0.75480					
	0.77810	0.77779	0.71664				AVRG		0.74925		5.42646
99 p-Cymene	+++++	1.46300	1.18790	1.30107	1.42855	1.27870					
	1.36708	1.33242	1.12820				AVRG		1.31086		8.66143
100 ~ 1,2,3- Trimethylbenzene	0.81045	1.08422	0.86770	0.94386	1.02357	0.91605					
	0.96320	0.92749	0.78125				AVRG		0.92420		10.40858
101 ~ n-butylcyclohexane	0.75433	0.94098	0.80872	0.83593	0.88125	0.81506					
	0.80633	0.76429	0.68530				AVRG		0.81024		9.12004
102 ~ Indane	0.92423	1.10597	0.94862	0.97288	1.05068	0.96819					
	0.99386	0.97102	0.84955				AVRG		0.97611		7.44983
103 1,2-Dichlorobenzene	+++++	0.78637	0.66129	0.69669	0.75666	0.71206					
	0.72415	0.71501	0.65413				AVRG		0.71330		6.22998
104 n-butylbenzene	+++++	1.10854	0.89883	1.06295	1.25622	1.11803					
	1.21407	1.16118	0.96237				AVRG		1.09777		11.01227

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Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
105 ~ Indene	0.64744	0.76329	0.63339	0.71019	0.80903	0.74451					
	0.78383	0.77719	0.67582				AVRG		0.72719		8.71018
106 Undecane	+++++	+++++	0.37379	0.38443	0.39215	0.46989					
	0.48486	0.54654	0.46435				AVRG		0.44514		14.33353
107 ~ 1,2-dimethyl-4-ethylenzene	+++++	0.95971	0.70528	0.87607	1.09927	1.00357					
	1.11865	1.06618	0.90848				AVRG		0.96715		14.19354
108 ~ 1,2,4,5-tetramethylbenzene	+++++	0.75885	0.60649	0.65425	0.85817	0.85271					
	1.06567	0.95042	0.88361				AVRG		0.82877		18.24913
109 ~ 1,2,3,5-tetramethylbenzene	+++++	0.60392	0.45971	0.50357	0.66205	0.64571					
	0.80393	0.69874	0.65963				AVRG		0.62966		17.27177
110 ~ 1,2,3,4-tetramethylbenzene	+++++	0.66800	0.47132	0.52264	0.63281	0.68005					
	0.83479	0.65986	0.69522				AVRG		0.64559		17.14953
111 Dodecane	+++++	0.42289	0.25333	0.26313	0.30893	0.38906					
	0.30353	+++++	+++++				AVRG		0.32348		21.12813

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
112 1,2,4-Trichlorobenzene	+++++	0.41811	0.25731	0.28934	0.39661	0.38804					
	0.47584	0.29188	0.38300				AVRG		0.36252		20.74169
113 Napthalene	+++++	0.82275	0.52443	0.58394	0.81077	0.82001					
	0.95712	0.66514	0.76362				AVRG		0.74347		19.17641
114 - benzo(b) thiophene	+++++	0.57832	0.35112	0.37051	0.54305	0.53711					
	0.61197	0.40152	0.49299				AVRG		0.48582		20.43236
115 Hexachlorobutadiene	+++++	0.60286	0.30789	0.39526	0.54282	0.44949					
	0.53571	0.33769	0.43512				AVRG		0.45085		23.01228
116 1,2,3-trichlorobenzene	+++++	15461	15940	43611	149208	289865					
	734551	+++++	+++++				QUAD	0.000e+00	3.58150	-1.77001	0.99916
117 - 2-Methylnaphthalene	+++++	+++++	0.05307	0.04931	0.07384	0.08671					
	0.06388	0.04119	0.06388				AVRG		0.06170		25.03043
118 - 1-Methylnaphthalene	+++++	+++++	0.04606	0.04403	0.06305	0.07272					
	0.05282	0.03480	0.05274				AVRG		0.05232		24.00961

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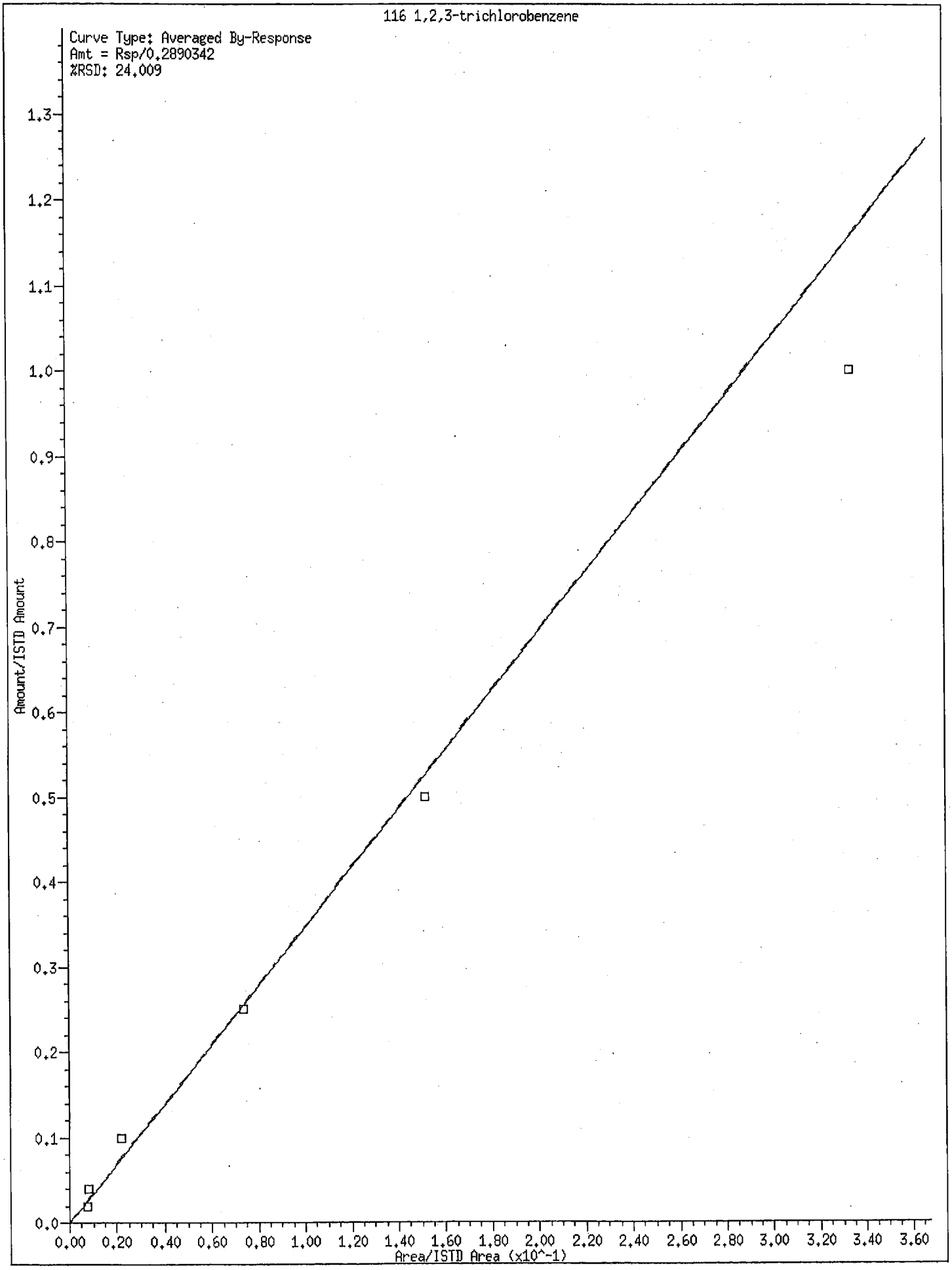
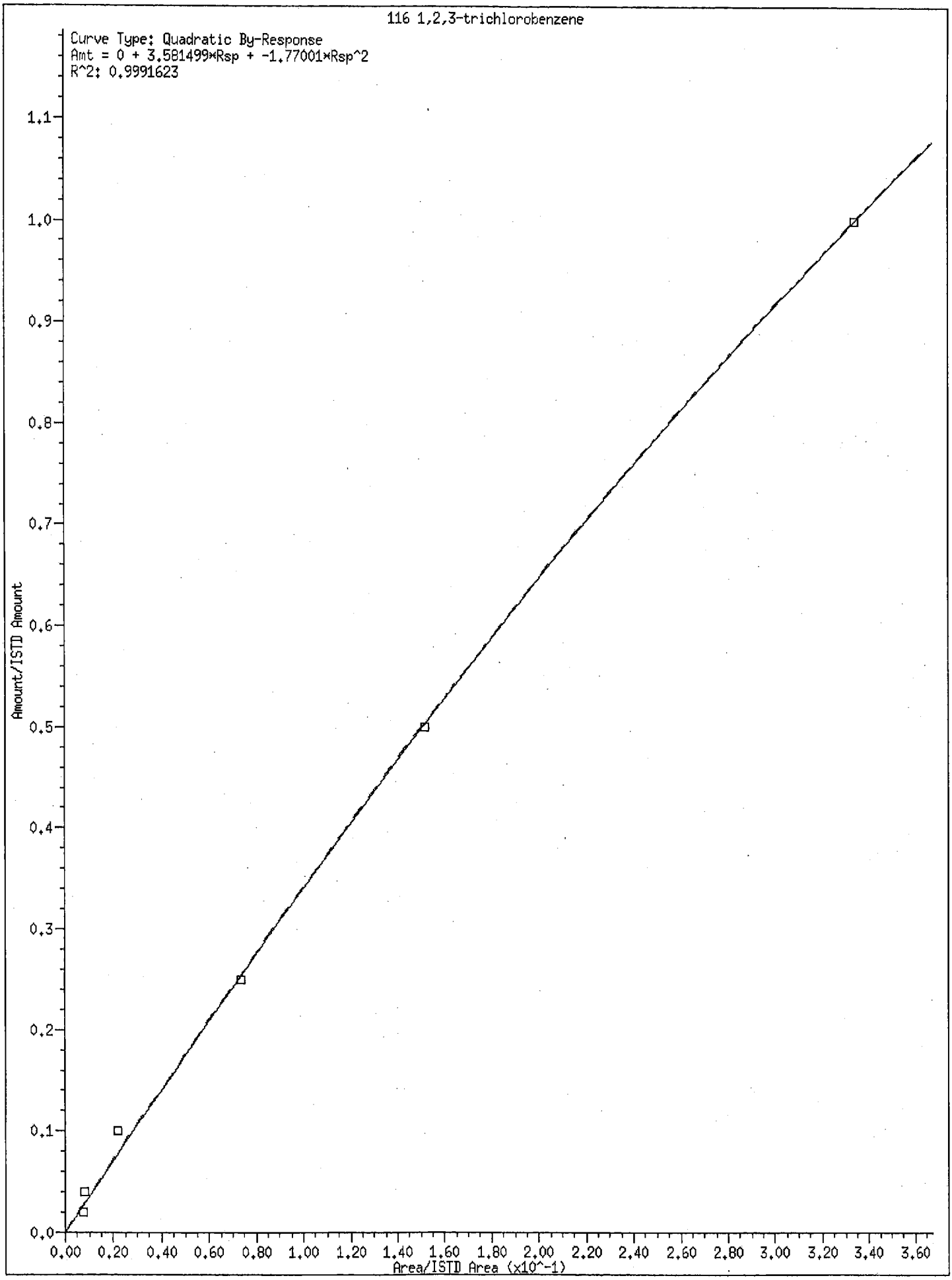
Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.67375	0.74336	0.73726	0.73794	0.74355	0.74422					
	0.72578	0.71198	0.70096				AVRG		0.72431		3.36012


116 1,2,3-trichlorobenzene
Curve Type: Averaged By-Response
Amt = Rsp/0.2890342
%RSD: 24.009
Amount/ISTD Amount
Area/ISTD Area (x10^-1)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
0.00 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60 2.80 3.00 3.20 3.40 3.60


116 1,2,3-trichlorobenzene
Curve Type: Quadratic By-Response
Amt = 0 + 3.581499*Rsp + -1.77001*Rsp^2
R^2: 0.9991623
Amount/ISTD Amount
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
0.00 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60 2.80 3.00 3.20 3.40 3.60
Area/ISTD Area (x10^-1)

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	1/5/12	CCAL Batch/ Scan Name:	G010512	Instrument:	MG	ICAL Batch/ Scan Name:	G121611I	Scanned

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓		propane +33, tert-butanol +34, VIA +36, ethyl acetate +33, THF +35, Decane +34, Indene +40	✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		□ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				NA
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected Ethyl Ether +48 (NC) 1-butene +48 (NC)	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 1/5/12	2nd Level Reviewer :	Date: 1/6/12
Comments:		Comments:	

TestAmerica Laboratories, Inc. – Knoxville 11

CANISTER RUN LOG

GCMS Analysis: AIR Inst: MG

Analyst: HMC Qtims Batch: 2005082 (MP2F8)

Date: 1/5/12 ICAL Batch: G121611I Target Batch: G010512 IS #1 Area: 380449

Surr/IS ID & Vol.: 40mcV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0857	✓	tune	GBFBA05	–	16	100	1	
0927	✓	CCV	CCV	CX2307	15			
0927	✓	LCS	LCS					
1/5/12 H ~~1030~~	13:24 N	Blk	Flush	–	16	500		13:24
1418	✓		GB1KA05	–				
1657	✓	H2A040415	MP1L31AA	L5102	1	20	1	toluene
1750	✓		1L4	L5133	2			
1842	✓		1L6	L4145	3			
1936	✓		1L7	L5177	4			
2028	✓		1L9	LA7111	5			
2121	✓		1Mc	L4177	6			
1511	✓	H2A050402	MP14H1AD	1008N	14	200	1	pce
1604	✓		14L	S1500	15			
2215	✓	H2A050413	MP17Q1AA	93244	7			btex
2309	✓		7R	12574	8			
0003	✓		7T	1131	9			
0056	✓		7V	92084	10			
0150	✓		71	12735	11			
0244	✓		72	04409	12			
0337	✓		75	92068	13			
0430	✓		77	93183	14			
0523	✓		78	6390	15			
0616	✓ dup		78D		15			
0710	✓		791AA	04191	1			
0805	✓		8A	12257	2			

1/6/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 1/6/12

Data File: /chem/gcms/mg.i/G010512.b/gbfba05.d

Date : 05-JAN-2012 08:57

Client ID: BFB

Instrument: mg.i

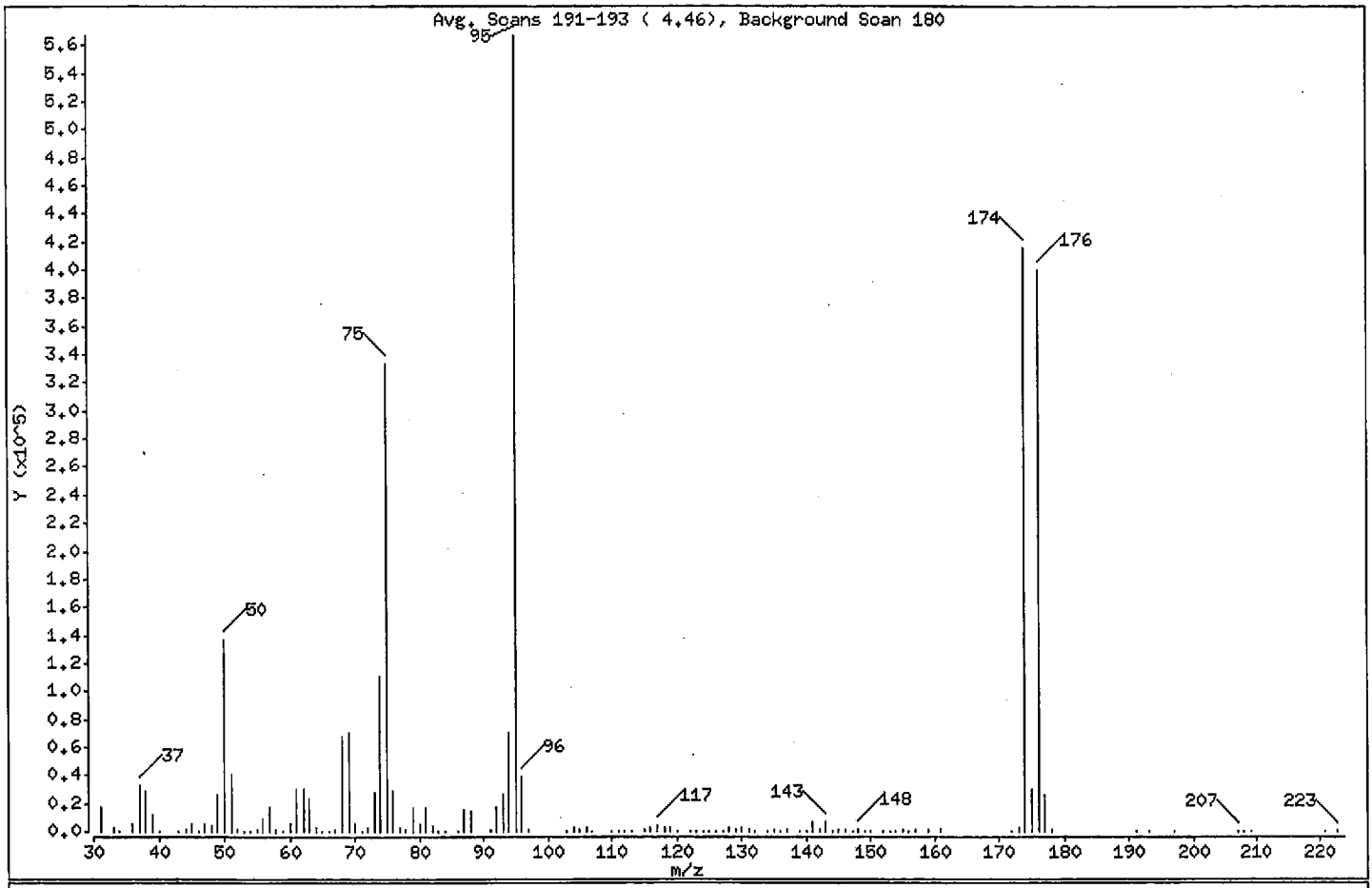
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	24.04
75	30.00 - 60.00% of mass 95	58.88
96	5.00 - 9.00% of mass 95	6.86
173	Less than 2.00% of mass 174	0.38 (0.52)
174	50.00 - 120.00% of mass 95	73.39
175	5.00 - 9.00% of mass 174	5.18 (7.06)
176	95.00 - 101.00% of mass 174	70.67 (96.30)
177	5.00 - 9.00% of mass 176	4.55 (6.44)

Data File: /var/chem/gcms/mg.i/G010512.b/gccva05.d
Report Date: 05-Jan-2012 11:52

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccva05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/mg.i/G010512.b/TO15.m

Injection Date: 05-JAN-2012 09:27
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 4-Bromofluorobenzene	0.72431	0.77006	0.77006	0.000	-6.31553	30.00000	Averaged	
M 83 Xylene (total)	0.97020	1.04042	1.04042	0.000	-7.23701	30.00000	Averaged	
5 Chlorodifluoromethane	0.41547	0.48228	0.48228	0.000	-16.08070	30.00000	Averaged	
6 Propene	1.03852	1.38143	1.38143	0.000	-33.01999 NT	30.00000	Averaged	<- 60.140
7 Dichlorodifluoromethane	3.83777	4.68349	4.68349	0.000	-22.03678	30.00000	Averaged	
8 Chloromethane	0.37112	0.45462	0.45462	0.000	-22.50183	30.00000	Averaged	
9 1,2-Dichlorotetrafluoroetha	2.45669	2.57591	2.57591	0.000	-4.85313	30.00000	Averaged	
10 Methanol	0.67928	0.88127	0.88127	0.000	-29.73586	30.00000	Averaged	
11 ~ acetaldehyde	0.17242	0.16784	0.16784	0.000	2.65861	30.00000	Averaged	
12 Vinyl Chloride	1.31559	1.53211	1.53211	0.000	-16.45779	30.00000	Averaged	
13 n-Butane	2.02661	2.48046	2.48046	0.000	-22.39442	30.00000	Averaged	
14 1,3-Butadiene	0.95696	1.11259	1.11259	0.000	-16.26397	30.00000	Averaged	
15 Bromomethane	1.21489	1.24596	1.24596	0.000	-2.55771	30.00000	Averaged	
16 Chloroethane	0.67122	0.71165	0.71165	0.000	-6.02400	30.00000	Averaged	
17 ~ ethanol	0.37127	0.39720	0.39720	0.000	-6.98238	30.00000	Averaged	
18 Vinyl Bromide	1.19446	1.15438	1.15438	0.000	3.35568	30.00000	Averaged	
19 2-methyl butane	1.38315	1.61456	1.61456	0.000	-16.73026	30.00000	Averaged	
20 Trichlorofluoromethane	3.85194	4.28760	4.28760	0.000	-11.30999	30.00000	Averaged	
21 Acrolein	0.37832	0.37179	0.37179	0.000	1.72571	30.00000	Averaged	
22 Acetonitrile	0.36980	0.48115	0.48115	0.000	-30.11119 NT	30.00000	Averaged	<- OK
25 Pentane	0.24222	0.24686	0.24686	0.000	-1.91550	30.00000	Averaged	
23 Acetone	0.45957	0.46556	0.46556	0.000	-1.30384	30.00000	Averaged	
24 Isopropyl alcohol	1.29096	1.54046	1.54046	0.000	-19.32690	30.00000	Averaged	
26 Ethyl Ether	1.42656	2.12288	2.12288	0.000	-48.81101 NT	30.00000	Averaged	<- 60.140
27 1,1-Dichloroethene	1.13962	1.20840	1.20840	0.000	-6.03527	30.00000	Averaged	
29 Acrylonitrile	0.83975	1.02999	1.02999	0.000	-22.65457	30.00000	Averaged	
30 1,1,2-Trichlorotrifluoroeth	2.45969	2.60449	2.60449	0.000	-5.88683	30.00000	Averaged	
28 tert-butanol	1.57466	2.19266	2.19266	0.000	-39.24695 NT	30.00000	Averaged	<- 60.140
31 Methylene Chloride	1.08157	1.16058	1.16058	0.000	-7.30450	30.00000	Averaged	
32 3-Chloropropene	1.23611	1.53198	1.53198	0.000	-23.93592	30.00000	Averaged	
33 Carbon Disulfide	3.95814	4.54189	4.54189	0.000	-14.74808	30.00000	Averaged	
35 ~ 2-Methyl Pentane	3.05541	3.99669	3.99669	0.000	-30.80721 NT	30.00000	Averaged	<- OK
34 trans-1,2-Dichloroethene	1.38740	1.49526	1.49526	0.000	-7.77412	30.00000	Averaged	
36 Methyl-t-Butyl Ether	3.55874	4.08340	4.08340	0.000	-14.74297	30.00000	Averaged	
37 1,1-Dichloroethane	2.43948	2.91571	2.91571	0.000	-19.52157	30.00000	Averaged	

Data File: /var/chem/gcms/mg.i/G010512.b/gccva05.d
Report Date: 05-Jan-2012 11:52

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccva05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/mg.i/G010512.b/TO15.m

Injection Date: 05-JAN-2012 09:27
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT		MAX %D / %DRIFT	CURVE TYPE	
38 Vinyl Acetate	3.02039	4.09594	4.09594	0.000	-35.60972	NT	30.00000	Averaged	<-60.140
39 2-Butanone	0.54195	0.59604	0.59604	0.000	-9.98174		30.00000	Averaged	
40 Hexane	1.15813	1.36606	1.36606	0.000	-17.95378		30.00000	Averaged	
41 cis 1,2-Dichloroethene	1.31340	1.42966	1.42966	0.000	-8.85150		30.00000	Averaged	
42 Ethyl acetate	2.49181	3.31315	3.31315	0.000	-32.96166	NT	30.00000	Averaged	<-60.140
43 Chloroform	2.90238	3.30690	3.30690	0.000	-13.93754		30.00000	Averaged	
44 Tetrahydrofuran	1.28959	1.73499	1.73499	0.000	-34.53818	NT	30.00000	Averaged	<-60.140
45 1,1,1-Trichloroethane	3.19475	3.62286	3.62286	0.000	-13.40042		30.00000	Averaged	
46 1,2-Dichloroethane	0.39537	0.47148	0.47148	0.000	-19.25227		30.00000	Averaged	
49 Cyclohexane	0.14256	0.14973	0.14973	0.000	-5.02821		30.00000	Averaged	
48 Benzene	0.75191	0.80606	0.80606	0.000	-7.20260		30.00000	Averaged	
50 Carbon Tetrachloride	0.64773	0.67987	0.67987	0.000	-4.96155		30.00000	Averaged	
51 ~ 2,3-dimethylpentane	0.18263	0.19307	0.19307	0.000	-5.71623		30.00000	Averaged	
47 1-Butanol	0.06608	0.09755	0.09755	0.000	-47.63024	NT	30.00000	Averaged	<-60.140
52 ~ Thiophene	0.43200	0.45583	0.45583	0.000	-5.51432		30.00000	Averaged	
53 2,2,4-trimethylpentane	1.25046	1.45478	1.45478	0.000	-16.33945		30.00000	Averaged	
54 Heptane	0.29950	0.32147	0.32147	0.000	-7.33609		30.00000	Averaged	
55 1,2-Dichloropropane	0.26917	0.30755	0.30755	0.000	-14.25775		30.00000	Averaged	
56 Trichloroethene	0.36246	0.35135	0.35135	0.000	3.06599		30.00000	Averaged	
180 ~ 2-nitropropane	0.54708	0.66870	0.66870	0.000	-22.23055		30.00000	Averaged	
57 Dibromomethane	0.32112	0.33861	0.33861	0.000	-5.44483		30.00000	Averaged	
58 Bromodichloromethane	0.63784	0.69854	0.69854	0.000	-9.51682		30.00000	Averaged	
60 Methyl Methacrylate	0.31111	0.38966	0.38966	0.000	-25.24591		30.00000	Averaged	
59 1,4-dioxane	0.09586	0.09063	0.09063	0.000	5.45864		30.00000	Averaged	
61 ~ methyl cyclohexane	0.46959	0.49362	0.49362	0.000	-5.11636		30.00000	Averaged	
63 cis-1,3-Dichloropropene	0.44711	0.49284	0.49284	0.000	-10.22731		30.00000	Averaged	
62 4-Methyl-2-pentanone	0.46039	0.55448	0.55448	0.000	-20.43722		30.00000	Averaged	
64 trans-1,3-Dichloropropene	0.51129	0.56733	0.56733	0.000	-10.96120		30.00000	Averaged	
65 Toluene	0.97446	1.00302	1.00302	0.000	-2.93062		30.00000	Averaged	
66 1,1,2-Trichloroethane	0.28655	0.30722	0.30722	0.000	-7.21600		30.00000	Averaged	
67 ~ 2-methyl thiophene	0.81652	0.83948	0.83948	0.000	-2.81203		30.00000	Averaged	
68 ~ 3-methyl thiophene	0.80596	0.84504	0.84504	0.000	-4.84935		30.00000	Averaged	
69 2-Hexanone	0.23986	0.26533	0.26533	0.000	-10.61484		30.00000	Averaged	
70 Octane	0.34598	0.36859	0.36859	0.000	-6.53510		30.00000	Averaged	
71 Dibromochloromethane	0.63498	0.65199	0.65199	0.000	-2.67990		30.00000	Averaged	

