Vapor Intrusion Investigation and Sub-Slab-Depressurization-System Operation, September 2014 Monitoring Report Lockheed Martin Middle River Complex 2323 Eastern Boulevard Middle River, Maryland

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March 2015

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ACRONYMS

ABS	Building A, basement south
AC	Building A, central
AF	attenuation factor
AFG	above floor grate
AN	Building A, north
APS	Building A plating shop
AS	Building A, south
BC	Building B, central
BCK	background
BS	Building B south
ca	carcinogenic
CBC	Building C basement, center
CBS	Building C basement, south
COC	chemical(s) of concern
DCA	dichloroethane
DCE	dichloroethene
DUP	duplicate
°F	degrees Fahrenheit
Freon 22	chlorodifluoromethane
GC/MS	gas chromatograph/mass spectrometer
HAPSITE	*h*azardous *a*ir *p*ollutants on *site*
in. Hg	inch(es) of mercury
lb(s)	pound(s)
IA	indoor air
IAQ	indoor air quality
J	compound positively identified, but quantitation is estimated
LMCPI	LMC Properties, Inc.
Lockheed Martin	Lockheed Martin Corporation
MDE	Maryland Department of the Environment
$\mu g/m^3$	microgram(s) per cubic meter
mph	mile(s) per hour
MPL	mechanical prototype lab

MRC	Middle River Complex
MST	Mission Systems & Training
MTBE	methyl-tertiary-butyl ether
nc	noncarcinogenic
OSHA	Occupational Safety and Health Administration
Pace	Pace Analytical Laboratories
PCE	tetrachloroethene
PEL	permissible exposure limit
ROI	radius of influence
RSL	regional screening level
SSD	sub-slab depressurization
SV	sub-slab vapor
Tetra Tech	Tetra Tech, Inc.
TCA	trichloroethane
TCE	trichloroethene
TMB	trimethylbenzene
U	not detected
USEPA	United States Environmental Protection Agency
VC	vinyl chloride
VI	vapor intrusion
VMP	vapor monitoring point
VOC	volatile organic compound

Section 1
Introduction

Tetra Tech, Inc. (Tetra Tech) has prepared this report on behalf of Lockheed Martin Corporation (Lockheed Martin) to document the second round of indoor air quality (IAQ) and sub-slab-vapor (SV) monitoring for calendar year 2014 at Lockheed Martin's Middle River Complex (MRC) in Middle River, Maryland. This report contains:

- Round 17 (September 2014) monitoring results for Buildings A, B, and C
- Round 17 (September 2014) monitoring results for background locations
- results from a supplemental investigation of indoor air in Building A (samples collected in August 2014)
- resampling results for several Building A locations (collected in October 2014)
- resampling results for the Building A basement (collected in November 2014)

This report also includes a status update of the two sub-slab-depressurization (SSD) vapor-intrusion-mitigation systems installed at the Middle River Complex in 2008: one beneath the Building A plating shop, and the other beneath the southern portion of the Building C basement. This monitoring is part of an ongoing investigation to evaluate whether volatile organic compounds (VOCs) in sub-slab vapors (which are associated with soil and groundwater chemicals of concern [COC] at the site) might be moving into indoor air at Middle River Complex facilities. The second monitoring round for calendar year 2014 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)

- *November 2008 Sub-Slab Sampling Report, Sub-Slab-Depressurization Systems, Buildings A and C, Lockheed Martin Corporation Middle River Complex, Middle River, Maryland* (Tetra Tech, 2008c)

- *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, 2011a)

- *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, 2011b)

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

- *Vapor-Intrusion Management Plan, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard Middle River, Maryland* (Tetra Tech, 2012b)

- *Vapor Intrusion Investigation and Sub-Slab-Depressurization-System Operation August 2012 Monitoring Report*, *Lockheed Martin Middle River Complex, 2323 Eastern Boulevard Middle River, Maryland* (Tetra Tech, 2013a)

- *Vapor Intrusion Investigation and Sub-Slab-Depressurization-System Operation February 2013 Monitoring Report*, *Lockheed Martin Middle River Complex, 2323 Eastern Boulevard Middle River, Maryland* (Tetra Tech, 2013c)

- *Vapor Intrusion Investigation and Sub-Slab-Depressurization-System Operation August 2013 Monitoring Report*, *Lockheed Martin Middle River Complex, 2323 Eastern Boulevard Middle River, Maryland* (Tetra Tech, 2014a)

- *Vapor Intrusion Investigation and Sub-Slab-Depressurization-System Operation February 2014 Monitoring Report*, *Lockheed Martin Middle River Complex, 2323 Eastern Boulevard Middle River, Maryland* (Tetra Tech, 2014b)

This report is organized as follows:

Section 2—Round 17 Sampling Protocol: Briefly describes the sampling methodology used for the current investigation round.

Section 3—Summary of Indoor Air Quality and Vapor Intrusion Investigation Results, Round 17: Discusses the Round 17 results, including results exceeding screening levels, relevant data trends, and results compared to background concentrations.

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 17 sampling results and recommends future work at the site related to vapor intrusion.

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

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Section 2
Round 17 Indoor-Air-Quality and Vapor-Intrusion Investigation

2.1 INVESTIGATION APPROACH AND GUIDANCE

The indoor air quality (IAQ) and sub-slab-vapor (SV) investigation described herein is designed to evaluate whether volatile organic compounds (VOCs) associated with soil and groundwater contamination at the site might be moving into indoor air (IA) at Middle River Complex (MRC) facilities. IA and SV samples were collected from Buildings A, B, and C during the Round 17 sampling episode. Initial sampling locations for Buildings A, B and C were chosen during a 2006 site reconnaissance by Tetra Tech industrial hygienists. The sampling plan for Round 17 is based on information obtained during site reconnaissance, historical detections, and the review of historical information and reports. Relevant guidance from the United States Environmental Protection Agency [USEPA] (USEPA, 1996, 2004, and 2013) and the Maryland Department of the Environment [MDE] (MDE, 2006) was used to develop the investigation methodology.

2.2 INVESTIGATION PROCEDURES

IAQ and SV sampling within Buildings A, B, and C was conducted in accordance with the work plan (Tetra Tech, 2014b, c). Background outdoor air samples were also collected from the same sampling locations as were used for Round 16 (Figure 2-1). Not all existing monitoring points inside the buildings were sampled during Round 17. As in previous rounds, samples were collected selectively, in or adjacent to areas where contaminants previously had been detected, or in areas where contaminants are currently suspected of being present. Trichloroethene (TCE) has been targeted as a primary chemical of concern (COC); it has a history of use at the site, and may be

toxic and mobile in the environment. The vapor-monitoring points (VMPs) sampled during this round in Buildings A, B, and C are shown in Figures 2-2, 2-3, and 2-4, respectively, along with historical sampling locations. IAQ sampling locations were co-located with most monitored SV sampling locations to evaluate possible relationships between SV and IAQ.

Round 17 sampling was performed on September 2 and 3, 2014. Seventy samples (and eight duplicates) were collected and submitted for analysis during this round:

- four background ambient air samples (collected at the same locations used in the previous round)
- 41 IAQ samples (and four duplicates) from Buildings A, B, and C
- 25 SV samples (and four duplicates) from Buildings A, B, and C

Five IAQ samples from Building C (144-C through 148-C) were collected in the machine shop of the Lockheed Martin Mission Systems & Training (MST) mechanical prototype laboratory (MPL). This area remains under investigation because TCE was detected in indoor air here at a concentration greater than its screening level during Round 15 (August 2013). These five sampling locations provide data for possible worker exposure areas within the MPL:

- 144-C: machine shop area
- 145-C: cubicle area
- 146-C: kitchen area
- 147-C: machine shop southeastern corner workspace
- 148-C: machine shop northwestern corner near the office

The sub-slab-depressurization (SSD) systems in the Building C basement area and the Building A plating shop were shut down before sampling began. The SSD system in the Building C basement area was restarted within one hour after sampling was completed; this is consistent with previous monitoring episodes. The SSD system in the Building A had been shut down due to a leaking fire-control water line. The system remained off following sampling until the leak was repaired. The following observations were recorded during the September 2014 sampling event:

- Mean outdoor ambient temperature during the sampling period was 83 degrees Fahrenheit (°F) on September 2 and 3, 2014. Barometric pressure increased during the sampling period, from 29.92 inches of mercury (in. Hg) to 30.03 in. Hg. Wind direction on September 2 was from the west–southwest, and average wind speed ranged from three to

five miles per hour (mph). On September 3, the wind direction was from the north, and the wind speed ranged from zero to six mph. Both days were cloudy to mostly cloudy; no precipitation was recorded.

- IA and SV samples from 118-A were collected in the bond layup room, where a positive-pressure air-conditioning system was operating.

- Water had collected in the flush-mounted vault at sampling location SV-117A as a result of the leaking fire-control water line; therefore, this VMP could not be sampled. An alternate sample was collected at location SV-095A to cover the northern portion of Building A, as the central part of the building was already sufficiently covered.

- Water had collected in the flush-mounted vault at sampling location SV-121B; therefore, this VMP could not be sampled. An alternate sample was collected nearby (SV-101B).

- Water had collected in the flush-mounted vault at sampling location SV-140B; therefore, this VMP could not be sampled. An alternate sample was collected nearby (SV-100B).

- Water had collected in the flush-mounted vault at sampling location SV-128C; therefore, this VMP could not be sampled. An alternate sample was collected nearby (SV-127C).

- IA and SV samples at 143-C were collected approximately 175 feet from a door open to outside air.

- New sub-slab monitoring points (149-C through 159-C) were installed using Cox Colvin and Associates Vapor Pins™ (used as an alternative to the traditional monitoring point and subsurface vault).

- Samples IA-128-C, IA-144-C through IA-148-C and IA-150-C were collected in a positive-pressure, air-conditioned room.

- Sub-slab SV samples were not collected from four locations (SV-015-A, SV-018-A, SV-093-A, and SV-138-A) in Building A during this round because the fire-control water line under the main floor of the Building A plating shop was leaking.

- Paint fumes were present while the IA sample at 015-A was collected; industrial fans were also running during sample collection.

- Sampling point SV-079-A experienced an immediate pressure drop, possibly due to a faulty seal on the T-splitter (used to collect a duplicate sample).

- Grass cuttings were on the Summa® canister for background sample BCK-2-17, indicating mowing of the grass field while the canister had been in place collecting the sample.

- 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 open in Building A during Round 17 sampling. The large doors at the loading docks on the western side of the building were also open. The increased ventilation associated with open doors and roof vents might affect sample concentrations on the first floor of Building A. No personnel or activities were observed in the Building A basement.

- The bay doors along the southern end of Building B were open during the sampling period. The automatic bay door at the southeastern corner of Building B was opened and closed quickly to allow carts and equipment to pass. These open doors might affect the concentrations collected from the southernmost sampling locations (IA-100-B and IA-101-B). No open roof vents were observed in Building B during the sampling event.

- The Building C basement is generally accessed via two doors on its eastern side and one on its southern side. These automatic rolling doors open and close quickly to allow carts and forklifts to pass. The door approximately 40 feet east of sampling location 141-C was opened and closed intermittently during the day. The bay doors at the southern and southeastern sides of the Building C basement were also open periodically during the sampling period. This might have influenced indoor air concentrations in the samples collected from locations 001-C, 004-C, and 005-C.

- The highest number of personnel observed during this round was in Building B; the greatest amount of activity occurred between the thrust-reverser assembly area in the southern portion of the building (BS) and the machining area in the central portion (BC). Building A had the next highest level of activity, which was generally focused in the plating shop (APS), in bonding lay-up (AC) and autoclave (AS) areas, and in the parts and assembly areas (AN). Similar to observations noted during previous rounds, a lower level of activity was observed in the machine and storage areas (CBS and CBC, respectively) in the Building C basement.

- Most pressure gauges on the Summa® canisters responded instantaneously upon opening the valve by dropping to −30 in. Hg. All but two canisters had a remaining pressure between 0 and −5 in. Hg; these two canisters (IA-153-C, and its associated duplicate sample IA-DUP4-C) had a remaining pressure of −11 in. Hg. The laboratory reported that adequate sample volumes had been collected for analysis. Pressure readings for the Summa® canisters are recorded on the chains of custody (Appendix A).

Samples were analyzed for the current target-compound list, last amended on February 12, 2012:

- benzene
- carbon tetrachloride
- chlorodifluoromethane (Freon 22)
- chloroform
- dichlorodifluoromethane
- naphthalene
- tetrachloroethene (PCE)
- toluene
- 1,2,4-trichlorobenzene
- 1,1,1-trichloroethane (1,1,1-TCA)

- 1,1-dichloroethane (1,1-DCA)
- 1,2-dichloroethane (1,2-DCA)
- 1,1-dichloroethene (1,1-DCE)
- *cis*-1,2-dichloroethene (*cis*-1,2-DCE)
- *trans*-1,2-dichloroethene (*trans*-1,2-DCE)
- ethylbenzene
- methyl-tertiary-butyl ether (MTBE)
- methylene chloride
- 1,2,3-trimethylbenzene (1,2,3-TMB)
- 1,2,4-trimethylbenzene (1,2,4-TMB)
- 1,3,5-trimethylbenzene (1,3,5-TMB)
- trichloroethene (TCE)
- 1,1,2-trichloroethane (1,1,2-TCA)
- vinyl chloride (VC)
- xylenes (total)

All samples collected during Round 17 were submitted to Pace Analytical (Pace) for analysis via gas chromatograph/mass spectrometer (GC/MS) using cryogenic concentration (as described in Sections 9 and 10 of USEPA Method TO-15 [USEPA, 1999]). This method was used because of its low detection limit (in the parts per billion by volume range), and because it can quantify all VOCs of concern. Pace is certified in USEPA Method TO-15 analysis and meets all quality assurance/quality control requirements specified in TO-15 methodology.

All samples were stored at ambient temperatures and shipped to the laboratory via overnight carrier. All samples were submitted and analyzed within the method's specified 30-day holding time. All appropriate chain of custody documentation was completed for each sample (see Appendix A). A table of Pace's method detection-limits is in Appendix B; Appendix C contains the laboratory analytical reports. Data validation reports and supporting documentation are in Appendix D.

Analytical data were qualified in accordance with USEPA *Contract Laboratory Program National Functional Guidelines* (USEPA, 2008). Attaching data qualifiers to analytical results signifies a quality-control noncompliance. During Round 17, the following data qualifiers were applicable for the nonconforming data (i.e., data affected by technical limitations during laboratory analysis) after validation:

- *J* indicates an estimated result where the result is less than the reporting limit
- *U* indicates the chemical was not detected at the numerical detection limit (i.e., the sample-specific quantitation limit)
- UJ indicates the chemical was not detected at the numerical detection limit (i.e., the sample-specific quantitation limit), which was estimated

2.3 RESAMPLING OF TCE-EXCEEDANCE LOCATIONS (OCTOBER AND NOVEMBER 2014)

Tetra Tech resampled IA at three Building A locations (IA-093-A, IA-117-A, and IA-136-A) where TCE had been detected above its industrial screening level (8.8 µg/m^3). These three locations were resampled on October 2, 2014 to determine if the September 2014 exceedances could be reproduced. Sampling location 093-A is in the southwestern corner of Building A basement, and locations 117-A and 136-A are on the first floor of Building A, in the eastern–central portion of the building. An IA sample (AFG-A) was also collected above the floor grate near basement sampling location 093-A; an elevated TCE concentration was identified with the HAPSITE (*h*azardous *a*ir *p*ollutants on *site)* field-surveying instrument during Round 16 at this location. Sample AFG (above floor grate-) was collected because the grate was suspected of being a conduit to the subsurface. The background sampling location BCK-1 was also resampled on October 2, 2014 to provide a background location for the October resampling, and to evaluate whether its September 2014 TCE exceedance could be reproduced.

The October 2014 data generally indicate that the exceedances detected in September 2014 reflect the transient nature of IA concentrations:

Location	September 2014 results (µg/m^3)	October 2014 results (µg/m^3)	November 2014 results (µg/m^3)
IA-093-A	9.2	12.2	12.1
IA-117-A	11.2	1.7*U* (not detected)	NA
IA-136-A	9.1	1.6*U* (not detected)	NA
IA-AFG-A	NA	3.6	6.6
IA-ABS-A	NA	NA	7.2
BCK-1	11.9	1.6*U* (not detected)	NA

NA—not applicable

As shown above, TCE exceeded its screening level at one (093-A) of four resampled locations during the October 2014 resampling. Therefore, this location was again resampled on November 13, 2014, along with locations AFG-A and ABS-A (Building A, south basement), which are north and south of 093 A, respectively. The November 2014 TCE result for location 093-A is similar to the October 2014 result for this location and exceeds the screening level; however, November 2014 results for locations AFG-A and ABS-A are less than the TCE screening level.

2.4 SUPPLEMENTAL SAMPLING OF BUILDING A INDOOR AIR (AUGUST 2014)

A leaking fire-control water pipe under the floor of the Building A plating shop flooded the Building A basement, which triggered a shutdown of the SSD system. Therefore, supplemental IA-only sampling was performed at locations in Building A on August 21, 2014 to evaluate whether the SSD system shutdown had possibly allowed VOCs to migrate into IA. IA samples were collected at one background location (BCK-2) and from the following locations in Building A:

- 018-A: in the basement within the SSD system radius of influence (ROI)
- 093-A: in the basement, where a previous exceedance of TCE occurred (and near the HAPSITE TCE exceedance)
- 024-A: on the first floor within the SSD system ROI
- 017-A: on the first floor, south of 024-A, and just outside the SSD system ROI (one duplicate sample also collected)
- 118-A: on the first floor, inside room and just outside the SSD system ROI
- 117-A: on the first floor at a location where a TCE exceedance occurred during Round 15 (approximately 150 feet east of the Plating Shop on the eastern side of the controlled room)

The leaking pipe was excavated for repair and additional IA samples were collected on August 27, 2014, while the excavation was still open. Locations 018-A and 093-A were resampled at this time and new samples were collected from the excavation pit (PIT-A) and from existing sampling location 015-A. No excavation occurred during sampling. Although technically not part of Round 17 (September 2–3, 2014) sampling, analytical results for the samples collected in August in Building A are included herein because they were collected only a few days before Round 17 began.

FIGURE 2-1

IAQ BACKGROUND SAMPLING LOCATIONS ROUND 17, SEPTEMBER 2014

LEGEND

- BACKGROUND SAMPLING LOCATION
- HISTORIC BACKGROUND SAMPLING LOCATION
- WATER

IAQ - indoor air quality
BCK-3 moved due to discovery of TCE UST adjacent to historic sample location

Lockheed Martin Middle River Complex
Middle River, Maryland

0 200 400 Feet

N

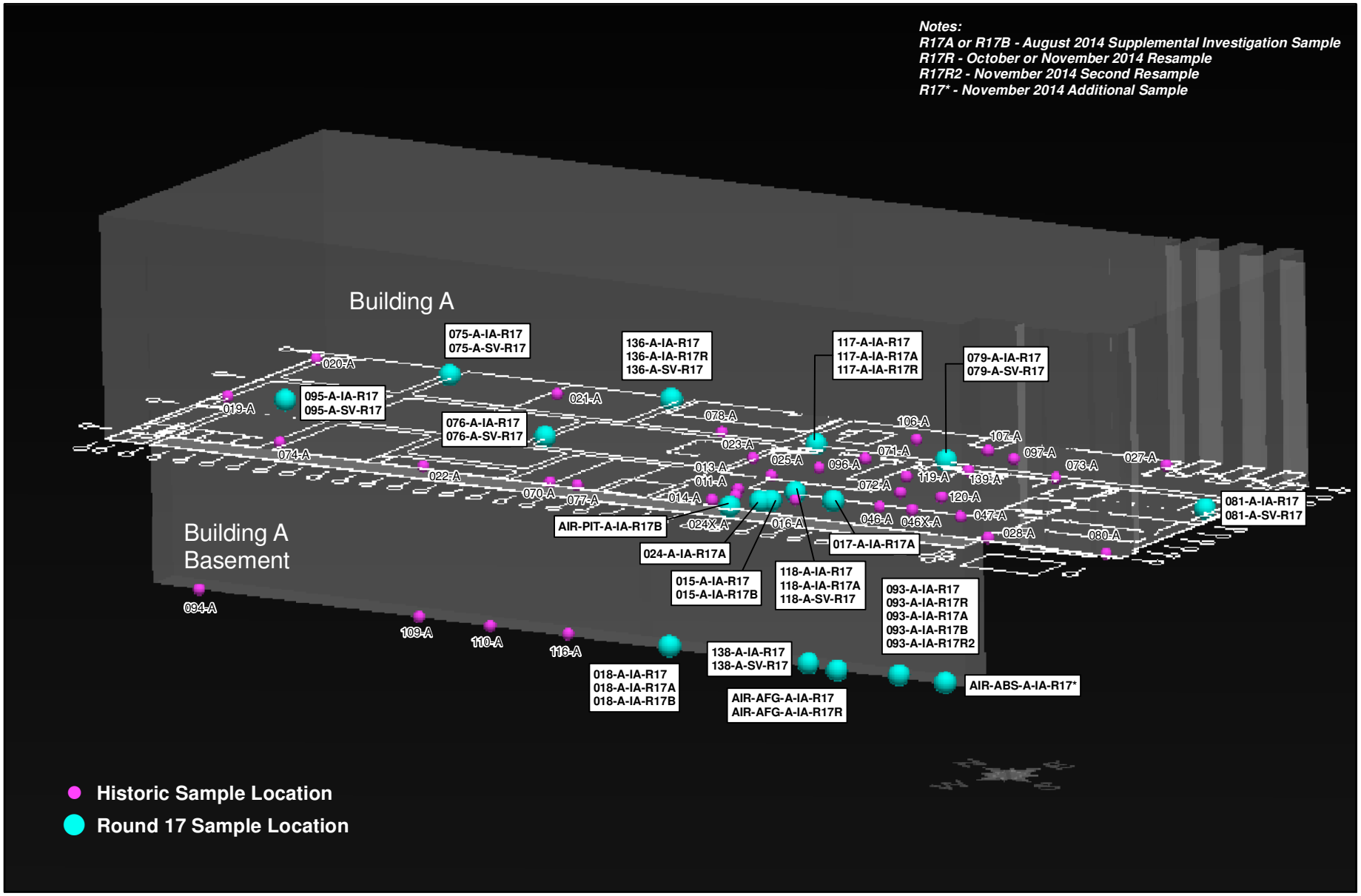
DATE MODIFIED: 12/03/14

CREATED BY: JEE

TETRA TECH

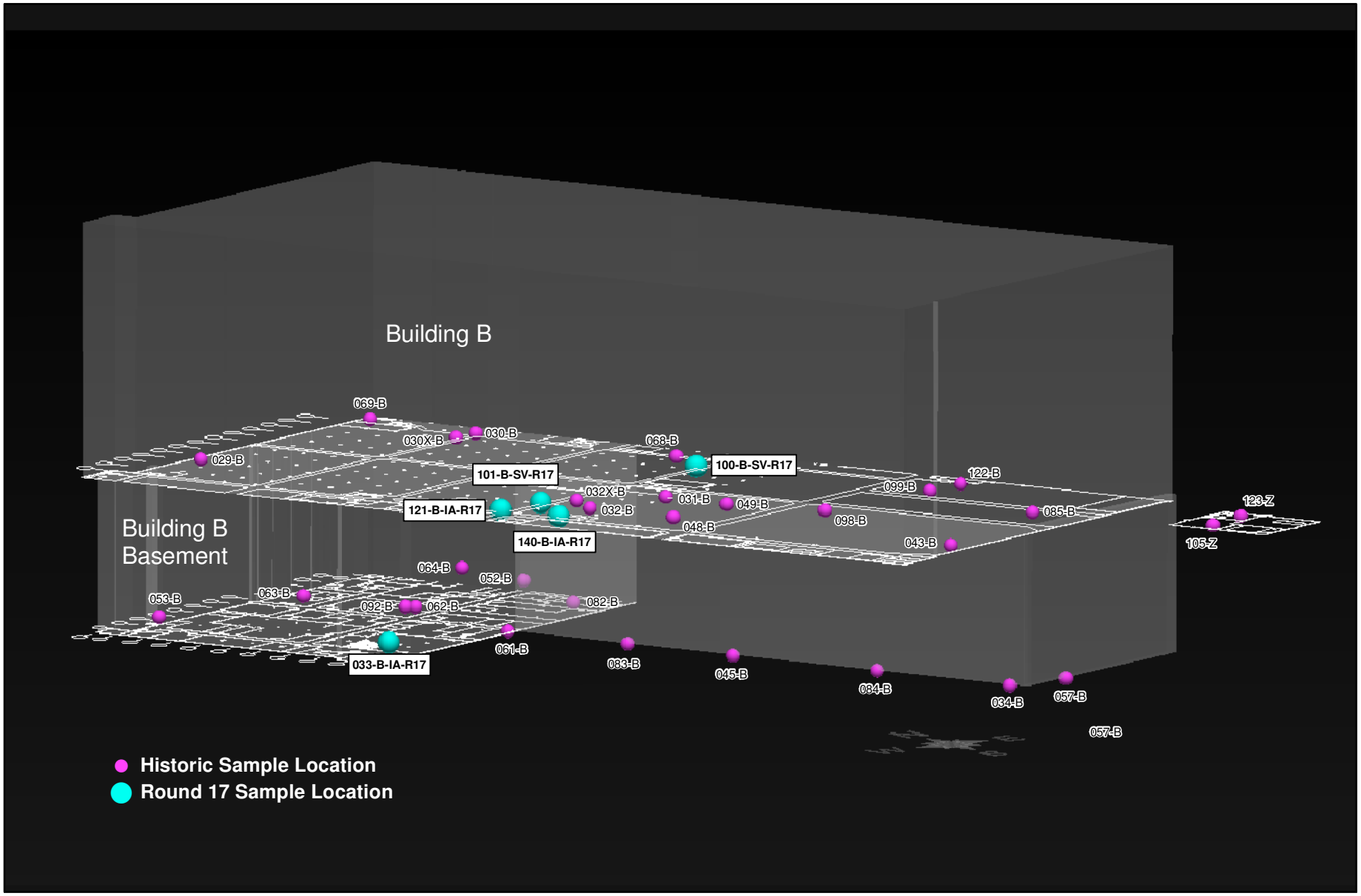
Map Document: (P:\GIS\Middle_River\MapDocs\MXD\iaq_background_samples_rnd17.mxd)
12/03/14 JEE