Data File: /var/chem/gcms/mg.i/G010512.b/gccva05.d
Report Date: 05-Jan-2012 11:52

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccva05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/mg.i/G010512.b/TO15.m

Injection Date: 05-JAN-2012 09:27
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
72 1,2-Dibromoethane	0.53918	0.55389	0.55389	0.000	-2.72803	30.00000	Averaged
73 Tetrachloroethene	0.37431	0.36651	0.36651	0.000	2.08439	30.00000	Averaged
75 ~ 2,3-dimethylheptane	0.87446	1.09220	1.09220	0.000	-24.90010	30.00000	Averaged
74 Chlorobenzene	0.77767	0.77955	0.77955	0.000	-0.24168	30.00000	Averaged
76 Ethylbenzene	1.22942	1.33359	1.33359	0.000	-8.47327	30.00000	Averaged
77 ~ 2-ethyl thiophene	0.97844	1.05674	1.05674	0.000	-8.00264	30.00000	Averaged
78 m&p-Xylene	0.95659	1.02762	1.02762	0.000	-7.42514	30.00000	Averaged
79 Nonane	0.60063	0.74381	0.74381	0.000	-23.83811	30.00000	Averaged
80 Bromoform	0.64616	0.61785	0.61785	0.000	4.38005	30.00000	Averaged
81 Styrene	0.70687	0.74998	0.74998	0.000	-6.09943	30.00000	Averaged
82 o-Xylene	0.99743	1.06602	1.06602	0.000	-6.87701	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.66850	0.74137	0.74137	0.000	-10.90122	30.00000	Averaged
85 1,2,3-Trichloropropane	0.22149	0.23750	0.23750	0.000	-7.22858	30.00000	Averaged
86 Cumene	1.43388	1.49264	1.49264	0.000	-4.09765	30.00000	Averaged
87 n-Propylbenzene	0.37130	0.39396	0.39396	0.000	-6.10269	30.00000	Averaged
88 2-chlorotoluene	0.35693	0.36555	0.36555	0.000	-2.41530	30.00000	Averaged
89 4-Ethyltoluene	1.36553	1.48030	1.48030	0.000	-8.40476	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.63007	0.65812	0.65812	0.000	-4.45060	30.00000	Averaged
91 Alpha-Methylstyrene	0.54940	0.57686	0.57686	0.000	-4.99907	30.00000	Averaged
92 Decane	0.61912	0.82965	0.82965	0.000	-34.00386 W1	30.00000	Averaged <- 60140
93 tert-butylbenzene	1.19526	1.23606	1.23606	0.000	-3.41332	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.11620	1.18327	1.18327	0.000	-6.00856	30.00000	Averaged
95 sec-butylbenzene	1.57647	1.70149	1.70149	0.000	-7.93002	30.00000	Averaged
96 1,3-Dichlorobenzene	0.76180	0.76058	0.76058	0.000	0.15989	30.00000	Averaged
97 Benzyl Chloride	0.99926	1.13114	1.13114	0.000	-13.19767	30.00000	Averaged
98 1,4-Dichlorobenzene	0.74925	0.75211	0.75211	0.000	-0.38280	30.00000	Averaged
99 p-Cymene	1.31086	1.36478	1.36478	0.000	-4.11304	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.92420	1.00063	1.00063	0.000	-8.26976	30.00000	Averaged
101 ~ n-butylcyclohexane	0.81024	0.89851	0.89851	0.000	-10.89405	30.00000	Averaged
102 ~ Indane	0.97611	1.01269	1.01269	0.000	-3.74710	30.00000	Averaged
103 1,2-Dichlorobenzene	0.71330	0.70225	0.70225	0.000	1.54868	30.00000	Averaged
104 n-butylbenzene	1.09777	1.25843	1.25843	0.000	-14.63504	30.00000	Averaged
105 ~ Indene	0.72719	0.76683	0.76683	0.000	-5.45074	30.00000	Averaged
106 Undecane	0.44514	0.49894	0.49894	0.000	-12.08618	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96715	1.06713	1.06713	0.000	-10.33731	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.82877	0.89260	0.89260	0.000	-7.70111	30.00000	Averaged

Data File: /var/chem/gcms/mg.i/G010512.b/gccva05.d
Report Date: 05-Jan-2012 11:52

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccva05.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/mg.i/G010512.b/TO15.m

Injection Date: 05-JAN-2012 09:27
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.62966	0.68427	0.68427	0.000	-8.67271	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.64559	0.68519	0.68519	0.000	-6.13421	30.00000	Averaged	
111 Dodecane	0.32348	0.45365	0.45365	0.000	-40.24002	NT 30.00000	Averaged	<- 40 no
112 1,2,4-Trichlorobenzene	0.36252	0.40587	0.40587	0.000	-11.95762	30.00000	Averaged	
113 Napthalene	0.74347	0.88371	0.88371	0.000	-18.86284	30.00000	Averaged	
114 ~ benzo(b) thiophene	0.48582	0.59770	0.59770	0.000	-23.02831	30.00000	Averaged	
115 Hexachlorobutadiene	0.45085	0.49422	0.49422	0.000	-9.61795	30.00000	Averaged	
116 1,2,3-trichlorobenzene	2.18164	2.00000	0.33177	0.000	-9.08188	30.00000	Quadratic	
117 ~ 2-Methylnaphthalene	0.06170	0.10682	0.10682	0.000	-73.13299	NT 30.00000	Averaged	<- 40-120
118 ~ 1-Methylnaphthalene	0.05232	0.09216	0.09216	0.000	-76.15150	NT 30.00000	Averaged	<- + ok

1/13/12

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2A050000 - 082B **Work Order #** MP2F81AA **Matrix.....:** AIR

	01/03/2012	**Date Received..:**	01/04/2012
Prep Date.....:	01/05/2012	**Analysis Date...**	01/05/2012
Prep Batch #.....:	2005082		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	0.20	ND	0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Chloromethane	ND	0.50	ND	1.0
Vinyl chloride	ND	0.20	ND	0.51
Bromomethane	ND	0.20	ND	0.78
Chloroethane	ND	0.20	ND	0.53
Trichlorofluoromethane	ND	0.20	ND	1.1
1,1-Dichloroethene	ND	0.20	ND	0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.20	ND	1.5
Methylene chloride	ND	0.50	ND	1.7
1,1-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
Chloroform	ND	0.20	ND	0.98
1,1,1-Trichloroethane	ND	0.20	ND	1.1
Carbon tetrachloride	ND	0.20	ND	1.3
Benzene	ND	0.20	ND	0.64
1,2-Dichloroethane	ND	0.20	ND	0.81
Trichloroethene	ND	0.20	ND	1.1
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91
Toluene	ND	0.20	ND	0.75
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Tetrachloroethene	ND	0.20	ND	1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
Chlorobenzene	ND	0.20	ND	0.92
Ethylbenzene	ND	0.20	ND	0.87
m-Xylene & p-Xylene	ND	0.20	ND	0.87
o-Xylene	ND	0.20	ND	0.87
Styrene	ND	0.20	ND	0.85
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4
1,3,5-Trimethylbenzene	ND	0.20	ND	0.98
1,2,4-Trimethylbenzene	ND	0.20	ND	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	ND	0.20	ND	1.2
1,2-Dichlorobenzene	ND	0.20	ND	1.2
Benzyl chloride	ND	0.40	ND	2.1

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2A050000 - 082B **Work Order #** MP2F81AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	1.0	ND	7.4
Hexachlorobutadiene	ND	1.0	ND	11

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2A050000 - 082C **Work Order #** MP2F81AC **Matrix.....:** AIR

	01/03/2012	**Date Received..:**	01/04/2012
Prep Date.....:	01/05/2012	**Analysis Date...**	01/05/2012
Prep Batch #.....:	2005082		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Dichlorodifluoromethane	5.00	6.10	25	30.2	122	60 - 140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	5.00	5.24	35	36.7	105	60 - 140
Chloromethane	5.00	6.12	10	12.6	122	60 - 140
Vinyl chloride	5.00	5.82	13	14.9	116	70 - 130
Bromomethane	5.00	5.13	19	19.9	103	70 - 130
Chloroethane	5.00	5.30	13	14.0	106	70 - 130
Trichlorofluoromethane	5.00	5.57	28	31.3	111	60 - 140
1,1-Dichloroethene	5.00	5.30	20	21.0	106	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.29	38	40.6	106	70 - 130
Methylene chloride	5.00	5.36	17	18.6	107	70 - 130
1,1-Dichloroethane	5.00	5.98	20	24.2	120	70 - 130
cis-1,2-Dichloroethene	5.00	5.44	20	21.6	109	70 - 130
Chloroform	5.00	5.70	24	27.8	114	70 - 130
1,1,1-Trichloroethane	5.00	5.67	27	30.9	113	70 - 130
Carbon tetrachloride	5.00	5.25	31	33.0	105	70 - 130
Benzene	5.00	5.36	16	17.1	107	70 - 130
1,2-Dichloroethane	5.00	5.96	20	24.1	119	70 - 130
Trichloroethene	5.00	4.85	27	26.0	97	70 - 130
1,2-Dichloropropane	5.00	5.71	23	26.4	114	70 - 130
cis-1,3-Dichloropropene	5.00	5.51	23	25.0	110	70 - 130
Toluene	5.00	5.15	19	19.4	103	70 - 130
trans-1,3-Dichloropropene	5.00	5.55	23	25.2	111	70 - 130
1,1,2-Trichloroethane	5.00	5.36	27	29.2	107	70 - 130
Tetrachloroethene	5.00	4.90	34	33.2	98	70 - 130
1,2-Dibromoethane (EDB)	5.00	5.14	38	39.5	103	70 - 130
Chlorobenzene	5.00	5.01	23	23.1	100	70 - 130
Ethylbenzene	5.00	5.42	22	23.6	108	70 - 130
m-Xylene & p-Xylene	10.0	10.7	43	46.6	107	70 - 130
o-Xylene	5.00	5.34	22	23.2	107	70 - 130
Styrene	5.00	5.30	21	22.6	106	70 - 130
1,1,2,2-Tetrachloroethane	5.00	5.54	34	38.1	111	70 - 130
1,3,5-Trimethylbenzene	5.00	5.22	25	25.7	104	70 - 130
1,2,4-Trimethylbenzene	5.00	5.30	25	26.1	106	70 - 130
1,3-Dichlorobenzene	5.00	4.99	30	30.0	100	70 - 130
1,4-Dichlorobenzene	5.00	5.02	30	30.2	100	70 - 130
1,2-Dichlorobenzene	5.00	4.92	30	29.6	98	70 - 130

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2A050000 - 082C **Work Order #** MP2F81AC **Matrix.....:** AIR

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzyl chloride	5.00	5.66	26	29.3	113	70 - 130
1,2,4-Trichlorobenzene	5.00	5.60	37	41.5	112	60 - 140
Hexachlorobutadiene	5.00	5.48	53	58.5	110	60 - 140

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Data File: /var/chem/gcms/mg.i/G010512.b/mp1l41aa.d
Report Date: 06-Jan-2012 08:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mp1l41aa.d
Lab Smp Id: MP1L41AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G010512.b/TO15.m
Misc Info: G010512,TO15,to14nj.sub,,,,

Calibration Date: 05-JAN-2012
Calibration Time: 09:27
Client Smp ID: MID-A
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	380449	226367	534531	337316	-11.34
2 1,4-Difluorobenze	2059725	1225536	2893914	1769002	-14.11
3 Chlorobenzene-d5	1932425	1149793	2715057	1597787	-17.32

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.24	7.91	8.57	8.23	-0.13
2 1,4-Difluorobenze	10.36	10.03	10.69	10.35	-0.10
3 Chlorobenzene-d5	15.17	14.84	15.50	15.16	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G010512.b/mp1l91aa.d
Report Date: 06-Jan-2012 08:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mp1l91aa.d
Lab Smp Id: MP1L91AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G010512.b/TO15.m
Misc Info: G010512,TO15,to14nj.sub,,,,

Calibration Date: 05-JAN-2012
Calibration Time: 09:27
Client Smp ID: MID-C
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	380449	226367	534531	337195	-11.37
2 1,4-Difluorobenze	2059725	1225536	2893914	1759547	-14.57
3 Chlorobenzene-d5	1932425	1149793	2715057	1583675	-18.05

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.24	7.91	8.57	8.23	-0.06
2 1,4-Difluorobenze	10.36	10.03	10.69	10.36	-0.05
3 Chlorobenzene-d5	15.17	14.84	15.50	15.16	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G010512.b/mp1l61aa.d
Report Date: 06-Jan-2012 08:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mp1l61aa.d
Lab Smp Id: MP1L61AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G010512.b/TO15.m
Misc Info: G010512,TO15,to14nj.sub,,,,

Calibration Date: 05-JAN-2012
Calibration Time: 09:27
Client Smp ID: POST-A
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	380449	226367	534531	336335	-11.60
2 1,4-Difluorobenze	2059725	1225536	2893914	1778397	-13.66
3 Chlorobenzene-d5	1932425	1149793	2715057	1574080	-18.54

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.24	7.91	8.57	8.23	-0.13
2 1,4-Difluorobenze	10.36	10.03	10.69	10.35	-0.10
3 Chlorobenzene-d5	15.17	14.84	15.50	15.16	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G010512.b/mp1mc1aa.d
Report Date: 06-Jan-2012 08:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mp1mc1aa.d
Lab Smp Id: MP1MC1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G010512.b/TO15.m
Misc Info: G010512,TO15,to14nj.sub,,,,

Calibration Date: 05-JAN-2012
Calibration Time: 09:27
Client Smp ID: POST-C
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	380449	226367	534531	318088	-16.39
2 1,4-Difluorobenze	2059725	1225536	2893914	1647954	-19.99
3 Chlorobenzene-d5	1932425	1149793	2715057	1499983	-22.38

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.24	7.91	8.57	8.23	-0.06
2 1,4-Difluorobenze	10.36	10.03	10.69	10.35	-0.10
3 Chlorobenzene-d5	15.17	14.84	15.50	15.16	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G010512.b/mp1l31aa.d
Report Date: 06-Jan-2012 08:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mp1l31aa.d
Lab Smp Id: MP1L31AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G010512.b/TO15.m
Misc Info: G010512,TO15,to14nj.sub,,,,

Calibration Date: 05-JAN-2012
Calibration Time: 09:27
Client Smp ID: PRE-A
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	380449	226367	534531	289928	-23.79
2 1,4-Difluorobenze	2059725	1225536	2893914	1609615	-21.85
3 Chlorobenzene-d5	1932425	1149793	2715057	1451108	-24.91

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.24	7.91	8.57	8.23	-0.13
2 1,4-Difluorobenze	10.36	10.03	10.69	10.35	-0.10
3 Chlorobenzene-d5	15.17	14.84	15.50	15.16	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G010512.b/mp1l71aa.d
Report Date: 06-Jan-2012 08:58

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mp1l71aa.d
Lab Smp Id: MP1L71AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G010512.b/TO15.m
Misc Info: G010512,TO15,to14nj.sub,,,,

Calibration Date: 05-JAN-2012
Calibration Time: 09:27
Client Smp ID: PRE-C
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	380449	226367	534531	322317	-15.28
2 1,4-Difluorobenze	2059725	1225536	2893914	1670960	-18.87
3 Chlorobenzene-d5	1932425	1149793	2715057	1522905	-21.19

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.24	7.91	8.57	8.23	-0.13
2 1,4-Difluorobenze	10.36	10.03	10.69	10.35	-0.10
3 Chlorobenzene-d5	15.17	14.84	15.50	15.16	-0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

TETRA TECH **CALCULATION WORKSHEET** PAGE 1 OF 1

CLIENT	JOB NUMBER
LMC-Middle River	SDG HZA040415
SUBJECT: Sample Calculation	
BASED ON	DRAWING NUMBER
BY: Ann Cognetti / CHECKED BY	APPROVED BY / DATE: February 9, 2012

Sample PRE-A; 1,1,1-Trichloroethane

$$\frac{1000369}{289928} * 10 * \frac{500}{200} * \frac{4\ ppbv}{3.19475} = 108.0\ ppbv$$

$$108.0\ ppbv * \frac{133.49\ g/mole}{24.45\ L/mole} = 589.3\ ug/m^3$$

Sample Calculation

Data File: /var/chem/gcms/mg.i/G010512.b/mp1l31aa.d
Report Date: 06-Jan-2012 08:58

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/mg.i/G010512.b/mp1l31aa.d
Lab Smp Id: MP1L31AA Client Smp ID: PRE-A
Inj Date : 05-JAN-2012 16:57
Operator : 7126 Inst ID: mg.i
Smp Info : ,10,0,,,
Misc Info : G010512,TO15,to14nj.sub,,,,
Comment :
Method : /var/chem/gcms/mg.i/G010512.b/TO15.m
Meth Date : 06-Jan-2012 08:57 tajh Quant Type: ISTD
Cal Date : 16-DEC-2011 17:10 Cal File: gicl166.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: to14nj.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	10.00000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	200.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	CONCENTRATIONS FINAL (ppb(v/v))
* 1 Bromochloromethane	128	8.227	8.238	(1.000)	289928	4.00000	4.000
* 2 1,4-Difluorobenzene	114	10.352	10.362	(1.000)	1609615	4.00000	4.000
* 3 Chlorobenzene-d5	117	15.162	15.167	(1.000)	1451108	4.00000	4.000
$ 4 4-Bromofluorobenzene	95	16.833	16.833	(1.110)	1065572	4.05525	10.14
27 1,1-Dichloroethene	96	5.585	5.590	(0.679)	116172	1.40641	35.16
37 1,1-Dichloroethane	63	7.003	7.008	(0.851)	51615	0.29191	7.298
41 cis 1,2-Dichloroethene	96	7.920	7.930	(0.963)	123177	1.29390	32.35
45 1,1,1-Trichloroethane	97	9.181	9.187	(1.116)	1000369	4.32010	108.0
56 Trichloroethene	130	11.047	11.058	(1.067)	916908	6.28646	157.2
65 Toluene	91	13.145	13.150	(0.867)	61606	0.17427	4.357

Sample Calculation

Tetra Tech GEO

Client Sample ID: PRE-A

GC/MS Volatiles

Lot-Sample # H2A040415 - 001 **Work Order #** MP1L31AA **Matrix.....:** AIR

Date Sampled...: 01/03/2012 **Date Received..:** 01/04/2012
Prep Date.....: 01/05/2012 **Analysis Date...** 01/05/2012
Prep Batch #.....: 2005082
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**35**	**2.0**	**140**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**7.3**	**2.0**	**30**	**8.1**
cis-1,2-Dichloroethene	**32**	**2.0**	**130**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**110**	**2.0**	**590**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**160**	**2.0**	**840**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	**4.4**	**2.0**	**16**	**7.5**
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Sample Calculation

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
42 Ethyl acetate	+++++	3.04851	2.42637	2.52786	2.63927	2.28385					
	2.53612	2.44165	2.03083				AVRG		2.49181		11.72459
43 Chloroform	3.30621	3.14731	3.01665	2.90405	2.86759	2.92864					
	2.66717	2.60676	2.67703				AVRG		2.90238		8.00209
44 Tetrahydrofuran	1.24924	1.54515	1.32251	1.32671	1.38547	1.18509					
	1.28375	1.24532	1.06309				AVRG		1.28959		10.36046
45 1,1,1-Trichloroethane	3.57945	3.37565	3.31487	3.21150	3.19523	3.27745					
	2.93473	2.88957	2.97428				AVRG		3.19475		7.10010
46 1,2-Dichloroethane	0.44371	0.41722	0.41001	0.39460	0.39871	0.40159					
	0.37099	0.36064	0.36081				AVRG		0.39537		6.96927
49 Cyclohexane	0.19210	0.15652	0.14640	0.13744	0.13307	0.14188					
	0.12468	0.12367	0.12726				AVRG		0.14256		15.06830
48 Benzene	0.89010	0.80730	0.77696	0.74398	0.73310	0.74727					
	0.69743	0.68694	0.68409				AVRG		0.75191		8.79928

Tetra Tech **INTERNAL CORRESPONDENCE**

TO: **P. RICH** **DATE:** **MARCH 13, 2012**

FROM: **A. COGNETTI** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SAMPLE DELIVERY GROUP (SDG) – H2B200410

SAMPLES: 6/Air/VOC

A-MID	A-POST	A-PRE
C-MID	C-POST	C-PRE

Overview

The sample set for LMC – Middle River, SDG H2B200410 consisted of six (6) air samples. All samples were analyzed for volatile organic compounds (VOC). No field duplicate pair is included in this SDG.

The samples were collected by Geo Trans on February 16, 2012 and analyzed by Test America Laboratories, Inc. All analyses were conducted in accordance with EPA Method TO-15 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, blank spike results, internal standard recoveries, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major

No major noncompliances were noted.

Minor

No minor noncompliances were noted.

Notes

Sample identifications on the chain of custody are labeled differently than previous sampling rounds. No change to the identifications was considered necessary by the reviewer.

The chain of custody indicated that no gauges were provided with the summa canisters. This means that the canister pressure before and after sampling could not be evaluated. No validation action was taken.

All samples were analyzed at a 10X dilution.

The laboratory did not provide summary forms for the internal standard quality control criteria. The forms from the raw data were used in the evaluation of the data.

Nondetected results were reported to the reporting limit.

TO: P. Rich
FROM: A. Cognetti
SDG: H2B200410
DATE: March 13, 2012

Executive Summary

Laboratory Performance: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to Region III modifications to U.S. EPA National Functional Guidelines for Organic Data Validation (Sept. 1994) and EPA Method TO-15. The text of this report has been formulated to address only those problem areas affecting data quality.

Tetra Tech
Ann Cognetti
Chemist/Data Validator

Tetra Tech
Joseph A. Samchuck
Quality Assurance Officer

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Appendix A

Qualified Analytical Results

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed

PROJ_NO: 03265	NSAMPLE	A-MID			A-POST			A-PRE			C-MID		
SDG: H2B200410	LAB_ID	H2B200410002			H2B200410003			H2B200410001			H2B200410005		
FRACTION: OV	SAMP_DATE	2/16/2012			2/16/2012			2/16/2012			2/16/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												

PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE	430			52			760			11	U	
1,1,2,2-TETRACHLOROETHANE	14	U		14	U		14	U		14	U	
1,1,2-TRICHLOROETHANE	11	U		11	U		11	U		11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	15	U		15	U		15	U		15	U	
1,1-DICHLOROETHANE	26			24			31			8.1	U	
1,1-DICHLOROETHENE	130			100			110			7.9	U	
1,2,4-TRICHLOROBENZENE	74	U		74	U		74	U		74	U	
1,2,4-TRIMETHYLBENZENE	9.8	U		9.8	U		9.8	U		9.8	U	
1,2-DIBROMOETHANE	15	U		15	U		15	U		15	U	
1,2-DICHLOROBENZENE	12	U		12	U		12	U		12	U	
1,2-DICHLOROETHANE	8.1	U		8.1	U		8.1	U		8.1	U	
1,2-DICHLOROPROPANE	9.2	U		9.2	U		9.2	U		9.2	U	
1,2-DICHLOROTETRAFLUOROETHANE	14	U		14	U		14	U		14	U	
1,3,5-TRIMETHYLBENZENE	9.8	U		9.8	U		9.8	U		9.8	U	
1,3-DICHLOROBENZENE	12	U		12	U		12	U		12	U	
1,4-DICHLOROBENZENE	12	U		12	U		12	U		12	U	
BENZENE	6.4	U		6.4	U		6.4	U		6.4	U	
BENZYL CHLORIDE	21	U		21	U		21	U		21	U	
BROMOMETHANE	7.8	U		7.8	U		7.8	U		7.8	U	
CARBON TETRACHLORIDE	13	U		13	U		13	U		13	U	
CHLOROBENZENE	9.2	U		9.2	U		9.2	U		9.2	U	
CHLOROETHANE	5.3	U		5.3	U		5.3	U		5.3	U	
CHLOROFORM	9.8	U		9.8	U		9.8	U		9.8	U	
CHLOROMETHANE	10	U		10	U		10	U		10	U	
CIS-1,2-DICHLOROETHENE	120			85			140			7.9	U	
CIS-1,3-DICHLOROPROPENE	9.1	U		9.1	U		9.1	U		9.1	U	
DICHLORODIFLUOROMETHANE	9.9	U		9.9	U		9.9	U		9.9	U	
ETHYLBENZENE	8.7	U		8.7	U		8.7	U		8.7	U	
HEXACHLOROBUTADIENE	110	U		110	U		110	U		110	U	
M+P-XYLENES	8.7	U		8.7	U		8.7	U		8.7	U	
METHYLENE CHLORIDE	17	U		17	U		17	U		17	U	
O-XYLENE	8.7	U		8.7	U		8.7	U		8.7	U	
STYRENE	8.5	U		8.5	U		8.5	U		8.5	U	
TETRACHLOROETHENE	14	U		14	U		14	U		14	U	
TOLUENE	7.5	U		7.5	U		7.5	U		7.5	U	

PROJ_NO: 03265	NSAMPLE	C-POST			C-PRE		
SDG: H2B200410	LAB_ID	H2B200410006			H2B200410004		
FRACTION: OV	SAMP_DATE	2/16/2012			2/16/2012		
MEDIA: AIR	QC_TYPE	NM			NM		
	UNITS	UG/M3			UG/M3		
	PCT_SOLIDS						
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		11	U		11	U	
1,1,2,2-TETRACHLOROETHANE		14	U		14	U	
1,1,2-TRICHLOROETHANE		11	U		11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		15	U		15	U	
1,1-DICHLOROETHANE		8.1	U		8.1	U	
1,1-DICHLOROETHENE		7.9	U		7.9	U	
1,2,4-TRICHLOROBENZENE		74	U		74	U	
1,2,4-TRIMETHYLBENZENE		9.8	U		9.8	U	
1,2-DIBROMOETHANE		15	U		15	U	
1,2-DICHLOROBENZENE		12	U		12	U	
1,2-DICHLOROETHANE		8.1	U		8.1	U	
1,2-DICHLOROPROPANE		9.2	U		9.2	U	
1,2-DICHLOROTETRAFLUOROETHANE		14	U		14	U	
1,3,5-TRIMETHYLBENZENE		9.8	U		9.8	U	
1,3-DICHLOROBENZENE		12	U		12	U	
1,4-DICHLOROBENZENE		12	U		12	U	
BENZENE		6.4	U		6.4	U	
BENZYL CHLORIDE		21	U		21	U	
BROMOMETHANE		7.8	U		7.8	U	
CARBON TETRACHLORIDE		13	U		13	U	
CHLOROBENZENE		9.2	U		9.2	U	
CHLOROETHANE		5.3	U		5.3	U	
CHLOROFORM		9.8	U		9.8	U	
CHLOROMETHANE		10	U		10	U	
CIS-1,2-DICHLOROETHENE		7.9	U		76		
CIS-1,3-DICHLOROPROPENE		9.1	U		9.1	U	
DICHLORODIFLUOROMETHANE		9.9	U		9.9	U	
ETHYLBENZENE		8.7	U		8.7	U	
HEXACHLOROBUTADIENE		110	U		110	U	
M+P-XYLENES		8.7	U		8.7	U	
METHYLENE CHLORIDE		17	U		17	U	
O-XYLENE		8.7	U		8.7	U	
STYRENE		8.5	U		8.5	U	
TETRACHLOROETHENE		14	U		14	U	
TOLUENE		7.5	U		7.5	U	

PROJ_NO: 03265	NSAMPLE	A-MID			A-POST			A-PRE			C-MID		
SDG: H2B200410	LAB_ID	H2B200410002			H2B200410003			H2B200410001			H2B200410005		
FRACTION: OV	SAMP_DATE	2/16/2012			2/16/2012			2/16/2012			2/16/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
TRANS-1,3-DICHLOROPROPENE		9.1	U		9.1	U		9.1	U		9.1	U	
TRICHLOROETHENE		11			11	U		980			11	U	
TRICHLOROFLUOROMETHANE		11	U		11	U		11	U		11	U	
VINYL CHLORIDE		5.1	U		5.1	U		5.1	U		5.1	U	

PROJ_NO: 03265	NSAMPLE	C-POST			C-PRE		
SDG: H2B200410	LAB_ID	H2B200410006			H2B200410004		
FRACTION: OV	SAMP_DATE	2/16/2012			2/16/2012		
MEDIA: AIR	QC_TYPE	NM			NM		
	UNITS	UG/M3			UG/M3		
	PCT_SOLIDS						
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
TRANS-1,3-DICHLOROPROPENE		9.1	U		9.1	U	
TRICHLOROETHENE		11	U		43		
TRICHLOROFLUOROMETHANE		11	U		11	U	
VINYL CHLORIDE		5.1	U		5.1	U	

Appendix B

Results as Reported by the Laboratory

Tetra Tech GEO

Client Sample ID: A-MID

GC/MS Volatiles

Lot-Sample # H2B200410 - 002 **Work Order #** MQXQ11AA **Matrix.....:** AIR

Date Sampled...: 02/16/2012 **Date Received..:** 02/20/2012
Prep Date.....: 02/21/2012 **Analysis Date...** 02/22/2012
Prep Batch #.....: 2053031
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**34**	**2.0**	**130**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**6.4**	**2.0**	**26**	**8.1**
cis-1,2-Dichloroethene	**31**	**2.0**	**120**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**79**	**2.0**	**430**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**2.1**	**2.0**	**11**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: A-MID

GC/MS Volatiles

Lot-Sample # H2B200410 - 002 **Work Order #** MQXQ11AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: A-POST

GC/MS Volatiles

Lot-Sample # H2B200410 - 003 **Work Order #** MQXQ21AA **Matrix.....:** AIR

Date Sampled...: 02/16/2012 **Date Received..:** 02/20/2012
Prep Date.....: 02/21/2012 **Analysis Date...** 02/22/2012
Prep Batch #.....: 2053031
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**26**	**2.0**	**100**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**5.9**	**2.0**	**24**	**8.1**
cis-1,2-Dichloroethene	**21**	**2.0**	**85**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**9.5**	**2.0**	**52**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: A-POST

GC/MS Volatiles

Lot-Sample # H2B200410 - 003 **Work Order #** MQXQ21AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: A-PRE

GC/MS Volatiles

Lot-Sample # H2B200410 - 001 **Work Order #** MQXQ01AA **Matrix.....:** AIR

Date Sampled...: 02/16/2012 **Date Received..:** 02/20/2012
Prep Date.....: 02/21/2012 **Analysis Date...** 02/21/2012
Prep Batch #.....: 2053031
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**29**	**2.0**	**110**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**7.5**	**2.0**	**31**	**8.1**
cis-1,2-Dichloroethene	**34**	**2.0**	**140**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**140**	**2.0**	**760**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**180**	**2.0**	**980**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: A-PRE

GC/MS Volatiles

Lot-Sample # H2B200410 - 001 **Work Order #** MQXQ01AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	108	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: C-MID

GC/MS Volatiles

Lot-Sample # H2B200410 - 005 **Work Order #** MQXQ41AA **Matrix.....:** AIR

Date Sampled...: 02/16/2012 **Date Received..:** 02/20/2012
Prep Date.....: 02/21/2012 **Analysis Date...** 02/22/2012
Prep Batch #.....: 2053031
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	ND	2.0	ND	7.9
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: C-MID

GC/MS Volatiles

Lot-Sample # H2B200410 - 005 **Work Order #** MQXQ41AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	108	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: C-POST

GC/MS Volatiles

Lot-Sample # H2B200410 - 006 **Work Order #** MQXQ51AA **Matrix.....:** AIR

Date Sampled...: 02/16/2012 **Date Received..:** 02/20/2012
Prep Date.....: 02/21/2012 **Analysis Date...** 02/22/2012
Prep Batch #.....: 2053031
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	ND	2.0	ND	7.9
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: C-POST

GC/MS Volatiles

Lot-Sample # H2B200410 - 006 **Work Order #** MQXQ51AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: C-PRE

GC/MS Volatiles

Lot-Sample # H2B200410 - 004 **Work Order #** MQXQ31AA **Matrix.....:** AIR

Date Sampled...: 02/16/2012 **Date Received..:** 02/20/2012
Prep Date.....: 02/21/2012 **Analysis Date...** 02/22/2012
Prep Batch #.....: 2053031
Dilution Factor.: 10 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	**19**	**2.0**	**76**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**7.9**	**2.0**	**43**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: C-PRE

GC/MS Volatiles

Lot-Sample # H2B200410 - 004 **Work Order #** MQXQ31AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Appendix C

Support Documentation

PROJECT NARRATIVE
H2B200410

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

SAMPLE SUMMARY

H2B200410

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MQXQ0	001	A-PRE	02/16/12	12:47
MQXQ1	002	A-MID	02/16/12	12:50
MQXQ2	003	A-POST	02/16/12	12:53
MQXQ3	004	C-PRE	02/16/12	14:27
MQXQ4	005	C-MID	02/16/12	14:28
MQXQ5	006	C-POST	02/16/12	14:29

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

ANALYTICAL METHODS SUMMARY

H2B200410

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H28200410

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Peter Rich	**Sampled By:** Dawn Markiewicz	1 of 1 COCs
Company: Tetra Tech GEO	Phone: (410) 990-4607		
Address: 51 Franklin St. Suite 400	Site Contact: Dawn Markiewicz		
City/State/Zip Annapolis, MD 21403	TAL Contact:		
Phone: (410) 990-4601			
FAX: (410) 990-4749			
Project Name: LMC-SSD O&M	**Analysis Turnaround Time**		
Site/location: LMC-MRC	Standard (Specify) X		
PO # 117-0507480.01	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
A-PRE	2/16/12	1247					L-5111	X											
A-MID		1250					L-5191												
A-POST		1253					L-5137												
C-PRE		1427					L-5200												
C-MID		1428					L-5194												
C-POST		1429					LA7124												

Sampled by :

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

CUSTODY SEALS INTACT
RECEIVED AT AMBIENT TEMP
BKD 2-20-12
1 COOLER FED EX # 876869560504

6 CANS / 0 FLOWS

Special Instructions/QC Requirements & Comments:

Canisters Shipped by:	Date/Time: 2/16/12 @ 1630	Canisters Received by:
Samples Relinquished by:	Date/Time:	Received by: 2-20-12 09:45
Relinquished by:	Date/Time:	Received by:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: H2B200410

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)			✓	☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?		✓		☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary?		✓		☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☑ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?	✓				

Quote #: 78944 2-20-12 PM Instructions: MA

78944

Sample Receiving Associate: _____ Date: 2-20-12

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Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2B200410*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (- in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
8/4/20/12	NA	29.05	MQXQ0	L5111 ✓	+0.9	–												9579B
			MQXQ1	L5191 ✓	+0.8	–												9559B
			MQXQ2	L5137 ✓	+0.7	–												9605
			MQXQ3	L5200 ✓	+0.6	–												9643
			MQXQ4	L5194 ✓	+0.7	–												9597
↓	↓	↓	MQXQ5	LA7124 ✓	+0.7	–												9557

HOLDTIME

SDG H2B200410

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	C-PRE	H2B200410004	NM	2/16/2012	2/21/2012	2/22/2012	916666	361111	277777
OV	UG/M3	A-POST	H2B200410003	NM	2/16/2012	2/21/2012	2/22/2012	194444	638888	333333
OV	UG/M3	A-PRE	H2B200410001	NM	2/16/2012	2/21/2012	2/21/2012	361111	500000	361111
OV	UG/M3	C-MID	H2B200410005	NM	2/16/2012	2/21/2012	2/22/2012	222222	388888	111111
OV	UG/M3	C-POST	H2B200410006	NM		2/21/2012	2/22/2012		305555	
OV	UG/M3	C-POST	H2B200410006	NM	2/16/2012	2/21/2012	2/22/2012	527777	305555	333333
OV	UG/M3	A-MID	H2B200410002	NM	2/16/2012	2/21/2012	2/22/2012	277777	222222	500000
OV	UG/M3	C-POST	H2B200410006	NM	2/22/2012	2/21/2012	2/22/2012	305555	305555	0
OV-V	PPBV	C-PRE	H2B200410004	NM	2/16/2012	2/21/2012	2/22/2012	916666	361111	277777
OV-V	PPBV	A-POST	H2B200410003	NM	2/16/2012	2/21/2012	2/22/2012	194444	638888	333333
OV-V	PPBV	A-PRE	H2B200410001	NM	2/16/2012	2/21/2012	2/21/2012	361111	500000	361111
OV-V	PPBV	C-MID	H2B200410005	NM	2/16/2012	2/21/2012	2/22/2012	222222	388888	111111
OV-V	PPBV	C-POST	H2B200410006	NM		2/21/2012	2/22/2012		305555	
OV-V	PPBV	C-POST	H2B200410006	NM	2/16/2012	2/21/2012	2/22/2012	527777	305555	333333
OV-V	PPBV	C-POST	H2B200410006	NM	2/22/2012	2/21/2012	2/22/2012	305555	305555	0

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV-V	PPBV	A-MID	H2B200410002	NM	2/16/2012	2/21/2012	2/22/2012	277777	222222	500000

TestAmerica Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	12/16/11	Instrument::	MG	ICAL Batch/Scan Name:	G121611I	Scanned ☐

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Was date/time of analysis verified and logbook as correct?		✓			✓
4. Is low level std at or <RL and are the remaining points consecutive?		✓			✓
5. Are the calibration levels correct? (Calculate standard concentration & amt. injected with quan rpt at each level)		✓			✓
6. Was ICAL processed using correct methods and files?		✓			✓
7. Are the ICAL start and end dates/times correct?		✓			✓
8. Were at least 5 levels of each compound analyzed?		✓			✓
9. At least 6 consecutive points used for quadratic curves, and at least 5 consecutive points for linear curves? Note: Ohio does not allow Quad		✓			✓
10. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓		acetaldehyde 43% RSD	✓
11. If curves were used, is correlation coefficient ≥0.990?		✓			✓
12. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.		✓		123 TCBZ quad	✓
13. For linear or quadratic: origin NOT "included"? (NOTE: OHIO does NOT allow "FORCE" through origin).		✓			✓
14. Is the "Y" intercept less than the RL for each curve?		✓			✓
15. RT for each IS ±20 sec avg. RT?		✓			✓
16. Area for each IS ± 40% avg. area?		✓			✓
17. Each analyte ± 0.06 RRT of avg. RRT?		✓			✓
18. Have all peaks been auto identified? If not, list:		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?	✓				NA
21. Are all the active compounds listed on each quan report?		✓			✓
22. High point checked for saturation and point removed if saturated?		✓			✓
23. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
24. Is the second source analysis of a reference standard within limits? (65-135% R)		✓		Dodecane 161%	✓
25. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?		✓		123 TCBZ 133% all other 70-130	✓
26. Does the ICAL folder contain complete data in the following order: Data review checklist, a complete runlog, BFB info, ICAL summary, curves, followed by [Quan reports, chromatograms, manual integrations], in increasing amount order, 2nd source info.		✓			✓

Analyst:	Date: 12/19/11	2nd Level Reviewer :	Date: 12/21/11
Comments:		Comments:	
UR · 4ppbv Dodecane, 123 TCBZ			
Acetaldehyde not valid 90 RSD 43%			

O.K for Low level 12/21/11
NJ State.

TestAmerica Laboratories, Inc. – Knoxville 2
CANISTER RUN LOG

GCMS Analysis: AIR Inst: MG

Analyst: HMT Qtims Batch: ICAL

Date: 12/16/11 ICAL Batch: G121611I Target Batch: G121611S IS #1 Area: 404705

Surr/IS ID & Vol.: 40MLV425 System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☑Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1117	✓	7LK1	GBFBL16	-	16	100	1	
1148	✓	MDL	GMDL116	CX2316	1	50		
1239	✓	ICAL 1	G1CL161	↓	1	100		
1330	✓	2	2	↓	1	200		
1428	✓	3	3	CX2315	2			
1523	✓	4	4	CX2314	3			
1617	✓	5	5	CX2313	4			
1710	✓	6	6	CX2312	5			
1804	✓	7	7	CX2311	6			
1858	✓	8	8	CX2310	7			
1951	✓	9	9	CX2309	8	↓		
2044	N	blk	Blank1	-	16	200		
2135	✓	ICV	G1CV L16	CX2306	9	100		
2226	not reached	LCS	GLCS L16	↓	9	200		
2322	N 12/19/11	blk	BLANK2	-	16	500		
0017	✓	↓	GB1KL16	-	↓	↓		

12/19/11

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 12/19/11

Data File: /var/chem/gcms/mg.i/G121611I.b/gbfb116.d

Date : 16-DEC-2011 11:17

Client ID: BFB

Instrument: mg.i

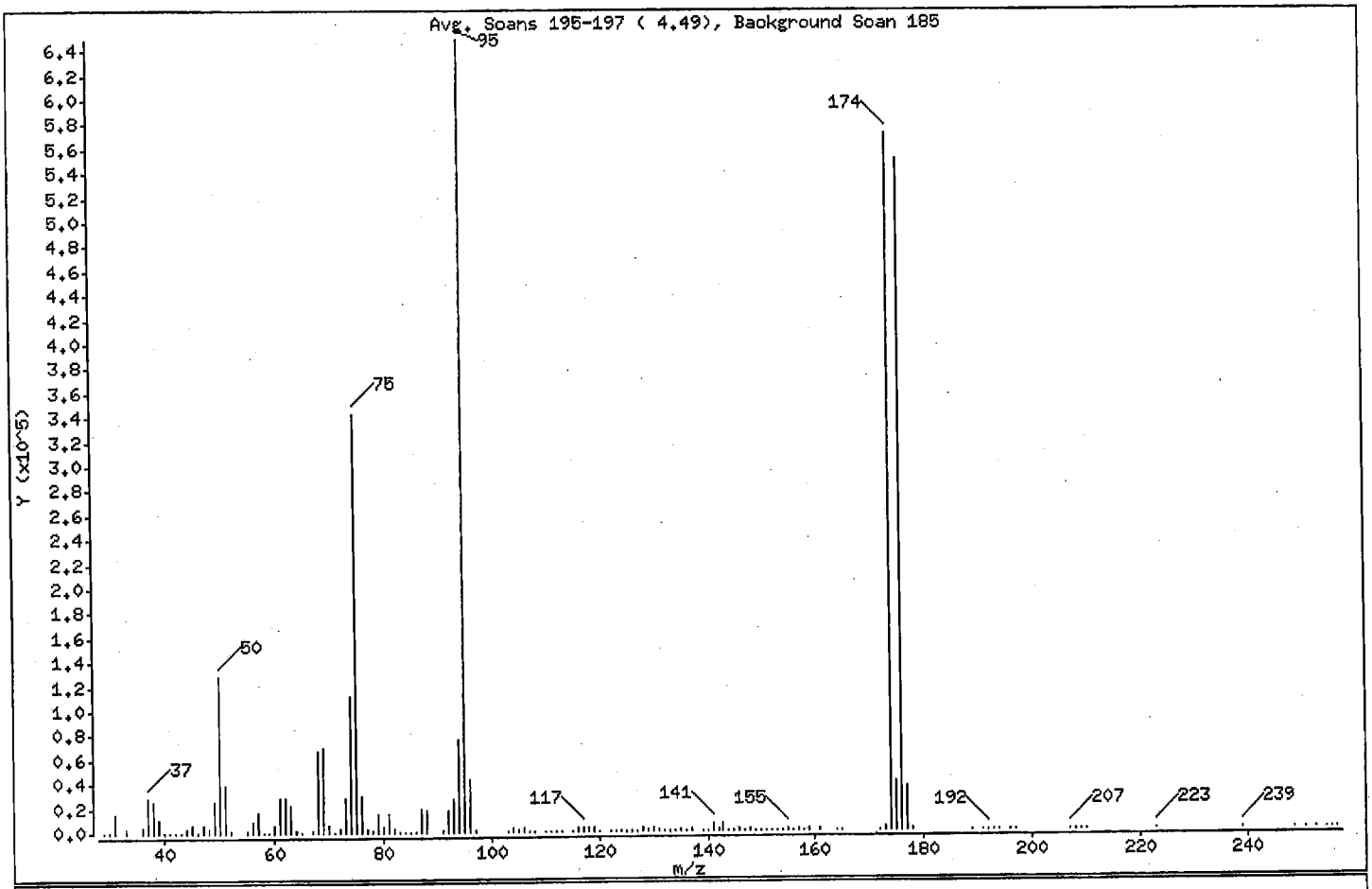
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.70
75	30.00 - 60.00% of mass 95	52.96
96	5.00 - 9.00% of mass 95	6.73
173	Less than 2.00% of mass 174	0.36 (0.41)
174	50.00 - 120.00% of mass 95	87.99
175	5.00 - 9.00% of mass 174	6.25 (7.11)
176	95.00 - 101.00% of mass 174	84.83 (96.40)
177	5.00 - 9.00% of mass 176	5.57 (6.57)

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Calibration File Names:
Level 1: /var/chem/gcms/mg.i/G121611I.b/gicl161.d
Level 2: /var/chem/gcms/mg.i/G121611I.b/gicl162.d
Level 3: /var/chem/gcms/mg.i/G121611I.b/gicl163.d
Level 4: /var/chem/gcms/mg.i/G121611I.b/gicl164.d
Level 5: /var/chem/gcms/mg.i/G121611I.b/gicl165.d
Level 6: /var/chem/gcms/mg.i/G121611I.b/gicl166.d
Level 7: /var/chem/gcms/mg.i/G121611I.b/gicl167.d
Level 8: /var/chem/gcms/mg.i/G121611I.b/gicl168.d
Level 9: /var/chem/gcms/mg.i/G121611I.b/gicl169.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
M 83 Xylene (total)	0.99563	1.10266	0.98912	0.99742	1.01380	0.93697					
	0.95604	0.92856	0.81164				AVRG		0.97020		8.09712
5 Chlorodifluoromethane	0.48906	0.55582	0.46784	0.39678	0.39738	0.39217					
	0.35045	0.33450	0.35528				AVRG		0.41547		17.74523
6 Propene	+++++	+++++	1.44049	1.05829	1.05070	1.05657					
	0.92819	0.85459	0.88078				AVRG		1.03852		18.98866

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
7 Dichlorodifluoromethane	4.23725 / 3.48686	4.23567 / 3.33421	4.00378 / 3.51231	3.85502	3.92088	3.95396	AVRG		3.83777		8.48755
8 Chloromethane	0.51212 / 0.31215	0.41417 / 0.31125	0.42641 / 0.30526	0.35502	0.34620	0.35747	AVRG		0.37112		18.38919
9 1,2-Dichlorotetrafluoroethane	2.87034 / 2.19580	2.63543 / 2.27084	2.46388 / 2.42413	2.36146	2.41550	2.47281	AVRG		2.45669		8.11289
10 Methanol	+++++ / 0.68712	+++++ / 0.64132	+++++ / 0.50378	+++++	0.88172	0.68247	AVRG		0.67928		19.92788
11 - acetaldehyde	+++++ / 0.17580	+++++ / 0.11397	+++++ / 0.11160	0.31139	0.18715	0.13462	AVRG		0.17242		43.46796 <- NT NA
12 Vinyl Chloride	1.45753 / 1.18584	1.52282 / 1.19161	1.38090 / 1.19174	1.31344	1.28270	1.31375	AVRG		1.31559		9.15250
13 n-Butane	2.57521 / 1.77224	2.41694 / 1.73771	2.16234 / 1.71070	1.99139	1.93266	1.94034	AVRG		2.02661		14.97888

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
14 1,3-Butadiene	1.16828	1.10205	1.00137	0.94297	0.90346	0.93895					
	0.86535	0.84363	0.84655				AVRG		0.95696		11.94258
15 Bromomethane	1.42293	1.30733	1.24897	1.18414	1.13496	1.20545					
	1.09930	1.14116	1.18974				AVRG		1.21489		8.22309
16 Chloroethane	0.73806	0.73734	0.71544	0.66928	0.61864	0.66426					
	0.61630	0.63421	0.64744				AVRG		0.67122		7.17650
17 - ethanol	+++++	0.60224	0.40580	0.37804	0.35359	0.30915					
	0.33616	0.32426	0.26094				AVRG		0.37127		27.76284
18 Vinyl Bromide	1.46929	1.28968	1.18304	1.14031	1.10039	1.16663					
	1.08836	1.12100	1.19142				AVRG		1.19446		9.99178
19 2-methyl butane	1.69146	1.48392	1.45408	1.35308	1.26701	1.34482					
	1.25855	1.30111	1.29435				AVRG		1.38315		10.10395
20 Trichlorofluoromethane	4.31586	3.97925	3.90200	3.82325	3.78344	3.95690					
	3.60367	3.57514	3.72801				AVRG		3.85194		5.83457

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
21 Acrolein	+++++	+++++	0.51312	0.40107	0.33842	0.32691					
	0.36434	0.36884	0.33554				AVRG		0.37832		17.07567
22 Acetonitrile	+++++	+++++	0.42932	0.33491	0.33037	0.31671					
	0.36922	0.42710	0.38097				AVRG		0.36980		12.36361
25 Pentane	+++++	0.27251	0.26552	0.23241	0.22138	0.23775					
	0.22930	0.23685	0.24201				AVRG		0.24222		7.33065
23 Acetone	+++++	+++++	+++++	+++++	0.55018	0.42073					
	0.57597	0.41117	0.33980				AVRG		0.45957		21.74702
24 Isopropyl alcohol	+++++	+++++	1.43224	1.39041	1.39232	1.17278					
	1.33295	1.22559	1.09040				AVRG		1.29096		10.01789
26 Ethyl Ether	1.45164	1.80901	1.51414	1.47803	1.47538	1.33121					
	1.35828	1.27101	1.15037				AVRG		1.42656		12.96893
27 1,1-Dichloroethene	1.42340	1.18308	1.14031	1.09878	1.07921	1.14719					
	1.04969	1.04602	1.08887				AVRG		1.13962		10.15856

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
29 Acrylonitrile	0.90987	1.05511	0.85318	0.85168	0.85283	0.77590					
	0.79814	0.76911	0.69195				AVRG		0.83975		12.23377
30 1,1,2-Trichlorotrifluoroethan	2.80161	2.55944	2.51326	2.45106	2.43251	2.49429					
	2.25517	2.25194	2.37792				AVRG		2.45969		6.79409
28 tert-butanol	+++++	+++++	1.23111	1.56074	1.92595	1.40960					
	1.98310	1.38308	1.52900				AVRG		1.57466		17.85872
31 Methylene Chloride	+++++	+++++	1.35610	1.15655	1.08531	1.07768					
	0.96497	0.94988	0.98053				AVRG		1.08157		13.19279
32 3-Chloropropene	1.41799	1.29208	1.29794	1.25925	1.25332	1.27874					
	1.12368	1.08340	1.11859				AVRG		1.23611		8.69686
33 Carbon Disulfide	4.74820	4.17613	4.16900	3.86124	3.83032	3.98973					
	3.61239	3.54923	3.68700				AVRG		3.95814		9.38177
35 ~ 2-Methyl Pentane	3.64770	3.33639	3.14163	3.15440	3.06278	3.12114					
	2.74676	2.62471	2.66314				AVRG		3.05541		10.89192

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
34 trans-1,2-Dichloroethene	1.65098	1.42102	1.43254	1.39217	1.34925	1.40947					
	1.27077	1.25840	1.30204				AVRG		1.38740		8.53358
36 Methyl-t-Butyl Ether	3.74890	4.38165	3.60953	3.62055	3.62934	3.25980					
	3.45069	3.37135	2.95683				AVRG		3.55874		10.98762
37 1,1-Dichloroethane	2.83409	2.64251	2.50560	2.42235	2.40540	2.47979					
	2.22404	2.17914	2.26241				AVRG		2.43948		8.57336
38 Vinyl Acetate	2.76584	3.52283	3.05261	3.09411	3.24242	2.89265					
	3.06663	2.92637	2.62006				AVRG		3.02039		8.76405
39 2-Butanone	+++++	+++++	0.64244	0.57094	0.56980	0.48191					
	0.55845	0.52624	0.44385				AVRG		0.54195		12.02022
40 Hexane	1.49942	1.32186	1.22915	1.13364	1.10260	1.12914					
	1.00586	0.97983	1.02170				AVRG		1.15813		14.52693
41 cis 1,2-Dichloroethene	1.53637	1.38260	1.33989	1.27838	1.27032	1.34337					
	1.20626	1.19799	1.26544				AVRG		1.31340		7.90726

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
42 Ethyl acetate	+++++	3.04851	2.42637	2.52786	2.63927	2.28385					
	2.53612	2.44165	2.03083				AVRG		2.49181		11.72459
43 Chloroform	3.30621	3.14731	3.01665	2.90405	2.86759	2.92864					
	2.66717	2.60676	2.67703				AVRG		2.90238		8.00209
44 Tetrahydrofuran	1.24924	1.54515	1.32251	1.32671	1.38547	1.18509					
	1.28375	1.24532	1.06309				AVRG		1.28959		10.36046
45 1,1,1-Trichloroethane	3.57945	3.37565	3.31487	3.21150	3.19523	3.27745					
	2.93473	2.88957	2.97428				AVRG		3.19475		7.10010
46 1,2-Dichloroethane	0.44371	0.41722	0.41001	0.39460	0.39871	0.40159					
	0.37099	0.36064	0.36081				AVRG		0.39537		6.96927
49 Cyclohexane	0.19210	0.15652	0.14640	0.13744	0.13307	0.14188					
	0.12468	0.12367	0.12726				AVRG		0.14256		15.06830
48 Benzene	0.89010	0.80730	0.77696	0.74398	0.73310	0.74727					
	0.69743	0.68694	0.68409				AVRG		0.75191		8.79928

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.73713	0.65084	0.66107	0.63962	0.63646	0.69268					
	0.60572	0.59244	0.61360				AVRG		0.64773		6.98559
51 - 2,3-dimethylpentane	0.24466	0.18939	0.18757	0.17431	0.17338	0.18408					
	0.16429	0.16126	0.16470				AVRG		0.18263		13.94636
47 1-Butanol	+++++	+++++	0.05693	0.06504	0.08195	0.06116					
	0.07918	0.05582	0.06246				AVRG		0.06608		15.76156
52 - Thiophene	0.53321	0.45494	0.44477	0.41651	0.41819	0.43775					
	0.39566	0.39237	0.39462				AVRG		0.43200		10.24958
53 2,2,4-trimethylpentane	1.49821	1.31492	1.34537	1.24913	1.22794	1.26821					
	1.13548	1.11226	1.10267				AVRG		1.25046		10.17567
54 Heptane	0.37634	0.31830	0.31703	0.28959	0.28844	0.29792					
	0.27095	0.26937	0.26756				AVRG		0.29950		11.52499
55 1,2-Dichloropropane	0.31561	0.29415	0.27520	0.26837	0.27090	0.26448					
	0.25327	0.24703	0.23357				AVRG		0.26917		9.15041