Figure 2-2
Indoor Air and Sub-Slab Vapor Monitoring Locations
for Building A, Round 17, September 2014



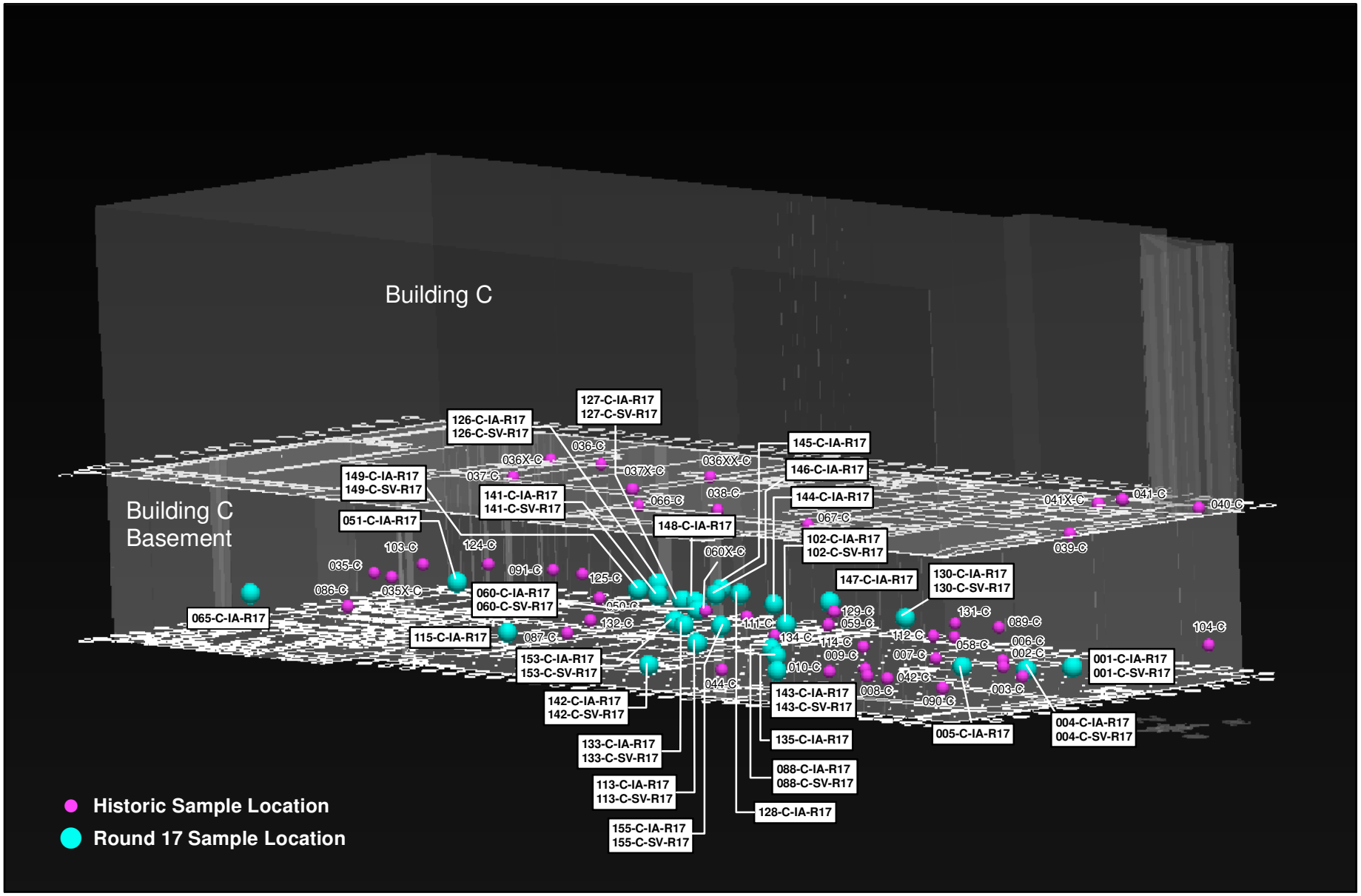
PGH P:\GIS\MIDDLE_RIVER\MAPDOCS\MXD\BLDG_A_RND17_LOCS_3D.MXD 01/07/15 SP

Figure 2-3
Indoor Air and Sub-Slab Vapor Monitoring Locations
for Building B, Round 17, September 2014



PGH P:\GIS\MIDDLE_RIVER\MAPDOCS\MXD\BLDG_B_RND17_LOCS_3D.MXD 01/06/15 SP

Figure 2-4
Indoor Air and Sub-Slab Vapor Monitoring Locations
for Building C, Round 17, September 2014



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Section 3
Round 17 Results

All analytical results for indoor-air-quality and background (ambient air) samples were compared to screening levels for industrial air that are based on those in United States Environmental Protection Agency (USEPA) *Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites* (USEPA, 2014). Chemical-of-concern (COC) screening uses the lower of the carcinogenic or noncarcinogenic values. The carcinogenic values are based on a 1×10^{-5} (i.e., a one-in-100,000 probability) cancer risk, while the noncarcinogenic values are based on a hazard index of 1 (i.e., the no-adverse-effect level). These risk benchmarks were selected in accordance with Maryland Department of the Environment (MDE) requirements. The screening level available for 1,2,3-trimethylbenzene was used as a surrogate level for 1,3,5-trimethylbenzene, because USEPA has not published an RSL for this chemical in air. Analytical results were also compared to (federal) Occupational Safety and Health Administration (OSHA) permissible exposure limits (PELs).

Sub-slab-vapor (SV) sampling results were compared to SV screening values derived in accordance with the methods discussed in Appendix D of USEPA guidance for evaluating vapor intrusion (USEPA, 2002), and were calculated by dividing indoor air (IA) screening levels by a conservative attenuation factor (AF) of 0.03. The attenuation factor represents the adjustment applied to IA screening levels to account for reductions in concentration as vapor migrates from sub-slab to indoor air, due to diffusive, advective, and/or other attenuating mechanisms. Simply stated, SV is expected to dilute upon movement into IA; the AF is the ratio of a COC's IA concentration to its SV concentration, under a conservative vapor intrusion (VI) scenario. The most recent USEPA guidance (USEPA, 2013) confirms that an AF of 0.03 is appropriate; this value results in higher SV screening values when compared to those used in pre-August 2012 sampling rounds (based on an earlier USEPA AF of 0.1).

3.1 ROUND 17 DATA ANALYSIS

The round designation (R17) is not included in this section when identifying samples or sampling locations in text or tables, because all data discussed are from Round 17. For example, an IA sample collected from VMP 076 (e.g., sample 076-A-IA-R17) 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).

Additional nomenclature is added to sample numbers to identify samples collected during the supplemental investigation in August, and during the October resampling. A suffix of R17A and R17B identifies samples collected on August 21 and August 27, respectively. A suffix of 17R indicates the sample is a resampled location. As described in Section 2, resampling was done where trichloroethene (TCE) had exceeded its screening level during the September sampling.

Descriptive statistics for Round 17 indoor air quality (IAQ) and SV samples are in Tables 3-1 and 3-2, respectively. Summary statistics for TCE and naphthalene in IA over time are in Tables 3-3 and 3-4, respectively. Figures 3-1, 3-2, and 3-3 show Round 17 exceedances in Buildings A, B, and C, respectively. The following chemicals were detected in Round 17 IAQ and/or SV samples at concentrations exceeding their respective MDE risk-management benchmarks:

- ***IA***—TCE, naphthalene, chloroform, benzene, ethylbenzene, *meta*-+*para*-xylenes
- ***SV***—TCE, naphthalene, chloroform, 1,2,3-trimethylbenzene, 1,3,5-trimethylbenzene, 1,1-dichloroethane, and vinyl chloride

Building A—Tables 3-5 and 3-6 present Building A IAQ and SV results, respectively. Locations with exceedances of screening criteria are shown in Figure 3-1. Exceedances of screening criteria for indoor air samples were noted at locations 015-A (ethylbenzene and xylenes), 018-A (chloroform, naphthalene, and TCE), 093-A (naphthalene and TCE), 117-A (TCE), 136-A (naphthalene and TCE), 138-A (naphthalene), ABS-A (benzene and naphthalene), AFG-A (naphthalene), and PIT-A (naphthalene). Soil vapor and indoor air exceedances for naphthalene were noted in the northern portion of Building A. TCE exceeded its screening level in soil vapor in the central portion of Building A (locations 118-A and 136-A); it also exceeded its screening level in several nearby indoor air samples. SV concentrations of naphthalene and 1,2,3-trimethylbenzene exceeded screening levels in the southern portion of Building A (081-A),

but exceedances of these compounds were not noted in indoor air in this portion of Building A. Paint fumes were noted in the plating shop (location 015-A); these paint fumes may be the source of ethylbenzene and xylenes detected at concentrations greater than their screening levels at this location.

During the August 21 supplemental investigation, TCE marginally exceeded (less than two times) its indoor air screening level in both samples (018-A and 093-A) collected in the basement. TCE was detected at four other sampled locations (all except for 117-A), but at concentrations less than its screening level. TCE has always been detected at 018-A and 093-A. TCE exceedances have previously been detected at location 093-A, but this is the first time a TCE exceedance has occurred at 018-A. TCE again exceeded its screening level at these two basement locations in samples collected on August 27. At that time, TCE was also detected at two other locations (at 015-A, and in the excavation/repair pit), but at levels less than the screening level. During Round 17 sampling (in September 2014), TCE marginally exceeded its indoor air screening level at locations 093-A, 117-A, and 136-A. TCE was not detected in August 2014 at location 117-A, the location of a TCE exceedance during Round 15.

Locations in Building A with IA TCE exceedances were resampled in October, but TCE was only detected in the basement sample (093-A) at that time. An indoor air sample (AFG-A) was also collected at a floor grate near 093-A, where TCE in IA had exceeded its screening level during Round 16 (as measured using the HAPSITE surveying instrument). TCE was detected in this sample in October 2014, but at a concentration less than its screening level. Location 093-A was resampled in November 2014 along with the floor grate sampling location (AFG-A) and an additional sampling location (ABS-A) north and south of 093-A, respectively; however, although TCE was detected in all three of these samples, it only exceeded its screening level at location 093-A during the November sampling.

Naphthalene was detected in all indoor air samples collected on August 21, but all concentrations are similar to the background concentration. However, naphthalene marginally exceeded its indoor air screening level at two locations (018-A and 093-A) where TCE exceedances occurred. Naphthalene has been detected frequently, and with some exceedances, at these two locations over time. When sampled again on August 27, these two basement samples also had naphthalene exceedances. Naphthalene also exceeded its screening level in IA collected from the (fire-control

water pipe) repair excavation pit. Naphthalene was also detected at location 015-A on August 27, but its concentration was similar to background levels. Naphthalene marginally exceeded its IA screening level at 018-A and 093-A during Round 17 (September 2014), at the same locations where exceedances had occurred in August; these naphthalene exceedances were again co-located with TCE exceedances. Naphthalene exceedances were also observed in the samples collected from locations 093-A, ABS-A, and AFG-A during November 2014.

Building B—Tables 3-7 and 3-8 present Building B IAQ and SV results, respectively. No IA or SV concentrations exceeded screening levels in Building B samples.

Building C—Tables 3-9 and 3-10 present Building C IAQ and SV results, respectively. Naphthalene is the only COC in IA to exceed screening levels in Building C. IA exceedances of naphthalene were located throughout Building C, at relatively consistent concentrations. Soil vapor exceedances were noted for locations 001-C (TCE), 102-C (1,1-dichloroethane, naphthalene, and TCE), 113-C (naphthalene), 126-C (naphthalene and vinyl chloride), 127-C (TCE), and 142-C (naphthalene). TCE exceedances in Building C SV samples were sporadic, and did not follow an observable pattern.

3.2 BACKGROUND AMBIENT AIR SAMPLES

Outdoor air quality (i.e., background) provides baseline concentrations for COC that can be compared to interior and sub-slab concentrations. Comparison to background provides a line of evidence to demonstrate whether chemicals detected in IA are more likely associated with an exterior (i.e., background) or interior source (e.g., chemicals used in the workplace, past spills of chemicals absorbed to above-slab building materials, or sub-slab sources). Analytical results for Round 17 ambient air samples are in Table 3-11. Figure 2-1 shows background sampling locations used for Round 17; these locations are sufficiently far from site operations to avoid any possible site influence.

Table 3-12 lists chemicals detected in background samples and compares IA-sample concentrations to the maximum background concentration. All chemicals detected in background samples were also detected in IA or SV samples. All detected background concentrations were below their respective screening criteria, except for one concentration of TCE (11.9 $\mu g/m^3$) at location BCK-1. However, TCE was not detected when this location was resampled in

October 2014. An elevated toluene concentration (33.6 µg/m^3) from BCK-2 observed during the September sampling might be related to fuel from a lawn mower, as grass clippings were on the sample canister. Table 3-12 evaluates whether or not chemical concentrations detected in IA are from interior contaminant sources, or if they simply reflect background conditions, using the following parameters:

- When IA concentrations are equal to or less than background concentrations, IA concentrations likely reflect background conditions.
- When IA concentrations are greater than background concentrations, sub-slab or other interior contaminant sources are possibly contributing to the IA concentrations.
- When SV concentrations are less than IA concentrations, and IA concentrations are greater than background, other interior sources are possibly contributing to IA concentrations.
- The presence of chlorinated degradation-products in IA samples (at concentrations less than those detected in SV samples), but not in the background samples, suggests that sub-slab sources possibly contribute to IA concentrations.

IA chemicals exceeding MDE risk-management benchmarks (i.e., chloroform, ethylbenzene, xylenes, naphthalene, and TCE) exceed maximum background values in 30% or fewer samples. TCE exceeds background in fewer than 10% of samples. In general, volatile organic compound concentrations in IA that are less than screening criteria also exceed maximum background concentrations in 30% or fewer samples. These results suggest that most, but probably not all, detections of these COC likely reflect background conditions.

TABLE 3-1

DESCRIPTIVE STATISTICS OF INDOOR AIR QUALITY RESULTS, ALL BUILDINGS, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Parameter	Frequency of detection[1]	Minimum detected value[1]	Maximum detected value[1]	Location with maximum detected value	Sample with maximum detected value	Minimum non-detect value[2]	Maximum non-detect value[2]	Average of detected values[1]	Average of all values[1]	Standard deviation[1]	Average of detected background values	Maximum background value	Number of samples above maximum background value[1]	Adjusted USEPA RSL for industrial air[3]	Number of samples above adjusted industrial RSL[1]	OSHA PEL[4]	Number of samples above OSHA PEL[1]
Volatile organic compounds (µg/m^3)																	
BENZENE	35/58	0.29 J	19.1	AIR-ABS-A	IA-ABS-A-17	0.44	1	1.4	1.0	2.6	0.9	2.4	2	16 C	1	319	0
CARBON TETRACHLORIDE	21/58	0.46 J	0.94	AIR-093-A	IA-093-A-17R2	0.81	2.6	0.63	0.55	0.2	0.67	0.75	4	20 C	0	62900	0
CHLORODIFLUOROMETHANE	57/58	1.1	167	AIR-145-C	IA-145-C-17	0.96	0.96	26.9	26.4	46.6	2.8	6.3	28	220000 N	0	3590000	0
CHLOROFORM	18/58	0.36 J	17.2	AIR-018-A	IA-018-A-R17B	0.62	1.8	2.6	1.1	2.9	ND	ND	18	5.3 C	3	240000	0
DICHLORODIFLUOROMETHANE	58/58	1.3	4.5	AIR-093-A	IA-093-A-17R2	-	-	2.6	2.6	0.6	2.10	3	12	440 N	0	4950000	0
1,1-DICHLOROETHANE	2/58	0.62 J	0.67 J	AIR-018-A	IA-018-A-R17B	1	3.3	0.65	0.63	0.2	ND	ND	2	77 C	0	400000	0
1,2-DICHLOROETHANE	2/58	0.31 J	4.6	AIR-004-C	IA-004-C-17	0.52	3	2.5	0.43	0.6	0.71	0.71	1	4.7 C	0	400000	0
1,1-DICHLOROETHENE	8/58	0.84 J	33.3	AIR-018-A	IA-018-A-R17B	1	7.4	6.4	1.5	4.3	ND	ND	8	880 N	0	NC	--
CIS-1,2-DICHLOROETHENE	5/58	0.57 J	3.8	AIR-018-A	IA-018-A-R17B	1	7.4	1.4	0.76	0.6	ND	ND	5	NC	0	790000	0
ETHYLBENZENE	49/58	0.64 J	149	AIR-015-A	IA-015-A-17-D	1.2	1.4	6.3	5.4	19.3	1.3	1.7	30	49 C	2	435000	0
METHYLENE CHLORIDE	35/58	0.58 J	150	AIR-136-A	IA-136-A-17R	4.7	13	11.1	7.8	25.6	1.1	1.8	15	2600 N[5]	0	87000	0
NAPHTHALENE	42/58	0.9 J	13.7 J	AIR-138-A	IA-138-A-17	3.4	4.1	4.1	3.5	2.5	1.5	1.8	32	3.6 C	27	50000	0
TETRACHLOROETHENE	17/58	0.87 J	10.6 J	AIR-ABS-A	IA-ABS-A-17	0.87	5	2.3	1.4	1.6	ND	ND	17	180	0	678000	0
TOLUENE	58/58	1.3	4390 J	AIR-015-A	IA-015-A-17-D	-	-	116	116	551.5	10	33.6	21	22000 N	0	754000	0
1,2,4-TRICHLOROBENZENE	3/58	2.2 J	4.8	AIR-136-A	IA-136-A-17R	2	117	3.6	21.9	24.5	1.6	1.6	3	8.8 N[5]	0	40000	0
1,1,1-TRICHLOROETHANE	10/58	0.45 J	1.7	AIR-147-C	IA-147-C-17	1.4	4.5	1.2	0.92	0.4	ND	ND	10	22000 N	0	1900000	0
TRICHLOROETHENE	30/58	0.43 J	26.2	AIR-018-A	IA-018-A-R17B	0.69	1.7	5.4	3.1	4.7	7.0	11.9	3	8.8 N	9	537000	0
1,2,3-TRIMETHYLBENZENE	20/58	1 J	5.5	AIR-148-C	IA-148-C-17	1.3	9.2	2.0	1.3	1.0	0.75	0.75	21	22 N	0	123000	0
1,2,4-TRIMETHYLBENZENE	28/58	0.7 J	7.5 J	AIR-ABS-A	IA-ABS-A-17	1.3	4	1.5	1.1	1.0	0.90	1	18	31 N	0	123000	0
1,3,5-TRIMETHYLBENZENE	10/58	0.84 J	6.9 J	AIR-ABS-A	IA-ABS-A-17	1.3	4	2.1	1.1	0.9	ND	ND	10	22 N[6]	0	123000	0
VINYL CHLORIDE	1/58	0.45 J	0.45 J	AIR-093-A	IA-093-A-17	0.33	1.9	0.45	0.25	0.1	ND	ND	1	28 C	0	21560	0
M+P-XYLENES	58/58	1.1 J	533	AIR-015-A	IA-015-A-17-D	-	-	19.4	19.4	69.1	1.9	3.1	40	440 N[7]	2	434000	0
O-XYLENE	55/58	0.73 J	202	AIR-015-A	IA-015-A-17-D	1.2	1.3	7.8	7.5	26.4	1.2	1.5	37	440 N	0	434000	0
TOTAL XYLENES	58/58	1.1	735	AIR-015-A	IA-015-A-17-D	-	-	26.8	26.8	95.5	2.9	4.6	34	440 N	1	434000	0

A shaded maximum background value indicates that the maximum detected value from the site data exceeds the maximum background value.

A bolded chemical name indicates that the chemical exceeds background and the industrial air RSL based on an HQ of 0.1 or an ILCR of 1E-06.

A bolded/shaded chemical name indicates the chemical exceeds background and the industrial air RSL based on an HQ of 1 or an ILCR of 1E-05.

Footnotes:

1 - Sample and duplicate are considered two separate samples when determining the minimum and maximum concentrations and the number of samples exceeding screening criteria, but are considered one sample when determining frequency of detection, average, and standard deviation.

2 - Values presented are sample-specific quantitation limits.

3 - USEPA *Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites*, November 2014. RSLs for carcinogens were adjusted to be based on a lifetime cancer risk of 1E-05. RSLs for noncarcinogens were not adjusted and represent a hazard quotient (HQ) of 1.

4 - Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL).

5 - One tenth the noncarcinogenic value is less than the carcinogenic value; therefore, the noncarcinogenic value is presented.

6 - The value for 1,2,3-trimethylbenzene is presented for 1,3,5-trimethylbenzene.

7 - The value for m-xylene and p-xylene is presented for m+p-xylenes.

8 - Total xylenes are calculated; a value of 0 is used for non-detects.

Definitions:

C - carcinogen
HQ - hazard quotient
ILCR - incremental lifetime cancer risk
J - estimated value
µg/m^3 - micrograms per cubic meter
N - noncarcinogen
NA - not applicable/not available
NC - no criterion available
ND - not detected
OSHA - Occupational Safety and Health Administration
PEL - permissable exposure limit
RSL - regional screening level
USEPA - United States Environmental Protection Agency

TABLE 3-2

DESCRIPTIVE STATISTICS OF SUB-SLAB VAPOR RESULTS, ALL BUILDINGS, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Parameter	Frequency of detection[1]	Minimum detected value[1]	Maximum detected value[1]	Location with maximum detected value	Sample with maximum detected value	Minimum non-detect value[2]	Maximum non-detect value[2]	Average of detected values[1]	Average of all values[1]	Standard deviation[1]	Adjusted USEPA RSL for industrial air [value divided by 0.03[3]]	Number of samples above adjusted industrial RSL[1]
Volatile organic compounds (µg/m^3)												
1,1,1-TRICHLOROETHANE	10/25	0.95 J	1240	AIR-102-C	SV-102-C-17	1.9	17.4	174	70.4	251	733333 N	0
1,1-DICHLOROETHANE	9/25	1.3 J	3250	AIR-102-C	SV-102-C-17	1.4	12.9	378	137	649	2567 C	1
1,1-DICHLOROETHENE	5/25	0.95 J	1220	AIR-118-A	SV-118-A-17	1.3	12.7	492	99.1	327	29333 N	0
1,2,3-TRIMETHYLBENZENE	13/25	1 J	3560	AIR-081-A	SV-081-A-17	1.7	15.7	293	153	710	733 N	1
1,2,4-TRIMETHYLBENZENE	21/25	0.91 J	241	AIR-081-A	SV-081-A-17	1.7	15.7	28.3	24.2	54.4	1033 N	0
1,2-DICHLOROETHANE	2/25	0.38 J	1.2	AIR-095-A	SV-095-A-17	0.67	6.4	0.79	0.52	0.58	157 C	0
1,3,5-TRIMETHYLBENZENE	11/25	1.7	3490	AIR-081-A	SV-081-A-17	1.7	15.7	331	147	697	733 N[4]	1
BENZENE	7/25	0.95 J	29.3	AIR-126-C	SV-126-C-17	1.1	10.2	6.5	2.4	5.8	533 C	0
CARBON TETRACHLORIDE	6/25	0.56 J	22.4	AIR-100-B	SV-100-B-17	1	10.1	5.0	1.8	4.4	667 C	0
CHLORODIFLUOROMETHANE	25/25	2.6	83.1	AIR-095-A	SV-095-A-17	--	--	12.8	12.8	16.3	7333333 N	0
CHLOROFORM	6/25	9.4	231 J	AIR-136-A	SV-136-A-17-D	0.81	0.96	64.5	15.8	45.6	177 C	2
CIS-1,2-DICHLOROETHENE	12/25	0.96 J	365 J	AIR-118-A	SV-118-A-17	1.3	1.6	75.1	36.4	86.6	--	--
DICHLORODIFLUOROMETHANE	24/25	2.4	8.1	AIR-101-B	SV-101-B-17	15.9	15.9	3.5	3.7	1.4	14667 N	0
ETHYLBENZENE	24/25	0.78 J	1420	AIR-102-C	SV-102-C-17	13.8	13.8	65.9	63.5	283	1633 C	0
M+P-XYLENES	24/25	2.4 J	9290	AIR-102-C	SV-102-C-17	27.6	27.6	417	401	1853	14667 N[5]	0
METHYLENE CHLORIDE	20/25	0.97 J	145	AIR-004-C	SV-004-C-17	5.8	6.8	16.7	14.0	30.8	86667 N[6]	0
NAPHTHALENE	22/25	1.3 J	2850 J	AIR-102-C	SV-102-C-17	4.5	41.8	205	182	565	120 C	7
O-XYLENE	24/25	0.89 J	3450	AIR-102-C	SV-102-C-17	13.8	13.8	160	154	688	14667 N	0
TETRACHLOROETHENE	22/25	0.78 J	50.8	AIR-101-B	SV-101-B-17	1.2	10.8	5.4	5.1	9.9	6000 N[6]	0
TOLUENE	25/25	3.2	729	AIR-079-A	SV-079-A-17-D	--	--	49.8	49.8	127	733333 N	0
TRANS-1,2-DICHLOROETHENE	8/25	0.87 J	45.7	AIR-001-C	SV-001-C-17	1.3	1.6	13.3	4.8	9.9	--	--
TRICHLOROETHENE	24/25	1.5 J	42200 J	AIR-136-A	SV-136-A-17-D	1.9	1.9	1649	1583	6224	293 N[6]	6
VINYL CHLORIDE	4/25	1.1	4030	AIR-126-C	SV-126-C-17	0.43	4.1	1011	162	806	933 C	1
TOTAL XYLENES[7]	24/25	3.29	12740	AIR-102-C	SV-102-C-17	0	0	577	554	2593	14667 N	0

A bolded chemical name indicates that the chemical exceeds the industrial air RSL divided by 0.03 (based on an HQ of 0.1 or an ILCR of 1E-06).
A bolded/shaded chemical name indicates that the chemical exceeds the industrial air RSL divided by 0.03 (based on an HQ of 1 or an ILCR of 1E-05).

Footnotes:
1 - Sample and duplicate are considered as two separate samples when determining the minimum and maximum concentrations and the number of samples exceeding criteria, but are considered one sample when determining frequency of detection, average, and standard deviation.
2 - Values presented are sample-specific quantitation limits.
3 - 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 0.03, and correspond to a target cancer risk level of 1.0E-05 or a hazard quotient (HQ) of 1.
4 - The value for 1,2,3-trimethylbenzene is presented for 1,3,5-trimethylbenzene.
5 - The value for m-xylene and p-xylene is presented for m+p-xylenes.
6 - One tenth the noncarcinogenic value is less than the carcinogenic value; therefore, the noncarcinogenic value is presented.
7 - Total xylenes are calculated; a value of 0 is used for non-detects.

Definitions:
-- = no criterion available
C = carcinogen
HQ = hazard quotient
ILCR = incremental lifetime cancer risk
J = estimated value
N = noncarcinogen
RSL = regional screening level

TABLE 3-3
SUMMARY STATISTICS FOR TRICHLOROETHENE CONCENTRATIONS IN INDOOR AIR
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Building level or background	Dataset	Minimum detected value(1)	Maximum detected value(1)	Minimum non-detect value(1)(2)	Maximum non-detect value(1)(2)	Average of all values(3)	Average of detected values(3)	Frequency of detection(3)	Number of detections > 8.8 µg/m³ (4)(5)	95% UCL(3)
Basement	All Buildings 2006-2014	0.077 J	36 (6)	0.075	20	1.2	1.8	231/392	12	1.7
	All Buildings September 2014	0.43 J	26.2	0.69	1.7	3.6	6.7	19/39	7	5.0
	Building A 2006-2014	0.15 J	26.2	0.36	0.96	3.8	4.1	57/62	8	6.2
	Building A September 2014	3.6	26.2	-	-	9.9	9.9	12/12	3	13.9
	Building B 2006-2014	0.078 J	2.5	0.075	2.7	0.61	0.68	52/74	0	0.66
	Building B September 2014	1.2	1.2	-	-	NA(7)	NA(7)	1/1	0	NA(8)
	Building C 2006-2014	0.077 J	36 (6)	0.075	20	0.80	1.2	122/256	4	0.92
	Building C September 2014	0.43 J	1.8	0.69	1.7	0.8	1.2	6/26	0	0.85
First Floor	All Buildings 2006-2014	0.081 J	34	0.075	12	1.2	1.7	152/290	4	1.7
	All Buildings September 2014	0.74 J	11.2	0.74	1.7	2.1	3.2	11/19	2	3.4
	Building A 2006-2014	0.086 J	34	0.075	12	1.4	2.0	112/193	4	2.3
	Building A September 2014	0.74 J	11.2	0.74	1.7	2.2	3.3	10/17	2	3.6
	Building B 2006-2014	0.081 J	5.1	0.075	11	0.81	0.77	33/75	0	0.66
	Building B September 2014	2.5	2.5	1.6	1.6	NA(7)	NA(7)	1/2	0	NA(8)
	Building C 2006-2014	0.5 J	7.2	0.21	2.7	1.1	2.3	7/21	0	2.1
Background	2006-2014	0.5 J	11.9	0.075	2.7	0.79	3.6	8/58	1	1.1
	September 2014	1.1	11.9	0.76	1.6	3.7	7.0	3/6	1	8.3

All results are in µg/m³.

(1) The original sample and duplicate are considered as two separate samples when determining the minimum and maximum concentration.

(2) Values presented are sample-specific quantitation limits.

(3) The average of the original sample and duplicate is used for determining the mean, frequency of detection, and 95% UCL.

(4) Value is the non-carcinogenic industrial air regional screening level corresponding to HI = 1 (USEPA, November 2014).

(5) Field duplicate pair samples are counted as one sample in determining the number of samples exceeding the screening level. The field duplicate pair is considered to exceed the screening level if either the original or duplicate sample is greater than the screening level.

(6) The maximum detected concentration of 36 µg/m³ was detected in a duplicate sample, and the corresponding original sample concentration of 0.75 µg/m³ is considerably less than the maximum concentration. Resampling at the same location found concentrations that were closer to the original sample concentration.

(7) There are less than three samples; therefore, an average is not presented.

(8) There are less than 5 samples; therefore, a UCL is not presented.

Definitions:

HI - hazard index
ILCR - incremental lifetime cancer risk
J - estimated value
µg/m³ - micrograms per cubic meter
NA - not applicable/not available
UCL - upper confidence limit
USEPA - United States Environmental Protection Agency

A benchmark of 8.8 µg/m³ corresponds to HI = 1.

TABLE 3-4
SUMMARY STATISTICS FOR NAPHTHALENE CONCENTRATIONS IN INDOOR AIR
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Building level or background	Dataset	Minimum detected value(1)	Maximum detected value(1)	Minimum non-detect value(1)(2)	Maximum non-detect value(1)(2)	Average of all values(3)	Average of detected values(3)	Frequency of detection(3)	Number of detections > 3.6 µg/m^3 (4)(5)	95% UCL(3)
Basement	All Buildings 2006-2014	0.19	13.7 J	0.19	96.7	1.7	2.2	214/327	49	1.8
	All Buildings September 2014	0.9 J	13.7 J	3.4	4	4.1	4.5	33/39	24	6.1
	Building A 2006-2014	0.47 J	13.7 J	0.19	4	2.8	3.5	34/57	18	3.9
	Building A September 2014	1.5 J	13.7 J	4	4	5.8	5.8	12/12	10	8.8
	Building B 2006-2014	0.23 J	5	0.19	5.6	1.1	1.6	31/47	3	1.5
	Building B September 2014	2.7 J	2.7 J	-	-	NA(6)	NA(6)	1/1	0	NA(7)
	Building C 2006-2014	0.2 J	6.9	0.19	96.7	1.6	1.9	139/224	28	1.5
	Building C September 2014	0.9 J	6.9	3.4	3.8	3.4	3.9	20/26	14	4.0
First Floor	All Buildings 2006-2014	0.19 J	6.5 J	0.19	31	1.2	1.4	93/193	4	1.0
	All Buildings September 2014	1.1 J	4.5 J	3.6	4.1	2.1	2.3	9/19	2	2.6
	Building A 2006-2014	0.19 J	4.8	0.19	31	1.1	1.4	69/145	3	1.0
	Building A September 2014	1.1 J	4.5 J	3.6	4.1	2.1	2.3	9/17	2	2.6
	Building B 2006-2014	0.26 J	6.5 J	0.19	24	1.7	1.4	24/48	1	1.3
	Building B September 2014	-	-	4	4	NA(6)	NA(6)	0/1	0	NA(8)
Background	2006-2014	0.2 J	8.1 J	0.19	3.8	0.95	1.4	20/42	1	1.3
	September 2014	1.2 J	1.8 J	3.7	3.8	1.7	1.5	2/6	0	NA(8)

All results are in µg/m^3. A benchmark of 3.6 µg/m^3 corresponds to HI = 1.

(1) The original sample and duplicate are considered as two separate samples when determining the minimum and maximum concentration.
(2) Values presented are sample-specific quantitation limits.
(3) The average of the original sample and duplicate is used for determining the mean, frequency of detection, and 95% UCL.
(4) Value is the non-carcinogenic industrial air regional screening level corresponding to HI = 1 (USEPA, November 2014).

(5) Field duplicate pair samples are counted as one sample in determining the number of samples exceeding the screening level. The field duplicate pair is considered to exceed the screening level if either the original or duplicate sample is greater than the screening level.
(6) There are less than 3 samples; therefore, an average is not presented.
(7) There are less than 5 samples; therefore, a UCL is not presented.
(8) There are less than 3 positive detections; therefore, a UCL is not presented.

Definitions:
HI - hazard index
ILCR - incremental lifetime cancer risk
J - estimated value
µg/m^3 - micrograms per cubic meter
NA - not applicable/not available
UCL - upper confidence limit
USEPA - United States Environmental Protection Agency

TABLE 3-5

INDOOR AIR QUALITY SAMPLING RESULTS, BUILDING A, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Key	AIR-015-A			AIR-017-A	
SAMPLE ID				IA-015-A-17	IA-015-A-17-D	IA-015-A-R17B	IA-017-A-R17A	IA-017-A-R17A-D
SAMPLE DATE				20140902	20140902	20140827	20140821	20140821
Volatile organic compounds ($\mu g/m^3$)								
BENZENE	319	16	ca	1.8	2	0.58 J	0.35 J	0.32 J
CARBON TETRACHLORIDE	62900	20	ca	0.86 U	0.86 U	1.7 U	0.65 J	0.69 J
CHLORODIFLUOROMETHANE	3590000	220000	nc	6.4	8	3.9	3.4	3.5
CHLOROFORM	240000	5.3	ca	0.76	0.76	1.3 U	0.69 U	0.69 U
DICHLORODIFLUOROMETHANE	4950000	440	nc	1.8	2.7	1.8 J	1.7	1.7
1,1-DICHLOROETHANE	400000	77	ca	1.1 U	1.1 U	2.2 U	1.1 U	1.1 U
1,2-DICHLOROETHANE	400000	4.7	ca	0.55 U	0.55 U	1.1 U	0.57 U	0.57 U
1,1-DICHLOROETHENE	--	880	nc	1.1 U	1.1 U	2.2 U	1.1 U	1.1 U
CIS-1,2-DICHLOROETHENE	790000	--	--	1.1 U	1.1 U	2.2 U	1.1 U	1.1 U
TRANS-1,2-DICHLOROETHENE	790000	--	--	1.1 U	1.1 U	2.2 U	1.1 U	1.1 U
ETHYLBENZENE	435000	49	ca	143	149	3.8	2.4	2.4
METHYL TERT-BUTYL ETHER	180000[A]	470	ca	0.98 U	0.98 U	2 U	1 U	1 U
METHYLENE CHLORIDE	87000	2600	nc	0.91 J	4.7 U	1.3 J	3.7 J	1.1 J
NAPHTHALENE	50000	3.6	ca	3.6 U	1.6 J	3.4 J	1.2 J	1.1 J
TETRACHLOROETHENE	678000	180	nc	0.92 U	1.8	1.7 J	0.87 J	0.95 J
TOLUENE	754000	22000	nc	4030 J	4390 J	60.1	47.8	48.8
1,2,4-TRICHLOROBENZENE	40000[N]	8.8	nc	2 U	2 U	10.1 U	5.2 U	5.2 U
1,1,1-TRICHLOROETHANE	1900000	22000	nc	1.5 U	1.5 U	3 U	1.4 J	1.4 J
1,1,2-TRICHLOROETHANE	45000	0.88	nc	0.74 U	0.74 U	1.5 U	0.76 U	0.76 U
TRICHLOROETHENE	537000	8.8	nc	0.74 U	0.74 U	1.1 J	1.5	1.4
1,2,3-TRIMETHYLBENZENE	123000	22	nc	1.3 U	1.2 J	2.7 U	1.4 U	1.4 U
1,2,4-TRIMETHYLBENZENE	123000	31	nc	1.5	1.5	2.7 U	0.72 J	0.7 J
1,3,5-TRIMETHYLBENZENE	123000	22	nc[(1)]	3.3 U	2 J	2.7 U	1.4 U	1.4 U
VINYL CHLORIDE	21560	28	ca	0.7 U	0.7 U	0.7 U	0.36 U	0.36 U
M+P-XYLENES	434000	440	nc	501	533	12	8.2	8.5
O-XYLENE	434000	440	nc	195	202	5.9	3.7	3.9
TOTAL XYLENES	434000	440	nc	696	735	17.9	11.9	12.4

TABLE 3-5

INDOOR AIR QUALITY SAMPLING RESULTS, BUILDING A, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Key	AIR-018-A				AIR-024-A
				IA-018-A-17 20140902	IA-018-A-17-D 20140902	IA-018-A-R17A 20140821	IA-018-A-R17B 20140827	IA-024-A-R17A 20140821
Volatile organic compounds ($\mu g/m^3$)								
BENZENE	319	16	ca	0.86	1.1	0.36 J	2	0.34 J
CARBON TETRACHLORIDE	62900	20	ca	0.95 U	0.95 U	0.71 J	0.59 J	0.65 J
CHLORODIFLUOROMETHANE	3590000	220000	nc	3.8	4.5	2.1	6.9	2.3
CHLOROFORM	240000	5.3	ca	15	14.8	2.2	17.2	0.88
DICHLORODIFLUOROMETHANE	4950000	440	nc	2.4	1.5 J	2	1.6	1.7
1,1-DICHLOROETHANE	400000	77	ca	1.2 U	1.2 U	1.2 U	0.67 J	1.2 U
1,2-DICHLOROETHANE	400000	4.7	ca	0.61 U	0.61 U	0.59 U	0.31 J	0.59 U
1,1-DICHLOROETHENE	--	880	nc	3.1	3.5	4.4	33.3	1.2 U
CIS-1,2-DICHLOROETHENE	790000	--	--	0.9 J	0.85 J	1.2	3.8	1.2 U
TRANS-1,2-DICHLOROETHENE	790000	--	--	1.2 U	1.2 U	1.2 U	1.1 U	1.2 U
ETHYLBENZENE	435000	49	ca	25.1	27	1.3 U	2.1	2.4
METHYL TERT-BUTYL ETHER	180000[A]	470	ca	1.1 U	1.1 U	1.1 U	1 U	1.1 U
METHYLENE CHLORIDE	87000	2600	nc	0.83 J	1.6 J	1.2 J	1.6 J	1.3 J
NAPHTHALENE	50000	3.6	ca	4 U	9.8	4	12.3	1.4 J
TETRACHLOROETHENE	678000	180	nc	1 U	1 U	0.9 J	1	1
TOLUENE	754000	22000	nc	373	425	9.3	36.9	41.5
1,2,4-TRICHLOROBENZENE	40000[N]	8.8	nc	2.2 U	2.2 J	5.4 U	5.2 U	5.4 U
1,1,1-TRICHLOROETHANE	1900000	22000	nc	1.7 U	1.7 U	1.6 U	1.5 U	1.6 U
1,1,2-TRICHLOROETHANE	45000	0.88	nc	0.82 U	0.82 U	0.79 U	0.76 U	0.79 U
TRICHLOROETHENE	537000	8.8	nc	5.5	4.8	10.9	26.2	0.74 J
1,2,3-TRIMETHYLBENZENE	123000	22	nc	1.8	1.4 J	1.4 U	1.7	1.4 U
1,2,4-TRIMETHYLBENZENE	123000	31	nc	1.6	1.3 J	0.77 J	1.4 J	0.76 J
1,3,5-TRIMETHYLBENZENE	123000	22	nc[(1)]	2.1 J	2.2 J	1.4 U	1.3 J	1.4 U
VINYL CHLORIDE	21560	28	ca	0.77 U	0.77 U	0.37 U	0.36 U	0.37 U
M+P-XYLENES	434000	440	nc	107	117	2.3 J	3.7	8
O-XYLENE	434000	440	nc	39	39.3	1.5	1.9	3.8
TOTAL XYLENES	434000	440	nc	146	156.3	3.8 J	5.6	11.8

TABLE 3-5

INDOOR AIR QUALITY SAMPLING RESULTS, BUILDING A, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	**OSHA PEL ($\mu g/m^3$)**	**Industrial Air Screening Level ($\mu g/m^3$)**	**Key**	**AIR-075-A** **IA-075-A-17** **20140902**	**AIR-076-A** **IA-076-A-17** **20140902**	**AIR-079-A** **IA-079-A-17** **20140902**	**AIR-081-A** **IA-081-A-17** **20140902**	**AIR-093-A** **IA-093-A-17** **20140902**
Volatile organic compounds ($\mu g/m^3$)								
BENZENE	319	16	ca	0.47 U	0.93 U	0.9 U	0.5 U	0.73
CARBON TETRACHLORIDE	62900	20	ca	0.92 U	0.92 U	0.46 J	0.99 U	0.92 U
CHLORODIFLUOROMETHANE	3590000	220000	nc	5.3	4.5	3	36	3.4
CHLOROFORM	240000	5.3	ca	0.71 U	0.71 U	0.69 U	0.77 U	0.73
DICHLORODIFLUOROMETHANE	4950000	440	nc	2.8	2.7	2.4	1.9	2.2
1,1-DICHLOROETHANE	400000	77	ca	1.2 U	1.2 U	1.1 U	1.3 U	1.2 U
1,2-DICHLOROETHANE	400000	4.7	ca	0.59 U	0.59 U	0.57 U	0.64 U	0.59 U
1,1-DICHLOROETHENE	--	880	nc	1.2 U	1.2 U	1.1 U	1.3 U	1.3
CIS-1,2-DICHLOROETHENE	790000	--	--	1.2 U	1.2 U	1.1 U	1.3 U	1.2 U
TRANS-1,2-DICHLOROETHENE	790000	--	--	1.2 U	1.2 U	1.1 U	1.3 U	1.2 U
ETHYLBENZENE	435000	49	ca	1.5	1.7	5.3	2.8	16.2
METHYL TERT-BUTYL ETHER	180000[A]	470	ca	1.1 U	1.1 U	1 U	1.1 U	1.1 U
METHYLENE CHLORIDE	87000	2600	nc	0.6 J	5.1 U	4.9 U	1 J	0.7 J
NAPHTHALENE	50000	3.6	ca	3.8 U	3.8 UJ	3.7 UJ	1.5 J	1.5 J
TETRACHLOROETHENE	678000	180	nc	0.99 U	0.99 U	0.96 U	1.1 U	1
TOLUENE	754000	22000	nc	15.4	60.6	166	74.3	214
1,2,4-TRICHLOROBENZENE	40000[N]	8.8	nc	2.2 U	109 UJ	105 UJ	2.3 U	2.2 U
1,1,1-TRICHLOROETHANE	1900000	22000	nc	1.6 U	1.6 U	1.5 U	1.7 U	1.6 U
1,1,2-TRICHLOROETHANE	45000	0.88	nc	0.79 U	0.79 U	0.76 U	0.85 U	0.79 U
TRICHLOROETHENE	537000	8.8	nc	0.79 U	2.4	2.4	0.85 U	9.2
1,2,3-TRIMETHYLBENZENE	123000	22	nc	1.4 U	1.4 U	1.4 U	1.4 J	1.4 U
1,2,4-TRIMETHYLBENZENE	123000	31	nc	1.4 U	1.4 U	1.4 U	1.5 J	1.2 J
1,3,5-TRIMETHYLBENZENE	123000	22	nc[(1)]	3.6 U	1.4 U	1.4 U	1.9 J	1.8 J
VINYL CHLORIDE	21560	28	ca	0.75 U	0.37 U	0.36 U	0.81 U	0.45 J
M+P-XYLENES	434000	440	nc	3.3	7	23	9.8	71.5
O-XYLENE	434000	440	nc	1.6	2.7	8	3.5	26.4
TOTAL XYLENES	434000	440	nc	4.9	9.7	31	13.3	97.9

TABLE 3-5

INDOOR AIR QUALITY SAMPLING RESULTS, BUILDING A, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Key	AIR-093-A				AIR-095-A
				IA-093-A-17R 20141002	IA-093-A-R17A 20140821	IA-093-A-R17B 20140827	IA-093-A-17R2 20141112	IA-095-A-17 20140902
Volatile organic compounds ($\mu g/m^3$)								
BENZENE	319	16	ca	0.63	0.31 J	0.6	1	0.44 U
CARBON TETRACHLORIDE	62900	20	ca	0.85 J	0.7 J	0.56 J	0.94	0.86 U
CHLORODIFLUOROMETHANE	3590000	220000	nc	2	2	5.3	3	129
CHLOROFORM	240000	5.3	ca	0.48 J	1.3	1.8	0.71 U	0.66 U
DICHLORODIFLUOROMETHANE	4950000	440	nc	1.9	2.2	1.9	4.5	1.9
1,1-DICHLOROETHANE	400000	77	ca	1.3 U	1.2 U	1.1 U	1.2 U	1.1 U
1,2-DICHLOROETHANE	400000	4.7	ca	1.3 U	0.59 U	0.57 U	1.2 U	0.55 U
1,1-DICHLOROETHENE	--	880	nc	0.84 J	2.3	3.5	2.1 J	1.1 U
CIS-1,2-DICHLOROETHENE	790000	--	--	1.3 U	0.57 J	0.74 J	2.9 U	1.1 U
TRANS-1,2-DICHLOROETHENE	790000	--	--	1.3 U	1.2 U	1.1 U	1.1 J	1.1 U
ETHYLBENZENE	435000	49	ca	0.72 J	1.3 U	1.2 U	2.2 J	1.2
METHYL TERT-BUTYL ETHER	180000[A]	470	ca	1.1 U	1.1 U	1 U	2.6 U	0.98 U
METHYLENE CHLORIDE	87000	2600	nc	1.1 J	2 J	1.2 J	4 J	0.66 J
NAPHTHALENE	50000	3.6	ca	3.8 J	3.9	4.3	4.9	3.6 U
TETRACHLOROETHENE	678000	180	nc	1.1 J	0.99 U	0.92 J	3.8 J	0.92 U
TOLUENE	754000	22000	nc	33.3	7.4	15.1	3	19.2
1,2,4-TRICHLOROBENZENE	40000[N]	8.8	nc	2.3 U	5.4 U	5.2 U	4.2 J	2 U
1,1,1-TRICHLOROETHANE	1900000	22000	nc	1.7 U	1.6 U	1.5 U	1.6 U	1.5 U
1,1,2-TRICHLOROETHANE	45000	0.88	nc	0.85 U	0.79 U	0.76 U	4 U	0.74 U
TRICHLOROETHENE	537000	8.8	nc	12.2	10.6	9.9	12.1	0.74 U
1,2,3-TRIMETHYLBENZENE	123000	22	nc	1.5 U	1.4 U	1.4 U	3.6 U	1.2 J
1,2,4-TRIMETHYLBENZENE	123000	31	nc	0.96 J	1.4 U	1.1 J	2.8 J	1.2 J
1,3,5-TRIMETHYLBENZENE	123000	22	nc[(1)]	1.5 U	1.4 U	1.4 U	3.6 U	3.3 U
VINYL CHLORIDE	21560	28	ca	0.81 U	0.37 U	0.36 U	0.75 U	0.7 U
M+P-XYLENES	434000	440	nc	2.4 J	1.8 J	2.1 J	4.3 J	2.3 J
O-XYLENE	434000	440	nc	0.81 J	1.2 J	1.5	3 J	1.2
TOTAL XYLENES	434000	440	nc	3.21	3 J	3.6	7.3	3.5