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
56 Trichloroethene	0.46166	0.38041	0.36774	0.34412	0.34456	0.36458					
	0.32882	0.32972	0.34050				AVRG		0.36246		11.34917
180 ~ 2-nitropropane	+++++	+++++	+++++	0.67760	0.57199	0.50924					
	0.54961	0.53366	0.44038				AVRG		0.54708		14.31353
57 Dibromomethane	0.38205	0.34195	0.32850	0.31131	0.31278	0.32927					
	0.29611	0.29360	0.29454				AVRG		0.32112		8.89225
58 Bromodichloromethane	0.73654	0.66222	0.63466	0.62404	0.63573	0.65878					
	0.60232	0.59673	0.58954				AVRG		0.63784		7.06924
60 Methyl Methacrylate	+++++	0.36384	0.29573	0.30785	0.32861	0.29319					
	0.32289	0.31481	0.26198				AVRG		0.31111		9.58224
59 1,4-dioxane	+++++	0.11373	0.09201	0.09567	0.10035	0.09421					
	0.09764	0.09128	0.08198				AVRG		0.09586		9.44566
61 ~ methyl cyclohexane	0.57069	0.49343	0.49439	0.45808	0.45148	0.47692					
	0.42872	0.42315	0.42946				AVRG		0.46959		9.91899

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
63 cis-1,3-Dichloropropene	0.51688	0.47698	0.44623	0.44728	0.44654	0.44054					
	0.42968	0.41947	0.40040				AVRG		0.44711		7.52405
62 4-Methyl-2-pentanone	+++++	0.55565	0.46682	0.45994	0.45943	0.45497					
	0.45630	0.42836	0.40168				AVRG		0.46039		9.58657
64 trans-1,3-Dichloropropene	0.54788	0.54813	0.50836	0.50606	0.52194	0.50565					
	0.50473	0.49815	0.46070				AVRG		0.51129		5.19861
65 Toluene	1.12910	1.09977	0.98270	0.97264	0.98002	0.92365					
	0.92710	0.91374	0.84143				AVRG		0.97446		9.31580
66 1,1,2-Trichloroethane	0.31762	0.32190	0.28710	0.28835	0.29008	0.27694					
	0.27440	0.27297	0.24956				AVRG		0.28655		7.82668
67 ~ 2-methyl thiophene	0.91835	0.88704	0.79728	0.84632	0.83300	0.78235					
	0.78439	0.77914	0.72080				AVRG		0.81652		7.45359
68 ~ 3-methyl thiophene	0.91493	0.86130	0.80065	0.81697	0.81464	0.78089					
	0.78090	0.77043	0.71295				AVRG		0.80596		7.11838

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	4 Level 7	8 Level 8	16 Level 9								
69 2-Hexanone	+++++	0.30691	0.21558	0.22876	0.23434	0.23324					
	0.24608	0.23333	0.22067				AVRG		0.23986		11.93089
70 Octane	0.41203	0.37963	0.35313	0.33965	0.34372	0.34309					
	0.32291	0.31870	0.30095				AVRG		0.34598		9.64208
71 Dibromochloromethane	0.66836	0.64318	0.60218	0.61853	0.64518	0.64836					
	0.63894	0.63800	0.61209				AVRG		0.63498		3.22762
72 1,2-Dibromoethane	0.59175	0.56665	0.53027	0.53063	0.54582	0.53556					
	0.53021	0.52928	0.49244				AVRG		0.53918		5.11766
73 Tetrachloroethene	0.47659	0.38636	0.38164	0.36453	0.36153	0.36972					
	0.34505	0.34671	0.33668				AVRG		0.37431		11.16608
75 ~ 2,3-dimethylheptane	1.13261	1.01847	0.92204	0.90346	0.87965	0.84611					
	0.79126	0.73269	0.64385				AVRG		0.87446		16.74443
74 Chlorobenzene	0.90502	0.82887	0.78197	0.76753	0.77945	0.75812					
	0.74637	0.74154	0.69015				AVRG		0.77767		7.78079

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	4 Level 7	8 Level 8	16 Level 9								
76 Ethylbenzene	1.25479	1.37734	1.25361	1.25304	1.27506	1.18716					
	1.21653	1.19232	1.05493				AVRG		1.22942		7.01635
77 ~ 2-ethyl thiophene	1.01531	1.06793	0.98022	0.98579	1.01313	0.96087					
	0.97198	0.95227	0.85842				AVRG		0.97844		5.83416
78 m&p-Xylene	0.97096	1.08655	0.97589	0.97987	1.00035	0.92615					
	0.94468	0.91976	0.80510				AVRG		0.95659		7.86647
79 Nonane	+++++	0.70712	0.61278	0.62148	0.63092	0.60007					
	0.58452	0.55477	0.49340				AVRG		0.60063		10.28271
80 Bromoform	+++++	0.62359	0.58449	0.61049	0.65721	0.66388					
	0.67947	0.69547	0.65465				AVRG		0.64616		5.74134
81 Styrene	0.62428	0.70266	0.65341	0.72651	0.76532	0.72876					
	0.74326	0.74710	0.67050				AVRG		0.70687		6.75583
82 o-Xylene	1.04491	1.13489	1.01556	1.03251	1.04070	0.95862					
	0.97876	0.94617	0.82473				AVRG		0.99743		8.60183

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Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
84 1,1,2,2-Tetrachloroethane	0.66696	0.77139	0.65774	0.67571	0.70410	0.65355					
	0.67077	0.65242	0.56385				AVRG		0.66850		8.10097
85 1,2,3-Trichloropropane	0.20704	0.25684	0.22137	0.22499	0.23562	0.21405					
	0.22383	0.22064	0.18900				AVRG		0.22149		8.42874
86 Cumene	1.44306	1.67628	1.44982	1.45938	1.48505	1.37975					
	1.42314	1.38629	1.20215				AVRG		1.43388		8.59021
87 n-Propylbenzene	0.32859	0.41187	0.36487	0.37071	0.39804	0.36589					
	0.38769	0.38184	0.33217				AVRG		0.37130		7.47803
88 2-chlorotoluene	0.36106	0.40598	0.35443	0.35295	0.37071	0.35304					
	0.35354	0.34747	0.31319				AVRG		0.35693		6.76449
89 4-Ethyltoluene	1.17383	1.54738	1.31975	1.39265	1.47825	1.35962					
	1.42497	1.40219	1.19110				AVRG		1.36553		8.99498
90 1,3,5-Trimethylbenzene	0.54170	0.72349	0.62256	0.63668	0.67274	0.61980					
	0.65008	0.64451	0.55910				AVRG		0.63007		8.73085

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Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
91 Alpha-Methylstyrene	+++++	+++++	0.47716	0.52260	0.58545	0.56172					
	0.59256	0.58874	0.51754				AVRG		0.54940		8.07688
92 Decane	+++++	0.63587	0.50127	0.59445	0.72095	0.61293					
	0.68870	0.64798	0.55083				AVRG		0.61912		11.50660
93 tert-butylbenzene	1.05066	1.42598	1.18309	1.20842	1.27555	1.15889					
	1.21642	1.19751	1.04085				AVRG		1.19526		9.65424
94 1,2,4-Trimethylbenzene	+++++	1.25451	1.05408	1.12003	1.18976	1.08924					
	1.14411	1.11975	0.95814				AVRG		1.11620		7.93509
95 sec-butylbenzene	1.36398	1.82814	1.54805	1.60532	1.70704	1.56067					
	1.63047	1.58742	1.35716				AVRG		1.57647		9.47677
96 1,3-Dichlorobenzene	+++++	0.80707	0.69990	0.74626	0.79809	0.76482					
	0.78136	0.77816	0.71872				AVRG		0.76180		4.95022
97 Benzyl Chloride	+++++	1.02657	0.85552	0.95632	1.08486	0.99960					
	1.09430	1.07199	0.90495				AVRG		0.99926		8.77293

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	4 Level 7	8 Level 8	16 Level 9								
98 1,4-Dichlorobenzene	+++++	0.78535	0.67427	0.72295	0.78407	0.75480					
	0.77810	0.77779	0.71664				AVRG		0.74925		5.42646
99 p-Cymene	+++++	1.46300	1.18790	1.30107	1.42855	1.27870					
	1.36708	1.33242	1.12820				AVRG		1.31086		8.66143
100 ~ 1,2,3- Trimethylbenzene	0.81045	1.08422	0.86770	0.94386	1.02357	0.91605					
	0.96320	0.92749	0.78125				AVRG		0.92420		10.40858
101 ~ n-butylcyclohexane	0.75433	0.94098	0.80872	0.83593	0.88125	0.81506					
	0.80633	0.76429	0.68530				AVRG		0.81024		9.12004
102 ~ Indane	0.92423	1.10597	0.94862	0.97288	1.05068	0.96819					
	0.99386	0.97102	0.84955				AVRG		0.97611		7.44983
103 1,2-Dichlorobenzene	+++++	0.78637	0.66129	0.69669	0.75666	0.71206					
	0.72415	0.71501	0.65413				AVRG		0.71330		6.22998
104 n-butylbenzene	+++++	1.10854	0.89883	1.06295	1.25622	1.11803					
	1.21407	1.16118	0.96237				AVRG		1.09777		11.01227

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	4 Level 7	8 Level 8	16 Level 9								
105 ~ Indene	0.64744	0.76329	0.63339	0.71019	0.80903	0.74451					
	0.78383	0.77719	0.67582				AVRG		0.72719		8.71018
106 Undecane	+++++	+++++	0.37379	0.38443	0.39215	0.46989					
	0.48486	0.54654	0.46435				AVRG		0.44514		14.33353
107 ~ 1,2-dimethyl-4-ethylenzene	+++++	0.95971	0.70528	0.87607	1.09927	1.00357					
	1.11865	1.06618	0.90848				AVRG		0.96715		14.19354
108 ~ 1,2,4,5-tetramethylbenzene	+++++	0.75885	0.60649	0.65425	0.85817	0.85271					
	1.06567	0.95042	0.88361				AVRG		0.82877		18.24913
109 ~ 1,2,3,5-tetramethylbenzene	+++++	0.60392	0.45971	0.50357	0.66205	0.64571					
	0.80393	0.69874	0.65963				AVRG		0.62966		17.27177
110 ~ 1,2,3,4-tetramethylbenzene	+++++	0.66800	0.47132	0.52264	0.63281	0.68005					
	0.83479	0.65986	0.69522				AVRG		0.64559		17.14953
111 Dodecane	+++++	0.42289	0.25333	0.26313	0.30893	0.38906					
	0.30353	+++++	+++++				AVRG		0.32348		21.12813

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	4 Level 7	8 Level 8	16 Level 9								
112 1,2,4-Trichlorobenzene	+++++	0.41811	0.25731	0.28934	0.39661	0.38804					
	0.47584	0.29188	0.38300				AVRG		0.36252		20.74169
113 Napthalene	+++++	0.82275	0.52443	0.58394	0.81077	0.82001					
	0.95712	0.66514	0.76362				AVRG		0.74347		19.17641
114 ~ benzo(b) thiophene	+++++	0.57832	0.35112	0.37051	0.54305	0.53711					
	0.61197	0.40152	0.49299				AVRG		0.48582		20.43236
115 Hexachlorobutadiene	+++++	0.60286	0.30789	0.39526	0.54282	0.44949					
	0.53571	0.33769	0.43512				AVRG		0.45085		23.01228
116 1,2,3-trichlorobenzene	+++++	15461	15940	43611	149208	289865					
	734551	+++++	+++++				QUAD	0.000e+00	3.58150	-1.77001	0.99916
117 ~ 2-Methylnaphthalene	+++++	+++++	0.05307	0.04931	0.07384	0.08671					
	0.06388	0.04119	0.06388				AVRG		0.06170		25.03043
118 ~ 1-Methylnaphthalene	+++++	+++++	0.04606	0.04403	0.06305	0.07272					
	0.05282	0.03480	0.05274				AVRG		0.05232		24.00961

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	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.67375	0.74336	0.73726	0.73794	0.74355	0.74422					
	0.72578	0.71198	0.70096				AVRG		0.72431		3.36012

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Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

TestAmerica Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 12 & KNOX-MS-0023, Rev 0

Analysis Date:	2/21/12	CCAL Batch/ Scan Name:	G022112	Instrument:	MG	ICAL Batch/ Scan Name:	G121611.5	Scanned

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓		□ failed for TO-14A, but passes for TO-15	✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with run log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis in logbook correct?		✓			✓
5. Was the CCAL compared to the correct ICAL (date & time on CCAL matches the ICAL)		✓		See Comment	✓
6. Is the %D ≤ 30% for all target analytes? (Narrative req'd.).		✓		□ [ccal] analytes > 30% but passes LCS criteria.	✓
7. Have all peaks been auto identified? If not, list:		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	MA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				MA
10. Is the first IS documented correctly on the log?		✓			✓
11. Elution order checked on isomeric pairs?		✓			✓
• dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane		✓			✓
• vinyl acetate / hexane		✓			✓
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• n-propylbenzene/4-ethyl toluene/1,3,5-trimethylbenzene/1,2,4-trimethylbenzene		✓			✓
• tert-butylbenzene/p-cymene		✓			✓
• 1,2,4-trimethylbenzene/sec-butylbenzene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• 1,2,4-trichlorobenzene/1,2,3-trichlorobenzene		✓			✓
12. Did the LCS meet criteria (70-130% with a limited # allowed 60-140% (see table) provisional analyte limit 60-140% with a limited # allowed 50-150%, and no two consecutive MEs). Note: Ohio does not allow for ME.		✓		□ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits □ [lcs5] LCS outside marginal exceedences high, but analytes were not detected Ether Ether 41 ↓ Ok G022012	✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓			Dodecane ↑ 1% ICV-	MA
14. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations.		✓			✓

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

Analyst:	Date: 2/21/12	2nd Level Reviewer :	Date: 2/21/12
Comments:		Comments:	
Acrolein 32 ↓			
Acetonitrile 33 ↓			
IPA 37 ↓			
Acrylonitrile 31 ↓			
Ethyl acetate 33 ↓			
Methyl methacrylate 31 ↓			
Undecane 37 ↓			
Dodecane 36 ↓			

TestAmerica Laboratories, Inc. – Knoxville 48

CANISTER RUN LOG

GCMS Analysis: AIR 7M Inst: MG

Analyst: HMT Qtims Batch: 205 3031 MQIFR 205303Z MQIFT

Date: 2/21/12 ICAL Batch: G121611F Target Batch: G022112 IS #1 Area: 199980

Surr/IS ID & Vol.: 40MCV425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☑ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1008	✓	tune	GBFBB21	-	16	100	1	Dodec 37 - acrolein 32 - acetonitrile 33 - IPA 37 - acrylonitrile 31 - EA 33 - methyl ket 31 - undec 37
1108	✓	CCV	CCV	CX2323	15			
1108	✓	LCS	LCS					Ethylethyl -41 ok G022012
1217	ok	Blk	Flush	-	16	500		
1313	✓		GBlkB21	-				
1407	OK on run ME	H2B190401	MQXPM1AA	92030	1	100	7129.89	polyone OK 14259.78
1507	✓	H2B170443	MQXAM1AA	~~1124~~ 1124 2/21/12	2	200	1	btex. can# 1124
1559	✓		XAR	7485	3			
1651	✓		XAT	6586	4			
1743	✓		XAW	1361	5			
1835	✓		XAX	93241	6			
1926	dry		XAX D		6			
2018	✓	H2B210425	MQDQD1AA	12891	7	20	1	golden
2109	✓	403	K7	12144	9	25	9.26	tol4nj 74.08
2200	✓	H2B200401	MQXPR	12810	10	80	9416.06	btex (7M) 58850.38
2251	RR 250		PT	12838	11	80	10117.15	63232.19
2342	✓	H2B200410	Q0	L5111	12	20	1	tol4nj
0032	✓		Q1	L5191	13			
0123	✓		Q2	L5137	14			
0213	✓		Q3	L5200	15			
0306	✓	lot ✓	9730	6137	1	500		
0356	✓	H2B200410	MQXQ41AA	L5194	2	20		
0447	✓		Q5	LA7124	3			
0541	✓	lot ✓	9731	6650	4	500		
0841	✓	H2B200401	MQXPTR	12838	11	200	10117.15	

2/22/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 2/22/12

Data File: /chem/gcms/mg.i/G022112.b/gbfbb21.d

Date : 21-FEB-2012 10:08

Client ID: BFB

Instrument: mg.i

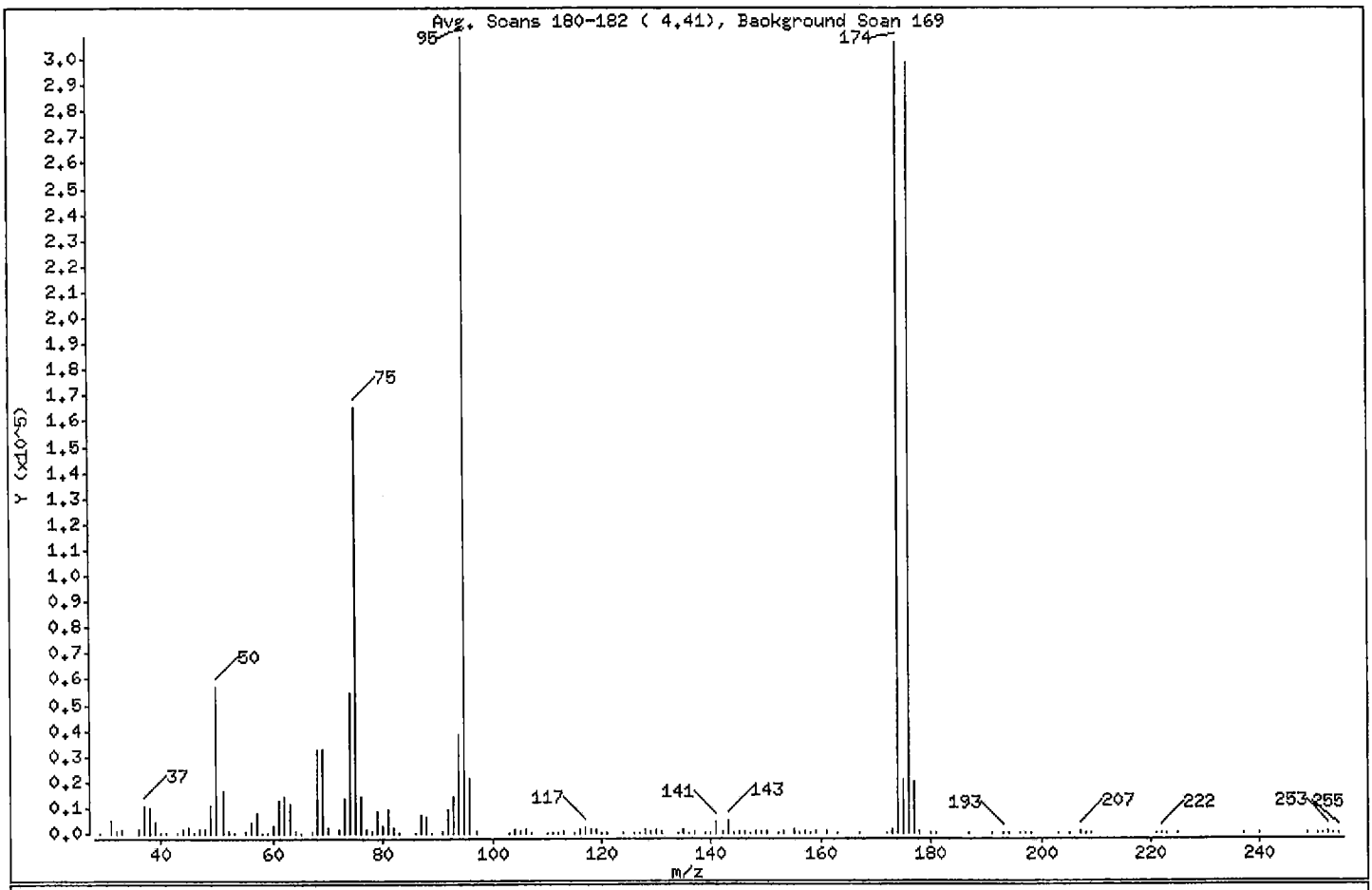
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.39
75	30.00 - 60.00% of mass 95	53.53
96	5.00 - 9.00% of mass 95	6.97
173	Less than 2.00% of mass 174	0.51 (0.51)
174	50.00 - 120.00% of mass 95	99.38
175	5.00 - 9.00% of mass 174	6.77 (6.81)
176	95.00 - 101.00% of mass 174	96.73 (97.34)
177	5.00 - 9.00% of mass 176	6.39 (6.61)

Data File: /var/chem/gcms/mg.i/G022112.b/gccvb21.d
Report Date: 21-Feb-2012 11:52

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvb21.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G022112.b/TO15.m

Injection Date: 21-FEB-2012 11:08
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 4-Bromofluorobenzene	0.72431	0.75238	0.75238	0.000	-3.87472	30.00000	Averaged	
M 83 Xylene (total)	0.97020	0.88562	0.88562	0.000	8.71814	30.00000	Averaged	
5 Chlorodifluoromethane	0.41547	0.42952	0.42952	0.000	-3.38049	30.00000	Averaged	
6 Propene	1.03852	0.84927	0.84927	0.000	18.22230	30.00000	Averaged	
7 Dichlorodifluoromethane	3.83777	4.34243	4.34243	0.000	-13.14965	30.00000	Averaged	
8 Chloromethane	0.37112	0.32151	0.32151	0.000	13.36587	30.00000	Averaged	
9 1,2-Dichlorotetrafluoroetha	2.45669	2.70684	2.70684	0.000	-10.18233	30.00000	Averaged	
10 Methanol	0.67928	0.21267	0.21267	0.000	68.69219	NT 30.00000	Averaged	<- NT
11 ~ acetaldehyde	0.17242	0.10029	0.10029	0.000	41.83319	NT 30.00000	Averaged	<- OK
12 Vinyl Chloride	1.31559	1.19940	1.19940	0.000	8.83166	30.00000	Averaged	
13 n-Butane	2.02661	1.64285	1.64285	0.000	18.93615	30.00000	Averaged	
14 1,3-Butadiene	0.95696	0.84318	0.84318	0.000	11.88886	30.00000	Averaged	
15 Bromomethane	1.21489	1.21408	1.21408	0.000	0.06622	30.00000	Averaged	
16 Chloroethane	0.67122	0.60241	0.60241	0.000	10.25136	30.00000	Averaged	
17 ~ ethanol	0.37127	0.20096	0.20096	0.000	45.87313	NT 30.00000	Averaged	<- OK
18 Vinyl Bromide	1.19446	1.14479	1.14479	0.000	4.15852	30.00000	Averaged	
19 2-methyl butane	1.38315	1.06058	1.06058	0.000	23.32171	30.00000	Averaged	
20 Trichlorofluoromethane	3.85194	4.00731	4.00731	0.000	-4.03352	30.00000	Averaged	
21 Acrolein	0.37832	0.25838	0.25838	0.000	31.70330	NT 30.00000	Averaged	<- 60-140
22 Acetonitrile	0.36980	0.24609	0.24609	0.000	33.45347	NT 30.00000	Averaged	<- 60-140
25 Pentane	0.24222	0.21617	0.21617	0.000	10.75461	30.00000	Averaged	
23 Acetone	0.45957	0.35490	0.35490	0.000	22.77638	30.00000	Averaged	
24 Isopropyl alcohol	1.29096	0.81730	0.81730	0.000	36.69020	NT 30.00000	Averaged	<- 60-140
26 Ethyl Ether	1.42656	0.84486	0.84486	0.000	40.77666	NT 30.00000	Averaged	<- 60-140 OK
27 1,1-Dichloroethene	1.13962	1.07379	1.07379	0.000	5.77662	30.00000	Averaged	OK G022112
29 Acrylonitrile	0.83975	0.57576	0.57576	0.000	31.43718	NT 30.00000	Averaged	<- 60-140
30 1,1,2-Trichlorotrifluoroeth	2.45969	2.38313	2.38313	0.000	3.11242	30.00000	Averaged	
28 tert-butanol	1.57466	1.49036	1.49036	0.000	5.35319	30.00000	Averaged	
31 Methylene Chloride	1.08157	0.96616	0.96616	0.000	10.67113	30.00000	Averaged	
32 3-Chloropropene	1.23611	0.91056	0.91056	0.000	26.33635	30.00000	Averaged	
33 Carbon Disulfide	3.95814	3.56861	3.56861	0.000	9.84112	30.00000	Averaged	
35 ~ 2-Methyl Pentane	3.05541	2.38897	2.38897	0.000	21.81187	30.00000	Averaged	
34 trans-1,2-Dichloroethene	1.38740	1.33538	1.33538	0.000	3.75005	30.00000	Averaged	
36 Methyl-t-Butyl Ether	3.55874	2.99150	2.99150	0.000	15.93935	30.00000	Averaged	
37 1,1-Dichloroethane	2.43948	2.04059	2.04059	0.000	16.35154	30.00000	Averaged	

Data File: /var/chem/gcms/mg.i/G022112.b/gccvb21.d
Report Date: 21-Feb-2012 11:52

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvb21.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G022112.b/TO15.m

Injection Date: 21-FEB-2012 11:08
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
38 Vinyl Acetate	3.02039	2.15319	2.15319	0.000	28.71147	30.00000	Averaged	
39 2-Butanone	0.54195	0.40305	0.40305	0.000	25.62903	30.00000	Averaged	
40 Hexane	1.15813	0.91823	0.91823	0.000	20.71470	30.00000	Averaged	
41 cis 1,2-Dichloroethene	1.31340	1.19701	1.19701	0.000	8.86161	30.00000	Averaged	
42 Ethyl acetate	2.49181	1.66325	1.66325	0.000	33.25109	NT 30.00000	Averaged	<-60-140
43 Chloroform	2.90238	2.68271	2.68271	0.000	7.56877	30.00000	Averaged	
44 Tetrahydrofuran	1.28959	0.90680	0.90680	0.000	29.68327	30.00000	Averaged	
45 1,1,1-Trichloroethane	3.19475	3.32872	3.32872	0.000	-4.19341	30.00000	Averaged	
46 1,2-Dichloroethane	0.39537	0.36599	0.36599	0.000	7.43092	30.00000	Averaged	
49 Cyclohexane	0.14256	0.12059	0.12059	0.000	15.41121	30.00000	Averaged	
48 Benzene	0.75191	0.63856	0.63856	0.000	15.07438	30.00000	Averaged	
50 Carbon Tetrachloride	0.64773	0.67590	0.67590	0.000	-4.34950	30.00000	Averaged	
51 ~ 2,3-dimethylpentane	0.18263	0.14789	0.14789	0.000	19.01919	30.00000	Averaged	
47 1-Butanol	0.06608	0.04660	0.04660	0.000	29.47118	30.00000	Averaged	
52 ~ Thiophene	0.43200	0.36590	0.36590	0.000	15.30222	30.00000	Averaged	
53 2,2,4-trimethylpentane	1.25046	1.03362	1.03362	0.000	17.34132	30.00000	Averaged	
54 Heptane	0.29950	0.24565	0.24565	0.000	17.98012	30.00000	Averaged	
55 1,2-Dichloropropane	0.26917	0.21891	0.21891	0.000	18.67486	30.00000	Averaged	
56 Trichloroethene	0.36246	0.34290	0.34290	0.000	5.39511	30.00000	Averaged	
180 ~ 2-nitropropane	0.54708	0.39389	0.39389	0.000	28.00073	30.00000	Averaged	
57 Dibromomethane	0.32112	0.29602	0.29602	0.000	7.81694	30.00000	Averaged	
58 Bromodichloromethane	0.63784	0.59405	0.59405	0.000	6.86453	30.00000	Averaged	
60 Methyl Methacrylate	0.31111	0.21328	0.21328	0.000	31.44543	NT 30.00000	Averaged	<-60-140
59 1,4-dioxane	0.09586	0.07187	0.07187	0.000	25.02823	30.00000	Averaged	
61 ~ methyl cyclohexane	0.46959	0.41702	0.41702	0.000	11.19417	30.00000	Averaged	
63 cis-1,3-Dichloropropene	0.44711	0.38949	0.38949	0.000	12.88686	30.00000	Averaged	
62 4-Methyl-2-pentanone	0.46039	0.32563	0.32563	0.000	29.27090	30.00000	Averaged	
64 trans-1,3-Dichloropropene	0.51129	0.44209	0.44209	0.000	13.53425	30.00000	Averaged	
65 Toluene	0.97446	0.81433	0.81433	0.000	16.43316	30.00000	Averaged	
66 1,1,2-Trichloroethane	0.28655	0.24261	0.24261	0.000	15.33221	30.00000	Averaged	
67 ~ 2-methyl thiophene	0.81652	0.69707	0.69707	0.000	14.62866	30.00000	Averaged	
68 ~ 3-methyl thiophene	0.80596	0.70438	0.70438	0.000	12.60330	30.00000	Averaged	
69 2-Hexanone	0.23986	0.17281	0.17281	0.000	27.95626	30.00000	Averaged	
70 Octane	0.34598	0.30815	0.30815	0.000	10.93354	30.00000	Averaged	
71 Dibromochloromethane	0.63498	0.60873	0.60873	0.000	4.13426	30.00000	Averaged	