TABLE 3-5

INDOOR AIR QUALITY SAMPLING RESULTS, BUILDING A, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Key	AIR-117-A IA-117-A-R17A 20140821	AIR-117-A IA-117-A-17 20140902	AIR-117-A IA-117-A-17R 20141002	AIR-118-A IA-118-A-R17A 20140821	AIR-118-A IA-118-A-17 20140902
Volatile organic compounds ($\mu g/m^3$)								
BENZENE	319	16	ca	0.29 J	0.9 U	0.4 J	0.32 J	0.73
CARBON TETRACHLORIDE	62900	20	ca	0.62 J	0.89 U	0.71 J	0.67 J	0.86 U
CHLORODIFLUOROMETHANE	3590000	220000	nc	4.7	3.6	5.2	3.8	10.6
CHLOROFORM	240000	5.3	ca	0.71 U	0.69 U	1.5 U	0.71 U	0.66 U
DICHLORODIFLUOROMETHANE	4950000	440	nc	1.7	2.7	2.2	1.8	2.3
1,1-DICHLOROETHANE	400000	77	ca	1.2 U	1.1 U	1.3 U	1.2 U	1.1 U
1,2-DICHLOROETHANE	400000	4.7	ca	0.59 U	0.57 U	1.3 U	0.59 U	0.55 U
1,1-DICHLOROETHENE	--	880	nc	1.2 U	1.1 U	1.3 U	1.2 U	1.1 U
CIS-1,2-DICHLOROETHENE	790000	--	--	1.2 U	1.1 U	1.3 U	1.2 U	1.1 U
TRANS-1,2-DICHLOROETHENE	790000	--	--	1.2 U	1.1 U	1.3 U	1.2 U	1.1 U
ETHYLBENZENE	435000	49	ca	1.6	5.4	0.74 J	1.5	10.5
METHYL TERT-BUTYL ETHER	180000[A]	470	ca	1.1 U	1 U	1.1 U	1.1 U	0.98 U
METHYLENE CHLORIDE	87000	2600	nc	1.6 J	4.9 U	1.1 J	3.1 J	4.7 U
NAPHTHALENE	50000	3.6	ca	1.7 J	3.7 UJ	4.1 U	1.4 J	3.6 U
TETRACHLOROETHENE	678000	180	nc	0.94 J	0.96 U	2.1 U	0.97 J	0.92 U
TOLUENE	754000	22000	nc	28.7	109	83.9	20.1	60
1,2,4-TRICHLOROBENZENE	40000[N]	8.8	nc	5.4 U	105 UJ	2.3 U	5.4 U	2 U
1,1,1-TRICHLOROETHANE	1900000	22000	nc	1.6 U	1.5 U	1.7 U	1.6 U	1.5 U
1,1,2-TRICHLOROETHANE	45000	0.88	nc	0.79 U	0.76 U	0.85 U	0.79 U	0.74 U
TRICHLOROETHENE	537000	8.8	nc	0.79 U	11.2	1.7 U	1.7	1.6
1,2,3-TRIMETHYLBENZENE	123000	22	nc	1.4 U	1.4 U	1.5 U	1.4 U	1.3 U
1,2,4-TRIMETHYLBENZENE	123000	31	nc	1.1 J	1.4 U	1.5 U	0.74 J	1.6
1,3,5-TRIMETHYLBENZENE	123000	22	nc[(1)]	1.1 J	1.4 U	1.5 U	1.4 U	3.3 U
VINYL CHLORIDE	21560	28	ca	0.37 U	0.36 U	0.81 U	0.37 U	0.7 U
M+P-XYLENES	434000	440	nc	2.6	25.8	2.3 J	2.7	41.6
O-XYLENE	434000	440	nc	1.7	8.7	0.78 J	1.5	13.9
TOTAL XYLENES	434000	440	nc	4.3	34.5	3.08	4.2	55.5

TABLE 3-5

INDOOR AIR QUALITY SAMPLING RESULTS, BUILDING A, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Key	AIR-136-A		AIR-138-A	AIR-ABS-A
				IA-136-A-17 20140902	IA-136-A-17R 20141002	IA-138-A-17 20140902	IA-ABS-A-17 20141112
Volatile organic compounds ($\mu g/m^3$)							
BENZENE	319	16	ca	0.9 U	0.94	0.87 U	19.1
CARBON TETRACHLORIDE	62900	20	ca	0.89 U	0.81 J	0.86 U	2.3 U
CHLORODIFLUOROMETHANE	3590000	220000	nc	3.3	5.6	1.1	2 J
CHLOROFORM	240000	5.3	ca	0.69 U	1.4 U	0.66 U	1.8 U
DICHLORODIFLUOROMETHANE	4950000	440	nc	2.9	3.7	2.8	3.1 J
1,1-DICHLOROETHANE	400000	77	ca	1.1 U	1.2 U	0.62 J	3 U
1,2-DICHLOROETHANE	400000	4.7	ca	0.57 U	1.2 U	0.55 U	3 U
1,1-DICHLOROETHENE	--	880	nc	1.1 U	1.2 U	1.1 U	7.4 U
CIS-1,2-DICHLOROETHENE	790000	--	--	1.1 U	1.2 U	1.1 U	7.4 U
TRANS-1,2-DICHLOROETHENE	790000	--	--	1.1 U	1.2 U	1.1 U	7.4 U
ETHYLBENZENE	435000	49	ca	1 J	0.74 J	12.8	12.3
METHYL TERT-BUTYL ETHER	180000[A]	470	ca	1 U	1.1 U	0.98 U	6.7 U
METHYLENE CHLORIDE	87000	2600	nc	4.9 U	150	4.7 U	13 U
NAPHTHALENE	50000	3.6	ca	3.7 UJ	3.7 J	13.7 J	9.1 J
TETRACHLOROETHENE	678000	180	nc	0.96 U	2 U	0.92 U	10.6 J
TOLUENE	754000	22000	nc	33.8	23.6	229	115
1,2,4-TRICHLOROBENZENE	40000[N]	8.8	nc	105 UJ	4.8	101 UJ	13.8 U
1,1,1-TRICHLOROETHANE	1900000	22000	nc	1.5 U	1.6 U	1.5 U	4.1 U
1,1,2-TRICHLOROETHANE	45000	0.88	nc	0.76 U	0.79 U	0.74 U	10.2 U
TRICHLOROETHENE	537000	8.8	nc	9.1	1.6 U	5.5	7.2
1,2,3-TRIMETHYLBENZENE	123000	22	nc	1.4 U	1 J	1.3 U	9.2 U
1,2,4-TRIMETHYLBENZENE	123000	31	nc	1.4 U	1.6	1.3 U	7.5 J
1,3,5-TRIMETHYLBENZENE	123000	22	nc[(1)]	1.4 U	0.84 J	1.3 U	6.9 J
VINYL CHLORIDE	21560	28	ca	0.36 U	0.75 U	0.35 U	1.9 U
M+P-XYLENES	434000	440	nc	4	2.9	59.8	31.2
O-XYLENE	434000	440	nc	1.3	1.2 J	24.5	12.3
TOTAL XYLENES	434000	440	nc	5.3	4.1	84.3	43.5

TABLE 3-5

INDOOR AIR QUALITY SAMPLING RESULTS, BUILDING A, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Key	AIR-AFG-A		AIR-PIT-A
				IA-AFG-A-17 20141002	IA-AFG-A-17R 20141122	IA-PIT-A-R17B 20140827
Volatile organic compounds ($\mu g/m^3$)						
BENZENE	319	16	ca	0.36 J	0.87	0.78 J
CARBON TETRACHLORIDE	62900	20	ca	0.77 J	0.92 U	2.6 U
CHLORODIFLUOROMETHANE	3590000	220000	nc	1.9	2.4	3.8
CHLOROFORM	240000	5.3	ca	0.43 J	0.71 U	2.2
DICHLORODIFLUOROMETHANE	4950000	440	nc	3	3.8	1.7 J
1,1-DICHLOROETHANE	400000	77	ca	1.2 U	1.2 U	3.3 U
1,2-DICHLOROETHANE	400000	4.7	ca	1.2 U	1.2 U	1.7 U
1,1-DICHLOROETHENE	--	880	nc	1.2 U	2.9 U	3.3 U
CIS-1,2-DICHLOROETHENE	790000	--	--	1.2 U	2.9 U	3.3 U
TRANS-1,2-DICHLOROETHENE	790000	--	--	1.2 U	2.9 U	3.3 U
ETHYLBENZENE	435000	49	ca	1.3 U	2.2 J	5.1
METHYL TERT-BUTYL ETHER	180000[A]	470	ca	1.1 U	2.6 U	2.9 U
METHYLENE CHLORIDE	87000	2600	nc	1 J	3.3 J	2.9 J
NAPHTHALENE	50000	3.6	ca	2.3 J	4.2	4.5 J
TETRACHLOROETHENE	678000	180	nc	2.1 U	4.1 J	2.8
TOLUENE	754000	22000	nc	31.7	3	42.4
1,2,4-TRICHLOROBENZENE	40000[N]	8.8	nc	2.2 U	5.4 U	15.2 U
1,1,1-TRICHLOROETHANE	1900000	22000	nc	1.7 U	1.6 U	4.5 U
1,1,2-TRICHLOROETHANE	45000	0.88	nc	0.82 U	4 U	2.2 U
TRICHLOROETHENE	537000	8.8	nc	3.6	6.6	1.3 J
1,2,3-TRIMETHYLBENZENE	123000	22	nc	1.5 U	3.6 U	4 U
1,2,4-TRIMETHYLBENZENE	123000	31	nc	1.5 U	3.6 U	4 U
1,3,5-TRIMETHYLBENZENE	123000	22	nc[(1)]	1.5 U	3.6 U	4 U
VINYL CHLORIDE	21560	28	ca	0.77 U	0.75 U	1.1 U
M+P-XYLENES	434000	440	nc	1.8 J	4.2 J	10.1
O-XYLENE	434000	440	nc	1.3 U	3 J	5.7
TOTAL XYLENES	434000	440	nc	1.8	7.2	15.8

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

-- = not available

J = estimated value

U = not detected

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

November 2014 carcinogenic screening values based on 1x 10^{-5} carcinogenic risk

noncarcinogenic screening values based on noncarcinogenic hazard index = 1

OSHA PEL = Occupational Safety and Health Administration Pemissible Exposure Limit

USEPA = United States Environmental Protection Agency

A = American Council of Governmental Industrial Hygenists Theshold Limit Value

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

(1) Value is for 1,2,3-trimethylbenzene.

TOTAL XYLENES values are calculated.

TABLE 3-6

SUB-SLAB VAPOR SAMPLING RESULTS, BUILDING A, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	Target Shallow Soil Gas Concentration ($\mu g/m^3$)(1)	Key	AIR-075-A SV-075-A-17 20140902	AIR-076-A SV-076-A-17 20140902	AIR-079-A SV-079-A-17 20140902	AIR-079-A SV-079-A-17-D 20140902	AIR-081-A SV-081-A-17 20140902	AIR-095-A SV-095-A-17 20140902	AIR-118-A SV-118-A-17 20140902
Volatile organic compounds ($\mu g/m^3$)									
BENZENE	533	ca	1.1 U	1.2 U	1.1 U	1.1 U	1.4	1.3	2.4
CARBON TETRACHLORIDE	667	ca	1.1 U	1.2 U	1.1 U	0.56 J	0.67 J	1.1 U	1.2 U
CHLORODIFLUOROMETHANE	7333333	nc	9.6	6	2.6	3.3	23.9	83.1	8.6
CHLOROFORM	177	ca	0.86 U	0.89 U	0.83 U	0.83 U	0.96 U	0.86 U	34.6
DICHLORODIFLUOROMETHANE	14667	nc	3	4.6	3.3	3.5	3.5	3.2	3.2
1,1-DICHLOROETHANE	2567	ca	1.4 U	1.5 U	1.4 U	1.4 U	1.6 U	1.4 U	110 J
1,2-DICHLOROETHANE	157	ca	0.71 U	0.74 U	0.69 U	0.69 U	0.8 U	1.2	0.77 U
1,1-DICHLOROETHENE	29333	nc	1.4 U	1.5 U	1.4 U	1.4 U	1.6 U	1.4 U	1220
CIS-1,2-DICHLOROETHENE	--	--	1.4 U	1.5 U	11.3 J	1.6 J	0.96 J	1.4 U	365 J
TRANS-1,2-DICHLOROETHENE	--	--	1.4 U	1.5 U	2.3	1.4 U	1.6 U	1.4 U	19.8
ETHYLBENZENE	1633	ca	1.2 J	3.9	28.9	30.5	4.2	1.8	26.4
METHYL TERT-BUTYL ETHER	15667	ca	1.3 U	1.3 U	1.2 U	1.2 U	1.4 U	1.3 U	1.4 U
METHYLENE CHLORIDE	86667	nc	6.1 U	2.1 J	6.3 J	2.6 J	2 J	7.9	17.2
NAPHTHALENE	120	ca	**384 J**	**162 J**	4.5 UJ	4.5 UJ	**265 J**	115 J	22.8 J
TETRACHLOROETHENE	6000	nc	0.78 J	1.3	1.4	1 J	5	1.5	1.8
TOLUENE	733333	nc	11	112	535	729	14.5	37.5	47.3
1,2,4-TRICHLOROBENZENE	293	nc	131 UJ	136 UJ	127 UJ	127 UJ	146 UJ	131 UJ	141 UJ
1,1,1-TRICHLOROETHANE	733333	nc	1.9 U	2 U	1.9 U	1.9 U	8.8	1.9 U	43.8
1,1,2-TRICHLOROETHANE	29	nc	0.96 U	0.99 U	0.92 U	0.92 U	1.1 U	0.96 U	1 U
TRICHLOROETHENE	293	nc	14.3	8.1	33.8 J	12.9 J	6.1	6.9	**4980 J**
1,2,3-TRIMETHYLBENZENE	733	nc	16.2	21.2	1.7 U	1.7 U	**3560**	8.9	14.3
1,2,4-TRIMETHYLBENZENE	1033	nc	51.2	41.5	1.7 U	1.7 U	241	5.6	30.9
1,3,5-TRIMETHYLBENZENE	733	nc(2)	23.2	15.3	1.7 U	1.7 U	**3490**	6.3	19.5
VINYL CHLORIDE	933	ca	0.45 U	0.47 U	0.44 U	0.44 U	0.5 U	0.45 U	4
M+P-XYLENES	14667	nc	4.7	17.5	132	146	37.4	4.5	167
O-XYLENE	14667	nc	4.2	7.6	52	55.5	32.8	1.6	80.4
TOTAL XYLENES	14667	nc	8.9	25.1	184	201.5	70.2	6.1	247.4

TABLE 3-6

SUB-SLAB VAPOR SAMPLING RESULTS, BUILDING A, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	Target Shallow Soil Gas Concentration ($\mu g/m^3$)(1)	Key	AIR-136-A	
			SV-136-A-17 20140902	SV-136-A-17-D 20140902
Volatile organic compounds ($\mu g/m^3$)				
BENZENE	533	ca	3.7	5.4
CARBON TETRACHLORIDE	667	ca	0.63 J	1.1 U
CHLORODIFLUOROMETHANE	7333333	nc	9.5	12.7
CHLOROFORM	177	ca	**208**	**231 J**
DICHLORODIFLUOROMETHANE	14667	nc	3.3	2.9
1,1-DICHLOROETHANE	2567	ca	1.3 J	1.9
1,2-DICHLOROETHANE	157	ca	0.38 J	0.71 U
1,1-DICHLOROETHENE	29333	nc	0.95 J	1.2 J
CIS-1,2-DICHLOROETHENE	--	--	19.3	27.8
TRANS-1,2-DICHLOROETHENE	--	--	10.4	16.4
ETHYLBENZENE	1633	ca	1.5 J	2.2
METHYL TERT-BUTYL ETHER	15667	ca	1.3 U	1.3 U
METHYLENE CHLORIDE	86667	nc	24.7 J	1.4 J
NAPHTHALENE	120	ca	15.2 J	25.1 J
TETRACHLOROETHENE	6000	nc	10.9	15.4
TOLUENE	733333	nc	30.5	24
1,2,4-TRICHLOROBENZENE	293	nc	131 UJ	131 UJ
1,1,1-TRICHLOROETHANE	733333	nc	1.7 J	2.8
1,1,2-TRICHLOROETHANE	29	nc	0.96 U	0.96 U
TRICHLOROETHENE	293	nc	**19900 J**	**42200 J**
1,2,3-TRIMETHYLBENZENE	733	nc	4.8	7.1
1,2,4-TRIMETHYLBENZENE	1033	nc	8.6	14
1,3,5-TRIMETHYLBENZENE	733	nc(2)	3	4.7
VINYL CHLORIDE	933	ca	0.45 U	0.45 U
M+P-XYLENES	14667	nc	6	6.7
O-XYLENE	14667	nc	3.1	3.1
TOTAL XYLENES	14667	nc	9.1	9.8

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

-- = not available

U = nondetect

ca = screening value based on carcinogenic effects

nc = screening value based on noncarcinogenic effects

TOTAL XYLENES values are calculated.

(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 0.03, and correspond to a target cancer risk level of 1.0E-05.

(2) Value is for 1,2,3-trimethylbenzene.

TABLE 3-7

INDOOR AIR QUALITY SAMPLING RESULTS, BUILDING B, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Key	AIR-033-B IA-033-B-17 20140902	AIR-121-B IA-121-B-17 20140902	AIR-140-B IA-140-B-17 20140902
Volatile organic compounds ($\mu g/m^3$)						
BENZENE	319	16	ca	0.75	0.97 U	0.97 U
CARBON TETRACHLORIDE	62900	20	ca	0.89 U	0.95 U	0.95 U
CHLORODIFLUOROMETHANE	3590000	220000	nc	82.9	3.6	4
CHLOROFORM	240000	5.3	ca	0.69 U	0.74 U	0.74 U
DICHLORODIFLUOROMETHANE	4950000	440	nc	2	2.9	3
1,1-DICHLOROETHANE	400000	77	ca	1.1 U	1.2 U	1.2 U
1,2-DICHLOROETHANE	400000	4.7	ca	0.57 U	0.61 U	0.61 U
1,1-DICHLOROETHENE	--	880	nc	1.1 U	1.2 U	1.2 U
CIS-1,2-DICHLOROETHENE	790000	--	--	1.1 U	1.2 U	1.2 U
TRANS-1,2-DICHLOROETHENE	790000	--	--	1.1 U	1.2 U	1.2 U
ETHYLBENZENE	435000	49	ca	2.1	1.5	1.7
METHYL TERT-BUTYL ETHER	180000[A]	470	ca	1 U	1.1 U	1.1 U
METHYLENE CHLORIDE	87000	2600	nc	2.6 J	0.67 J	5.3 U
NAPHTHALENE	50000	3.6	ca	2.7 J	4 UJ	4 UJ
TETRACHLOROETHENE	678000	180	nc	0.96 U	1 U	1 U
TOLUENE	754000	22000	nc	33.8	56.2	69.5
1,2,4-TRICHLOROBENZENE	40000	8.8	nc	2.1 UJ	112 UJ	112 UJ
1,1,1-TRICHLOROETHANE	1900000	22000	nc	1.5 U	1.7 U	1.7 U
1,1,2-TRICHLOROETHANE	45000	0.88	nc	0.76 U	0.82 U	0.82 U
TRICHLOROETHENE	537000	8.8	nc	1.2	1.6 U	2.5
1,2,3-TRIMETHYLBENZENE	123000	22	nc	1.3 J	1.5 U	1.5 U
1,2,4-TRIMETHYLBENZENE	123000	31	nc	1.6	1.5 U	1.5 U
1,3,5-TRIMETHYLBENZENE	123000	22	nc[(1)]	2 J	1.5 U	1.5 U
VINYL CHLORIDE	21560	28	ca	0.72 U	0.39 U	0.39 U
M+P-XYLENES	434000	440	nc	3	5.4	6.1
O-XYLENE	434000	440	nc	0.95 J	2.3	2.3
TOTAL XYLENES	434000	440	nc	3.95	7.7	8.4

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

-- = not available

J = estimated value

U = not detected

Industrial Air Screening Levels from USEPA Regional Screening Levels for Chemical Contaminants at Superfund Sites November-2014

carcinogenic screening values based on 1x 10^{-5} carcinogenic risk

noncarcinogenic screening values based on noncarcinogenic hazard index = 1

OSHA PEL = Occupational Safety and Health Administration Pemissible Exposure Limit

USEPA = United States Environmental Protection Agency

A = American Council of Governmental Industrial Hygenists Theshold Limit Value

(1) Value is for 1,2,3-trimethylbenzene.

TOTAL XYLENES values are calculated.

TABLE 3-8

SUB-SLAB VAPOR SAMPLING RESULTS, BUILDING B, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	**Target Shallow Soil Gas Concentration ($\mu g/m^3$)(1)**	**Key**	**AIR-100-B SV-100-B-17 20140902**	**AIR-101-B SV-101-B-17 20140902**
Volatile organic compounds ($\mu g/m^3$)				
BENZENE	533	ca	1.2 U	1.2 U
CARBON TETRACHLORIDE	667	ca	22.4	3
CHLORODIFLUOROMETHANE	7333333	nc	3.2	5.1
CHLOROFORM	177	ca	9.4	0.93 U
DICHLORODIFLUOROMETHANE	14667	nc	4.4	8.1
1,1-DICHLOROETHANE	2567	ca	1.5 U	1.5 U
1,2-DICHLOROETHANE	157	ca	0.77 U	0.77 U
1,1-DICHLOROETHENE	29333	nc	6.4	1.5 U
CIS-1,2-DICHLOROETHENE	--	--	2	1.5 U
TRANS-1,2-DICHLOROETHENE	--	--	1.5 U	1.5 U
ETHYLBENZENE	1633	ca	0.86 J	1.3 J
METHYL TERT-BUTYL ETHER	15667	ca	1.4 U	1.4 U
METHYLENE CHLORIDE	86667	nc	1.2 J	4.3 J
NAPHTHALENE	120	ca	5 UJ	7.7 J
TETRACHLOROETHENE	6000	nc	5.3	50.8
TOLUENE	733333	nc	9.8	19.3
1,2,4-TRICHLOROBENZENE	293	nc	141 UJ	141 UJ
1,1,1-TRICHLOROETHANE	733333	nc	2.8	167
1,1,2-TRICHLOROETHANE	29	nc	1 U	1 U
TRICHLOROETHENE	293	nc	29.9	88.8
1,2,3-TRIMETHYLBENZENE	733	nc	5.3	6.6
1,2,4-TRIMETHYLBENZENE	1033	nc	4.8	9.9
1,3,5-TRIMETHYLBENZENE	733	nc(2)	1.9 U	4.6
VINYL CHLORIDE	933	ca	0.49 U	0.49 U
M+P-XYLENES	14667	nc	2.8 J	4.4
O-XYLENE	14667	nc	1.3 J	2.4
TOTAL XYLENES	14667	nc	4.1	6.8

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

-- = not available

J = estimated value

U = nondetect

(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 0.03, and correspond to a target cancer risk level of 1.0E-05.

(2) Value is for 1,2,3-trimethylbenzene.

TOTAL XYLENES values are calculated.

TABLE 3-9

INDOOR AIR QUALITY SAMPLING RESULTS, BUILDING C, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Key	AIR-001-C IA-001-C-17 20140903	AIR-004-C IA-004-C-17 20140903	AIR-005-C IA-005-C-17 20140903	AIR-051-C IA-051-C-17 20140903	AIR-060-C IA-060-C-17 20140903
Volatile organic compounds ($\mu g/m^3$)								
BENZENE	319	16	ca	0.93 U	7.4	0.9 U	1 U	0.42 J
CARBON TETRACHLORIDE	62900	20	ca	0.92 U	0.86 U	0.89 U	0.99 U	0.5 J
CHLORODIFLUOROMETHANE	3590000	220000	nc	1.7	0.96 U	3.5	38.2	59.9
CHLOROFORM	240000	5.3	ca	0.71 U	0.66 U	0.69 U	0.77 U	0.69 U
DICHLORODIFLUOROMETHANE	4950000	440	nc	3	2.9	2.9	3.5	2.6
1,1-DICHLOROETHANE	400000	77	ca	1.2 U	1.1 U	1.1 U	1.3 U	1.1 U
1,2-DICHLOROETHANE	400000	4.7	ca	0.59 U	4.6	0.57 U	0.64 U	0.57 U
1,1-DICHLOROETHENE	--	880	nc	1.2 U	1.1 U	1.1 U	1.3 U	1.1 U
CIS-1,2-DICHLOROETHENE	790000	--	--	1.2 U	1.1 U	1.1 U	1.3 U	1.1 U
TRANS-1,2-DICHLOROETHENE	790000	--	--	1.2 U	1.1 U	1.1 U	1.3 U	1.1 U
ETHYLBENZENE	435000	49	ca	1.3 U	3.4	1.2 U	1.4 U	1.8
METHYL TERT-BUTYL ETHER	180000[A]	470	ca	1.1 U	0.98 U	1 U	1.1 U	1 U
METHYLENE CHLORIDE	87000	2600	nc	5.1 U	6.6	1.4 J	5.5 U	4.9 U
NAPHTHALENE	50000	3.6	ca	3.8 U	3.6 U	3.7 U	5	3.2 J
TETRACHLOROETHENE	678000	180	nc	0.99 U	0.92 U	0.96 U	1.1 U	4.8 U
TOLUENE	754000	22000	nc	1.8	174	5.1	4.1	6
1,2,4-TRICHLOROBENZENE	40000	8.8	nc	109 UJ	101 UJ	105 UJ	117 UJ	5.2 U
1,1,1-TRICHLOROETHANE	1900000	22000	nc	1.6 U	1.5 U	1.5 U	1.7 U	1.5 U
1,1,2-TRICHLOROETHANE	45000	0.88	nc	0.79 U	0.74 U	0.76 U	0.85 U	0.76 U
TRICHLOROETHENE	537000	8.8	nc	1.6 U	1.8	1.5 U	1.7 U	0.76 U
1,2,3-TRIMETHYLBENZENE	123000	22	nc	1.4 U	1.2 J	1.4 U	1.5 U	1.9
1,2,4-TRIMETHYLBENZENE	123000	31	nc	1.4 U	2.3	1.4 U	1.5 U	1.4 U
1,3,5-TRIMETHYLBENZENE	123000	22	nc[(1)]	1.4 U	1.3 J	1.4 U	1.5 U	1.4 U
VINYL CHLORIDE	21560	28	ca	0.37 U	0.35 U	0.36 U	0.4 U	0.36 U
M+P-XYLENES	434000	440	nc	1.7 J	9.7	2 J	2.1 J	6.8
O-XYLENE	434000	440	nc	0.73 J	3.7	0.79 J	0.84 J	2.4
TOTAL XYLENES	434000	440	nc	2.43	13.4	2.79	2.94	9.2

TABLE 3-9

INDOOR AIR QUALITY SAMPLING RESULTS, BUILDING C, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	**OSHA PEL ($\mu g/m^3$)**	**Industrial Air Screening Level ($\mu g/m^3$)**	**Key**	**AIR-065-C IA-065-C-17 20140903**	**AIR-088-C IA-088-C-17 20140903**	**AIR-102-C IA-102-C-17 20140903**	**AIR-113-C IA-113-C-17 20140903**	**AIR-115-C IA-115-C-17 20140903**
Volatile organic compounds ($\mu g/m^3$)								
BENZENE	319	16	ca	0.93 U	0.93 U	0.82 U	0.9 U	0.93 U
CARBON TETRACHLORIDE	62900	20	ca	0.92 U	0.92 U	0.81 U	0.89 U	0.92 U
CHLORODIFLUOROMETHANE	3590000	220000	nc	13.7	7.5	3.5	8.1	7.6
CHLOROFORM	240000	5.3	ca	0.71 U	0.71 U	0.62 U	0.69 U	0.71 U
DICHLORODIFLUOROMETHANE	4950000	440	nc	3	3.2	3.1	2.6	2.8
1,1-DICHLOROETHANE	400000	77	ca	1.2 U	1.2 U	1 U	1.1 U	1.2 U
1,2-DICHLOROETHANE	400000	4.7	ca	0.59 U	0.59 U	0.52 U	0.57 U	0.59 U
1,1-DICHLOROETHENE	--	880	nc	1.2 U	1.2 U	1 U	1.1 U	1.2 U
CIS-1,2-DICHLOROETHENE	790000	--	--	1.2 U	1.2 U	1 U	1.1 U	1.2 U
TRANS-1,2-DICHLOROETHENE	790000	--	--	1.2 U	1.2 U	1 U	1.1 U	1.2 U
ETHYLBENZENE	435000	49	ca	1.3 U	0.85 J	0.88 J	0.81 J	0.76 J
METHYL TERT-BUTYL ETHER	180000[A]	470	ca	1.1 U	1.1 U	0.92 U	1 U	1.1 U
METHYLENE CHLORIDE	87000	2600	nc	4.2 J	0.58 J	38.8 J	4.9 U	5.1 U
NAPHTHALENE	50000	3.6	ca	6.1	5.8	3.4 U	1.2 J	3.8 U
TETRACHLOROETHENE	678000	180	nc	0.99 U	0.99 U	0.87 U	0.96 U	0.99 U
TOLUENE	754000	22000	nc	11.4	6	3.7	5.5	5.3
1,2,4-TRICHLOROBENZENE	40000	8.8	nc	109 UJ	109 UJ	95 UJ	105 UJ	109 UJ
1,1,1-TRICHLOROETHANE	1900000	22000	nc	1.6 U	1.6 U	1.4 U	1.5 U	1.6 U
1,1,2-TRICHLOROETHANE	45000	0.88	nc	0.79 U	0.79 U	0.69 U	0.76 U	0.79 U
TRICHLOROETHENE	537000	8.8	nc	1.6 U	1.8	1.4 U	1.5 U	1.6 U
1,2,3-TRIMETHYLBENZENE	123000	22	nc	1.4 U	1.4 U	1.3 U	1.4 U	1.4 U
1,2,4-TRIMETHYLBENZENE	123000	31	nc	1.4 U	0.84 J	1.3 U	1.4 U	1.4 U
1,3,5-TRIMETHYLBENZENE	123000	22	nc[(1)]	1.4 U	1.4 U	1.3 U	1.4 U	1.4 U
VINYL CHLORIDE	21560	28	ca	0.37 U	0.37 U	0.33 U	0.36 U	0.37 U
M+P-XYLENES	434000	440	nc	1.1 J	3.2	3.3	2.9	2.7
O-XYLENE	434000	440	nc	1.3 U	1.1 J	1.1 J	1.2 J	1.1 J
TOTAL XYLENES	434000	440	nc	1.1	4.3	4.4	4.1	3.8

TABLE 3-9

INDOOR AIR QUALITY SAMPLING RESULTS, BUILDING C, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Key	AIR-126-C IA-126-C-17 20140903	AIR-128-C IA-128-C-17 20140903	AIR-130-C IA-130-C-17 20140903	AIR-130-C IA-130-C-17-D 20140903	AIR-133-C IA-133-C-17 20140903
Volatile organic compounds ($\mu g/m^3$)								
BENZENE	319	16	ca	0.39 J	0.51	0.44	0.9 U	0.93 U
CARBON TETRACHLORIDE	62900	20	ca	0.5 J	0.46 J	0.81 U	0.89 U	0.92 U
CHLORODIFLUOROMETHANE	3590000	220000	nc	9.1	136	5.5	6.3	19.3
CHLOROFORM	240000	5.3	ca	0.71	0.37 J	0.62 U	0.69 U	0.71 U
DICHLORODIFLUOROMETHANE	4950000	440	nc	2.9	2.4	1.3	2.9	3.2
1,1-DICHLOROETHANE	400000	77	ca	1.1 U	1.1 U	1 U	1.1 U	1.2 U
1,2-DICHLOROETHANE	400000	4.7	ca	0.57 U	0.57 U	0.52 U	0.57 U	0.59 U
1,1-DICHLOROETHENE	--	880	nc	1.1 U	1.1 U	1 U	1.1 U	1.2 U
CIS-1,2-DICHLOROETHENE	790000	--	--	1.1 U	1.1 U	1 U	1.1 U	1.2 U
TRANS-1,2-DICHLOROETHENE	790000	--	--	1.1 U	1.1 U	1 U	1.1 U	1.2 U
ETHYLBENZENE	435000	49	ca	0.83 J	2.7	1.8	2.7	0.64 J
METHYL TERT-BUTYL ETHER	180000[A]	470	ca	1 U	1 U	0.92 U	1 U	1.1 U
METHYLENE CHLORIDE	87000	2600	nc	2.5 J	4.9 U	28.6 J	0.71 J	1.2 J
NAPHTHALENE	50000	3.6	ca	5.3	5.1	3.1 J	6.9	0.9 J
TETRACHLOROETHENE	678000	180	nc	4.8 U	4.8 U	4 J	0.96 U	0.99 U
TOLUENE	754000	22000	nc	22.6	6.9	5.9	7.9	4.8
1,2,4-TRICHLOROBENZENE	40000	8.8	nc	5.2 U	5.2 U	4.8 U	105 UJ	109 UJ
1,1,1-TRICHLOROETHANE	1900000	22000	nc	1.6	1.5 J	1.4 U	0.89 J	1.6 U
1,1,2-TRICHLOROETHANE	45000	0.88	nc	0.76 U	0.76 U	0.69 U	0.76 U	0.79 U
TRICHLOROETHENE	537000	8.8	nc	0.65 J	0.43 J	0.69 U	1.5 U	1.6 U
1,2,3-TRIMETHYLBENZENE	123000	22	nc	1.7	3.5	1.5	1.4 U	1.4 U
1,2,4-TRIMETHYLBENZENE	123000	31	nc	0.84 J	0.92 J	0.71 J	0.75 J	1.4 U
1,3,5-TRIMETHYLBENZENE	123000	22	nc[(1)]	1.4 U	1.4 U	1.3 U	1.4 U	1.4 U
VINYL CHLORIDE	21560	28	ca	0.36 U	0.36 U	0.33 U	0.36 U	0.37 U
M+P-XYLENES	434000	440	nc	2.7	9.2	7.5	11.8	2.5 J
O-XYLENE	434000	440	nc	1 J	3.1	2.7	3.9	1 J
TOTAL XYLENES	434000	440	nc	3.7	12.3	10.2	15.7	3.5

TABLE 3-9

INDOOR AIR QUALITY SAMPLING RESULTS, BUILDING C, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Key	AIR-135-C IA-135-C-17 20140903	AIR-141-C IA-141-C-17 20140903	AIR-142-C IA-142-C-17 20140903	AIR-143-C IA-143-C-17 20140903	AIR-144-C IA-144-C-17 20140903
Volatile organic compounds ($\mu g/m^3$)								
BENZENE	319	16	ca	1 U	0.46 J	0.9 U	0.9 U	0.65
CARBON TETRACHLORIDE	62900	20	ca	0.99 U	0.5 J	0.89 U	0.89 U	0.89 U
CHLORODIFLUOROMETHANE	3590000	220000	nc	8.7	71.2	8.1	1.4	129
CHLOROFORM	240000	5.3	ca	0.77 U	0.74 U	0.69 U	0.69 U	0.4 J
DICHLORODIFLUOROMETHANE	4950000	440	nc	3.2	3	3	3.3	2
1,1-DICHLOROETHANE	400000	77	ca	1.3 U	1.2 U	1.1 U	1.1 U	1.1 U
1,2-DICHLOROETHANE	400000	4.7	ca	0.64 U	0.61 U	0.57 U	0.57 U	0.57 U
1,1-DICHLOROETHENE	--	880	nc	1.3 U	1.2 U	1.1 U	1.1 U	1.1 U
CIS-1,2-DICHLOROETHENE	790000	--	--	1.3 U	1.2 U	1.1 U	1.1 U	1.1 U
TRANS-1,2-DICHLOROETHENE	790000	--	--	1.3 U	1.2 U	1.1 U	1.1 U	1.1 U
ETHYLBENZENE	435000	49	ca	1 J	1.2 J	0.82 J	1.2 U	2.6
METHYL TERT-BUTYL ETHER	180000[A]	470	ca	1.1 U	1.1 U	1 U	1 U	1 U
METHYLENE CHLORIDE	87000	2600	nc	5.5 U	5.3 U	4.9 U	4.9 U	4.9 U
NAPHTHALENE	50000	3.6	ca	1.1 J	3.9 J	1.2 J	3.7 U	4.4
TETRACHLOROETHENE	678000	180	nc	1.1 U	4 J	0.96 U	0.96 U	4.8 U
TOLUENE	754000	22000	nc	7.7	4.7	5.2	1.3	10.5
1,2,4-TRICHLOROBENZENE	40000	8.8	nc	117 UJ	5.6 U	105 UJ	105 UJ	5.2 U
1,1,1-TRICHLOROETHANE	1900000	22000	nc	1.7 U	0.53 J	1.5 U	1.5 U	1.6
1,1,2-TRICHLOROETHANE	45000	0.88	nc	0.85 U	0.82 U	0.76 U	0.76 U	0.76 U
TRICHLOROETHENE	537000	8.8	nc	1.7 U	0.82 U	1.5 U	1.5 U	0.76 U
1,2,3-TRIMETHYLBENZENE	123000	22	nc	1.5 U	1.6	1.4 U	1.4 U	2.9
1,2,4-TRIMETHYLBENZENE	123000	31	nc	1.5 U	1.5 U	1.4 U	1.4 U	0.93 J
1,3,5-TRIMETHYLBENZENE	123000	22	nc[(1)]	1.5 U	1.5 U	1.4 U	1.4 U	1.4 U
VINYL CHLORIDE	21560	28	ca	0.4 U	0.39 U	0.36 U	0.36 U	0.36 U
M+P-XYLENES	434000	440	nc	3.5	4.6	2.9	1.3 J	9.1
O-XYLENE	434000	440	nc	1.2 J	2	0.97 J	1.2 U	3.1
TOTAL XYLENES	434000	440	nc	4.7	6.6	3.87	1.3	12.2

TABLE 3-9

INDOOR AIR QUALITY SAMPLING RESULTS, BUILDING C, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Key	AIR-145-C IA-145-C-17 20140903	AIR-146-C IA-146-C-17 20140903	AIR-147-C IA-147-C-17 20140903	AIR-148-C IA-148-C-17 20140903	AIR-149-C IA-149-C-17 20140903
Volatile organic compounds ($\mu g/m^3$)								
BENZENE	319	16	ca	0.5	0.5	0.62	0.56	0.83
CARBON TETRACHLORIDE	62900	20	ca	0.86 U	0.89 U	0.48 J	0.47 J	0.52 J
CHLORODIFLUOROMETHANE	3590000	220000	nc	167	158	127	152	6.7
CHLOROFORM	240000	5.3	ca	0.66 U	0.36 J	0.4 J	0.36 J	0.46 J
DICHLORODIFLUOROMETHANE	4950000	440	nc	3.1	2.5	2.2	2.6	2
1,1-DICHLOROETHANE	400000	77	ca	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U
1,2-DICHLOROETHANE	400000	4.7	ca	0.55 U	0.57 U	0.59 U	0.55 U	0.59 U
1,1-DICHLOROETHENE	--	880	nc	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U
CIS-1,2-DICHLOROETHENE	790000	--	--	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U
TRANS-1,2-DICHLOROETHENE	790000	--	--	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U
ETHYLBENZENE	435000	49	ca	2.5	2.4	2.9	2.5	0.97 J
METHYL TERT-BUTYL ETHER	180000[A]	470	ca	0.98 U	1 U	1.1 U	0.98 U	1.1 U
METHYLENE CHLORIDE	87000	2600	nc	4.7 U	4.9 U	5.1 U	4.7 U	128
NAPHTHALENE	50000	3.6	ca	4.2	4.3	5	5.9	3.8
TETRACHLOROETHENE	678000	180	nc	4.6 U	4.8 U	5 U	4.6 U	5 U
TOLUENE	754000	22000	nc	6.8	6.8	7.5	6.7	22.3
1,2,4-TRICHLOROBENZENE	40000	8.8	nc	5.1 U	5.2 U	5.4 U	5.1 U	5.4 U
1,1,1-TRICHLOROETHANE	1900000	22000	nc	1.2 J	1.3 J	1.7	1.6	0.45 J
1,1,2-TRICHLOROETHANE	45000	0.88	nc	0.74 U	0.76 U	0.79 U	0.74 U	0.79 U
TRICHLOROETHENE	537000	8.8	nc	0.74 U	0.76 U	0.79 U	0.74 U	1.8
1,2,3-TRIMETHYLBENZENE	123000	22	nc	3	2.5	3.7	5.5	1.1 J
1,2,4-TRIMETHYLBENZENE	123000	31	nc	0.81 J	0.84 J	1.9	1.1 J	1.4 U
1,3,5-TRIMETHYLBENZENE	123000	22	nc[(1)]	1.3 U	1.4 U	1.4 U	1.3 U	1.4 U
VINYL CHLORIDE	21560	28	ca	0.35 U	0.36 U	0.37 U	0.35 U	0.37 U
M+P-XYLENES	434000	440	nc	9.2	8.9	10.4	9	3.1
O-XYLENE	434000	440	nc	3.2	3	3.6	3	1 J
TOTAL XYLENES	434000	440	nc	12.4	11.9	14	12	4.1

TABLE 3-9

INDOOR AIR QUALITY SAMPLING RESULTS, BUILDING C, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Key	AIR-153-C IA-153-C-17 20140903	AIR-153-C IA-153-C-17-D 20140903	AIR-155-C IA-155-C-17 20140903
Volatile organic compounds ($\mu g/m^3$)						
BENZENE	319	16	ca	0.62	0.92 U	0.9 U
CARBON TETRACHLORIDE	62900	20	ca	0.86 U	0.9 U	0.89 U
CHLORODIFLUOROMETHANE	3590000	220000	nc	8.5	7.7	17.8
CHLOROFORM	240000	5.3	ca	0.66 U	0.7 U	0.69 U
DICHLORODIFLUOROMETHANE	4950000	440	nc	2.1	2.7	3.3
1,1-DICHLOROETHANE	400000	77	ca	1.1 U	1.2 U	1.1 U
1,2-DICHLOROETHANE	400000	4.7	ca	0.55 U	0.58 U	0.57 U
1,1-DICHLOROETHENE	--	880	nc	1.1 U	1.1 U	1.1 U
CIS-1,2-DICHLOROETHENE	790000	--	--	1.1 U	1.1 U	1.1 U
TRANS-1,2-DICHLOROETHENE	790000	--	--	1.1 U	1.1 U	1.1 U
ETHYLBENZENE	435000	49	ca	1.7	1.4	0.82 J
METHYL TERT-BUTYL ETHER	180000[A]	470	ca	0.98 U	1 U	1 U
METHYLENE CHLORIDE	87000	2600	nc	3.9 J	5 U	0.6 J
NAPHTHALENE	50000	3.6	ca	4.1	5	1.4 J
TETRACHLOROETHENE	678000	180	nc	4.6 U	0.97 U	0.96 U
TOLUENE	754000	22000	nc	7.2	6.6	4.8
1,2,4-TRICHLOROBENZENE	40000	8.8	nc	5.1 U	106 UJ	105 UJ
1,1,1-TRICHLOROETHANE	1900000	22000	nc	1.5 U	1.6 U	1.5 U
1,1,2-TRICHLOROETHANE	45000	0.88	nc	0.74 U	0.78 U	0.76 U
TRICHLOROETHENE	537000	8.8	nc	0.51 J	1.5 U	1.5 U
1,2,3-TRIMETHYLBENZENE	123000	22	nc	2.1	1.4 U	1.4 U
1,2,4-TRIMETHYLBENZENE	123000	31	nc	1.3 U	1.4 U	1.4 U
1,3,5-TRIMETHYLBENZENE	123000	22	nc[(1)]	1.3 U	1.4 U	1.4 U
VINYL CHLORIDE	21560	28	ca	0.35 U	0.37 U	0.36 U
M+P-XYLENES	434000	440	nc	6.2	5.7	3.1
O-XYLENE	434000	440	nc	2.2	2.2	1 J
TOTAL XYLENES	434000	440	nc	8.4	7.9	4.1

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

-- = not available

J = estimated value

U = not detected

Industrial Air Screening Levels from USEPA Regional Screening Levels for Chemical Contaminants at Superfund Sites November-2014

carcinogenic screening values based on 1x 10^{-5} carcinogenic risk

noncarcinogenic screening values based on noncarcinogenic hazard index = 1

OSHA PEL = Occupational Safety and Health Administration Pemissible Exposure Limit

USEPA = United States Environmental Protection Agency

A = American Council of Governmental Industrial Hygenists Theshold Limit Value

(1) Value is for 1,2,3-trimethylbenzene.

TOTAL XYLENES values are calculated.

TABLE 3-10

SUB-SLAB VAPOR SAMPLING RESULTS, BUILDING C, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	Target Shallow Soil Gas Concentration ($\mu g/m^3$)(1)	Key	AIR-001-C SV-001-C-17 20140903	AIR-004-C SV-004-C-17 20140903	AIR-060-C SV-060-C-17 20140903	AIR-088-C SV-088-C-17 20140903	AIR-102-C SV-102-C-17 20140903	AIR-113-C SV-113-C-17 20140903
Volatile organic compounds ($\mu g/m^3$)								
BENZENE	533	ca	1.3 U	10.2 U	1.1 U	1.3 U	5.8	1.2 U
CARBON TETRACHLORIDE	667	ca	1.2 U	10.1 U	1.1 U	1.2 U	2.7	1.2 U
CHLORODIFLUOROMETHANE	7333333	nc	6.3	26	9.4	6.5	9.7	6.7
CHLOROFORM	177	ca	16.3	34.3	0.83 U	0.96 U	73.1	0.93 U
DICHLORODIFLUOROMETHANE	14667	nc	2.6	15.9 U	3	2.8	4.4	3.3
1,1-DICHLOROETHANE	2567	ca	5.8	12.9 U	1.8	1.6 J	**3250**	1.4 J
1,2-DICHLOROETHANE	157	ca	0.8 U	6.4 U	0.69 U	0.8 U	0.74 U	0.77 U
1,1-DICHLOROETHENE	29333	nc	1.6 U	12.7 U	1.4 U	1.6 U	1150	1.5 U
CIS-1,2-DICHLOROETHENE	--	--	251	80.4	1.4	17.7	60.7	17.5
TRANS-1,2-DICHLOROETHENE	--	--	45.7	12.4 J	1.4 U	0.87 J	4.6	1.5 U
ETHYLBENZENE	1633	ca	4.3	13.8 U	65	1.8	1420	2.3
METHYL TERT-BUTYL ETHER	15667	ca	1.4 U	11.5 U	1.2 U	1.4 U	1.3 U	1.4 U
METHYLENE CHLORIDE	86667	nc	6.8 U	145	70.9	6.8 U	11.4	9.4
NAPHTHALENE	120	ca	18.3 J	41.8 UJ	28.6 J	61.7 J	**2850 J**	**233 J**
TETRACHLOROETHENE	6000	nc	7	10.8 U	2.9	1.3 U	3.4	1.8
TOLUENE	733333	nc	3.2	9.6 J	8.2	10.3	171	7.3
1,2,4-TRICHLOROBENZENE	293	nc	146 UJ	1190 UJ	127 UJ	146 UJ	136 UJ	141 UJ
1,1,1-TRICHLOROETHANE	733333	nc	2 J	17.4 U	0.95 J	2.2 U	1240	2.1 U
1,1,2-TRICHLOROETHANE	29	nc	1.1 U	8.6 U	0.92 U	1.1 U	0.99 U	1 U
TRICHLOROETHENE	293	nc	**591**	210	58.6	79.8	**1640**	222
1,2,3-TRIMETHYLBENZENE	733	nc	1.9 U	15.7 U	1 J	1.5 J	150	12.5
1,2,4-TRIMETHYLBENZENE	1033	nc	1.4 J	15.7 U	4.3	2	145	29.9
1,3,5-TRIMETHYLBENZENE	733	nc(2)	1.9 U	15.7 U	1.7	1.9 U	67.7	5.2
VINYL CHLORIDE	933	ca	0.5 U	4.1 U	0.44 U	0.5 U	10.8	0.49 U
M+P-XYLENES	14667	nc	4.8	27.6 U	250	8.7	9290	7.6
O-XYLENE	14667	nc	2.5	13.8 U	171	5.5	3450	4.7
TOTAL XYLENES	14667	nc	7.3	41.4	421	14.2	12740	12.3

TABLE 3-10

SUB-SLAB VAPOR SAMPLING RESULTS, BUILDING C, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	Target Shallow Soil Gas Concentration ($\mu g/m^3$)(1)	Key	AIR-126-C SV-126-C-17 20140903	AIR-127-C SV-127-C-17 20140903	AIR-130-C SV-130-C-17 20140903	AIR-130-C SV-130-C-17-D 20140903	AIR-133-C SV-133-C-17 20140903	AIR-133-C SV-133-C-17-D 20140903
Volatile organic compounds ($\mu g/m^3$)								
BENZENE	533	ca	29.3	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
CARBON TETRACHLORIDE	667	ca	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U
CHLORODIFLUOROMETHANE	7333333	nc	5.3	27.8	3.4	3.3	12.7	9
CHLOROFORM	177	ca	0.83 U	0.86 U	0.81 U	0.83 U	0.83 U	0.83 U
DICHLORODIFLUOROMETHANE	14667	nc	3.1	4.1	3	4.2	4.3	3.1
1,1-DICHLOROETHANE	2567	ca	1.4 U	25.1	2 U	1.4 U	1.4 U	1.4 U
1,2-DICHLOROETHANE	157	ca	0.69 U	0.71 U	0.67 U	0.69 U	0.69 U	0.69 U
1,1-DICHLOROETHENE	29333	nc	80.4	1.4 U	1.3 U	1.4 U	1.4 U	1.4 U
CIS-1,2-DICHLOROETHENE	--	--	74.2	1.4 U	1.3 U	1.4 U	1.4 U	1.4 U
TRANS-1,2-DICHLOROETHENE	--	--	8.5	1.4 U	1.3 U	1.4 U	1.4 U	1.4 U
ETHYLBENZENE	1633	ca	1.1 J	1.4 J	2.9	2.4	1.2 J	0.78 J
METHYL TERT-BUTYL ETHER	15667	ca	1.2 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U
METHYLENE CHLORIDE	86667	nc	5.9 U	2.1 J	5.8 U	2.6 J	5.9 U	5.9 U
NAPHTHALENE	120	ca	**152 J**	5.9 J	12.6 J	26.9 J	1.8 J	3.3 J
TETRACHLOROETHENE	6000	nc	1.2	2.6	8.9 J	2.4 J	1.4 J	3.3 J
TOLUENE	733333	nc	20	5.9	7	5.2	5.1	4.2
1,2,4-TRICHLOROBENZENE	293	nc	127 UJ	131 UJ	124 UJ	127 UJ	127 UJ	127 UJ
1,1,1-TRICHLOROETHANE	733333	nc	1.9 U	268	4 J	2 J	1.9 U	1.9 U
1,1,2-TRICHLOROETHANE	29	nc	0.92 U	0.96 U	0.9 U	0.92 U	0.92 U	0.92 U
TRICHLOROETHENE	293	nc	26.4	**410**	3.3	2.2	10.9 J	199 J
1,2,3-TRIMETHYLBENZENE	733	nc	1.7 U	1.7 U	8.2 J	3.4 J	1.7 U	1.7 U
1,2,4-TRIMETHYLBENZENE	1033	nc	1.7	0.91 J	8.2 J	4.1 J	1.7 U	1.7 U
1,3,5-TRIMETHYLBENZENE	733	nc(2)	1.7 U	1.7 U	11.3 J	4.6 J	1.7 U	1.7 U
VINYL CHLORIDE	933	ca	**4030**	1.1	0.43 U	0.44 U	0.44 U	0.44 U
M+P-XYLENES	14667	nc	3.9	5.2	6.4	6.9	4	2.4 J
O-XYLENE	14667	nc	1.8	2.6	2.8	3.2	1.5	0.89 J
TOTAL XYLENES	14667	nc	5.7	7.8	9.2	10.1	5.5	3.29