Data File: /var/chem/gcms/mg.i/G022112.b/gccvb21.d
Report Date: 21-Feb-2012 11:52

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvb21.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G022112.b/TO15.m

Injection Date: 21-FEB-2012 11:08
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
72 1,2-Dibromoethane	0.53918	0.47168	0.47168	0.000	12.51957	30.00000	Averaged
73 Tetrachloroethene	0.37431	0.35600	0.35600	0.000	4.89179	30.00000	Averaged
75 ~ 2,3-dimethylheptane	0.87446	0.69297	0.69297	0.000	20.75444	30.00000	Averaged
74 Chlorobenzene	0.77767	0.70510	0.70510	0.000	9.33173	30.00000	Averaged
76 Ethylbenzene	1.22942	1.11645	1.11645	0.000	9.18925	30.00000	Averaged
77 ~ 2-ethyl thiophene	0.97844	0.91017	0.91017	0.000	6.97693	30.00000	Averaged
78 m&p-Xylene	0.95659	0.87876	0.87876	0.000	8.13584	30.00000	Averaged
79 Nonane	0.60063	0.52752	0.52752	0.000	12.17304	30.00000	Averaged
80 Bromoform	0.64616	0.64162	0.64162	0.000	0.70194	30.00000	Averaged
81 Styrene	0.70687	0.64377	0.64377	0.000	8.92629	30.00000	Averaged
82 o-Xylene	0.99743	0.89934	0.89934	0.000	9.83432	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.66850	0.55804	0.55804	0.000	16.52309	30.00000	Averaged
85 1,2,3-Trichloropropane	0.22149	0.20676	0.20676	0.000	6.64835	30.00000	Averaged
86 Cumene	1.43388	1.31250	1.31250	0.000	8.46549	30.00000	Averaged
87 n-Propylbenzene	0.37130	0.35509	0.35509	0.000	4.36528	30.00000	Averaged
88 2-chlorotoluene	0.35693	0.33640	0.33640	0.000	5.75031	30.00000	Averaged
89 4-Ethyltoluene	1.36553	1.28108	1.28108	0.000	6.18445	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.63007	0.58269	0.58269	0.000	7.51984	30.00000	Averaged
91 Alpha-Methylstyrene	0.54940	0.50507	0.50507	0.000	8.06908	30.00000	Averaged
92 Decane	0.61912	0.53443	0.53443	0.000	13.67975	30.00000	Averaged
93 tert-butylbenzene	1.19526	1.11825	1.11825	0.000	6.44296	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.11620	1.01942	1.01942	0.000	8.67051	30.00000	Averaged
95 sec-butylbenzene	1.57647	1.43155	1.43155	0.000	9.19281	30.00000	Averaged
96 1,3-Dichlorobenzene	0.76180	0.73004	0.73004	0.000	4.16833	30.00000	Averaged
97 Benzyl Chloride	0.99926	0.88101	0.88101	0.000	11.83424	30.00000	Averaged
98 1,4-Dichlorobenzene	0.74925	0.71245	0.71245	0.000	4.91073	30.00000	Averaged
99 p-Cymene	1.31086	1.16630	1.16630	0.000	11.02842	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.92420	0.83639	0.83639	0.000	9.50062	30.00000	Averaged
101 ~ n-butylcyclohexane	0.81024	0.69744	0.69744	0.000	13.92180	30.00000	Averaged
102 ~ Indane	0.97611	0.88148	0.88148	0.000	9.69468	30.00000	Averaged
103 1,2-Dichlorobenzene	0.71330	0.66260	0.66260	0.000	7.10675	30.00000	Averaged
104 n-butylbenzene	1.09777	0.94953	0.94953	0.000	13.50448	30.00000	Averaged
105 ~ Indene	0.72719	0.64158	0.64158	0.000	11.77317	30.00000	Averaged
106 Undecane	0.44514	0.28026	0.28026	0.000	37.04091 NT	30.00000	Averaged
107 ~ 1,2-dimethyl-4-ethylenzen	0.96715	0.83736	0.83736	0.000	13.42039	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.82877	0.66622	0.66622	0.000	19.61357	30.00000	Averaged

<-60.142D

Data File: /var/chem/gcms/mg.i/G022112.b/gccvb21.d
Report Date: 21-Feb-2012 11:52

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mg.i
Lab File ID: gccvb21.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /var/chem/gcms/mg.i/G022112.b/TO15.m

Injection Date: 21-FEB-2012 11:08
Init. Cal. Date(s): 16-DEC-2011 16-DEC-2011
Init. Cal. Times: 12:39 19:51
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.62966	0.50199	0.50199	0.000	20.27512	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.64559	0.48065	0.48065	0.000	25.54821	30.00000	Averaged	
111 Dodecane	0.32348	0.20396	0.20396	0.000	36.94939 NT	30.00000	Averaged	<- 60.140
112 1,2,4-Trichlorobenzene	0.36252	0.27265	0.27265	0.000	24.78896	30.00000	Averaged	
113 Napthalene	0.74347	0.54483	0.54483	0.000	26.71881	30.00000	Averaged	
114 ~ benzo(b) thiophene	0.48582	0.33412	0.33412	0.000	31.22618 NT	30.00000	Averaged	<- Ok
115 Hexachlorobutadiene	0.45085	0.45021	0.45021	0.000	0.14189	30.00000	Averaged	
116 1,2,3-trichlorobenzene	1.50133	2.00000	0.22175	0.000	24.93357	30.00000	Quadratic	
117 ~ 2-Methylnaphthalene	0.06170	0.06464	0.06464	0.000	-4.76396	30.00000	Averaged	
118 ~ 1-Methylnaphthalene	0.05232	0.05286	0.05286	0.000	-1.02700	30.00000	Averaged	

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2B220000 - 031B **Work Order #** MQ1FR1AA **Matrix.....:** AIR

	02/16/2012	**Date Received..:**	02/20/2012
Prep Date.....:	02/21/2012	**Analysis Date...**	02/21/2012
Prep Batch #.....:	2053031		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	0.20	ND	0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Chloromethane	ND	0.50	ND	1.0
Vinyl chloride	ND	0.20	ND	0.51
Bromomethane	ND	0.20	ND	0.78
Chloroethane	ND	0.20	ND	0.53
Trichlorofluoromethane	ND	0.20	ND	1.1
1,1-Dichloroethene	ND	0.20	ND	0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.20	ND	1.5
Methylene chloride	ND	0.50	ND	1.7
1,1-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
Chloroform	ND	0.20	ND	0.98
1,1,1-Trichloroethane	ND	0.20	ND	1.1
Carbon tetrachloride	ND	0.20	ND	1.3
Benzene	ND	0.20	ND	0.64
1,2-Dichloroethane	ND	0.20	ND	0.81
Trichloroethene	ND	0.20	ND	1.1
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91
Toluene	ND	0.20	ND	0.75
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Tetrachloroethene	ND	0.20	ND	1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
Chlorobenzene	ND	0.20	ND	0.92
Ethylbenzene	ND	0.20	ND	0.87
m-Xylene & p-Xylene	ND	0.20	ND	0.87
o-Xylene	ND	0.20	ND	0.87
Styrene	ND	0.20	ND	0.85
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4
1,3,5-Trimethylbenzene	ND	0.20	ND	0.98
1,2,4-Trimethylbenzene	ND	0.20	ND	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	ND	0.20	ND	1.2
1,2-Dichlorobenzene	ND	0.20	ND	1.2
Benzyl chloride	ND	0.40	ND	2.1

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2B220000 - 031B **Work Order #** MQ1FR1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	1.0	ND	7.4
Hexachlorobutadiene	ND	1.0	ND	11

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2B220000 - 031C **Work Order #** MQ1FR1AC **Matrix.....:** AIR

	02/16/2012	**Date Received..:**	02/20/2012
Prep Date.....:	02/21/2012	**Analysis Date...**	02/21/2012
Prep Batch #.....:	2053031		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Dichlorodifluoromethane	5.00	5.66	25	28.0	113	60 - 140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	5.00	5.51	35	38.5	110	60 - 140
Chloromethane	5.00	4.33	10	8.95	87	60 - 140
Vinyl chloride	5.00	4.56	13	11.7	91	70 - 130
Bromomethane	5.00	5.00	19	19.4	100	70 - 130
Chloroethane	5.00	4.49	13	11.8	90	70 - 130
Trichlorofluoromethane	5.00	5.20	28	29.2	104	60 - 140
1,1-Dichloroethene	5.00	4.71	20	18.7	94	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	4.84	38	37.1	97	70 - 130
Methylene chloride	5.00	4.47	17	15.5	89	70 - 130
1,1-Dichloroethane	5.00	4.18	20	16.9	84	70 - 130
cis-1,2-Dichloroethene	5.00	4.56	20	18.1	91	70 - 130
Chloroform	5.00	4.62	24	22.6	92	70 - 130
1,1,1-Trichloroethane	5.00	5.21	27	28.4	104	70 - 130
Carbon tetrachloride	5.00	5.22	31	32.8	104	70 - 130
Benzene	5.00	4.25	16	13.6	85	70 - 130
1,2-Dichloroethane	5.00	4.63	20	18.7	93	70 - 130
Trichloroethene	5.00	4.73	27	25.4	95	70 - 130
1,2-Dichloropropane	5.00	4.07	23	18.8	81	70 - 130
cis-1,3-Dichloropropene	5.00	4.36	23	19.8	87	70 - 130
Toluene	5.00	4.18	19	15.7	84	70 - 130
trans-1,3-Dichloropropene	5.00	4.32	23	19.6	86	70 - 130
1,1,2-Trichloroethane	5.00	4.23	27	23.1	85	70 - 130
Tetrachloroethene	5.00	4.76	34	32.3	95	70 - 130
1,2-Dibromoethane (EDB)	5.00	4.37	38	33.6	87	70 - 130
Chlorobenzene	5.00	4.53	23	20.9	91	70 - 130
Ethylbenzene	5.00	4.54	22	19.7	91	70 - 130
m-Xylene & p-Xylene	10.0	9.19	43	39.9	92	70 - 130
o-Xylene	5.00	4.51	22	19.6	90	70 - 130
Styrene	5.00	4.55	21	19.4	91	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.17	34	28.7	83	70 - 130
1,3,5-Trimethylbenzene	5.00	4.62	25	22.7	92	70 - 130
1,2,4-Trimethylbenzene	5.00	4.57	25	22.4	91	70 - 130
1,3-Dichlorobenzene	5.00	4.79	30	28.8	96	70 - 130
1,4-Dichlorobenzene	5.00	4.75	30	28.6	95	70 - 130
1,2-Dichlorobenzene	5.00	4.64	30	27.9	93	70 - 130

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2B220000 - 031C **Work Order #** MQ1FR1AC **Matrix.....:** AIR

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzyl chloride	5.00	4.41	26	22.8	88	70 - 130
1,2,4-Trichlorobenzene	5.00	3.76	37	27.9	75	60 - 140
Hexachlorobutadiene	5.00	4.99	53	53.3	100	60 - 140

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Data File: /var/chem/gcms/mg.i/G022112.b/mqxq11aa.d
Report Date: 22-Feb-2012 10:08

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mqxq11aa.d
Lab Smp Id: MQXQ11AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G022112.b/TO15.m
Misc Info: G022112,TO15,to14nj.sub,,,,

Calibration Date: 21-FEB-2012
Calibration Time: 11:08
Client Smp ID: A-MID
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	199980	118988	280972	141067	-29.46
2 1,4-Difluorobenze	1056077	628366	1483788	755556	-28.46
3 Chlorobenzene-d5	1023553	609014	1438092	703920	-31.23

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.07
2 1,4-Difluorobenze	10.31	9.98	10.64	10.30	-0.05
3 Chlorobenzene-d5	15.12	14.79	15.45	15.12	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G022112.b/mqxq11aa.d
Report Date: 22-Feb-2012 10:08

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech GEO
Sample Matrix: GAS
Lab Smp Id: MQXQ11AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Client SDG: H2B200410
Fraction: OTHER
Client Smp ID: A-MID
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Sublist File: to14nj.sub
Method File: /var/chem/gcms/mg.i/G022112.b/TO15.m
Misc Info: G022112,TO15,to14nj.sub,,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	10.00	9.893	98.93	70-130

Data File: /var/chem/gcms/mg.i/G022112.b/mqxq21aa.d
Report Date: 22-Feb-2012 10:08

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mqxq21aa.d
Lab Smp Id: MQXQ21AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G022112.b/TO15.m
Misc Info: G022112,TO15,to14nj.sub,,,,

Calibration Date: 21-FEB-2012
Calibration Time: 11:08
Client Smp ID: A-POST
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	199980	118988	280972	161646	-19.17
2 1,4-Difluorobenze	1056077	628366	1483788	890059	-15.72
3 Chlorobenzene-d5	1023553	609014	1438092	831202	-18.79

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.07
2 1,4-Difluorobenze	10.31	9.98	10.64	10.30	-0.05
3 Chlorobenzene-d5	15.12	14.79	15.45	15.12	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G022112.b/mqxq21aa.d
Report Date: 22-Feb-2012 10:08

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech GEO
Sample Matrix: GAS
Lab Smp Id: MQXQ21AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: to14nj.sub
Method File: /var/chem/gcms/mg.i/G022112.b/TO15.m
Misc Info: G022112,TO15,to14nj.sub,,,,

Client SDG: H2B200410
Fraction: OTHER
Client Smp ID: A-POST
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	10.00	10.94	109.35	70-130

Data File: /var/chem/gcms/mg.i/G022112.b/mqxq01aa.d
Report Date: 22-Feb-2012 10:07

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mqxq01aa.d
Lab Smp Id: MQXQ01AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G022112.b/TO15.m
Misc Info: G022112,TO15,to14nj.sub,,,,

Calibration Date: 21-FEB-2012
Calibration Time: 11:08
Client Smp ID: A-PRE
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	199980	118988	280972	157871	-21.06
2 1,4-Difluorobenze	1056077	628366	1483788	867181	-17.89
3 Chlorobenzene-d5	1023553	609014	1438092	827327	-19.17

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.07
2 1,4-Difluorobenze	10.31	9.98	10.64	10.30	-0.05
3 Chlorobenzene-d5	15.12	14.79	15.45	15.12	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G022112.b/mqxq01aa.d
Report Date: 22-Feb-2012 10:07

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech GEO
Client SDG: H2B200410
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQXQ01AA
Client Smp ID: A-PRE
Level: LOW
Operator: 7126
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allnew.spk
Quant Type: ISTD
Sublist File: to14nj.sub
Method File: /var/chem/gcms/mg.i/G022112.b/TO15.m
Misc Info: G022112,TO15,to14nj.sub,,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	10.00	10.81	108.13	70-130

Data File: /var/chem/gcms/mg.i/G022112.b/mqxq41aa.d
Report Date: 22-Feb-2012 10:09

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mqxq41aa.d
Lab Smp Id: MQXQ41AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G022112.b/TO15.m
Misc Info: G022112,TO15,to14nj.sub,,,,

Calibration Date: 21-FEB-2012
Calibration Time: 11:08
Client Smp ID: C-MID
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	199980	118988	280972	159329	-20.33
2 1,4-Difluorobenze	1056077	628366	1483788	847121	-19.79
3 Chlorobenzene-d5	1023553	609014	1438092	796834	-22.15

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.07
2 1,4-Difluorobenze	10.31	9.98	10.64	10.30	-0.05
3 Chlorobenzene-d5	15.12	14.79	15.45	15.12	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G022112.b/mqxq41aa.d
Report Date: 22-Feb-2012 10:09

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech GEO
Client SDG: H2B200410
Sample Matrix: GAS
Fraction: OTHER
Lab Smp Id: MQXQ41AA
Client Smp ID: C-MID
Level: LOW
Operator: 7126
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: allnew.spk
Quant Type: ISTD
Sublist File: to14nj.sub
Method File: /var/chem/gcms/mg.i/G022112.b/TO15.m
Misc Info: G022112,TO15,to14nj.sub,,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	10.00	10.76	107.58	70-130

Data File: /var/chem/gcms/mg.i/G022112.b/mqxq51aa.d
Report Date: 22-Feb-2012 10:09

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mqxq51aa.d
Lab Smp Id: MQXQ51AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G022112.b/TO15.m
Misc Info: G022112,TO15,to14nj.sub,,,,

Calibration Date: 21-FEB-2012
Calibration Time: 11:08
Client Smp ID: C-POST
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	199980	118988	280972	150325	-24.83
2 1,4-Difluorobenze	1056077	628366	1483788	815070	-22.82
3 Chlorobenzene-d5	1023553	609014	1438092	753981	-26.34

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.18	-0.07
2 1,4-Difluorobenze	10.31	9.98	10.64	10.30	-0.05
3 Chlorobenzene-d5	15.12	14.79	15.45	15.12	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G022112.b/mqxq51aa.d
Report Date: 22-Feb-2012 10:09

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech GEO
Sample Matrix: GAS
Lab Smp Id: MQXQ51AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: to14nj.sub
Client SDG: H2B200410
Fraction: OTHER
Client Smp ID: C-POST
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/mg.i/G022112.b/TO15.m
Misc Info: G022112,TO15,to14nj.sub,,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	10.00	10.87	108.67	70-130

Data File: /var/chem/gcms/mg.i/G022112.b/mqxq31aa.d
Report Date: 22-Feb-2012 10:08

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mg.i
Lab File ID: mqxq31aa.d
Lab Smp Id: MQXQ31AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Method File: /var/chem/gcms/mg.i/G022112.b/TO15.m
Misc Info: G022112,TO15,to14nj.sub,,,,

Calibration Date: 21-FEB-2012
Calibration Time: 11:08
Client Smp ID: C-PRE
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	199980	118988	280972	142608	-28.69
2 1,4-Difluorobenze	1056077	628366	1483788	758845	-28.14
3 Chlorobenzene-d5	1023553	609014	1438092	708947	-30.74

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.19	7.86	8.52	8.19	0.00
2 1,4-Difluorobenze	10.31	9.98	10.64	10.30	-0.05
3 Chlorobenzene-d5	15.12	14.79	15.45	15.12	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mg.i/G022112.b/mqxq31aa.d
Report Date: 22-Feb-2012 10:08

TestAmerica Knoxville

RECOVERY REPORT

Client Name: Tetra Tech GEO
Sample Matrix: GAS
Lab Smp Id: MQXQ31AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: to14nj.sub
Client SDG: H2B200410
Fraction: OTHER
Client Smp ID: C-PRE
Operator: 7126
SampleType: SAMPLE
Quant Type: ISTD
Method File: /var/chem/gcms/mg.i/G022112.b/TO15.m
Misc Info: G022112,TO15,to14nj.sub,,,,

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	10.00	9.934	99.34	70-130

TETRA TECH **CALCULATION WORKSHEET** PAGE 1 OF 1

CLIENT	JOB NUMBER		
LMC-Middle River	SDG HZB200410		
SUBJECT			
Sample Calculation			
BASED ON	DRAWING NUMBER		
BY	CHECKED BY	APPROVED BY	DATE
Ann Cognetti			March 6, 2012

Sample A-PRE; Trichloroethene

$$\frac{574063}{867181} * 10 * \frac{500}{200} * \frac{4\ ppbv}{0.36246} = 182.6\ ppbv$$

$$\frac{182.6\ ppbv * 131.4\ g/mole}{24.45\ L/mole} = 981.5\ ug/m^3$$

Sample Calculation

Tetra Tech GEO

Client Sample ID: A-PRE

GC/MS Volatiles

Lot-Sample # H2B200410 - 001 **Work Order #** MQXQ01AA **Matrix.....:** AIR

Date Sampled...: 02/16/2012
Prep Date.....: 02/21/2012
Prep Batch #.....: 2053031
Dilution Factor.: 10

Date Received..: 02/20/2012
Analysis Date... 02/21/2012

Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**29**	**2.0**	**110**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**7.5**	**2.0**	**31**	**8.1**
cis-1,2-Dichlorocthene	**34**	**2.0**	**140**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**140**	**2.0**	**760**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**180**	**2.0**	**980**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Sample Calculations

Data File: /var/chem/gcms/mg.i/G022112.b/mqxq01aa.d
Report Date: 22-Feb-2012 10:07

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/mg.i/G022112.b/mqxq01aa.d
Lab Smp Id: MQXQ01AA Client Smp ID: A-PRE
Inj Date : 21-FEB-2012 23:42
Operator : 7126 Inst ID: mg.i
Smp Info : ,10,0,,,
Misc Info : G022112,TO15,to14nj.sub,,,,
Comment :
Method : /var/chem/gcms/mg.i/G022112.b/TO15.m
Meth Date : 21-Feb-2012 16:18 barlozha Quant Type: ISTD
Cal Date : 16-DEC-2011 17:10 Cal File: gicl166.d
Als bottle: 12
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: to14nj.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	10.00000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	200.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	CONCENTRATIONS FINAL (ppb(v/v))
* 1	Bromochloromethane	128	8.184	8.189	(1.000)	157871	4.00000	4.000
* 2	1,4-Difluorobenzene	114	10.303	10.308	(1.000)	867181	4.00000	4.000
* 3	Chlorobenzene-d5	117	15.124	15.124	(1.000)	827327	4.00000	4.000
$ 4	4-Bromofluorobenzene	95	16.795	16.796	(1.111)	647984	4.32535	10.81
27	1,1-Dichloroethene	96	5.558	5.558	(0.679)	51652	1.14838	28.71
37	1,1-Dichloroethane	63	6.965	6.971	(0.851)	29035	0.30157	7.539
41	cis 1,2-Dichloroethene	96	7.882	7.882	(0.963)	70635	1.36264	34.06
45	1,1,1-Trichloroethane	97	9.133	9.138	(1.116)	702534	5.57171	139.3
56	Trichloroethene	130	11.004	11.004	(1.068)	574063	7.30553	182.6

Sample Calculation

Report Date : 19-Dec-2011 14:57

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-DEC-2011 12:39
End Cal Date : 16-DEC-2011 19:51
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mg.i/G121611I.b/TO15.m
Cal Date : 19-Dec-2011 14:15 tajh

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
56 Trichloroethene	0.46166	0.38041	0.36774	0.34412	0.34456	0.36458					
	0.32882	0.32972	0.34050				AVRG		0.36246		11.34917
180 ~ 2-nitropropane	+++++	+++++	+++++	0.67760	0.57199	0.50924					
	0.54961	0.53366	0.44038				AVRG		0.54708		14.31353
57 Dibromomethane	0.38205	0.34195	0.32850	0.31131	0.31278	0.32927					
	0.29611	0.29360	0.29454				AVRG		0.32112		8.89225
58 Bromodichloromethane	0.73654	0.66222	0.63466	0.62404	0.63573	0.65878					
	0.60232	0.59673	0.58954				AVRG		0.63784		7.06924
60 Methyl Methacrylate	+++++	0.36384	0.29573	0.30785	0.32861	0.29319					
	0.32289	0.31481	0.26198				AVRG		0.31111		9.58224
59 1,4-dioxane	+++++	0.11373	0.09201	0.09567	0.10035	0.09421					
	0.09764	0.09128	0.08198				AVRG		0.09586		9.44566
61 ~ methyl cyclohexane	0.57069	0.49343	0.49439	0.45808	0.45148	0.47692					
	0.42872	0.42315	0.42946				AVRG		0.46959		9.91899

Tetra Tech, Inc. **INTERNAL CORRESPONDENCE**

TO: **P. RICH** **DATE:** **APRIL 10, 2012**

FROM: **MICHELLE L. ALLEN** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SDG H2C190406

SAMPLES: 6/Air/VOC

A-MID	A-POST	A-PRE
C-MID	C-POST	C-PRE

Overview

The sample set for LMC – Middle River, SDG H2C190406 consisted of six (6) air samples. All six (6) air samples were analyzed for volatile organic compounds (VOC). No field duplicate pair was included in the sample delivery group (SDG).

The samples were collected by Tetra Tech GeoTrans, on March 15, 2012 and analyzed by TestAmerica Laboratories, Inc. All analyses were conducted in accordance with EPA Method TO-15 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, blank spike results, internal standard area recoveries, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major

No major noncompliances were noted.

Minor

No minor noncompliances were noted.

Notes

The continuing calibration Percent Differences (%Ds) for 1,2-dichloro-1,1,2,2-tetrafluoroethane, trichlorofluoromethane, and 1,2,4-trichlorobenzene performed on instrument ME on 03/22/12 @ 09:19 exceeded the 30% quality control limit but were less than 50%. All samples were affected. No action was necessary because only non-detected results were reported for these compounds in the affected samples.

All samples were analyzed at a 10X dilution with the exception of sample, A-PRE, which was analyzed at a 18.18X dilution.

The laboratory did not provide summary forms for the internal standards. The sample raw data were used to evaluate the internal standard areas.

Executive Summary

Laboratory Performance: Continuing calibration %Ds exceeded 30% for three target compounds.

Other Factors Affecting Data Quality: All samples were analyzed at dilutions.

The data for these analyses were reviewed with reference to Region III modifications to U.S. EPA National Functional Guidelines for Organic Data Validation (Sept. 1994) and EPA Method TO-15. The text of this report has been formulated to address only those problem areas affecting data quality.