TABLE 3-10

SUB-SLAB VAPOR SAMPLING RESULTS, BUILDING C, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	Target Shallow Soil Gas Concentration ($\mu g/m^3$)(1)	Key	AIR-141-C SV-141-C-17 20140903	AIR-142-C SV-142-C-17 20140903	AIR-143-C SV-143-C-17 20140903	AIR-149-C SV-149-C-17 20140903	AIR-153-C SV-153-C-17 20140903	AIR-155-C SV-155-C-17 20140903
Volatile organic compounds ($\mu g/m^3$)								
BENZENE	533	ca	1.1 U	1.2 U	1.3 U	0.95 J	1.1 U	1.2 U
CARBON TETRACHLORIDE	667	ca	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.2 U
CHLORODIFLUOROMETHANE	7333333	nc	19.9	3.4	3.1	8	10.7	9.4
CHLOROFORM	177	ca	0.86 U	0.89 U	0.96 U	0.86 U	0.86 U	0.89 U
DICHLORODIFLUOROMETHANE	14667	nc	2.7	2.8	2.4	3.4	3	2.9
1,1-DICHLOROETHANE	2567	ca	1.4 U	2	2.9 U	1.4 U	1.4 U	1.5 U
1,2-DICHLOROETHANE	157	ca	0.71 U	0.74 U	0.8 U	0.71 U	0.71 U	0.74 U
1,1-DICHLOROETHENE	29333	nc	1.4 U	1.5 U	1.6 U	1.4 U	1.4 U	1.5 U
CIS-1,2-DICHLOROETHENE	--	--	1.4 U	1.5 U	1.6 U	1.4 U	1.4 U	1.5 U
TRANS-1,2-DICHLOROETHENE	--	--	1.4 U	1.5 U	1.6 U	1.4 U	1.4 U	1.5 U
ETHYLBENZENE	1633	ca	2.6	1.9	1.2 J	2	1.8	1.4 J
METHYL TERT-BUTYL ETHER	15667	ca	1.3 U	1.3 U	1.4 U	1.3 U	1.3 U	1.3 U
METHYLENE CHLORIDE	86667	nc	1.4 J	26.9	3.8 J	3.1 J	0.97 J	3.4 J
NAPHTHALENE	120	ca	1.5 J	**146 J**	14.9 J	3.2 J	2.5 J	1.3 J
TETRACHLOROETHENE	6000	nc	1.5	2.2	1.7	1.6	5	1.2 U
TOLUENE	733333	nc	5.2	5.9	35.1	21.1	8.6	11.2
1,2,4-TRICHLOROBENZENE	293	nc	131 UJ	136 UJ	146 UJ	131 UJ	131 UJ	136 UJ
1,1,1-TRICHLOROETHANE	733333	nc	1.9 U	2 U	2.2 U	1.9 U	1.9 U	2 U
1,1,2-TRICHLOROETHANE	29	nc	0.96 U	0.99 U	1.1 U	0.96 U	0.96 U	0.99 U
TRICHLOROETHENE	293	nc	3.2	7.2	2.3	3.4	1.9 U	1.5 J
1,2,3-TRIMETHYLBENZENE	733	nc	1.7 U	1.8 U	1.9 U	1.7 U	1.7 U	1.8 U
1,2,4-TRIMETHYLBENZENE	1033	nc	1.5 J	1.8 J	1.8 J	1.3 J	1.7 U	0.91 J
1,3,5-TRIMETHYLBENZENE	733	nc(2)	1.7 U	1.8 U	1.9 U	1.7 U	1.7 U	1.8 U
VINYL CHLORIDE	933	ca	0.45 U	0.47 U	0.5 U	0.81 U	0.45 U	0.47 U
M+P-XYLENES	14667	nc	10.3	6.4	4.6	7.2	6.9	4.5
O-XYLENE	14667	nc	4.6	3.8	1.9	3.6	2.6	2.1
TOTAL XYLENES	14667	nc	14.9	10.2	6.5	10.8	9.5	6.6

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

-- = not available

J = estimated value

U = nondetect

(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 0.03, and correspond to a target cancer risk level of 1.0E-05.

(2) Value is for 1,2,3-trimethylbenzene.

TOTAL XYLENES values are calculated.

TABLE 3-11

AMBIENT AIR (BACKGROUND) SAMPLING RESULTS, SEPTEMBER 2014
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

LOCATION	OSHA PEL ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	KEY	BCK-1		BCK-2		BCK-3	BCK-4
SAMPLE ID				BCK-1-17	BCK-1-17R	BCK-2-R17A	BCK-2-17	BCK-3-17	BCK-4-17
SAMPLE DATE				20140902	20141002	20140821	20140902	20140902	20140902
				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
Volatile organic compounds ($\mu g/m^3$)									
BENZENE	319	16	ca	0.9 U	0.37 J	0.26 J	2.4	0.48	0.84
CARBON TETRACHLORIDE	62,900	20	ca	0.53 J	0.75 J	0.72 J	0.89 U	0.89 U	0.89 U
CHLORODIFLUOROMETHANE	3,590,000	220,000	nc	1.6	1.3	1.6	6.3	2.7	3
CHLOROFORM	240,000	5	ca	0.69 U	1.4 U	0.71 U	0.69 U	0.69 U	0.69 U
DICHLORODIFLUOROMETHANE	4,950,000	440	nc	2.7	3	1.7	2	1.6	1.7
1,1-DICHLOROETHANE	400,000	77	ca	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U
1,2-DICHLOROETHANE	400,000	5	ca	0.57 U	1.2 U	0.59 U	0.71	0.57 U	0.57 U
1,1-DICHLOROETHENE	--	880	nc	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U
CIS-1,2-DICHLOROETHENE	790,000	--	--	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U
TRANS-1,2-DICHLOROETHENE	790,000	--	--	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U
ETHYLBENZENE	435,000	49	ca	1.2 U	1.3 U	1.2 J	1.7	1.1 J	1.2
METHYL TERT-BUTYL ETHER	180,000[A]	470	ca	1 U	1.1 U	1.1 U	1 U	1 U	1 U
METHYLENE CHLORIDE	87,000	2,600	nc	4.9 U	0.89 J	1.3 J	1.8 J	0.61 J	0.86 J
NAPHTHALENE	50,000	3.6	ca	3.7 UJ	3.8 U	1.8 J	3.7 U	3.7 U	1.2 J
TETRACHLOROETHENE	678,000	180	nc	0.96 U	2 U	0.99 U	0.96 U	0.96 U	0.96 U
TOLUENE	754,000	22,000	nc	2	1.3	2.3	33.6	3 U	11.5
1,2,4-TRICHLOROBENZENE	40,000[N]	9	nc	105 UJ	2.2 U	5.4 U	2.1 U	2.1 U	1.6 J
1,1,1-TRICHLOROETHANE	1,900,000	22,000	nc	1.5 U	1.6 U	1.6 U	1.5 U	1.5 U	1.5 U
1,1,2-TRICHLOROETHANE	45,000	0.88	nc	0.76 U	0.79 U	0.79 U	0.76 U	0.76 U	0.76 U
TRICHLOROETHENE	537,000	8.8	nc	11.9	1.6 U	0.79 U	7.9	1.1	0.76 U
1,2,3-TRIMETHYLBENZENE	123,000	22	nc	0.75 J	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
1,2,4-TRIMETHYLBENZENE	123,000	31	nc	1.4 U	1.4 U	0.79 J	1.4 U	1 J	1.4 U
1,3,5-TRIMETHYLBENZENE	123,000	22	nc[(1)]	1.4 U	1.4 U	1.4 U	3.5 U	3.5 U	3.5 U
VINYL CHLORIDE	21,560	28	ca	0.36 U	0.75 U	0.37 U	0.72 U	0.72 U	0.72 U
M+P-XYLENES	434000	440	nc	1 J	2.5 U	1.2 J	3.1	1.8 J	2.3 J
O-XYLENE	434000	440	nc	1.2 U	1.3 U	1 J	1.5	1.1 J	1.3
TOTAL XYLENES	434000	440	nc	1 J	1.3 U	2.2 J	4.6	2.9 J	3.6 J

All concentrations are in micrograms per cubic meter air ($\mu g/m^3$)
Shaded cells indicate a concentration greater than the risk -based screening level
Industrial Air Screening Levels from USEPA Regional Screening Levels for Chemical Contaminants at Superfund Sites November-2014
TOTAL XYLENES values are calculated.
(1) Value is for 1,2,3-trimethylbenzene.
-- = not available
A = American Council of Governmental Industrial Hygienists Theshold Limit Value
ca = screening value based on 1x 10^{-5} carcinogenic risk
J = estimated value
N = National Institute for Occupational Safety and Health Recommended Exposure Limit
nc = screening value based on noncarcinogenic hazard index = 1
ND - calculated value is nondetect.
OSHA PEL = Occupational Safety and Health Administration Pemissible Exposure Limit
U = not detected
USEPA = United States Environmental Protection Agency

TABLE 3-12

ANALYTE CONCENTRATIONS IN BACKGROUND AIR SAMPLES COMPARED TO INDOOR AIR SAMPLES - SEPTEMBER 2014 LOCKHEED MARTIN CORPORATION MIDDLE RIVER COMPLEX MIDDLE RIVER, MARYLAND

Analyte	Maximum Background Concentration	Maximum Sample Concentration(1)	Number of Samples with Detects(2)	Number of Samples < Background(1)	Number of Samples = Background(1)	Number of Samples > Background(1)
Benzene	2.4	19.1	35	56	0	2
Carbon Tetrachloride	0.75	0.94	21	54	0	4
Chlorodifluoromethane	6.3	167	57	29	1	28
Dichlorodifluoromethane	3	4.5	58	40	6	12
1,2-Dichloroethane	0.71	4.6	2	54	0	1
Ethylbenzene	1.7	149	49	25	3	30
Methylene chloride	1.8	150	35	43	0	15
Naphthalene	1.8	13.7	42	26	0	32
Toluene	33.6	4390	58	37	0	21
1,2,4-Trichlorobenzene	1.6	4.8	3	55	0	3
Trichloroethene	11.9	26.2	30	55	0	3
1,2,3-Trimethylbenzene	0.75	5.5	21	34	0	21
1,2,4-Trimethylbenzene	1	7.5	28	40	0	18
m+p-Xylenes	3.1	533	58	16	2	40
o-Xylene	1.5	202	55	20	1	37
Total Xylenes	4.6	735	58	24	0	34

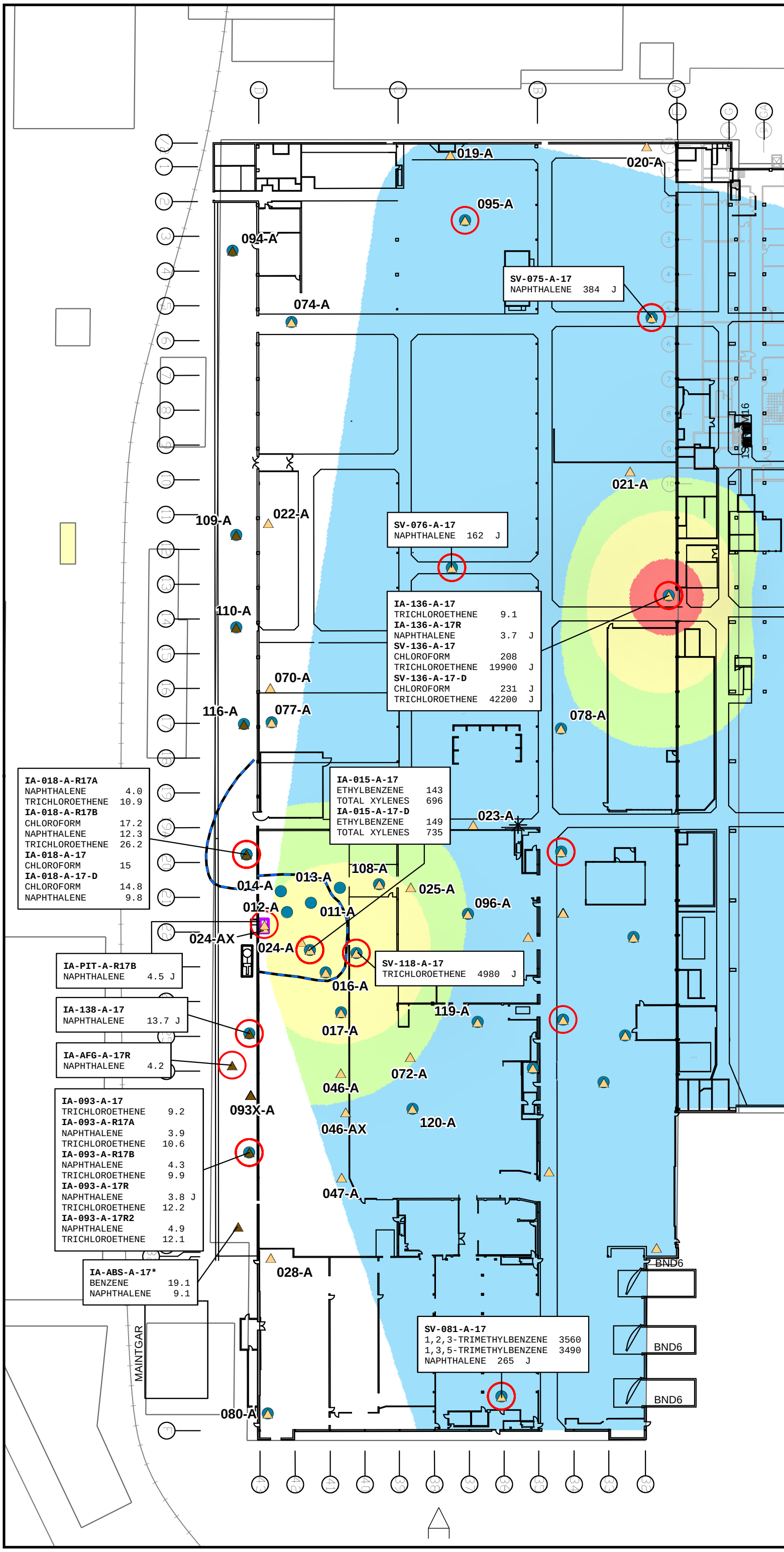
$\mu g/m^3$ - micrograms per cubic meter

(1) The original sample and duplicate are considered as two separate samples when determining the minimum and maximum concentration and the number of samples less than, equal to, or greater than background.

(2) The original sample and duplicate are considered as one sample for the number of samples with detects.

FIGURE 3-1

ROUND 17 INDOOR AIR AND SUB-SLAB VAPOR SAMPLING RESULTS GREATER THAN SCREENING LEVELS BUILDING A



Lockheed Martin Middle River Complex
Middle River, Maryland

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01/07/15	JEE

TETRA TECH

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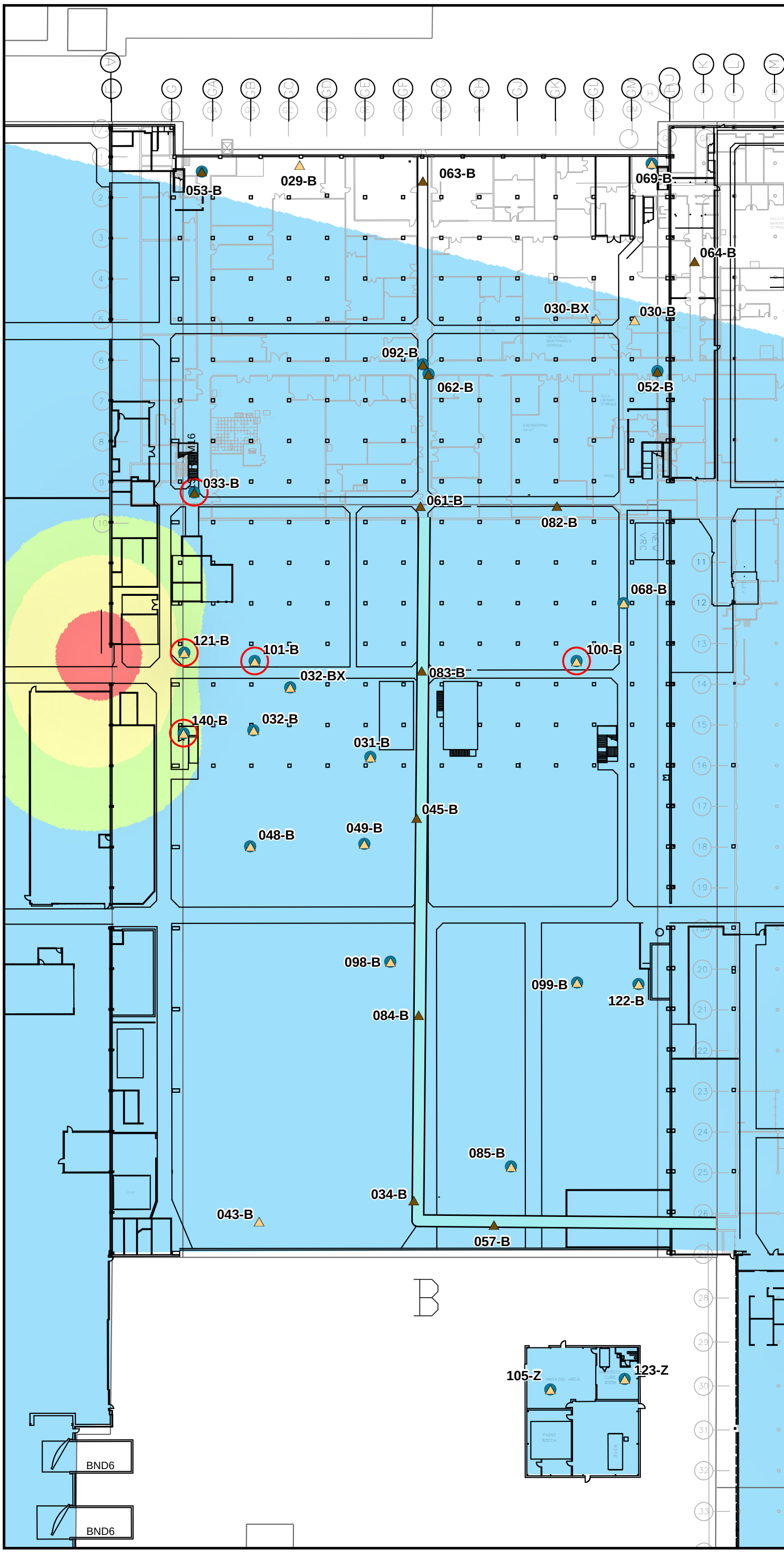
FIGURE 3-2

ROUND 17 INDOOR AIR AND SUB-SLAB VAPOR SAMPLING RESULTS GREATER THAN SCREENING LEVELS BUILDING B



Legend

- IAQ, Basement
- IAQ, 1st Floor
- SV
- Round 17 Sampling Location
- Tunnel
- Buildings A, B, and C
- Building B and C Basement
- SSD Treatment Unit

X - moved from original location once

September 2014 Sub-Slab Vapor TCE Concentration

- 10000 ug/m3
- 1000 ug/m3
- 293 ug/m3
- 0.1 ug/m3

N

0 30 60 Feet

Lockheed Martin Middle River Complex
Middle River, Maryland

DATE MODIFIED:	CREATED BY:
12/03/14	JEE

TETRA TECH

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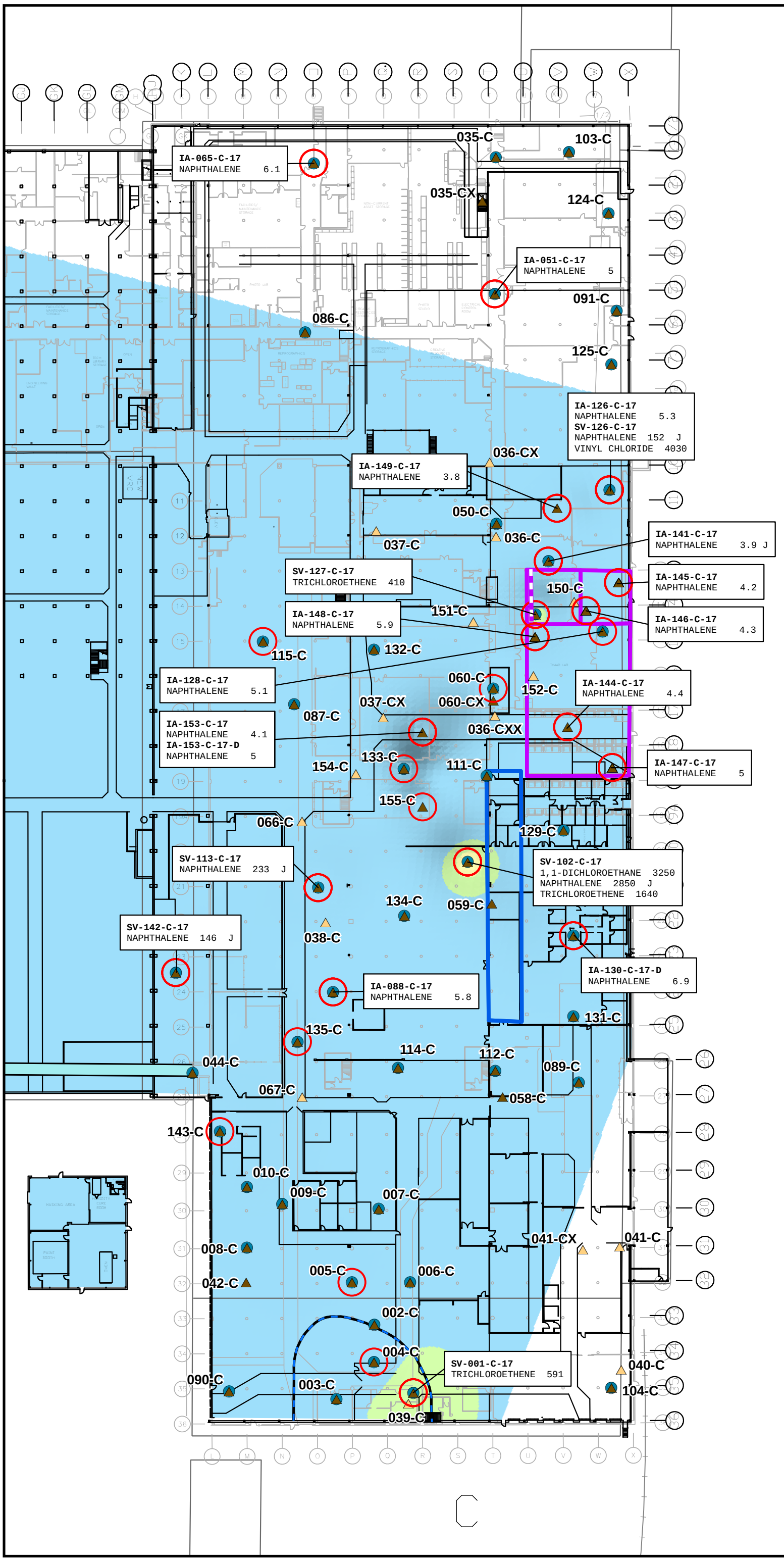
FIGURE 3-3

ROUND 17 INDOOR AIR AND SUB-SLAB VAPOR SAMPLING RESULTS GREATER THAN SCREENING LEVELS BUILDING C



Legend

- IAQ, Basement
- IAQ, 1st Floor
- SV
- Round 17 Sampling Location
- SSD Radius of Influence
- Tunnel
- Building B and C Basement
- Former Plating Lines
- MST MPL Offices; MST MPL Machine Shop; Storage Cage
- Storage Cage
- SSD Treatment Unit

All units in µg/m³.

X - moved from original location once

Screening Levels Exceeded

Chemical	Indoor Air	Soil Vapor
1,1-Dichloroethane	NA	2567
Naphthalene	3.6	120
Trichloroethene	NA	293
Vinyl chloride	NA	933

NA – Not applicable

September 2014 Sub-Slab Vapor TCE Concentration

- 10000 ug/m3
- 1000 ug/m3
- 293 ug/m3
- 0.1 ug/m3

Lockheed Martin Middle River Complex
Middle River, Maryland

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Section 4
Sub-Slab-Depressurization-System Data Analysis

The operation and monitoring activities for the sub-slab-depressurization (SSD)-systems operating in Buildings A and C continued from April 1 to September 31, 2014. A detailed account of these activities is in the October 30, 2014 *Remedial Action Progress Report #22*, included here as Appendix E. The location and layout of the SSD-systems and associated sub-slab-vapor (SV) extraction points and vapor monitoring points (VMPs) are shown in Figures 1, 2, and 4 of Appendix E. This section discusses SV sampling results, extraction points, system influent, vacuum influence, and performance of the SSD-systems.

4.1 SUB-SLAB-VAPOR MONITORING POINTS

Tables 4-1 and 4-2 summarize the concentrations of target volatile organic compounds (VOCs) detected at SV monitoring points to date in the Building A plating shop and basement and Building C basement, respectively. Eleven new SV monitoring points were installed in the central portion of the Building C basement ("mid-basement area") in August 2014 to provide additional vacuum data to better define SSD-system influence (see Figure 4 of Appendix E). The new VMPs were designated 149-C through 159-C.