Tetra Tech, Inc.
Michelle L. Allen
Chemist/Data Validator

Tetra Tech, Inc.
Joseph A. Samchuck
Quality Assurance Officer

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Appendix A

Qualified Analytical Results

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed

PROJ_NO: 03265	NSAMPLE	A-MID			A-POST			A-PRE			C-MID		
SDG: H2C190406	LAB_ID	H2C190406002			H2C190406003			H2C190406001			H2C190406005		
FRACTION: OV-M3	SAMP_DATE	3/15/2012			3/15/2012			3/15/2012			3/15/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		480			45			880			11	U	
1,1,2,2-TETRACHLOROETHANE		14	U		14	U		25	U		14	U	
1,1,2-TRICHLOROETHANE		11	U		11	U		20	U		11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		15	U		15	U		28	U		15	U	
1,1-DICHLOROETHANE		37			19			36			8.1	U	
1,1-DICHLOROETHENE		210			100			130			7.9	U	
1,2,4-TRICHLOROBENZENE		74	U		74	U		130	U		74	U	
1,2,4-TRIMETHYLBENZENE		9.8	U		9.8	U		18	U		9.8	U	
1,2-DIBROMOETHANE		15	U		15	U		28	U		15	U	
1,2-DICHLOROBENZENE		12	U		12	U		22	U		12	U	
1,2-DICHLOROETHANE		8.1	U		8.1	U		15	U		8.1	U	
1,2-DICHLOROPROPANE		9.2	U		9.2	U		17	U		9.2	U	
1,2-DICHLOROTETRAFLUOROETHANE		14	U		14	U		25	U		14	U	
1,3,5-TRIMETHYLBENZENE		9.8	U		9.8	U		18	U		9.8	U	
1,3-DICHLOROBENZENE		12	U		12	U		22	U		12	U	
1,4-DICHLOROBENZENE		12	U		12	U		22	U		12	U	
BENZENE		6.4	U		6.4	U		12	U		6.4	U	
BENZYL CHLORIDE		21	U		21	U		38	U		21	U	
BROMOMETHANE		7.8	U		7.8	U		14	U		7.8	U	
CARBON TETRACHLORIDE		13	U		13	U		23	U		13	U	
CHLOROBENZENE		9.2	U		9.2	U		17	U		9.2	U	
CHLOROETHANE		5.3	U		5.3	U		9.6	U		5.3	U	
CHLOROFORM		9.8	U		9.8	U		18	U		9.8	U	
CHLOROMETHANE		10	U		10	U		19	U		10	U	
CIS-1,2-DICHLOROETHENE		190			82			160			7.9	U	
CIS-1,3-DICHLOROPROPENE		9.1	U		9.1	U		17	U		9.1	U	
DICHLORODIFLUOROMETHANE		9.9	U		9.9	U		18	U		9.9	U	
ETHYLBENZENE		8.7	U		8.7	U		16	U		8.7	U	
HEXACHLOROBUTADIENE		110	U		110	U		190	U		110	U	
M+P-XYLENES		8.7	U		8.7	U		16	U		8.7	U	
METHYLENE CHLORIDE		17	U		17	U		32	U		17	U	
O-XYLENE		8.7	U		8.7	U		16	U		8.7	U	
STYRENE		8.5	U		8.5	U		15	U		8.5	U	
TETRACHLOROETHENE		14	U		14	U		25	U		14	U	
TOLUENE		7.5	U		7.5	U		14			7.5	U	

PROJ_NO: 03265	NSAMPLE	C-POST			C-PRE		
SDG: H2C190406	LAB_ID	H2C190406006			H2C190406004		
FRACTION: OV-M3	SAMP_DATE	3/15/2012			3/15/2012		
MEDIA: AIR	QC_TYPE	NM			NM		
	UNITS	UG/M3			UG/M3		
	PCT_SOLIDS						
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		11	U		11	U	
1,1,2,2-TETRACHLOROETHANE		14	U		14	U	
1,1,2-TRICHLOROETHANE		11	U		11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		15	U		15	U	
1,1-DICHLOROETHANE		8.1	U		8.1	U	
1,1-DICHLOROETHENE		7.9	U		7.9	U	
1,2,4-TRICHLOROBENZENE		74	U		74	U	
1,2,4-TRIMETHYLBENZENE		9.8	U		9.8	U	
1,2-DIBROMOETHANE		15	U		15	U	
1,2-DICHLOROBENZENE		12	U		12	U	
1,2-DICHLOROETHANE		8.1	U		8.1	U	
1,2-DICHLOROPROPANE		9.2	U		9.2	U	
1,2-DICHLOROTETRAFLUOROETHANE		14	U		14	U	
1,3,5-TRIMETHYLBENZENE		9.8	U		9.8	U	
1,3-DICHLOROBENZENE		12	U		12	U	
1,4-DICHLOROBENZENE		12	U		12	U	
BENZENE		6.4	U		6.4	U	
BENZYL CHLORIDE		21	U		21	U	
BROMOMETHANE		7.8	U		7.8	U	
CARBON TETRACHLORIDE		13	U		13	U	
CHLOROBENZENE		9.2	U		9.2	U	
CHLOROETHANE		5.3	U		5.3	U	
CHLOROFORM		9.8	U		9.8	U	
CHLOROMETHANE		10	U		10	U	
CIS-1,2-DICHLOROETHENE		7.9	U		93		
CIS-1,3-DICHLOROPROPENE		9.1	U		9.1	U	
DICHLORODIFLUOROMETHANE		9.9	U		9.9	U	
ETHYLBENZENE		8.7	U		8.7	U	
HEXACHLOROBUTADIENE		110	U		110	U	
M+P-XYLENES		8.7	U		8.7	U	
METHYLENE CHLORIDE		17	U		17	U	
O-XYLENE		8.7	U		8.7	U	
STYRENE		8.5	U		8.5	U	
TETRACHLOROETHENE		14	U		16		
TOLUENE		7.5	U		7.5	U	

PROJ_NO: 03265	NSAMPLE	A-MID			A-POST			A-PRE			C-MID		
SDG: H2C190406	LAB_ID	H2C190406002			H2C190406003			H2C190406001			H2C190406005		
FRACTION: OV-M3	SAMP_DATE	3/15/2012			3/15/2012			3/15/2012			3/15/2012		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
TRANS-1,3-DICHLOROPROPENE		9.1	U		9.1	U		17	U		9.1	U	
TRICHLOROETHENE		38			11	U		1100			11	U	
TRICHLOROFLUOROMETHANE		11	U		11	U		20	U		11	U	
VINYL CHLORIDE		5.1	U		5.1	U		9.3	U		5.1	U	

PROJ_NO: 03265	NSAMPLE	C-POST			C-PRE		
SDG: H2C190406	LAB_ID	H2C190406006			H2C190406004		
FRACTION: OV-M3	SAMP_DATE	3/15/2012			3/15/2012		
MEDIA: AIR	QC_TYPE	NM			NM		
	UNITS	UG/M3			UG/M3		
	PCT_SOLIDS						
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
TRANS-1,3-DICHLOROPROPENE		9.1	U		9.1	U	
TRICHLOROETHENE		11	U		58		
TRICHLOROFLUOROMETHANE		11	U		11	U	
VINYL CHLORIDE		5.1	U		5.1	U	

Appendix B

Results as Reported by the Laboratory

Tetra Tech GEO

Client Sample ID: A-MID

GC/MS Volatiles

Lot-Sample #	H2C190406 - 002	**Work Order #**	MRGV21AA	**Matrix.....:**	AIR
Date Sampled...:	03/15/2012	**Date Received..:**	03/17/2012		
Prep Date.....:	03/22/2012	**Analysis Date...**	03/22/2012		
Prep Batch #.....:	2082131				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**52**	**2.0**	**210**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**9.2**	**2.0**	**37**	**8.1**
cis-1,2-Dichloroethene	**49**	**2.0**	**190**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**88**	**2.0**	**480**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**7.1**	**2.0**	**38**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: A-MID

GC/MS Volatiles

Lot-Sample # H2C190406 - 002 Work Order # MRGV21AA Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: A-POST

GC/MS Volatiles

Lot-Sample #	H2C190406 - 003	**Work Order #**	MRGV41AA	**Matrix.....:**	AIR
Date Sampled...:	03/15/2012	**Date Received..:**	03/17/2012		
Prep Date.....:	03/22/2012	**Analysis Date...**	03/22/2012		
Prep Batch #.....:	2082131				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	**26**	**2.0**	**100**	**7.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	**4.7**	**2.0**	**19**	**8.1**
cis-1,2-Dichloroethene	**21**	**2.0**	**82**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	**8.2**	**2.0**	**45**	**11**
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: A-POST

GC/MS Volatiles

Lot-Sample # H2C190406 - 003 Work Order # MRGV41AA Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: A-PRE

GC/MS Volatiles

Lot-Sample #	H2C190406 - 001	**Work Order #**	MRGV01AA	**Matrix.....:**	AIR
Date Sampled...:	03/15/2012	**Date Received..:**	03/17/2012		
Prep Date.....:	03/22/2012	**Analysis Date...**	03/22/2012		
Prep Batch #.....:	2082131				
Dilution Factor.:	18.18	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	3.6	ND	18
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	ND	25
Chloromethane	ND	9.1	ND	19
Vinyl chloride	ND	3.6	ND	9.3
Bromomethane	ND	3.6	ND	14
Chloroethane	ND	3.6	ND	9.6
Trichlorofluoromethane	ND	3.6	ND	20
1,1-Dichloroethene	**34**	**3.6**	**130**	**14**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	3.6	ND	28
Methylene chloride	ND	9.1	ND	32
1,1-Dichloroethane	**8.8**	**3.6**	**36**	**15**
cis-1,2-Dichloroethene	**41**	**3.6**	**160**	**14**
Chloroform	ND	3.6	ND	18
1,1,1-Trichloroethane	**160**	**3.6**	**880**	**20**
Carbon tetrachloride	ND	3.6	ND	23
Benzene	ND	3.6	ND	12
1,2-Dichloroethane	ND	3.6	ND	15
Trichloroethene	**210**	**3.6**	**1100**	**20**
1,2-Dichloropropane	ND	3.6	ND	17
cis-1,3-Dichloropropene	ND	3.6	ND	17
Toluene	**3.7**	**3.6**	**14**	**14**
trans-1,3-Dichloropropene	ND	3.6	ND	17
1,1,2-Trichloroethane	ND	3.6	ND	20
Tetrachloroethene	ND	3.6	ND	25
1,2-Dibromoethane (EDB)	ND	3.6	ND	28
Chlorobenzene	ND	3.6	ND	17
Ethylbenzene	ND	3.6	ND	16
m-Xylene & p-Xylene	ND	3.6	ND	16
o-Xylene	ND	3.6	ND	16
Styrene	ND	3.6	ND	15
1,1,2,2-Tetrachlorocthane	ND	3.6	ND	25
1,3,5-Trimethylbenzene	ND	3.6	ND	18
1,2,4-Trimethylbenzene	ND	3.6	ND	18
1,3-Dichlorobenzene	ND	3.6	ND	22
1,4-Dichlorobenzene	ND	3.6	ND	22
1,2-Dichlorobenzene	ND	3.6	ND	22
Benzyl chloride	ND	7.3	ND	38

Tetra Tech GEO

Client Sample ID: A-PRE

GC/MS Volatiles

Lot-Sample # H2C190406 - 001 **Work Order #** MRGV01AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	18	ND	130
Hexachlorobutadiene	ND	18	ND	190

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: C-MID

GC/MS Volatiles

Lot-Sample #	H2C190406 - 005	**Work Order #**	MRGV61AA	**Matrix.....:**	AIR
Date Sampled...:	03/15/2012	**Date Received..:**	03/17/2012		
Prep Date.....:	03/22/2012	**Analysis Date...**	03/22/2012		
Prep Batch #.....:	2082131				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	ND	2.0	ND	7.9
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: C-MID

GC/MS Volatiles

Lot-Sample # H2C190406 - 005 Work Order # MRGV61AA Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: C-POST

GC/MS Volatiles

Lot-Sample #	H2C190406 - 006	**Work Order #**	MRGV71AA	**Matrix.....:**	AIR
Date Sampled...:	03/15/2012	**Date Received..:**	03/17/2012		
Prep Date.....:	03/22/2012	**Analysis Date...**	03/22/2012		
Prep Batch #.....:	2082131				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	ND	2.0	ND	7.9
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	ND	2.0	ND	11
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	ND	2.0	ND	14
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: C-POST

GC/MS Volatiles

Lot-Sample # H2C190406 - 006 Work Order # MRGV71AA Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: C-PRE

GC/MS Volatiles

Lot-Sample #	H2C190406 - 004	**Work Order #**	MRGV51AA	**Matrix.....:**	AIR
Date Sampled...:	03/15/2012	**Date Received..:**	03/17/2012		
Prep Date.....:	03/22/2012	**Analysis Date...**	03/22/2012		
Prep Batch #.....:	2082131				
Dilution Factor.:	10	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Chloromethane	ND	5.0	ND	10
Vinyl chloride	ND	2.0	ND	5.1
Bromomethane	ND	2.0	ND	7.8
Chloroethane	ND	2.0	ND	5.3
Trichlorofluoromethane	ND	2.0	ND	11
1,1-Dichloroethene	ND	2.0	ND	7.9
1,1,2-Trichloro-1,2,2-trifluoroctha ne	ND	2.0	ND	15
Methylene chloride	ND	5.0	ND	17
1,1-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	**23**	**2.0**	**93**	**7.9**
Chloroform	ND	2.0	ND	9.8
1,1,1-Trichloroethane	ND	2.0	ND	11
Carbon tetrachloride	ND	2.0	ND	13
Benzene	ND	2.0	ND	6.4
1,2-Dichloroethane	ND	2.0	ND	8.1
Trichloroethene	**11**	**2.0**	**58**	**11**
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
Toluene	ND	2.0	ND	7.5
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,1,2-Trichloroethane	ND	2.0	ND	11
Tetrachloroethene	**2.4**	**2.0**	**16**	**14**
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
Chlorobenzene	ND	2.0	ND	9.2
Ethylbenzene	ND	2.0	ND	8.7
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
1,2-Dichlorobenzene	ND	2.0	ND	12
Benzyl chloride	ND	4.0	ND	21

Tetra Tech GEO

Client Sample ID: C-PRE

GC/MS Volatiles

Lot-Sample # H2C190406 - 004 Work Order # MRGV51AA Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	10	ND	74
Hexachlorobutadiene	ND	10	ND	110

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Appendix C

Support Documentation

LMC - MIDDLE RIVER
SDG H2C190406

SAMPLE IDENTIFICATION	A-PRE		
COMPOUND	TRICHLOROETHENE	MW=	131.388
		GAS CONSTANT =	24.45
COMPOUND AREA	481440		
INTERNAL STANDARD AMOUNT (ppbv)	4		
CALIBRATION VOLUME (ppbv)	500		
DILUTION FACTOR	18.18		
INTERNAL STANDARD AREA	1032903		
AVERAGE RRF	0.39897		
SAMPLE VOLUME (ppbv)	200		

212.3911 ppbv
1141.33 µg/m³

Data File: /var/chem/gcms/me.i/E032212.b/mrgv01aa.d
Report Date: 23-Mar-2012 10:12

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/me.i/E032212.b/mrgv01aa.d
Lab Smp Id: MRGV01AA Client Smp ID: A-PRE
Inj Date : 22-MAR-2012 17:20
Operator : 7126 Inst ID: me.i
Smp Info : ,18.18,0,,,
Misc Info : E032212,TO155,to14nj.sub,,
Comment :
Method : /var/chem/gcms/me.i/E032212.b/TO155.m
Meth Date : 23-Mar-2012 10:12 tajh Quant Type: ISTD
Cal Date : 01-MAR-2012 22:23 Cal File: eicc019.d
Als bottle: 6
Dil Factor: 18.18000
Integrator: HP RTE Compound Sublist: to14nj.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	18.18000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	200.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	CONCENTRATIONS FINAL (ppb(v/v))
*	1 Bromochloromethane	128	8.161	8.172	(1.000)	204835	4.00000	4.000
*	2 1,4-Difluorobenzene	114	10.313	10.318	(1.000)	1032903	4.00000	4.000
*	3 Chlorobenzene-d5	117	15.160	15.165	(1.000)	854628	4.00000	4.000
$	4 4-Bromofluorobenzene	95	16.833	16.833	(1.110)	617776	3.97450	9.936
	28 1,1-Dichloroethene	96	5.541	5.547	(0.679)	44567	0.74092	33.67
	38 1,1-Dichloroethane	63	6.946	6.956	(0.851)	27289	0.19337	8.788
	42 cis 1,2-Dichloroethene	96	7.855	7.865	(0.962)	62252	0.89230	40.55
	46 1,1,1-Trichloroethane	97	9.157	9.162	(1.122)	668615	3.56519	162.0
→	57 Trichloroethene	130	11.034	11.045	(1.070)	481440	4.67305	212.4
	66 Toluene	91	13.148	13.153	(0.867)	18743	0.08128	3.694

RRF = 0.39897

Data File: /var/chem/gcms/me.i/E032212.b/mrgv01aa.d
Report Date: 23-Mar-2012 10:12

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: me.i
Lab File ID: mrgv01aa.d
Lab Smp Id: MRGV01AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 7126
Calibration Date: 22-MAR-2012
Calibration Time: 09:19
Client Smp ID: A-PRE
Level: LOW
Sample Type: AIR
Method File: /var/chem/gcms/me.i/E032212.b/TO155.m
Misc Info: E032212,TO155,to14nj.sub,,

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	221521	131805	311237	204835	-7.53
2 1,4-Difluorobenze	1141797	679369	1604225	1032903	-9.54
3 Chlorobenzene-d5	986603	587029	1386177	854628	-13.38

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.17	7.84	8.50	8.16	-0.13
2 1,4-Difluorobenze	10.32	9.99	10.65	10.31	-0.05
3 Chlorobenzene-d5	15.17	14.84	15.50	15.16	-0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

SAMPLE SUMMARY

H2C190406

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MRGV0	001	A-PRE	03/15/12	11:08
MRGV2	002	A-MID	03/15/12	11:09
MRGV4	003	A-POST	03/15/12	11:10
MRGV5	004	C-PRE	03/15/12	11:57
MRGV6	005	C-MID	03/15/12	11:58
MRGV7	006	C-POST	03/15/12	11:59

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H2C190406

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

The EPA method requires that all target analytes in the continuing calibration verification standard be within 30% difference from the initial calibration. According to the laboratory standard operating procedure, the continuing calibration is acceptable if it meets the laboratory control sample acceptance criteria. Even though the calibration verification analyzed on 3/22/12 exhibited a % difference of > 30% for 1,2-dichlorotetrafluoroethane and trichlorofluoromethane, the results were within the LCS acceptance limits.

For this method, the continuing calibration verification standard and the LCS are the same sample. While the result for 1,2,4-trichlorobenzene is flagged as being outside limits for batch 2082131, the results met the acceptance criteria which allows for 2 analytes to be within marginal exceedence limits.

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

1-12C190406

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Peter Rich	**Sampled By:** Dawn Markiewicz	1 of 1 COCs
Company: TetraTech GEO	**Phone:** (410) 990-4607		
Address: 51 Franklin St. Suite 400	**Site Contact:**		
City/State/Zip: Annapolis, MD 21403	**TAL Contact:**		
Phone: (410) 990-4607			
FAX: (410) 990-4749			
Project Name: LMC SSD Oem	**Analysis Turnaround Time**		
Site/location: LMC - MRC	Standard (Specify)		
PO # 117-0507480.01	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
A-PRE	3/15/12	1108					L5169	X											
A-MID	↓	1109					DL-1225	X											
A-POST	↓	1110					L-5192	X											
C-PRE	↓	1157					L5176	X											
C-MID	↓	1158					L5151	X											
C-POST	↓	1159					L3841	X											

Sampled by :

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

1 Box Rec'd @ Ambient Temp with custody seal intact
[illegible] 3/17/12
1 Box Fed X # 8268 6956 0490

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

6 CANS / NO Flows

Special Instructions/QC Requirements & Comments:

Canisters Shipped by: [signature]	Date/Time: 3/15/12 @ 1500	Canisters Received by: [signature] 3/17/12 855
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2C190406*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
3/19/12	[illegible]	29.05	MRGV0	L5169	+0.1	—												9646
			MRGV2	SL1225	+0.2	—												9712
			MRGV4	L5192	+0.1	—												9695
			MRGV5	L5176	+0.1	—												9738
			MRGV6	L5151	-0.2	—												9742
			MRGV7	L3841	-0.6	—												

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 3/22/12
Time: 14:11:41

LEV 1	LEV 2		LEV 1	LEV 2	
_	_	Blank	_	_	Weights/Volumes
_	_	Check	_	_	Spike & Surrogate Worksheet
_	_	MS/MSD	_	_	Vial contains correct volume
			_	_	Labels, greenbars, worksheets
			_	_	computer batch: correct & all match
			_	_	Anomalies to Extraction Method

_ Expanded Deliverable
_ COC Completed
_ Bench Sheet Copied
_ Package Submitted to AnalyticalGroup
_ Bench Sheet Copied per COC

Extractionist: _____
_____
Concentrationist: _____
_____

****
* *
* QC BATCH: 2082131 *
* *
****

PREP DATE: 3/22/12
COMP DATE: 3/23/12

Reviewer/Date: _____ / 0/00/00

Volatile Organics by GC/MS (TO-15)
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH'S INIT	PH'S ADJ1	PH'S ADJ2	SOLVENTS EXTRACTION	SOLVENTS VOL	SOLVENTS EXCHANGE	SOLVENTS VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	4/02/12	H2C190406-001 **MRGV0-1-AA**	D	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	4/02/12	H2C190406-002 **MRGV2-1-AA**	D	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	4/02/12	H2C190406-003 **MRGV4-1-AA**	D	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	4/02/12	H2C190406-004 **MRGV5-1-AA**	D	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	4/02/12	H2C190406-005 **MRGV6-1-AA**	D	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	4/02/12	H2C190406-006 **MRGV7-1-AA**	D	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/29/12	H2C190440-001 **MRHAN-1-AA**	R	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															

X4

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 3/22/12
Time: 14:11:41

QC BATCH: 2082131

PREP DATE: 3/22/12
COMP DATE: 3/23/12

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	SOLVENTS VOL	SOLVENTS EXCHANGE	SOLVENTS VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	3/29/12	H2C190440-002 **MRHAP-1-AA**	R	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/29/12	H2C190440-003 **MRHAQ-1-AA**	R	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/29/12	H2C190440-004 **MRHAT-1-AA**	R	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/29/12	H2C190440-005 **MRHAW-1-AA**	R	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	4/02/12	H2C200448-010 **MRH36-1-AA**	R	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	4/02/12	H2C200448-011 **MRH37-1-AA**	R	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	4/02/12	H2C200448-012 **MRH38-1-AA**	R	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/30/12	H2C210408-001 **MRJG6-1-AA**	R	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/30/12	H2C210408-002 **MRJG7-1-AA**	R	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	3/30/12	H2C210408-003 **MRJG8-1-AA**	R	88	U6	AIR	mL	NA	NA	NA		.0		.0	
COMMENTS:															

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 3/22/12
Time: 14:11:41

QC BATCH: 2082131

PREP DATE: 3/22/12
COMP DATE: 3/23/12

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION VOL	SOLVENTS EXCHANGE VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	4/06/12	H2C220404-001 **MRJ0W-1-AA**	D	88	U6	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	4/06/12	H2C220404-002 **MRJ0X-1-AA**	D	88	U6	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	4/06/12	H2C220404-003 **MRJ00-1-AA**	D	88	U6	AIR	mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	0/00/00	H2C220000-131 **MRKCA-1-AA**B		88	U6	AIR	**500mL** 500.00mL	NA	NA	NA	.0	.0	
COMMENTS:													
0/00/00	0/00/00	H2C220000-131 **MRKCA-1-ACC**		88	U6	AIR	**100mL** 100.00mL	NA	NA	NA	.0	.0	
COMMENTS:													

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 22

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2C220000 - 131B	Work Order #	MRKCA1AA	Matrix.....:	AIR
	03/15/2012	Date Received..:	03/17/2012		
Prep Date.....:	03/22/2012	Analysis Date...	03/22/2012		
Prep Batch #.....:	2082131				
Dilution Factor.:	1	Method.....:	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Dichlorodifluoromethane	ND	0.20	ND	0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Chloromethane	ND	0.50	ND	1.0
Vinyl chloride	ND	0.20	ND	0.51
Bromomethane	ND	0.20	ND	0.78
Chloroethane	ND	0.20	ND	0.53
Trichlorofluoromethane	ND	0.20	ND	1.1
1,1-Dichloroethene	ND	0.20	ND	0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.20	ND	1.5
Methylene chloride	ND	0.50	ND	1.7
1,1-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
Chloroform	ND	0.20	ND	0.98
1,1,1-Trichloroethane	ND	0.20	ND	1.1
Carbon tetrachloride	ND	0.20	ND	1.3
Benzene	ND	0.20	ND	0.64
1,2-Dichloroethane	ND	0.20	ND	0.81
Trichloroethene	ND	0.20	ND	1.1
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91
Toluene	ND	0.20	ND	0.75
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Tetrachloroethene	ND	0.20	ND	1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
Chlorobenzene	ND	0.20	ND	0.92
Ethylbenzene	ND	0.20	ND	0.87
m-Xylene & p-Xylene	ND	0.20	ND	0.87
o-Xylene	ND	0.20	ND	0.87
Styrene	ND	0.20	ND	0.85
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4
1,3,5-Trimethylbenzene	ND	0.20	ND	0.98
1,2,4-Trimethylbenzene	ND	0.20	ND	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	ND	0.20	ND	1.2
1,2-Dichlorobenzene	ND	0.20	ND	1.2
Benzyl chloride	ND	0.40	ND	2.1

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2C220000 - 131B **Work Order #** MRKCA1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,2,4-Trichlorobenzene	ND	1.0	ND	7.4
Hexachlorobutadiene	ND	1.0	ND	11

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	101	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C220000 - 131C Work Order # MRKCA1AC Matrix.....: AIR

	03/15/2012	Date Received..:	03/17/2012
Prep Date.....:	03/22/2012	Analysis Date...	03/22/2012
Prep Batch #.....:	2082131		
Dilution Factor.:	1	Method.....:	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Dichlorodifluoromethane	5.00	6.42	25	31.8	128	60 - 140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	5.00	6.97	35	48.7	139	60 - 140
Chloromethane	5.00	5.69	10	11.7	114	60 - 140
Vinyl chloride	5.00	5.52	13	14.1	110	70 - 130
Bromomethane	5.00	5.26	19	20.4	105	70 - 130
Chloroethane	5.00	5.29	13	14.0	106	70 - 130
Trichlorofluoromethane	5.00	6.54	28	36.7	131	60 - 140
1,1-Dichloroethene	5.00	5.13	20	20.3	103	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.29	38	40.5	106	70 - 130
Methylene chloride	5.00	4.30	17	15.0	86	70 - 130
1,1-Dichloroethane	5.00	5.00	20	20.2	100	70 - 130
cis-1,2-Dichloroethene	5.00	4.55	20	18.1	91	70 - 130
Chloroform	5.00	5.16	24	25.2	103	70 - 130
1,1,1-Trichloroethane	5.00	5.41	27	29.5	108	70 - 130
Carbon tetrachloride	5.00	5.50	31	34.6	110	70 - 130
Benzene	5.00	4.12	16	13.1	82	70 - 130
1,2-Dichloroethane	5.00	5.26	20	21.3	105	70 - 130
Trichloroethene	5.00	4.06	27	21.8	81	70 - 130
1,2-Dichloropropane	5.00	4.37	23	20.2	87	70 - 130
cis-1,3-Dichloropropene	5.00	4.44	23	20.2	89	70 - 130
Toluene	5.00	4.43	19	16.7	89	70 - 130
trans-1,3-Dichloropropene	5.00	4.89	23	22.2	98	70 - 130
1,1,2-Trichloroethane	5.00	4.57	27	24.9	91	70 - 130
Tetrachloroethene	5.00	4.48	34	30.4	90	70 - 130
1,2-Dibromoethane (EDB)	5.00	4.47	38	34.3	89	70 - 130
Chlorobenzene	5.00	4.30	23	19.8	86	70 - 130
Ethylbenzene	5.00	4.76	22	20.7	95	70 - 130
m-Xylene & p-Xylene	10.0	9.76	43	42.4	98	70 - 130
o-Xylene	5.00	4.84	22	21.0	97	70 - 130
Styrene	5.00	4.43	21	18.9	89	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.50	34	30.9	90	70 - 130
1,3,5-Trimethylbenzene	5.00	4.26	25	21.0	85	70 - 130
1,2,4-Trimethylbenzene	5.00	4.41	25	21.7	88	70 - 130
1,3-Dichlorobenzene	5.00	4.07	30	24.5	81	70 - 130
1,4-Dichlorobenzene	5.00	4.04	30	24.3	81	70 - 130
1,2-Dichlorobenzene	5.00	4.08	30	24.5	82	70 - 130