4.1.1 Building A

SV samples collected to date near the Building A SSD-system are shown in the chart below. In Building A, sub-slab-vapor monitoring points 015-A and 018-A have been sampled regularly as part of the facility-wide semiannual sub-slab and indoor-air monitoring program; however, these locations were not sampled in September 2014 because the fire-control water line under the main floor of the Building A plating shop was leaking. Location 015-A is on the main floor of

Building A, and 018-A is in the basement (see Figure 2 in Appendix E). Both VMPs are within the measured SSD-system radius of influence.

Sub-slab monitoring points sampled near the Building A SSD-system							
Date	***SSD-11-A***	***SSD-12-A***	***SSD-13-A***	***015-A***	***SSD-16-A***	***017-A***	***018-A***
Mar-06	✓	✓	✓	✓	✓	✓	✓
Dec-06	—	—	✓	✓	—	—	✓
Apr-07	—	—	✓	✓	—	—	✓
Oct-07	—	—	✓	✓	—	—	✓
Jul-08	✓	✓	✓	✓	✓	—	—
Nov-08	✓	✓	✓	✓	✓	—	✓
Oct-09	—	—	—	✓	—	—	✓
Aug-10	—	—	—	✓	—	—	✓
Oct-10	—	—	—	—	✓	—	—
Feb-11	—	—	—	✓	—	—	✓
Aug-11	—	—	—	✓	—	—	✓
Oct-11	—	—	—	✓	—	—	✓
Feb-12	—	—	—	✓	—	—	✓
Aug-12	—	—	—	✓	—	—	✓
Feb-13	—	—	—	✓	—	—	✓
Aug-13	—	—	—	✓	—	—	✓
Feb-14	—	—	—	✓	—	—	✓
Sep-14	—	—	—	—	—	—	—

Note: Points with an "SSD" designation were installed and are monitored for the SSD-system; points without the SSD designation are used for the vapor-intrusion monitoring program.
"—"indicates point(s) not sampled.

The highest trichloroethene (TCE) concentrations detected at VMPs 015-A and 018-A before SSD-system operation began (i.e., before March 2008 on the main floor [015-A] and before October 2010 in the basement [018-A]) are two to three orders of magnitude (i.e., 100–1,000 times) greater than the most recent concentrations (after SSD-system operation began), as shown below:

Trichloroethene concentrations—Building A				
VMP location	***Before SSD-system operation****		***During SSD-system operation (most recent concentration)***	
015-A	April 2007	326,000 µg/m^3	February 2014	564 µg/m^3
018-A	August 2010	64,000 µg/m^3	February 2014	174 µg/m^3

**SSD-system startup for the main floor of Building A (015-A) was in March 2008, and for the Building A basement (018-A) in October 2010.*

µg/m^3—microgram(s) per cubic meter air
SSD—sub-slab depressurization
VMP—vapor monitoring point

While a significant decline has been observed at 015-A, TCE concentrations continue to fluctuate over time. For example, TCE was detected at 8.1 micrograms per cubic meter of air (µg/m^3) in October 2009, but at 3,400 µg/m^3 in October 2011 (see Figure 4-1). Similar fluctuations also occurred in sub-lab vapor at 018-A, where TCE was detected at the following concentrations between August 2011 and February 2014 (see Figure 4-2):

- 7.2 µg/m^3 in August 2011
- 800,000 µg/m^3 in October 2011
- 95,000 µg/m^3 in February 2013
- 4,000*J* µg/m^3 (estimated) in August 2013
- 174 µg/m^3 in February 2014

Concentrations detected during SSD-system operation are generally lower than those measured before the system began operation. VOC reductions at 018-A might be more limited than on the main floor VMPs because of the high water levels (frequently less than one foot below the basement slab) that could impede vapor flow.

4.1.2 Building C

SV samples collected to date near the Building C SSD-system are listed in the chart below. Sub-slab-vapor monitoring points 001-C and 004-C (in the south basement area) and 060-C, 088-C, 113-C, 126-C, 127-C, 133-C, 141-C and newly installed 149-C, 153-C, and 155-C (in the mid-basement area) were sampled in September 2014. The locations of these monitoring points are shown in Figure 4 of Appendix E. These points are within 100 feet of SSD-system extraction points in the Building C basement, and several (060-C, 113-C, 127-C, 133-C, 153-C, and 155-C) show the vacuum influence of SSD-system operations.

Sub-slab monitoring points sampled near the Building C SSD-system																		
Date	001-C	SSD-4-C	SSD-2-C	SSD-3-C	SSD-4-C	SSD-5-C	SSD-6-C	060-C	088-C	113-C	126-C	127-C	133-C	135-C	141-C	149-C	153-C	155-C
Mar-06	✓	✓	✓	✓	✓	✓	✓	—	—	—	—	—	—	—	—	—	—	—
Dec-06	✓	✓	—	—	✓	—	—	—	—	—	—	—	—	—	—	—	—	—
Apr-07	✓	✓	—	—	✓	—	—	—	—	—	—	—	—	—	—	—	—	—
Oct-07	✓	✓	—	—	✓	—	—	—	—	—	—	—	—	—	—	—	—	—
Jul-08	✓	✓	✓	✓	✓	—	—	—	—	—	—	—	—	—	—	—	—	—
Nov-08	✓	✓	✓	✓	✓	✓	✓	—	—	—	—	—	—	—	—	—	—	—
Jul-09	—	—	—	—	—	—	—	✓	✓	—	—	—	—	—	—	—	—	—
Oct-09	✓	—	—	—	—	✓	—	✓	✓	—	—	—	—	—	—	—	—	—
Feb-10	✓	—	—	—	—	—	—	✓	✓	—	—	—	—	—	—	—	—	—
Aug-10	✓	—	—	—	—	✓	—	✓	✓	—	—	—	—	—	—	—	—	—
Feb-11	✓	—	—	—	—	—	—	✓	✓	✓	—	—	—	—	—	—	—	—
Aug-11	✓	—	—	—	—	—	—	✓	✓	✓	—	—	—	—	—	—	—	—
Feb-12	✓	—	—	—	—	—	—	✓	✓	✓	✓	—	✓	✓	—	—	—	—
Jun-12	✓	✓	—	✓	✓	—	—	—	—	—	—	—	—	—	—	—	—	—
Jul-12	✓	✓	—	✓	✓	—	—	—	—	—	—	—	—	—	—	—	—	—
Aug-12	✓	—	—	—	—	—	—	✓	✓	✓	✓	—	✓	✓	—	—	—	—
Feb-13	—	—	—	—	—	—	—	✓	✓	✓	✓	—	✓	✓	—	—	—	—
Aug-13	—	✓	—	—	✓	—	—	✓	✓	✓	✓	—	✓	✓	—	—	—	—
Feb-14	—	—	—	—	—	—	—	✓	✓	✓	✓	—	✓	✓	✓	—	—	—
Sep-14	✓	✓	—	—	—	—	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓

Note: Points with an "SSD" designation were installed and are monitored for the SSD-system; points without the SSD designation were installed for the vapor-intrusion monitoring program and are also monitored for the SSD-system.
"—"indicates point(s) not sampled.

The highest TCE concentrations detected at VMPs near the SSD-system before system operation began and the most recent concentrations (during SSD-system operation) are summarized below. The September 2014 TCE concentrations are lower than the concentrations measured in February 2014 and before SSD-system startup.

Trichloroethene concentrations—Building C				
VMP location	***Before SSD-system operation****		***During SSD-system operation (most recent concentration)***	
South basement area*				
001-C	March 2006	19,200 µg/m^3	September 2014	591 µg/m^3
SSD-4-C	December 2006	28,300 µg/m^3	September 2014	210 µg/m^3
Mid-basement area**				
060-C	August 2011	12,000 µg/m^3	September 2014	58.6 µg/m^3
088-C	February 2012	3,800 µg/m^3	September 2014	79.8 µg/m^3
113-C	February 2013	16,000 µg/m^3*J*	September 2014	222 µg/m^3
126-C	August 2012	5,800 µg/m^3*J*	September 2014	26.4 µg/m^3
127-C	Not sampled		September 2014	410 µg/m^3
133-C	February 2013	60,000 µg/m^3	September 2014	10.9 µg/m^3
141-C	Not sampled		September 2014	3.2 µg/m^3
149-C	Not sampled		September 2014	3.4 µg/m^3
153-C	Not sampled		September 2014	ND
155-C	Not sampled		September 2014	1.5 µg/m^3*J*

* SSD-system startup in the south end of the Building C basement was in March 2008.

**SSD-system startup in the mid-basement area of Building C was in May 2013.

µg/m^3—microgram(s) per cubic meter air

SSD—sub-slab depressurization

VMP—vapor monitoring point

ND—non-detect

J—estimated value

Concentrations of vinyl chloride detected at 126-C have also decreased since the SSD-system expansion. Vinyl chloride (VC) concentrations in sub-slab vapor at 126-C have varied over time:

- 37,000 µg/m^3 (February 2012)
- 110,000 µg/m^3 (August 2012)
- 28,000 µg/m^3 (August 2013)
- 11,900 µg/m^3 (February 2014)
- 4,030 µg/m^3 (September 2014)

The reason for these fluctuations is difficult to determine, as no vacuum influence has been observed at 126-C. VC has not been detected in SSD-system-influent samples or in groundwater samples collected from a nearby well pair (MW-88A/B).

4.2 SUB-SLAB-VAPOR EXTRACTION POINTS

The Building A sub-slab-vapor-extraction trenches and Building C sub-slab-vapor-extraction wells were not sampled in September 2014. Figures 2 and 4 in Appendix E show the extraction-trench locations (Building A north, south, north basement, and south-basement laterals) and extraction points (Building C SSD-21-C, SSD-23-C, SSD-26-C, SSD-27-C, SSD-28-C, SSD-29-C, SSD-30-C, SSD-31-C, SSD-32-C, SSD-33-C, and SSD-34-C), respectively.

4.3 VACUUM INFLUENCE

Figures 6, 7, and 8 in Appendix E show induced-vacuum levels over time for the sub-slab VMPs in Building A, in the Building C south basement and mid-basement areas, respectively. Representative values from monitoring in September 2014 are indicated on plan views in Figures 9, 10, and 11 of Appendix E. Vacuum influence in the SSD-system-associated VMPs is checked biweekly. As indicated in the October 2014 progress report (Appendix E), extraction trenches near the Building A plating shop induce a vacuum over an approximately 5,600-square-foot area; this area encompasses all SV monitoring points that had relatively high levels of VOCs before system startup. The trenches in the Building A basement induce a vacuum over an approximately 2,400-square-foot area that encompasses three of four VMPs used to measure the SSD-system-induced vacuum in the basement.

The Building C basement wells induce a vacuum influence over an approximately 3,900-square-foot area in the south end of the basement, while the extraction wells in the mid-basement area induce vacuum influence over an approximately 30,400-square-foot area. Fourteen of 21 mid-basement monitoring points are within the target area shown to have vacuum influence. Vacuum influence has not been observed at the northern end of the mid-basement area, but VOC concentrations at VMP 126-C have decreased more than 95% since the system was expanded in May 2013.

4.4 SUB-SLAB-DEPRESSURIZATION-SYSTEM INFLUENT-VAPOR SAMPLES

Influent-vapor samples were collected monthly to monitor SSD-system operation. VOC concentrations at the granular activated-carbon (GAC) influent, the midpoint (after the lead drum), and at effluent (after the second drum) are monitored to determine when the midpoint

concentration reaches 50% of the influent; when it does, the lead GAC drum is changed out. These samples also allow monitoring of influent-concentration trends over time. Samples were collected directly from all three sampling ports of both SSD-systems by connecting a clean one-liter Summa® canister (batch certified) to the Teflon® tubing of each sampling port and opening the valve for approximately one minute. These samples were submitted to Pace Analytical Services, Inc. in Minneapolis, Minnesota for VOC analysis using United States Environmental Protection Agency (USEPA) Toxic Organic Method (TO-15).

Tables 4-3a–b summarize the influent-vapor concentrations of target VOCs in samples collected over time (from system startup in March 2008 through September 2014). These results are displayed graphically on Figures 12 and 13 in Appendix E. Tables 4-3a–b also provide average influent concentrations for the current (April–September 2014) and previous (October 2013-March 2014) reporting periods. The average influent VOC concentration in Building A during the current reporting period (4,709 $\mu g/m^3$) is higher than that observed during the previous semiannual reporting period (4,212 $\mu g/m^3$). This increase is attributed to higher than the usual concentrations observed in June and September 2014.

Average influent-VOC concentrations in Building C are also higher than concentrations detected during the previous semiannual reporting period: 441 $\mu g/m^3$ as compared to 345 $\mu g/m^3$, respectively. Vinyl chloride, which has only been detected in 126-C, and in 127-C during the September 2014 sampling, has not been detected in the Building C SSD-system influent since December 2012. Overall, influent VOC concentrations for both SSD-systems have been relatively stable since 2009 (see Figures 12 and 13 in Appendix E).

VOC removal rates (SSD-system influent mass) in Building A are 0.011–0.157 pounds per day (lbs/day); these rates are similar to the removal rates (0.021–0.166 lbs/day) observed in the previous semiannual reporting period. The Building A system has removed 14.7 lbs of VOCs during this reporting period, 11.3 lbs in the previous reporting period, and 123.2 lbs of VOCs total since system startup in March 2008. VOC removal rates in Building C during the current reporting period are between 0.127 lbs/month and 0.317 lbs/month; these rates are higher than the removal rates (0.077–0.213 lbs/month) observed during the previous semiannual reporting period. The Building C SSD-system has removed 1.28 lbs of VOCs this reporting period, 0.84 lbs in the previous reporting period, and 9.31 lbs since system startup in March 2008.

4.5 SUB-SLAB-DEPRESSURIZATION-SYSTEM CONCLUSIONS

In general, the flow rate and induced vacuum for the SSD-systems are performing as designed. The induced-vacuum influence for the Building A system is at least 0.05-inches water column over areas of 5,600-square-feet on the main floor (encompassing the plating shop) and 2,400-square-feet in the basement. The induced-vacuum influence of at least 0.05-inches water column for the Building C SSD-system extends over an approximately 3,900-square-foot area in the south basement area and over an approximately 30,400-square-foot area in the mid-basement area.

TABLE 4-1

SUMMARY OF VOC DETECTIONS NEAR SSDS, BUILDING A
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Location	VOC (µg/m^3)	3/22/2006	12/11/2006	4/26/2007	10/29/2007	11/3/2007	7/8/2009	10/28/2009	2/25/2010	#######	2/25/2011	8/18/2011	10/20/2011	2/22/2012	8/16/2012	2/5/2013	3/27/2013	8/29/2013	2/25/2014	9/3/2014
SV-11-A	1,1-DICHLOROETHENE	8070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-11-A	BENZENE	257 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-11-A	CHLOROFORM	10.7 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-11-A	CIS-1,2-DICHLOROETHENE	163000 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-11-A	ETHYLBENZENE	75.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-11-A	METHYL TERT-BUTYL ETHER	425 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-11-A	TETRACHLOROETHENE	387	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-11-A	TOLUENE	309	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-11-A	TOTAL XYLENES	227	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-11-A	TRANS-1,2-DICHLOROETHENE	1980 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-11-A	TRICHLOROETHENE	2150 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-11-A	VINYL CHLORIDE	727 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-11-A	**TOTAL VOCs**	**177,619 J**																		
SV-12-A	1,1-DICHLOROETHENE	26900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-12-A	BENZENE	60.6 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-12-A	CARBON TETRACHLORIDE	7.9 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-12-A	CHLOROFORM	54.5 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-12-A	CIS-1,2-DICHLOROETHENE	18800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-12-A	ETHYLBENZENE	44 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-12-A	METHYL TERT-BUTYL ETHER	206 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-12-A	TETRACHLOROETHENE	181 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-12-A	TOLUENE	119 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-12-A	TOTAL XYLENES	340 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-12-A	TRANS-1,2-DICHLOROETHENE	240 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-12-A	TRICHLOROETHENE	81400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-12-A	VINYL CHLORIDE	42 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-12-A	**TOTAL VOCs**	**128,395 J**																		
SV-13-A	1,1-DICHLOROETHANE	17900	9360	11000	-	3400	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-13-A	BENZENE	61.2 J	88.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-13-A	CHLOROFORM	59.1 J	95.6 J	64.5 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-13-A	CIS-1,2-DICHLOROETHENE	230000 J	242000	292000	-	15463	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-13-A	METHYL TERT-BUTYL ETHER	155 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-13-A	TETRACHLOROETHENE	215	195	166 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-13-A	TOLUENE	69.5	-	-	-	1093	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-13-A	TOTAL XYLENES	82.9 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-13-A	TRANS-1,2-DICHLOROETHENE	1190 J	3470	4650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-13-A	TRICHLOROETHENE	270000 J	369000	326000	-	806	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-13-A	VINYL CHLORIDE	182 J	701	549	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV-13-A	**TOTAL VOCs**	**519,915 J**	**624,910 J**	**634,430 J**		**20,762**														

TABLE 4-1

SUMMARY OF VOC DETECTIONS NEAR SSDS, BUILDING A
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Location	VOC (µg/m^3)	3/22/2006	12/11/2006	4/26/2007	10/29/2007	11/3/2007	7/8/2009	10/28/2009	2/25/2010	#######	2/25/2011	8/18/2011	10/20/2011	2/22/2012	8/16/2012	2/5/2013	3/27/2013	8/29/2013	2/25/2014	9/3/2014
015-A	1,1,1-TRICHLOROETHANE	-	-	-	-	-	-	-	-	1200	380	-	1100	840	940	140	460	280	112	-
015-A	1,1-DICHLOROETHANE	-	2160	6010	7690 J	5666 J	1.2	0.43 J	120	58	12	1.7	51	65 J	92	13	170	45	14.6	-
015-A	1,1-DICHLOROETHENE	27700 J	-	-	-	-	3.2	3.4	2800	1200	150	12	1100	780 J	1600	490	3100	1100 J	473	-
015-A	1,2,3-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.85	1.3	1.1	-	-
015-A	1,2-DICHLOROETHANE	-	-	-	-	-	0.082 J	-	-	-	-	-	0.53	-	-	-	0.66	0.7	-	-
015-A	1,3,5-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.75	1	-	-
015-A	BENZENE	50.6	21.7	-	-	-	-	-	-	-	0.4	-	-	1.1	-	-	0.32	0.49	0.64	-
015-A	CARBON TETRACHLORIDE	6.3 J		-	-	-	0.48 J	-	-	-	-	0.64	0.96	-	-	0.77 J	-	0.83 J	-	-
015-A	CHLORODIFLUOROMETHANE	-	-	-	-	-		-	-	6.5 J	-	-		4	3.4 J	-	0.93	1.7	5.8 J	-
015-A	CHLOROFORM	63.4 J	67.7	109	-	-	0.46	-	6.1 J	5.5 J	0.9 J	1.1	5.2	1.4 J	23 J	6.8	26	19	93.6	-
015-A	CIS-1,2-DICHLOROETHENE	118000 J	83800	167000	190312 J	134804 J	83	36	4400	1800	200	320	1800	1100 J	2400	1300	7000	2700	1260	-
015-A	DICHLORODIFLUOROMETHANE	-	-	-	-	-	2.2	3.2 J	-	-	2	2.7	2.2	2.3 J	-	2.7	2.4	2.8	2.3 J	-
015-A	ETHYLBENZENE	794 J	-	-	-	-	1.2	4.6	-	-	2	3.6	0.79	19 J	-	2.3 K	4.5	7.5	-	-
015-A	M+P-XYLENES	-	-	-	-	-	3.3	11	-	-	-	20	4.1	-	-	8.8 J	23	47	3.1 J	-
015-A	METHYL TERT-BUTYL ETHER	1050 J	18.8 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
015-A	METHYLENE CHLORIDE	-	-	-	-	-	0.94	-	-	-	-	0.92	0.6	-	-	0.74	-	0.99	31.6 J	-
015-A	NAPHTHALENE	-	-	-	-	-	0.65 J	-	-	-	-	4	-	-	-	0.8	-	2.1 J	-	-
015-A	O-XYLENE	-	-	-	-	-	1.2	2.9 J	-	-	-	7.9	1.8	-	-	8.5	8.8	10	1.6 J	-
015-A	TETRACHLOROETHENE	346 J	54.9 J	98.5	-	-	0.26 J	-	-	-	-	-	1.4	-	-	-	1.2	3.9	-	-
015-A	TOLUENE	431 J	16 J	14.8 J	-	-	64	210	10 J	14	27	28	15	440 J	11 J	14	160	240 J	7.1	-
015-A	TOTAL XYLENES	5150 J	-	-	-	-	-	-	-	-	10	-	-	120 J		-	-	-	-	-
015-A	TRANS-1,2-DICHLOROETHENE	1370	1430	4660	3212 J	2101 J	1	-	150	99	13	2.7	46	46 J	84	23	160	79	37.7	-
015-A	TRICHLOROETHENE	154000 J	161000	326000	225718 J	155853 J	16	8.1	3200	1300	340	18	3400	2400 J	3000	710	8800	1600	619	-
015-A	VINYL CHLORIDE	100 J	210	491	-	-	0.078 J	-	11 J	9.8	0.8	0.26	4	-	13	1.4	12	7.5 J	1.5 J	-
015-A	**TOTAL VOCs**	**J**	**248,779 J**	**504,383 J**	**426,932 J**	**298,424 J**	**179 J**	**280 J**	**10,697 J**	**4,493 J**	**758 J**	**424**	**6,434**	**4,979 J**	**7,226 J**	**2,584 J**	**19,472**	**5,871 J**	**2,552 J**	**-**
016-A	1,1,1-TRICHLOROETHANE	-	-	-	-	-	-	-	-	5.7 J	-	-	-	-	-	-	-	-	-	-
016-A	1,1-DICHLOROETHANE	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-	-	-	-
016-A	1,1-DICHLOROETHENE	42700 J	-	-	-	-	-	-	-	890	-	-	-	-	-	-	-	-	-	-
016-A	BENZENE	46.1 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
016-A	CARBON TETRACHLORIDE	10.7 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
016-A	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	-	3.8 J	-	-	-	-	-	-	-	-	-	-
016-A	CHLOROFORM	47.4 J	-	-	-	-	-	-	-	2.5 J	-	-	-	-	-	-	-	-	-	-
016-A	CIS-1,2-DICHLOROETHENE	5820	-	-	-	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-
016-A	METHYL TERT-BUTYL ETHER	1490 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
016-A	TETRACHLOROETHENE	514 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
016-A	TOLUENE	7.9 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
016-A	TOTAL XYLENES	68.1 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
016-A	TRANS-1,2-DICHLOROETHENE	297 J	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-
016-A	TRICHLOROETHENE	6870	-	-	-	-	-	-	-	160	-	-	-	-	-	-	-	-	-	-
016-A	VINYL CHLORIDE	124 J	-	-	-	-	-	-	-	7.4	-	-	-	-	-	-	-	-	-	-
016-A	**TOTAL VOCs**	**57,995 J**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,242 J**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