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2C220000 - 131C Work Order # MRKCA1AC Matrix.....: AIR

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzyl chloride	5.00	4.29	26	22.2	86	70 - 130
1,2,4-Trichlorobenzene	5.00	2.75	37	20.4 a ME	55 a ME	60 - 140
Hexachlorobutadiene	5.00	3.94	53	42.1	79	60 - 140

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	108	60 - 140

Qualifiers

a	Spiked analyte recovery is outside stated control limits.
ME	The percent recovery of the analyte is outside the control limits but within marginal exceedance limits.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

120301

TA-Knoxville
TO-14 Autosampler Log

Sample	Position/Volume	Date	Time
BFB	16 - 100 mL	3/1/2012	12:13:15 PM
blk	16 - 501 mL	3/1/2012	12:52:21 PM
MDL	1 - 51 mL	3/1/2012	1:51:59 PM
ICAL1	1 - 101 mL	3/1/2012	2:55:30 PM
ICAL02	1 - 201 mL	3/1/2012	3:50:07 PM
ICAL03	2 - 201 mL	3/1/2012	4:45:20 PM
ICAL04	3 - 201 mL	3/1/2012	5:40:10 PM
ICAL05	4 - 202 mL	3/1/2012	6:34:42 PM
ICAL06	5 - 200 mL	3/1/2012	7:29:12 PM
ICAL07	6 - 200 mL	3/1/2012	8:26:02 PM
ICAL08	7 - 201 mL	3/1/2012	9:23:17 PM
ICAL09	8 - 201 mL	3/1/2012	10:23:22 PM
BLK	16 - 200 mL	3/1/2012	11:20:35 PM
ICV	9 - 100 mL	3/2/2012	12:18:48 AM
LCS	9 - 201 mL	3/2/2012	1:20:23 AM
BLK	16 - 500 mL	3/2/2012	7:36:06 AM
blk10	10 - 501 mL	3/2/2012	8:40:45 AM

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: [illegible] Qtims Batch: ICAL

Date: 3/1/12 ICAL Batch: ED30112I Target Batch: NA IS #1 Area: 232168

Surr/IS ID & Vol.: V4254Dmx System Date/Time ok (y/n): Y

Preventive Maintenance Performed ☒ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1213	Y	Tune	EBFBC01	—	16	100	1	
1252	N	Blk	BLK1	—	16	500		
1352	N	mo2	MOLCHK	CX-2331	1	50		
1435	Y	ICAL1 3/1/12 3/1/12	~~EICC01~~ EICC011		1	100		
1550		2	EICC012		1	200		
1645		3	3	~~CX-2330~~ CX-2330	2			3/1/12
1740		4	4	CX-2329	3			
1834		5	5	CX-2328	4			
1929		6	6	CX-2327	5			
2026		7	7	CX-2326	6			
2123		8	8	CX-2325	7			
2223		9	9	CX-2324	8			
2320	N	Blk2	Blk2	—	16	200		
0018	N	Icv	EICVC01	CX-2321	9	100		
0120	N	Lcs	ELCSC01		9	200		
0736	N	Blk	BLK3	—	16	500		
0840	~~N~~ Y	Lot	9754	6683	10			
Aborted	N	Lot 9750	6508	→	11			STD can 3/2/12
		Lot 9747	6520	→	12			
			92021	→	13			
			7489	→	14			
			12521	→	15			
		Lot 9751	1369	→	STD			STD CAN (POS1)
		Lot 9752	6383	→	2			
				3/2/12				

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/2/12

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR

Inst: ME

Analyst: [signature] Qtims Batch: _____

Date: 3/2/12 ICAL Batch: E030212 Target Batch: _____ IS #1 Area: 327385

Surr/IS ID & Vol.: V425 40mL System Date/Time ok (y/n): Y

Preventive Maintenance Performed □ Daily _____

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
1004	Y	Tune	E030212	—	16	100	1	
1057	Y	CCV	E030212	CX-2321	15	100	1	2nd Source

3/2/12

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: [signature] Date: 3/2/12

Data File: /chem/gcms/me.i/E030112I.b/ebfbo01.d

Date : 01-MAR-2012 12:13

Client ID: BFB

Instrument: me.i

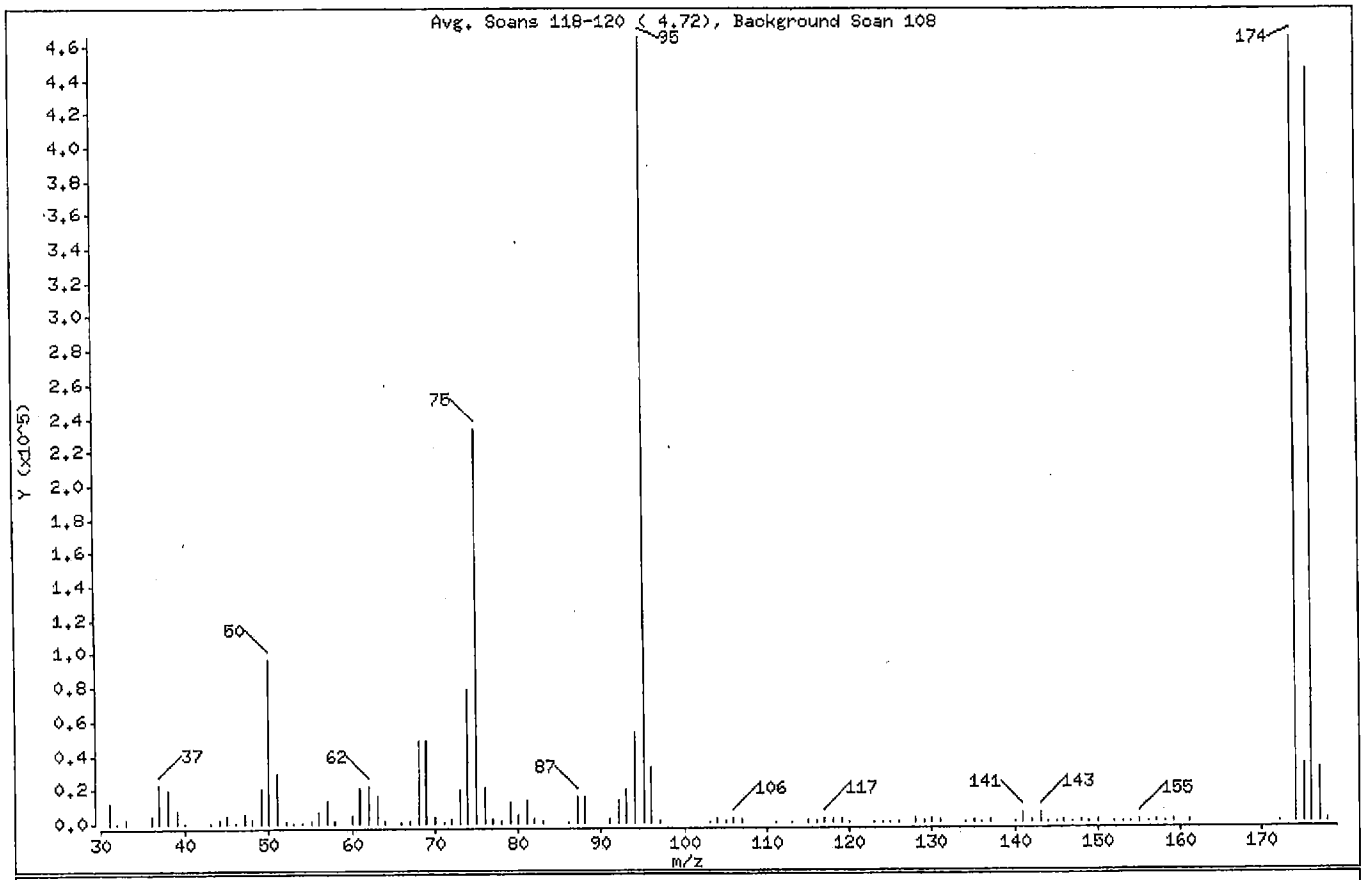
Sample Info: BFB,,3,,,BFB

Operator: 22980

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.65
75	30.00 - 60.00% of mass 95	50.21
96	5.00 - 9.00% of mass 95	6.82
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	100.00
175	5.00 - 9.00% of mass 174	7.23 (7.23)
176	95.00 - 101.00% of mass 174	95.79 (95.79)
177	5.00 - 9.00% of mass 176	6.58 (6.87)

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Calibration File Names:
Level 1: /var/chem/gcms/me.i/E030112I.b/eicc011.d
Level 2: /var/chem/gcms/me.i/E030112I.b/eicc012.d
Level 3: /var/chem/gcms/me.i/E030112I.b/eicc013.d
Level 4: /var/chem/gcms/me.i/E030112I.b/eicc014.d
Level 5: /var/chem/gcms/me.i/E030112I.b/eicc015.d
Level 6: /var/chem/gcms/me.i/E030112I.b/eicc016.d
Level 7: /var/chem/gcms/me.i/E030112I.b/eicc017.d
Level 8: /var/chem/gcms/me.i/E030112I.b/eicc018.d
Level 9: /var/chem/gcms/me.i/E030112I.b/eicc019.d

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
M 5 Xylene (total)	0.89170	1.09383	1.16276	1.03808	1.11300	0.97030					
	0.94635	0.96846	0.92931				AVRG		1.01264		9.20807
6 Chlorodifluoromethane	+++++	0.87357	0.64955	0.54868	0.51653	0.52863					
	0.47805	0.46565	0.41830				AVRG		0.55987		25.71091
7 Propene	+++++	+++++	1.71047	1.48694	1.60516	1.58241					
	1.34117	1.24527	1.08331				AVRG		1.43639		15.50870

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	4 Level 7	8 Level 8	16 Level 9									
10 Dichlorodifluoromethane	5.01574	5.81111	5.31139	4.71907	4.93224	5.20906						
	4.43004	4.18993	3.81244				AVRG		4.82567		12.69028	
9 Chloromethane	+++++	0.62756	0.63992	0.52123	0.52161	0.54915						
	0.46243	0.43814	0.38750				AVRG		0.51844		16.99711	
11 1,2-Dichlorotetrafluoroethane	3.24301	3.53067	2.74501	2.64147	2.69905	2.76148						
	2.43265	2.23109	2.31643				AVRG		2.73343		15.42683	
8 ~ acetaldehyde	+++++	+++++	+++++	52994	122254	110369						
	208810	454487	786257				QUAD	0.000e+00	4.05775	1.68267	0.99140	
12 Methanol	+++++	+++++	+++++	0.49468	0.31095	0.31593						
	0.23149	0.19587	+++++				AVRG		0.30978		37.27321	<-✓ NT
13 Vinyl Chloride	1.62055	1.76455	1.73335	1.51868	1.63996	1.73980						
	1.47718	1.44502	1.31719				AVRG		1.58403		9.72451	
14 n-Butane	+++++	+++++	3.32048	2.46995	2.50382	2.62897						
	2.15745	2.13803	1.90110				AVRG		2.44569		18.86435	

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
15 1,3-Butadiene	1.27522	1.36639	1.24382	1.13583	1.17033	1.21436					
	1.06497	1.05261	0.96294				AVRG		1.16516		10.75810
16 Bromomethane	1.83976	1.93665	1.78367	1.51919	1.48156	1.56504					
	1.40593	1.35812	1.26275				AVRG		1.57252		14.73361
18 Chloroethane	0.61696	0.79320	0.73103	0.68032	0.67210	0.70241					
	0.60615	0.63356	0.60139				AVRG		0.67079		9.57211
17 ~ ethanol	+++++	+++++	26299	40235	110475	215202					
	404097	755742	1152858				QUAD	0.000e+00	1.50978	1.14482	0.99266
19 Vinyl Bromide	1.33304	1.60967	1.53467	1.40196	1.40185	1.46058					
	1.29880	1.26736	1.20446				AVRG		1.39027		9.36019
20 2-methyl butane	+++++	2.41225	2.29033	1.83910	1.71099	1.72755					
	1.56071	1.54230	1.42972				AVRG		1.81412		19.64602
21 Trichlorofluoromethane	+++++	5.52148	5.22135	4.74926	4.70967	4.82927					
	4.33895	4.16130	3.91574				AVRG		4.68088		11.41515

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	4 Level 7	8 Level 8	16 Level 9									
22 Acrolein	+++++	+++++	0.46772	0.41383	0.41999	0.37112						
	0.35477	0.38647	0.34083				AVRG		0.39353		11.09982	
23 Acetonitrile	+++++	+++++	0.40766	0.42482	0.43711	0.39449						
	0.39959	0.40031	0.37174				AVRG		0.40510		5.23526	
24 Acetone	+++++	+++++	1.22270	1.13227	1.09730	0.57920						
	0.47367	+++++	+++++				AVRG		0.90103		38.51292	<-MA
25 Pentane	+++++	+++++	0.25240	0.20276	0.20426	0.20794						
	0.18566	0.18586	0.17681				AVRG		0.20224		12.35066	
26 Isopropyl alcohol	+++++	+++++	1.71855	1.19942	1.45401	1.53924						
	1.07275	1.08655	0.94172				AVRG		1.28746		22.21312	
27 Ethyl Ether	+++++	+++++	1.28548	1.17391	1.19946	1.11737						
	1.09903	1.12473	1.05731				AVRG		1.15104		6.56469	
28 1,1-Dichloroethene	1.25965	1.42486	1.28227	1.17416	1.18285	1.18625						
	1.05807	1.03955	0.96390				AVRG		1.17462		11.95949	

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	4 Level 7	8 Level 8	16 Level 9									
29 Acrylonitrile	+++++	+++++	1.01964	0.97588	0.97514	0.85492						
	0.88770	0.89997	0.80638				AVRG		0.91709		8.28294	
30 1,1,2-Trichlorotrifluoroethan	2.50342	3.06484	2.93375	2.61820	2.65385	2.64879						
	2.33387	2.32592	2.15620				AVRG		2.58209		11.31124	
31 tert-butanol	+++++	+++++	2.47722	2.01674	2.28323	2.58907						
	1.69723	1.77687	1.73935				AVRG		2.08282		17.71274	
32 Methylene Chloride	+++++	+++++	1.97027	1.23869	1.15509	1.12692						
	0.96630	0.96466	+++++				AVRG		1.23699		30.33376	<- O.K -3/5/12
33 3-Chloropropene	+++++	1.62590	1.67747	1.34428	1.52440	1.37681						
	1.33223	1.33518	1.18205				AVRG		1.42479		11.81956	
34 Carbon Disulfide	+++++	+++++	4.84971	4.35517	4.53532	4.62214						
	4.03375	3.81538	3.32309				AVRG		4.21922		12.53691	
35 trans-1,2-Dichloroethene	1.39690	1.62844	1.58130	1.39356	1.46551	1.45412						
	1.26697	1.27855	1.16992				AVRG		1.40392		10.61208	

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
36 ~ 2-Methyl Pentane	4.04837	4.57066	4.53802	4.01267	4.01393	4.00220					
	3.51287	3.43894	3.00970				AVRG		3.90526		13.02483
37 Methyl-t-Butyl Ether	+++++	3.45753	3.48100	3.33509	3.38823	3.24169					
	3.10006	3.09439	2.90747				AVRG		3.25068		6.22749
38 1,1-Dichloroethane	2.69086	3.07403	3.08842	2.77819	2.89303	2.85449					
	2.55637	2.54623	2.32120				AVRG		2.75587		9.23130
39 Vinyl Acetate	+++++	+++++	3.53210	3.61162	3.66887	3.21008					
	3.45950	3.46223	3.12515				AVRG		3.43851		5.85474
40 Hexane	+++++	+++++	1.61216	1.35902	1.35141	1.33195					
	1.16486	1.14824	1.02909				AVRG		1.28525		14.82233
41 2-Butanone	+++++	+++++	0.62454	0.53762	0.58390	0.51744					
	0.46507	0.46365	0.41693				AVRG		0.51559		14.16587
42 cis 1,2-Dichloroethene	1.30858	1.57564	1.50547	1.37184	1.44706	1.41302					
	1.25475	1.25352	1.13162				AVRG		1.36239		10.22876

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
43 Ethyl acetate	+++++	+++++	3.09417	2.94489	3.02182	2.90839					
	2.78243	2.79484	2.53942				AVRG		2.86942		6.41004
44 Chloroform	3.30115	3.66619	3.69125	3.30439	3.44731	3.38367					
	3.04011	3.04701	2.76100				AVRG		3.29356		9.21930
45 Tetrahydrofuran	+++++	+++++	1.83526	1.47815	1.53747	1.42766					
	1.40120	1.38975	1.29615				AVRG		1.48081		11.70992
46 1,1,1-Trichloroethane	+++++	4.14238	4.05949	3.66487	3.82780	3.77855					
	3.38559	3.37396	3.06540				AVRG		3.66226		10.03352
47 1,2-Dichloroethane	0.40749	0.56000	0.54072	0.47303	0.50580	0.49943					
	0.43540	0.44427	0.41299				AVRG		0.47546		11.52169
48 Cyclohexane	+++++	0.22784	0.19167	0.15190	0.15605	0.15658					
	0.12509	0.12665	0.11654				AVRG		0.15654		23.92950
49 Benzene	0.89962	1.00542	0.98285	0.81323	0.86000	0.82412					
	0.71002	0.73050	0.67183				AVRG		0.83307		14.03901

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
50 Carbon Tetrachloride	0.72507	0.92693	0.91648	0.60875	0.84519	0.65455					
	0.70267	0.71459	0.66871				AVRG		0.75144		15.45145
51 1-Butanol	+++++	+++++	+++++	0.09425	0.10580	0.11815					
	0.07197	0.07370	0.06757				AVRG		0.08857		23.36764
52 ~ 2,3-dimethylpentane	0.18149	0.23286	0.22066	0.17979	0.19370	0.19546					
	0.15639	0.16221	0.14861				AVRG		0.18569		15.28481
53 ~ Thiophene	0.51089	0.57679	0.55308	0.46419	0.49523	0.47881					
	0.41166	0.42894	0.39037				AVRG		0.47889		13.09207
54 2,2,4-trimethylpentane	1.49669	1.87249	1.84026	1.50989	1.63555	1.61972					
	1.33141	1.36727	1.22693				AVRG		1.54447		14.29854
55 Heptane	0.33876	0.39508	0.36133	0.29696	0.32101	0.31862					
	0.26016	0.27097	0.24781				AVRG		0.31230		15.56112
56 1,2-Dichloropropane	0.29696	0.36552	0.37921	0.32666	0.34896	0.33072					
	0.28643	0.29043	0.26220				AVRG		0.32079		12.29447

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
57 Trichloroethene	0.37442	0.47737	0.47657	0.38841	0.42763	0.42647					
	0.33914	0.35208	0.32864				AVRG		0.39897		14.06319
180 2-Nitropropene	0.30860	0.50263	0.52451	0.47324	0.56252	0.52357					
	0.50892	0.53458	0.45055				AVRG		0.48768		15.34043
58 Dibromomethane	0.36879	0.43441	0.45861	0.37809	0.41584	0.40989					
	0.34443	0.35588	0.32738				AVRG		0.38815		11.32785
59 Bromodichloromethane	0.65448	0.84584	0.84404	0.71498	0.80477	0.78739					
	0.67865	0.70229	0.64171				AVRG		0.74157		10.79102
60 1,4-dioxane	+++++	+++++	0.08687	0.06435	0.08797	0.11175					
	0.07641	0.06932	0.04975				AVRG		0.07806		25.51089
61 Methyl Methacrylate	+++++	0.38717	0.38692	0.36385	0.39476	0.38460					
	0.34148	0.36270	0.33623				AVRG		0.36971		6.00693
62 - methyl cyclohexane	0.51488	0.62531	0.60703	0.49879	0.54564	0.53948					
	0.43957	0.45119	0.41479				AVRG		0.51519		14.10472

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
63 cis-1,3-Dichloropropene	0.42253	0.54464	0.54153	0.47687	0.51931	0.50617					
	0.44091	0.45995	0.42525				AVRG		0.48191		9.95258
64 4-Methyl-2-pentanone	+++++	0.78797	0.71797	0.61062	0.67852	0.69752					
	0.55720	0.58083	0.50989				AVRG		0.64256		14.51142
65 trans-1,3-Dichloropropene	0.44553	0.55744	0.57300	0.51465	0.57189	0.53688					
	0.51042	0.53980	0.52297				AVRG		0.53029		7.39500
66 Toluene	+++++	1.25615	1.27108	1.07841	1.11783	1.03532					
	0.95370	0.97944	0.94196				AVRG		1.07924		11.93228
67 1,1,2-Trichloroethane	0.30487	0.37537	0.37089	0.33401	0.34887	0.32639					
	0.29504	0.30172	0.29121				AVRG		0.32760		9.78576
68 ~ 2-methyl thiophene	0.83981	1.02268	1.01081	0.89359	0.96108	0.89187					
	0.80929	0.83384	0.79966				AVRG		0.89585		9.44784
70 ~ 3-methyl thiophene	0.82653	1.03875	0.99737	0.90272	0.96761	0.90523					
	0.81771	0.84132	0.80994				AVRG		0.90080		9.37502

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
69 2-Hexanone	+++++	+++++	0.33587	0.29382	0.33488	0.32036					
	0.28117	0.29136	0.27264				AVRG		0.30430		8.48995
71 Octane	0.38534	0.46715	0.40952	0.35519	0.38244	0.36601					
	0.30976	0.31894	0.30741				AVRG		0.36697		14.20171
72 Dibromochloromethane	0.66080	0.79145	0.78898	0.68752	0.80854	0.77162					
	0.71032	0.75147	0.73358				AVRG		0.74492		6.81309
73 1,2-Dibromoethane	0.51321	0.65144	0.64660	0.57204	0.63979	0.59865					
	0.54484	0.56980	0.54721				AVRG		0.58706		8.50682
74 Tetrachloroethene	0.45911	0.52512	0.51534	0.44528	0.47354	0.45646					
	0.38629	0.40542	0.39680				AVRG		0.45149		10.92713
75 Chlorobenzene	0.75125	0.93113	0.91758	0.80914	0.87529	0.82815					
	0.75030	0.77766	0.75499				AVRG		0.82172		8.67917
76 ~ 2,3-dimethylheptane	1.20012	1.46261	1.42793	1.20541	1.29775	1.22575					
	1.03849	1.03011	0.92317				AVRG		1.20126		15.08611

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO155.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
77 Ethylbenzene	1.14728	1.43196	1.46785	1.31891	1.41172	1.25301					
	1.20530	1.23499	1.18222				AVRG		1.29481		9.08833
79 ~ 2-ethyl thiophene	0.95114	1.15827	1.19497	1.06486	1.16109	1.05607					
	0.99591	1.02150	0.98407				AVRG		1.06532		8.20218
78 m&p-Xylene	0.87498	1.08061	1.14597	1.02302	1.10462	0.96477					
	0.93835	0.96368	0.92747				AVRG		1.00261		9.09166
80 Nonane	+++++	0.97116	0.89565	0.77039	0.84127	0.79379					
	0.67943	0.68585	0.62849				AVRG		0.78325		14.93580
81 Bromoform	+++++	0.75387	0.73961	0.67205	0.85216	0.81217					
	0.79856	0.87144	0.89548				AVRG		0.79942		9.36501
82 Styrene	0.57827	0.69391	0.73078	0.68016	0.74819	0.66392					
	0.65988	0.69057	0.70119				AVRG		0.68299		7.11936
83 o-Xylene	0.92515	1.12027	1.19635	1.06820	1.12976	0.98136					
	0.96234	0.97803	0.93298				AVRG		1.03272		9.51308

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1 / 4 Level 7	0.0800 Level 2 / 8 Level 8	0.1600 Level 3 / 16 Level 9	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
84 1,1,2,2-Tetrachloroethane	0.60366	0.74975	0.80384	0.69922	0.77893	0.69995					
	0.65124	0.66475	0.63886				AVRG		0.69891		9.61365
85 1,2,3-Trichloropropane	0.15325	0.21524	0.20487	0.19642	0.21623	0.19102					
	0.18488	0.19055	0.18342				AVRG		0.19288		9.92972
86 Cumene	1.26510	1.55679	1.60028	1.43539	1.53207	1.35017					
	1.30880	1.34281	1.32101				AVRG		1.41249		8.68871
87 n-Propylbenzene	0.28146	0.36717	0.38280	0.34527	0.38218	0.33995					
	0.33493	0.34690	0.35022				AVRG		0.34788		8.75619
88 2-chlorotoluene	0.31668	0.38516	0.40106	0.36043	0.38914	0.36115					
	0.33030	0.33727	0.33178				AVRG		0.35700		8.38006
89 4-Ethyltoluene	1.17840	1.48531	1.42399	1.28957	1.43491	1.27611					
	1.24452	1.28490	1.26537				AVRG		1.32034		7.76827
90 1,3,5-Trimethylbenzene	0.47559	0.62275	0.63963	0.58669	0.62993	0.56044					
	0.53878	0.56031	0.56934				AVRG		0.57594		8.95029

Report Date : 05-Mar-2012 15:50

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INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
91 Alpha-Methylstyrene	+++++	+++++	0.51507	0.48356	0.54644	0.49253					
	0.49853	0.51506	0.52097				AVRG		0.51031		4.10642
92 Decane	+++++	0.90317	0.80722	0.83654	0.93283	0.81936					
	0.78703	0.78372	0.73306				AVRG		0.82537		7.90718
93 tert-butylbenzene	0.97105	1.21980	1.27300	1.13588	1.21890	1.09740					
	1.04635	1.08895	1.10973				AVRG		1.12901		8.39496
94 1,2,4-Trimethylbenzene	+++++	1.12276	1.13465	1.03455	1.12712	1.01812					
	0.98344	1.01909	1.01428				AVRG		1.05675		5.76271
95 sec-butylbenzene	1.29905	1.67340	1.68622	1.52122	1.64219	1.46902					
	1.41635	1.46970	1.48148				AVRG		1.51762		8.47107
96 1,3-Dichlorobenzene	+++++	0.78415	0.78928	0.69443	0.81096	0.74220					
	0.72671	0.77969	0.83545				AVRG		0.77036		6.00555
97 Benzyl Chloride	+++++	0.78007	0.82650	0.71788	0.87276	0.83977					
	0.84251	0.88263	0.86854				AVRG		0.82883		6.67126

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
98 1,4-Dichlorobenzene	+++++	0.72029	0.72534	0.64288	0.74603	0.69011					
	0.68378	0.71983	0.74568				AVRG		0.70924		4.93987
99 p-Cymene	+++++	1.35877	1.37219	1.22671	1.34239	1.24114					
	1.16056	1.19156	1.17869				AVRG		1.25900		6.83054
100 ~ 1,2,3- Trimethylbenzene	0.75615	0.95241	0.96132	0.87801	0.94972	0.85939					
	0.81491	0.83231	0.79247				AVRG		0.86630		8.65439
101 ~ n-butylcyclohexane	0.76377	0.97856	1.02685	0.88726	0.95903	0.87826					
	0.77066	0.76881	0.74032				AVRG		0.86372		12.45188
102 1,2-Dichlorobenzene	+++++	0.70374	0.72373	0.65523	0.74512	0.67182					
	0.65297	0.68041	0.71167				AVRG		0.69309		4.80408
103 ~ Indane	0.74379	0.92725	0.98988	0.88062	0.95984	0.85555					
	0.83544	0.86126	0.88331				AVRG		0.88188		8.23048
105 ~ Indene	+++++	0.61304	0.63449	0.58573	0.67662	0.61778					
	0.60342	0.60052	0.59270				AVRG		0.61554		4.71036

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	4 Level 7	8 Level 8	16 Level 9									
104 n-butylbenzene	+++++	1.18481	1.14863	1.06696	1.22229	1.13443						
	1.05813	1.06807	1.02511				AVRG		1.11355		6.23108	
106 Undecane	0.58230	0.81520	0.77268	0.54871	0.64061	0.70239						
	0.69721	0.75418	0.72222				AVRG		0.69283		12.68609	
107 ~ 1,2-dimethyl-4-ethylenzene	+++++	1.00258	0.98765	0.92575	1.05655	1.00406						
	0.92098	0.93076	0.91019				AVRG		0.96732		5.44845	
108 ~ 1,2,4,5-tetramethylbenzene	+++++	1.07704	0.94751	0.76886	0.94198	0.95357						
	0.90496	0.90762	0.87674				AVRG		0.92229		9.35219	
109 ~ 1,2,3,5-tetramethylbenzene	+++++	0.81415	0.73482	0.58272	0.71295	0.71817						
	0.67586	0.66964	0.64421				AVRG		0.69406		9.86694	
110 ~ 1,2,3,4-tetramethylbenzene	+++++	0.91097	0.83330	0.64209	0.74005	0.77639						
	0.71684	0.68259	0.63253				AVRG		0.74184		12.90956	
111 Dodecane	+++++	+++++	+++++	0.46376	0.56754	0.71115						
	0.36577	0.32733	0.33380				AVRG		0.46156		33.14844	<-

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
112 1,2,4-Trichlorobenzene	+++++	0.38811	0.36751	0.26074	0.36222	0.40109					
	0.32774	0.28376	0.27119				AVRG		0.33280		16.54063
113 Napthalene	+++++	+++++	0.64582	0.48239	0.65188	0.72008					
	0.56635	0.48589	0.44275				AVRG		0.57074		18.36662
114 ~ benzo(b) thiophene	+++++	0.36708	0.35495	0.25107	0.34542	0.41376					
	0.28610	0.23993	0.22563				AVRG		0.31049		22.23667
115 Hexachlorobutadiene	+++++	0.76072	0.72019	0.65254	0.70432	0.67746					
	0.59916	0.53483	0.50683				AVRG		0.64451		14.00099
116 1,2,3-trichlorobenzene	+++++	0.34786	0.36486	0.22566	0.29399	0.37796					
	0.20029	0.16978	+++++				AVRG		0.28291		29.92058
117 ~ 2-Methylnaphthalene	0.03655	0.05365	0.04241	0.03641	0.05240	0.07341					
	0.03290	0.02784	0.02523				AVRG		0.04231		35.99208
118 ~ 1-Methylnaphthalene	0.03621	0.05874	0.04753	0.03898	0.05101	0.06910					
	0.02955	0.02384	0.02015				AVRG		0.04168		39.15138

Report Date : 05-Mar-2012 15:50

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2012 14:55
End Cal Date : 01-MAR-2012 22:23
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/me.i/E030112I.b/TO15S.m
Cal Date : 05-Mar-2012 15:49 gosss

Compound	0.0400 Level 1	0.0800 Level 2	0.1600 Level 3	0.4000 Level 4	1 Level 5	2 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	4 Level 7	8 Level 8	16 Level 9								
$ 4 4-Bromofluorobenzene	0.70541	0.72092	0.72681	0.71745	0.73292	0.74739					
	0.73599	0.72693	0.73365				AVRG		0.72750		1.66087

TestAmerica Laboratories, Inc. - Knoxville
CANISTER RUN LOG

GCMS Analysis: AIR Inst: ME

Analyst: HLC Qtims Batch: 20P2131 (MRKCA)

Date: 3/22/12 ICAL Batch: E030112I Target Batch: E032212 IS #1 Area: 221521

Surr/IS ID & Vol.: 40mL V425 System Date/Time ok (y/n): y

Preventive Maintenance Performed ☐ Daily

Time	Use	Lot No.	File ID	Can #	Pos	Vol* (mL)	Can DF	Comments
0845	✓	1L40	EB5F8C22	-	16	100	1	
0919	✓	CCV	CCV	CX2322	15			#11 x59 #31 x37 #21 naph
0919	✓	LCS	LCS					124 TCB2 45 ok E032112
1023	ok	Blk	Flush	-	16	500		
1113	✓		EB1MC22	-				
1206	✓	H2C210408	MRJG61AA	93034	1	200	1	to 14 naph.
1300	✓		JG7	GL007	2			Can # GL0057
1352	✓		JG8	04320	3			
1442	✓	H2C220404	JOX	28185	4	11	1.7	(10) bigler
1533	✓		JOW	Bag	5	11	1	
1628	✓		JOO		5	11	1	
1720	✓	H2C190406	MRGV01AA	L5169	6	11	1	10mL to 14 naph
1811	✓		GV2	SL1225	7	20		
1903	✓		GV4	L5192	8			
1955	✓		GV5	L5176	9			
2045	✓		GV6	L5155	10			
2140	✓		GV7	L3841	11			
2240	ET	H2C190440	MRHAN1AA	6631	12	816	4.08	to 14 naph. RR 100mL
2329	E #30 ok		HAP	12648	13	304	1.52	RR 200mL
0021	E #30		HAQ	6601	14	304	1.52	RR 200mL
0114	E		HAT	SL498	15	342	1.71	RR 30mL
0205	ok		HATD		15	342	1.71	
0300	ok amr		HAW1AA	93286	1	644	3.22	RR 40
0349	✓	H2C200448	MRH361AA	51502	2	200	1	blks
0442	✓		H37	12141	3		1	
0532	✓		H38	12539	4			
0624	✓		H4D	04413	5			
0720	✓	Lot 9808	6368 →		6	500	1	
0813	✓		11339 →		7			

* Entech programmed Volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: _____ Date: 3/23/12

Data File: /chem/gcms/me.i/E032212.b/ebfbo22.d

Date : 22-MAR-2012 08:45

Client ID: BFB

Instrument: me.i

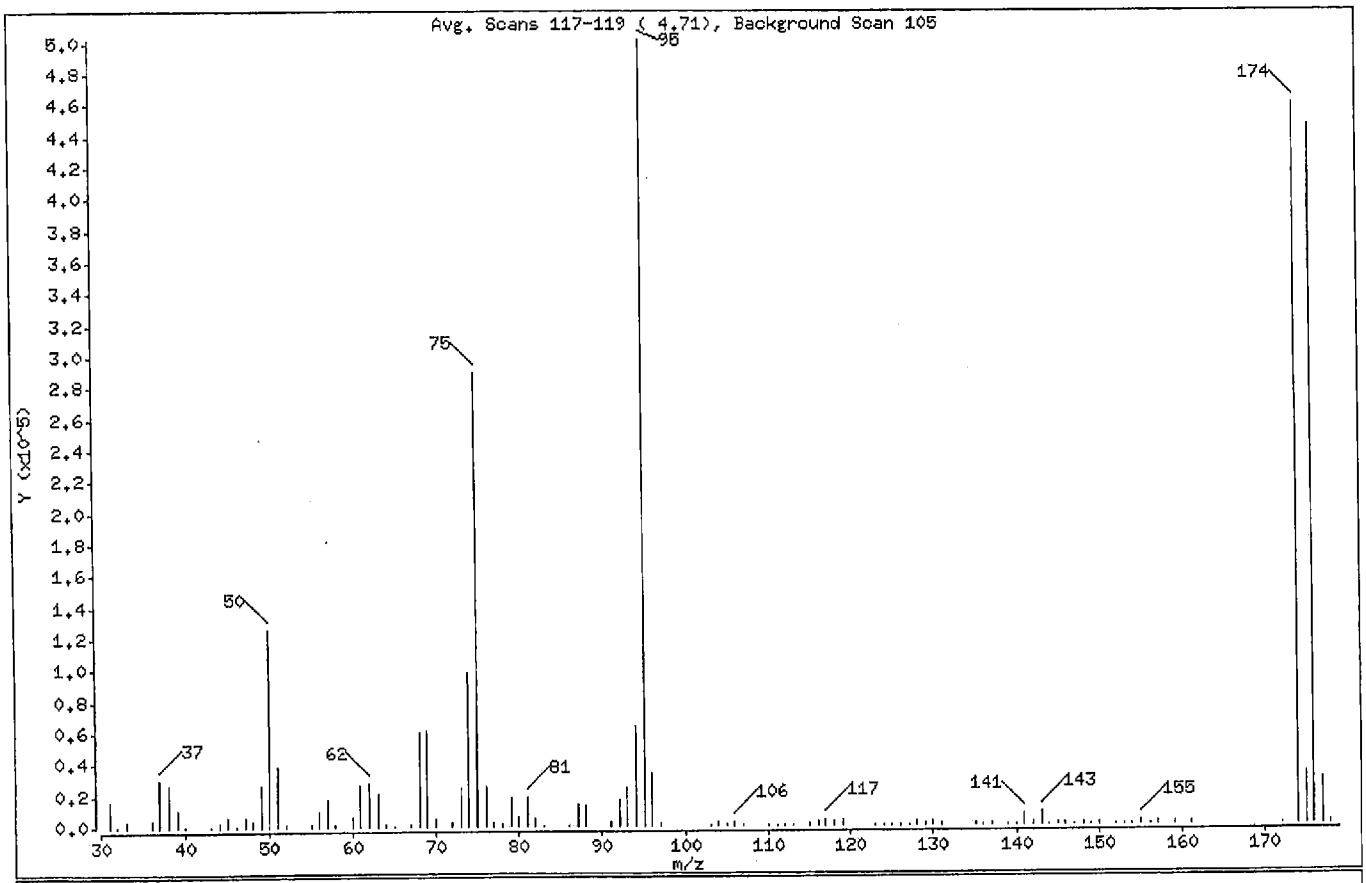
Sample Info: BFB,,3,,,BFB

Operator: 7126

Column phase: RTX-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	24.96
75	30.00 - 60.00% of mass 95	57.69
96	5.00 - 9.00% of mass 95	6.74
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	91.80
175	5.00 - 9.00% of mass 174	6.55 (7.14)
176	95.00 - 101.00% of mass 174	88.92 (96.87)
177	5.00 - 9.00% of mass 176	5.85 (6.58)

Data File: /var/chem/gcms/me.i/E032212.b/eccvc22.d
Report Date: 22-Mar-2012 10:46

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc22.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E032212.b/TO15S.m

Injection Date: 22-MAR-2012 09:19
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 4-Bromofluorobenzene	0.72750	0.78573	0.78573	0.000	-8.00511	30.00000	Averaged
M 5 Xylene (total)	1.01264	0.98557	0.98557	0.000	2.67363	30.00000	Averaged
6 Chlorodifluoromethane	0.55987	0.66923	0.66923	0.000	-19.53221	30.00000	Averaged
7 Propene	1.43639	1.61081	1.61081	0.000	-12.14263	30.00000	Averaged
10 Dichlorodifluoromethane	4.82567	6.19726	6.19726	0.000	-28.42280	30.00000	Averaged
9 Chloromethane	0.51844	0.58966	0.58966	0.000	-13.73654	30.00000	Averaged
11 1,2-Dichlorotetrafluoroetha	2.73343	3.80969	3.80969	0.000	-39.37387	30.00000	Averaged
8 ~ acetaldehyde	8.20607	10.12000	0.16964	0.000	18.91232	30.00000	Quadratic
12 Methanol	0.30978	0.30664	0.30664	0.000	1.01460	30.00000	Averaged
13 Vinyl Chloride	1.58403	1.74883	1.74883	0.000	-10.40378	30.00000	Averaged
14 n-Butane	2.44569	2.78063	2.78063	0.000	-13.69522	30.00000	Averaged
15 1,3-Butadiene	1.16516	1.32066	1.32066	0.000	-13.34556	30.00000	Averaged
16 Bromomethane	1.57252	1.65571	1.65571	0.000	-5.29039	30.00000	Averaged
18 Chloroethane	0.67079	0.71011	0.71011	0.000	-5.86118	30.00000	Averaged
17 ~ ethanol	9.39852	10.44000	0.35161	0.000	9.97589	30.00000	Quadratic
19 Vinyl Bromide	1.39027	1.52882	1.52882	0.000	-9.96573	30.00000	Averaged
20 2-methyl butane	1.81412	1.97312	1.97312	0.000	-8.76443	30.00000	Averaged
21 Trichlorofluoromethane	4.68088	6.12209	6.12209	0.000	-30.78925	30.00000	Averaged
22 Acrolein	0.39353	0.42410	0.42410	0.000	-7.76616	30.00000	Averaged
23 Acetonitrile	0.40510	0.43619	0.43619	0.000	-7.67317	30.00000	Averaged
24 Acetone	0.90103	0.44964	0.44964	0.000	50.09724	30.00000	Averaged
25 Pentane	0.20224	0.21535	0.21535	0.000	-6.48285	30.00000	Averaged
26 Isopropyl alcohol	1.28746	1.40189	1.40189	0.000	-8.88803	30.00000	Averaged
27 Ethyl Ether	1.15104	1.30043	1.30043	0.000	-12.97824	30.00000	Averaged
28 1,1-Dichloroethene	1.17462	1.20434	1.20434	0.000	-2.52989	30.00000	Averaged
29 Acrylonitrile	0.91709	0.92197	0.92197	0.000	-0.53191	30.00000	Averaged
30 1,1,2-Trichlorotrifluoroeth	2.58209	2.72967	2.72967	0.000	-5.71540	30.00000	Averaged
31 tert-butanol	2.08282	2.22745	2.22745	0.000	-6.94410	30.00000	Averaged
32 Methylene Chloride	1.23699	1.06494	1.06494	0.000	13.90894	30.00000	Averaged
33 3-Chloropropene	1.42479	1.52479	1.52479	0.000	-7.01829	30.00000	Averaged
34 Carbon Disulfide	4.21922	4.44682	4.44682	0.000	-5.39431	30.00000	Averaged
35 trans-1,2-Dichloroethene	1.40392	1.34822	1.34822	0.000	3.96758	30.00000	Averaged
36 ~ 2-Methyl Pentane	3.90526	3.98343	3.98343	0.000	-2.00171	30.00000	Averaged
37 Methyl-t-Butyl Ether	3.25068	3.33856	3.33856	0.000	-2.70344	30.00000	Averaged
38 1,1-Dichloroethane	2.75587	2.75652	2.75652	0.000	-0.02336	30.00000	Averaged

<-60.140
<-60.140
<-45

Data File: /var/chem/gcms/me.i/E032212.b/eccvc22.d
Report Date: 22-Mar-2012 10:46

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc22.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E032212.b/TO15S.m

Injection Date: 22-MAR-2012 09:19
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 Vinyl Acetate	3.43851	3.76778	3.76778	0.000	-9.57607	30.00000	Averaged
40 Hexane	1.28525	1.22156	1.22156	0.000	4.95489	30.00000	Averaged
41 2-Butanone	0.51559	0.43826	0.43826	0.000	14.99889	30.00000	Averaged
42 cis 1,2-Dichloroethene	1.36239	1.24077	1.24077	0.000	8.92650	30.00000	Averaged
43 Ethyl acetate	2.86942	2.99749	2.99749	0.000	-4.46319	30.00000	Averaged
44 Chloroform	3.29356	3.39613	3.39613	0.000	-3.11404	30.00000	Averaged
45 Tetrahydrofuran	1.48081	1.45652	1.45652	0.000	1.64001	30.00000	Averaged
46 1,1,1-Trichloroethane	3.66226	3.96425	3.96425	0.000	-8.24625	30.00000	Averaged
47 1,2-Dichloroethane	0.47546	0.49981	0.49981	0.000	-5.12140	30.00000	Averaged
48 Cyclohexane	0.15654	0.12677	0.12677	0.000	19.01941	30.00000	Averaged
49 Benzene	0.83307	0.68567	0.68567	0.000	17.69337	30.00000	Averaged
50 Carbon Tetrachloride	0.75144	0.82695	0.82695	0.000	-10.04941	30.00000	Averaged
51 1-Butanol	0.08857	0.08654	0.08654	0.000	2.29311	30.00000	Averaged
52 ~ 2,3-dimethylpentane	0.18569	0.15281	0.15281	0.000	17.70263	30.00000	Averaged
53 ~ Thiophene	0.47889	0.39483	0.39483	0.000	17.55313	30.00000	Averaged
54 2,2,4-trimethylpentane	1.54447	1.34874	1.34874	0.000	12.67291	30.00000	Averaged
55 Heptane	0.31230	0.24902	0.24902	0.000	20.26154	30.00000	Averaged
56 1,2-Dichloropropane	0.32079	0.28012	0.28012	0.000	12.67799	30.00000	Averaged
57 Trichloroethene	0.39897	0.32365	0.32365	0.000	18.87960	30.00000	Averaged
180 2-Nitropropene	0.48768	0.58129	0.58129	0.000	-19.19486	25.00000	Averaged
58 Dibromomethane	0.38815	0.35175	0.35175	0.000	9.37786	30.00000	Averaged
59 Bromodichloromethane	0.74157	0.73519	0.73519	0.000	0.86089	30.00000	Averaged
60 1,4-dioxane	0.07806	0.07163	0.07163	0.000	8.23726	30.00000	Averaged
61 Methyl Methacrylate	0.36971	0.35300	0.35300	0.000	4.52036	30.00000	Averaged
62 ~ methyl cyclohexane	0.51519	0.42611	0.42611	0.000	17.28929	30.00000	Averaged
63 cis-1,3-Dichloropropene	0.48191	0.42822	0.42822	0.000	11.14020	30.00000	Averaged
64 4-Methyl-2-pentanone	0.64256	0.55726	0.55726	0.000	13.27640	30.00000	Averaged
65 trans-1,3-Dichloropropene	0.53029	0.51909	0.51909	0.000	2.11065	30.00000	Averaged
66 Toluene	1.07924	0.95551	0.95551	0.000	11.46442	30.00000	Averaged
67 1,1,2-Trichloroethane	0.32760	0.29945	0.29945	0.000	8.59072	30.00000	Averaged
68 ~ 2-methyl thiophene	0.89585	0.79149	0.79149	0.000	11.64888	30.00000	Averaged
70 ~ 3-methyl thiophene	0.90080	0.79195	0.79195	0.000	12.08323	30.00000	Averaged
69 2-Hexanone	0.30430	0.26033	0.26033	0.000	14.45096	30.00000	Averaged
71 Octane	0.36697	0.31054	0.31054	0.000	15.37848	30.00000	Averaged
72 Dibromochloromethane	0.74492	0.71094	0.71094	0.000	4.56124	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E032212.b/eccvc22.d
Report Date: 22-Mar-2012 10:46

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc22.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E032212.b/TO155.m

Injection Date: 22-MAR-2012 09:19
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
73 1,2-Dibromoethane	0.58706	0.52436	0.52436	0.000	10.68156	30.00000	Averaged
74 Tetrachloroethene	0.45149	0.40444	0.40444	0.000	10.42110	30.00000	Averaged
75 Chlorobenzene	0.82172	0.70732	0.70732	0.000	13.92177	30.00000	Averaged
76 ~ 2,3-dimethylheptane	1.20126	1.15146	1.15146	0.000	4.14590	30.00000	Averaged
77 Ethylbenzene	1.29481	1.23261	1.23261	0.000	4.80337	30.00000	Averaged
79 ~ 2-ethyl thiophene	1.06532	1.00810	1.00810	0.000	5.37085	30.00000	Averaged
78 m&p-Xylene	1.00261	0.97875	0.97875	0.000	2.37958	30.00000	Averaged
80 Nonane	0.78325	0.71014	0.71014	0.000	9.33457	30.00000	Averaged
81 Bromoform	0.79942	0.70692	0.70692	0.000	11.57088	30.00000	Averaged
82 Styrene	0.68299	0.60564	0.60564	0.000	11.32559	30.00000	Averaged
83 o-Xylene	1.03272	0.99921	0.99921	0.000	3.24460	30.00000	Averaged
84 1,1,2,2-Tetrachloroethane	0.69891	0.62976	0.62976	0.000	9.89384	30.00000	Averaged
85 1,2,3-Trichloropropane	0.19288	0.19142	0.19142	0.000	0.75462	30.00000	Averaged
86 Cumene	1.41249	1.34224	1.34224	0.000	4.97340	30.00000	Averaged
87 n-Propylbenzene	0.34788	0.31107	0.31107	0.000	10.58166	30.00000	Averaged
88 2-chlorotoluene	0.35700	0.30994	0.30994	0.000	13.18026	30.00000	Averaged
89 4-Ethyltoluene	1.32034	1.19750	1.19750	0.000	9.30362	30.00000	Averaged
90 1,3,5-Trimethylbenzene	0.57594	0.49107	0.49107	0.000	14.73608	30.00000	Averaged
91 Alpha-Methylstyrene	0.51031	0.41591	0.41591	0.000	18.49930	30.00000	Averaged
92 Decane	0.82537	0.80807	0.80807	0.000	2.09549	30.00000	Averaged
93 tert-butylbenzene	1.12901	0.99691	0.99691	0.000	11.70031	30.00000	Averaged
94 1,2,4-Trimethylbenzene	1.05675	0.93295	0.93295	0.000	11.71559	30.00000	Averaged
95 sec-butylbenzene	1.51762	1.34077	1.34077	0.000	11.65337	30.00000	Averaged
96 1,3-Dichlorobenzene	0.77036	0.62731	0.62731	0.000	18.56906	30.00000	Averaged
97 Benzyl Chloride	0.82883	0.71113	0.71113	0.000	14.20033	30.00000	Averaged
98 1,4-Dichlorobenzene	0.70924	0.57253	0.57253	0.000	19.27571	30.00000	Averaged
99 p-Cymene	1.25900	1.06007	1.06007	0.000	15.80080	30.00000	Averaged
100 ~ 1,2,3- Trimethylbenzene	0.86630	0.76310	0.76310	0.000	11.91216	30.00000	Averaged
101 ~ n-butylcyclohexane	0.86372	0.75226	0.75226	0.000	12.90542	30.00000	Averaged
102 1,2-Dichlorobenzene	0.69309	0.56506	0.56506	0.000	18.47202	30.00000	Averaged
103 ~ Indane	0.88188	0.73861	0.73861	0.000	16.24626	30.00000	Averaged
105 ~ Indene	0.61554	0.48787	0.48787	0.000	20.74045	30.00000	Averaged
104 n-butylbenzene	1.11355	0.97874	0.97874	0.000	12.10636	30.00000	Averaged
106 Undecane	0.69283	0.48478	0.48478	0.000	30.02898	30.00000	Averaged <-OK
107 ~ 1,2-dimethyl-4-ethylenzen	0.96732	0.77365	0.77365	0.000	20.02071	30.00000	Averaged
108 ~ 1,2,4,5-tetramethylbenzen	0.92229	0.72880	0.72880	0.000	20.97916	30.00000	Averaged

Data File: /var/chem/gcms/me.i/E032212.b/eccvc22.d
Report Date: 22-Mar-2012 10:46

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: me.i
Lab File ID: eccvc22.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/me.i/E032212.b/TO155.m

Injection Date: 22-MAR-2012 09:19
Init. Cal. Date(s): 01-MAR-2012 01-MAR-2012
Init. Cal. Times: 14:55 22:23
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF2	CCAL RRF2	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
109 ~ 1,2,3,5-tetramethylbenzen	0.69406	0.55041	0.55041	0.000	20.69687	30.00000	Averaged	
110 ~ 1,2,3,4-tetramethylbenzen	0.74184	0.52790	0.52790	0.000	28.84012	30.00000	Averaged	
111 Dodecane	0.46156	0.32171	0.32171	0.000	30.29915	30.00000	Averaged	<- OK
112 1,2,4-Trichlorobenzene	0.33280	0.18328	0.18328	0.000	44.92839	30.00000	Averaged	<- 60-140+
113 Napthalene	0.57074	0.30113	0.30113	0.000	47.23839	30.00000	Averaged	<- 40-140
114 ~ benzo(b) thiophene	0.31049	0.13164	0.13164	0.000	57.60392	30.00000	Averaged	<- NC
115 Hexachlorobutadiene	0.64451	0.50839	0.50839	0.000	21.11913	30.00000	Averaged	
116 1,2,3-trichlorobenzene	0.28291	0.10490	0.10490	0.000	62.91982	30.00000	Averaged	<- NC
117 ~ 2-Methylnaphthalene	0.04231	0.01601	0.01601	0.000	62.16874	50.00000	Averaged	<- NC
118 ~ 1-Methylnaphthalene	0.04168	0.01525	0.01525	0.000	63.41247	50.00000	Averaged	<- NC

HOLDTIME

SDG H2C190406

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV-M3	UG/M3	C-PRE	H2C190406004	NM	3/15/2012	3/22/2012	3/22/2012	083333	611111	944444
OV-M3	UG/M3	C-POST	H2C190406006	NM	3/15/2012	3/22/2012	3/22/2012	394444	777777	472222
OV-M3	UG/M3	C-MID	H2C190406005	NM	3/15/2012	3/22/2012	3/22/2012	388888	833333	972222
OV-M3	UG/M3	A-PRE	H2C190406001	NM	3/15/2012	3/22/2012	3/22/2012	111111	222222	333333
OV-M3	UG/M3	A-POST	H2C190406003	NM	3/15/2012	3/22/2012	3/22/2012	722222	749999	472222
OV-M3	UG/M3	A-MID	H2C190406002	NM	3/15/2012	3/22/2012	3/22/2012	416666	388888	055555
OV-V	PPBV	C-PRE	H2C190406004	NM	3/15/2012	3/22/2012	3/22/2012	083333	611111	944444
OV-V	PPBV	C-POST	H2C190406006	NM	3/15/2012	3/22/2012	3/22/2012	394444	777777	472222
OV-V	PPBV	C-MID	H2C190406005	NM	3/15/2012	3/22/2012	3/22/2012	388888	833333	972222
OV-V	PPBV	A-PRE	H2C190406001	NM	3/15/2012	3/22/2012	3/22/2012	111111	222222	333333
OV-V	PPBV	A-POST	H2C190406003	NM	3/15/2012	3/22/2012	3/22/2012	722222	749999	472222
OV-V	PPBV	A-MID	H2C190406002	NM	3/15/2012	3/22/2012	3/22/2012	416666	388888	055555