TABLE 4-1

SUMMARY OF VOC DETECTIONS NEAR SSDS, BUILDING A
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Location	VOC (µg/m^3)	3/22/2006	12/11/2006	4/26/2007	10/29/2007	11/3/2007	7/8/2009	10/28/2009	2/25/2010	#######	2/25/2011	8/18/2011	10/20/2011	2/22/2012	8/16/2012	2/5/2013	3/27/2013	8/29/2013	2/25/2014	9/3/2014
017-A	1,1-DICHLOROETHANE	-	-	-	-	-	21	6.7	8.1	-	-	-	-	-	-	-	-	-	-	-
017-A	1,1-DICHLOROETHENE	5.6	-	-	-	-	17	6	6.8	-	-	-	-	-	-	-	-	-	-	-
017-A	1,2-DICHLOROETHANE	-	-	-	-	-	-	0.13 J	0.084 J	-	-	-	-	-	-	-	-	-	-	-
017-A	BENZENE	0.9 J	-	-	-	-	0.59 J	0.41	0.14 J	-	-	-	-	-	-	-	-	-	-	-
017-A	CARBON TETRACHLORIDE	0.8 J	-	-	-	-	0.57 J	0.53	-	-	-	-	-	-	-	-	-	-	-	-
017-A	CHLOROFORM	1.1 J	-	-	-	-	81	27	7.2	-	-	-	-	-	-	-	-	-	-	-
017-A	CIS-1,2-DICHLOROETHENE	43.8	-	-	-	-	6.2	2.4	1.8	-	-	-	-	-	-	-	-	-	-	-
017-A	DICHLORODIFLUOROMETHANE	2.8	-	-	-	-	2.6	2.8	2	-	-	-	-	-	-	-	-	-	-	-
017-A	ETHYLBENZENE	-	-	-	-	-	-	3.3	0.13 J	-	-	-	-	-	-	-	-	-	-	-
017-A	M+P-XYLENES	-	-	-	-	-	1.8	9.3	0.37	-	-	-	-	-	-	-	-	-	-	-
017-A	METHYL TERT-BUTYL ETHER	0.7 J	-	-	-	-	-	0.51 J	0.24 J	-	-	-	-	-	-	-	-	-	-	-
017-A	METHYLENE CHLORIDE	-	-	-	-	-	43	2.5	1.4	-	-	-	-	-	-	-	-	-	-	-
017-A	O-XYLENE	-	-	-	-	-	0.56 J	2	0.14 J	-	-	-	-	-	-	-	-	-	-	-
017-A	TETRACHLOROETHENE	0.7 J	-	-	-	-	1.2 J	0.81	0.58	-	-	-	-	-	-	-	-	-	-	-
017-A	TOLUENE	2.3	-	-	-	-	14	58	0.54	-	-	-	-	-	-	-	-	-	-	-
017-A	TOTAL XYLENES	1.7 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
017-A	TRANS-1,2-DICHLOROETHENE	0.7 J	-	-	-	-	0.52 J	0.2 J	0.18 J	-	-	-	-	-	-	-	-	-	-	-
017-A	TRICHLOROETHENE	60.4	-	-	-	-	170	67	56	-	-	-	-	-	-	-	-	-	-	-
017-A	VINYL CHLORIDE	-	-	-	-	-	-	0.1 J	-	-	-	-	-	-	-	-	-	-	-	-
017-A	**TOTAL VOCs**	**122 J**	**-**	**-**	**-**	**-**	**360 J**	**190 J**	**86 J**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
018-A	1,1,1-TRICHLOROETHANE	-	-	-	-	-	-	-	-	280 J	-	-	730	300 J	160 J	270	240 J	65 J	-	-
018-A	1,1-DICHLOROETHANE	-	1750	78600	-	76901 J	1100	-	280	660	3	-	2200	1300	1200	410	1400 J	430 J	3.2	-
018-A	1,1-DICHLOROETHENE	9550 J	-	-	-	-	43000	-	12000	32000	48	2.9	130000	69000	42000	54000	67000 J	24000 J	230	-
018-A	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.85	0.75	1.7 J	-
018-A	1,2-DICHLOROETHANE	-	-	-	-	-	-	-	-	750	-	-	62	-	-	44	29 J	7.4 J	-	-
018-A	1,3,5-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4 J	-
018-A	BENZENE	1.5 J	-	-	-	-	-	-	24000 J	-	1	0.58	7.8	-	-	23	10 J	2	0.96	-
018-A	CARBON TETRACHLORIDE	1.8 J	17.3	337	-	-	-	-	-	-	-	-	6.7	-	-	7	2.7	3.5 J	-	-
018-A	CHLORODIFLUOROMETHANE		-	-	-	-	-	-	-	-	-	-	-	-	-	-		2.6	8.9	-
018-A	CHLOROFORM	5.7	8.8 J	316	-	-	-	-	-	-	0.6 J	0.65 J	14	-	-	15 J	8.3 J	2.9	1.7 J	-
018-A	CIS-1,2-DICHLOROETHENE	2040 J	6270	232000	-	249784 J	4400	-	1400	3200	17	1.3	23000	6700	8200	3800	5200	1700 J	16.3	-
018-A	DICHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	150 J	-	2	2.5	2.2	-	-	2.8	2.4	3.3	2.2	-
018-A	ETHYLBENZENE	-	-	-	-	-	-	-	8100 J	-	1	2.6	0.97	-	-		0.79	1.1	-	-
018-A	M+P-XYLENES	-	-	-	-	-	-	-	28000 J	-	-	11	1.1 J	-	-	0.62 J	3.2 J	4	2 J	-
018-A	METHYL TERT-BUTYL ETHER	14.4	5.3 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
018-A	METHYLENE CHLORIDE	-	-	-	-	-	520	-	-	-	-	0.81	-	-	-	-	-	1.7 J	19.8	-
018-A	NAPHTHALENE	-	-	-	-	-	-	-	-	-	-	11 J	-	-	450 J		2.7 J	7.1	3.1	-
018-A	O-XYLENE	-	-	-	-	-	-	-	3600 J	-	-	3.9	0.53 J	-	-	-	0.97	1.1	-	-
018-A	TETRACHLOROETHENE	9.9	91.2 J	4470	-	-	-	-	-	-	-	-	120	-	-	110	64 J	17 J	-	-
018-A	TOLUENE	-	2.1 J	29.6 J	-	-	300 J	-	1900 J	-	4	32	19	-	-	4.1	82 J	27 J	2.6	-
018-A	TOTAL XYLENES	2.5 J	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-
018-A	TRANS-1,2-DICHLOROETHENE	15.4	113	4160	-	-	-	-	-	-	-	-	71	-		66	56 J	17 J	-	-
018-A	TRICHLOROETHENE	20900 J	162000	6200000	-	3869448 J	63000	-	19000	64000	160	7.2	800000	83000	69000	95000	96000 J	28000 J	174	-
018-A	VINYL CHLORIDE	7	91.2	1850	-	-	-	-	-	-	-	-	550	300 J	180 J	170	310 J	40	0.59	-
018-A	**TOTAL VOCs**	**32,548 J**	**170,349 J**	**6,521,763 J**	**-**	**4,196,133 J**	**112,320 J**	**-**	**98,430 J**	**100,890 J**	**242 J**	**76 J**	**956,785 J**	**160,600 J**	**121,190 J**	**153,923 J**	**170,413 J**	**54,333 J**	**468 J**	**-**

Notes:

VOC = volatile organic compound
SSDS = sub-slab depressurization system
µg/m^3 = micrograms per cubic meter
- = not detected (below detection limit) or location not sampled

J = estimated value
J+ = estimated value, may be biased high
K = value is biased high

TABLE 4-2

SUMMARY OF VOC DETECTIONS NEAR SSDS, BUILDING C
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Location	VOC (µg/m^3)	3/22/2006	12/11/2006	4/26/2007	10/29/2007	7/7/2009	10/27/2009	2/24/2010	8/30/2010	2/24/2011	8/17/2011	2/21/2012	8/15/2012	2/4/2013	8/28/2013	2/24/2014	9/3/2014
001-C	1,1,1-TRICHLOROETHANE	-	-	-	-	-	-	-	2.1	-	2.8	-	-	-	-	-	2
001-C	1,1-DICHLOROETHANE	-	-	-	-	0.33	-	0.28	-	-	6.7	-	1.4	-	-	-	5.8
001-C	1,1-DICHLOROETHENE	5410	-	-	-	0.9	1	2.7	-	-	2.3	0.59	-	-	-	-	-
001-C	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4
001-C	BENZENE	33.4	62.1	-	-	-	-	0.26	-	-	0.39	-	-	-	-	-	-
001-C	CARBON TETRACHLORIDE	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-
001-C	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	7.5	-	-	-	-	-	-	-	6.3
001-C	CHLOROFORM	86.8	-	-	-	8.5	7.4	6.1	18	5	13	5.2	8.9	-	-	-	16.3
001-C	CIS-1,2-DICHLOROETHENE	840000	481000	1550000	257714	270	230	300	360	120	250	100	170	-	-	-	251
001-C	DICHLORODIFLUOROMETHA	-	-	-	-	2.4	2.2	0.87	-	2	2.6	3	-	-	-	-	2.6
001-C	ETHYLBENZENE	-	-	-	-	0.67	-	0.45	-	-	6.6	-	-	-	-	-	4.3
001-C	M+P-XYLENES	-	-	-	-	1.3	-	1	13	-	14	-	-	-	-	-	4.8
001-C	METHYL TERT-BUTYL ETHER	332	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
001-C	METHYLENE CHLORIDE	-	-	-	-	-	4.5	-	7.4	33	1.1	-	-	-	-	-	-
001-C	NAPHTHALENE	-	-	-	-	1.6	-	2.9	-	-	3.1	-	-	-	-	-	18.3
001-C	O-XYLENE	-	-	-	-	-	-	0.41	5.6	-	4	-	-	-	-	-	2.5
001-C	TETRACHLOROETHENE	107	158	136	-	3.3	3	3.6	6.2	2	4.8	1.8	8.7	-	-	-	7
001-C	TOLUENE	86.8	-	-	-	1.8	-	0.49	-	0.6	3.6	1.2	13	-	-	-	3.2
001-C	TOTAL XYLENES	81.5	-	-	-	-	-		-	-		3.5	5.1	-	-	-	-
001-C	TRANS-1,2-DICHLOROETHENE	5180	5200	5930	3529	65	49	67	88	30	44	19	33	-	-	-	45.7
001-C	TRICHLOROETHENE	19200	19600	21100	8599	270	330	230	620	190	550	200	300	-	-	-	591
001-C	VINYL CHLORIDE	1320	761	578	-	-	-	1.4	-	-	-	-	-	-	-	-	-
001-C	**TOTAL VOCs**	**871,838**	**506,781**	**1,577,744**	**269,842**	**626**	**627**	**618**	**1,128**	**384**	**909**	**334**	**540**	**-**	**-**	**-**	**962**
002-C	BENZENE	18.3 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
002-C	CHLOROFORM	552 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
002-C	CIS-1,2-DICHLOROETHENE	320 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
002-C	DICHLORODIFLUOROMETHA	4.5 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
002-C	ETHYLBENZENE	38.2 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
002-C	METHYL TERT-BUTYL ETHER	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
002-C	TETRACHLOROETHENE	174 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
002-C	TOLUENE	65.9 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
002-C	TOTAL XYLENES	95.5 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
002-C	TRANS-1,2-DICHLOROETHENE	20.9 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
002-C	TRICHLOROETHENE	408 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
002-C	VINYL CHLORIDE	15.9 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
002-C	**TOTAL VOCs**	**2,713 J**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
003-C	BENZENE	6.7 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
003-C	CARBON TETRACHLORIDE	1.8 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
003-C	CHLOROFORM	66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
003-C	CIS-1,2-DICHLOROETHENE	93.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
003-C	ETHYLBENZENE	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
003-C	METHYL TERT-BUTYL ETHER	469	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
003-C	TETRACHLOROETHENE	388	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
003-C	TOLUENE	18.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
003-C	TOTAL XYLENES	70.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
003-C	TRANS-1,2-DICHLOROETHENE	24.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
003-C	TRICHLOROETHENE	2130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
003-C	**TOTAL VOCs**	**3,288 J**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

TABLE 4-2

SUMMARY OF VOC DETECTIONS NEAR SSDS, BUILDING C
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Location	VOC (µg/m^3)	3/22/2006	12/11/2006	4/26/2007	10/29/2007	7/7/2009	10/27/2009	2/24/2010	8/30/2010	2/24/2011	8/17/2011	2/21/2012	8/15/2012	2/4/2013	8/28/2013	2/24/2014	9/3/2014
004-C	1,1-DICHLOROETHENE	1010	-	-	-	-	-	-	-	-	-	-	-	1.2	1.7	-	-
004-C	1,2,3-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	0.6 J	2	-	-
004-C	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	1	4.8	-	-
004-C	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	0.45 J	1.8	-	-
004-C	1,3,5-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	-	-
004-C	BENZENE	51.2	50	71.2										0.62	-	-	-
004-C	CARBON TETRACHLORIDE	-	-	-	-	-	-	-	-	-	-	-	-	0.83 J	0.83 J	-	-
004-C	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	-	26
004-C	CHLOROFORM	131	7 J	-	-	-	-	-	-	-	-	-	-	37	88	-	34.3
004-C	CIS-1,2-DICHLOROETHENE	65800	79300	58100	10705	-	-	-	-	-	-	-	-	82	71	-	80.4
004-C	DICHLORODIFLUOROMETHA	-	-	-	-	-	-	-	-	-	-	-	-	3.4	2.3	-	-
004-C	ETHYLBENZENE	58.9	4.3 J	4 J	-	-	-	-	-	-	-	-	-	-	1.5 J	-	-
004-C	M+P-XYLENES	-	-	-	-	-	-	-	-	-	-	-	-	1.3 K	3.6	-	-
004-C	METHYL TERT-BUTYL ETHER	420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
004-C	METHYLENE CHLORIDE	-	-	-	-	-	-	-	-	-	-	-	-	1.5	1.2	-	145
004-C	NAPHTHALENE	-	-	-	-	-	-	-	-	-	-	-	-	12	4.4	-	-
004-C	O-XYLENE	-	-	-	-	-	-	-	-	-	-	-	-	0.93	1.1	-	-
004-C	TETRACHLOROETHENE	72.1	33.9	33.8 J	-	-	-	-	-	-	-	-	-	1.1	2.2 J	-	-
004-C	TOLUENE	211	51.2	72.1	215	-	-	-	-	-	-	-	-	1.3	14	-	9.6 J
004-C	TOTAL XYLENES	264	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
004-C	TRANS-1,2-DICHLOROETHENE	1020	661	759	139	-	-	-	-	-	-	-	-	8.5	20	-	12.4 J
004-C	TRICHLOROETHENE	14400	28300	16500	2741	-	-	-	-	-	-	-	-	180	140	-	210
004-C	VINYL CHLORIDE	663	381	609	-	-	-	-	-	-	-	-	-	0.47	0.65	-	-
004-C	**TOTAL VOCs**	**84,101**	**108,788 J**	**76,149 J**	**13,800**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**334 J**	**365 J**	**-**	**518 J**
005-C	1,1,1-TRICHLOROETHANE	-	-	-	-	-	-	-	4.6	-	-	-	-	-	-	-	-
005-C	1,1-DICHLOROETHANE	-	-	-	-	-	-	-	0.12 J	-	-	-	-	-	-	-	-
005-C	1,2,4-TRICHLOROBENZENE	-	-	-	-	0.39 J	-	-	-	-	-	-	-	-	-	-	-
005-C	1,2-DICHLOROETHANE	-	-	-	-	0.27 J	-	-	-	-	-	-	-	-	-	-	-
005-C	BENZENE	9 J	-	-	-	0.86	0.36	0.22 J	0.39	-	-	-	-	-	-	-	-
005-C	CARBON TETRACHLORIDE	0.9 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
005-C	CARBON TETRACHLORIDE	-	-	-	-	0.4 J	0.44 J	0.29 J	0.61	-	-	-	-	-	-	-	-
005-C	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	6.1	-	-	-	-	-	-	-	-
005-C	CHLOROFORM	286	-	-	-	15	8.5	5.9	13	-	-	-	-	-	-	-	-
005-C	DICHLORODIFLUOROMETHA	3.1 J	-	-	-	0.25 J	3.7	0.32 J	0.73	-	-	-	-	-	-	-	-
005-C	ETHYLBENZENE	93.6 J	-	-	-	1	0.24 J	-	0.41	-	-	-	-	-	-	-	-
005-C	M+P-XYLENES	-	-	-	-	3.3	0.65	0.24 J	1	-	-	-	-	-	-	-	-
005-C	METHYL TERT-BUTYL ETHER	572	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
005-C	METHYLENE CHLORIDE	-	-	-	-	0.59 J	-	-	0.58 J	-	-	-	-	-	-	-	-
005-C	NAPHTHALENE	-	-	-	-	1.4	0.47 J	0.33 J	0.29 J	-	-	-	-	-	-	-	-
005-C	O-XYLENE	-	-	-	-	1.8	0.43	0.16 J	0.64	-	-	-	-	-	-	-	-
005-C	TETRACHLOROETHENE	82.9 J	-	-	-	94	66	48	110	-	-	-	-	-	-	-	-
005-C	TOLUENE	157 J	-	-	-	4.1	0.53	0.36	0.56	-	-	-	-	-	-	-	-
005-C	TOTAL XYLENES	407 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
005-C	TRICHLOROETHENE	-	-	-	-	1.5	0.94	0.81	2.6	-	-	-	-	-	-	-	-
005-C	**TOTAL VOCs**	**1,612 J**	**-**	**-**	**-**	**125 J**	**82 J**	**57**	**142 J**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
006-C	BENZENE	23.5 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
006-C	CARBON TETRACHLORIDE	1.4 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
006-C	CHLOROFORM	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
006-C	DICHLORODIFLUOROMETHA	2.6 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
006-C	ETHYLBENZENE	164 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
006-C	METHYL TERT-BUTYL ETHER	416	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
006-C	TETRACHLOROETHENE	76.3 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
006-C	TOLUENE	249	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
006-C	TOTAL XYLENES	935	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
006-C	**TOTAL VOCs**	**2,258 J**	**217,577**	**152,298**	**27,600**	**250**	**165**	**113**	**283**	**-**	**-**	**-**	**-**	**668**	**731**	**-**	**1,035**

TABLE 4-2

SUMMARY OF VOC DETECTIONS NEAR SSDS, BUILDING C
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Location	VOC (µg/m^3)	3/22/2006	12/11/2006	4/26/2007	10/29/2007	7/7/2009	10/27/2009	2/24/2010	8/30/2010	2/24/2011	8/17/2011	2/21/2012	8/15/2012	2/4/2013	8/28/2013	2/24/2014	9/3/2014
060-C	1,1,1-TRICHLOROETHANE	-	-	-	-	-	-	-	14 J	4	33	17 J	9.5 J	19	19	-	0.95 J
060-C	1,1-DICHLOROETHANE	-	-	-	-	8.5	0.29 J	-	87	21	250	120 J	74	43	6.9	2.3	1.8
060-C	1,1-DICHLOROETHENE	-	-	-	-	-	-	-	3 J	2	17	12 J	4.6 J	22	7.4	0.86 J	-
060-C	1,2,3-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	6.8	1.5 J	0.91	1 J
060-C	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	64	-	9.5	5.4 J	3.2	4.3
060-C	1,2-DICHLOROETHANE	-	-	-	-	-	-	-	-	-	-	-	-	-	0.53 J	-	-
060-C	1,3,5-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	19 J	-	14 J	5.8 J	2.2	1.7
060-C	BENZENE	-	-	-	-	2.2 J	0.53	0.64	-	1	6.5	-	-	5.9	0.62	0.85	-
060-C	CARBON TETRACHLORIDE	-	-	-	-	-	0.5 J	0.38 J	-	-	-	-	-	-	-	-	-
060-C	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	190	-	-	-	6 J	-	260	5.8 J	9.4
060-C	CHLOROFORM	-	-	-	-	9.1	0.44	0.13 J	67	16	200	94 J	69	57	5	3.1	-
060-C	CIS-1,2-DICHLOROETHENE	-	-	-	-	45	0.19 J	-	140	31	540	340 J	230	460 J	23	16.5	1.4
060-C	DICHLORODIFLUOROMETHA	-	-	-	-	2.7 J	2.3	1.9	-	3	7.5	-	-	4	3.8	2.8	3
060-C	ETHYLBENZENE	-	-	-	-	490	2.8	22	53	31	270	460 J	160	390 J	150 J	96.5	65
060-C	M+P-XYLENES	-	-	-	-	2200	11	95	110	-	580	-	-	2800	650	561	250
060-C	METHYLENE CHLORIDE	-	-	-	-	-	-	-	12 J	-	10	-	-	5.8	3.4	10.7	70.9
060-C	NAPHTHALENE	-	-	-	-	5.8 J	0.44 J	3.2	-	-	3	770 J	360 J	67	4.3 J	4.4	28.6 J
060-C	O-XYLENE	-	-	-	-	670	5.8	40	130	-	720	-	-	1300	130	230	171
060-C	TETRACHLOROETHENE	-	-	-	-	3.4 J	0.26 J	21	25 J	6	88	40 J	26 J	23	1.2 J	2.2	2.9
060-C	TOLUENE	-	-	-	-	50	2.4	7	7.6 J	4	14	29 J	10 J	8	20	13.1	8.2
060-C	TOTAL XYLENES	-	-	-	-	-	-	-	-	130	-	3100 J	2600	-	-	-	-
060-C	TRANS-1,2-DICHLOROETHENE	-	-	-	-	2.1 J	-	-	17	5	61	38	24	18	3.5	1.1 J	-
060-C	TRICHLOROETHENE	-	-	-	-	180	2.6	0.46	2200	440	12000	4900	3700	10000	370	291	58.6
060-C	VINYL CHLORIDE	-	-	-	-	-	-	-	-	-	1.9	-	-	-	-	-	-
060-C	**TOTAL VOCs**	**-**	**-**	**-**	**-**	**3,669 J**	**30 J**	**192 J**	**3,056 J**	**694**	**14,802**	**10,003 J**	**7,273 J**	**15,253 J**	**1,671 J**	**1,249 J**	**679 J**
088-C	1,1,1-TRICHLOROETHANE	-	-	-	-	-	-	-	0.54 J	0.6 J	0.89	-	-	-	0.67 J	-	-
088-C	1,1-DICHLOROETHANE	-	-	-	-	0.2 J	0.32 J	-	-	0.14 J	0.74	-	-	-	-	0.66	1.6 J
088-C	1,1-DICHLOROETHENE	-	-	-	-	0.2 J	0.43 J	0.13 J	-	-	1	3.3 J	-	1	0.52 J	-	-
088-C	1,2,3-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	30	-	2.9	3	1.1	1.5 J
088-C	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	39	-	5.4	5.4	1.8	2
088-C	1,2-DICHLOROETHANE	-	-	-	-	-	-	-	-	-	-	-	-	-	0.62	-	-
088-C	1,3,5-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	11 J	-	1.1	1.7	-	-
088-C	BENZENE	-	-	-	-	2.8	2	0.93	1.3	6	2.6	-	-	1.1	0.97	1.2	-
088-C	CARBON TETRACHLORIDE	-	-	-	-	0.53 J	0.64 J	0.33 J	0.66 J	-	-	-	-	0.77 J	-	-	-
088-C	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	49	-	-	-	-	-	210	3.2	6.5
088-C	CHLOROFORM	-	-	-	-	4.4	1.8 J	1.4	2.8	3	11	9.7 J	5.1 J	6.6	2.4	-	-
088-C	CIS-1,2-DICHLOROETHENE	-	-	-	-	95	140	73	73	100	620	670	350	470	33	17.6	17.7
088-C	DICHLORODIFLUOROMETHA	-	-	-	-	2.5	2.2	1.6	2.7	2	3.1	-	-	3.2	6.8	2.6	2.8
088-C	ETHYLBENZENE	-	-	-	-	30	6.7	2.2	2.9	11	7.2	15 J	-	1.1	2.6 J	2.2	1.8
088-C	M+P-XYLENES	-	-	-	-	110	30	11	14	-	23	-	-	5.5	11	10	8.7
088-C	METHYLENE CHLORIDE	-	-	-	-	2.8	-	-	3.3 J	-	1.8	-	-	0.92	1.3	82.5	-
088-C	NAPHTHALENE	-	-	-	-	17	3.5 J	1.7	3.2 J	0.9 J	3.7	540	290	61	15	22.3	61.7 J
088-C	O-XYLENE	-	-	-	-	100	25	8.1	10	-	18	-	-	4.4	7.1	4.7	5.5
088-C	TETRACHLOROETHENE	-	-	-	-	0.95 J	0.65 J	0.43 J	-	-	1.1	-	-	2.3	0.83 J	-	-
088-C	TOLUENE	-	-	-	-	32	8	5.7	9.2	10	18	12 J	-	1.4	8.4	-	10.3
088-C	TOTAL XYLENES	-	-	-	-	-	-	-	-	31	-	150	5 J	-	-	-	-
088-C	TRANS-1,2-DICHLOROETHENE	-	-	-	-	1.7	3	1.2	1.4 J	2	7.5	14 J	6.1 J	5.4	1.9	-	0.87 J
088-C	TRICHLOROETHENE	-	-	-	-	260	560	240	270	270	1800	3800	2000	2800	270	70.6	79.8
088-C	VINYL CHLORIDE	-	-	-	-	- -	-	-	-	- -	-	-	-	-	-	0.49	-
088-C	**TOTAL VOCs**	**-**	**-**	**-**	**-**	**660 J**	**784 J**	**348 J**	**444 J**	**437 J**	**2,520**	**5,294 J**	**2,656 J**	**3,374 J**	**583 J**	**221**	**201 J**

TABLE 4-2

SUMMARY OF VOC DETECTIONS NEAR SSDS, BUILDING C
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Location	VOC ($\mu g/m^3$)	3/22/2006	12/11/2006	4/26/2007	10/29/2007	7/7/2009	10/27/2009	2/24/2010	8/30/2010	2/24/2011	8/17/2011	2/21/2012	8/15/2012	2/4/2013	8/28/2013	2/24/2014	9/3/2014
113-C	1,1,1-TRICHLOROETHANE	-	-	-	-	-	-	-	-	-	2.6	-	-	1.1 J	1.3 J	-	-
113-C	1,1-DICHLOROETHANE	-	-	-	-	-	-	-	-	-	4.1	-	-	2.2 J	2.2 J	-	1.4 J
113-C	1,1-DICHLOROETHENE	-	-	-	-	-	-	-	-	-	3.1	-	-	1.7	0.69 J	-	-
113-C	1,2,3-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	2.8 J	3 J	-	12.5
113-C	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	8.5 J	-	-	-
113-C	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3 J	-	29.9
113-C	1,3,5-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	2.2 J	1.9 J	-	5.2
113-C	BENZENE	-	-	-	-	-	-	-	-	-	4.6	-	-	2 J	0.49 J	2.4	-
113-C	CARBON TETRACHLORIDE	-	-	-	-	-	-	-	-	-	0.7	-	-	-	-	1.1	-
113-C	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	-	-	-	-	12 J	3.2	27	10.7 J	6.7
113-C	CHLOROFORM	-	-	-	-	-	-	-	-	25	67	38	59	50 J	3 J	1.8	-
113-C	CIS-1,2-DICHLOROETHENE	-	-	-	-	-	-	-	-	330	490	500	700	850 J	40	31.7 J	17.5
113-C	DICHLORODIFLUOROMETHA	-	-	-	-	-	-	-	-	-	3.6	-	-	3.2	2.4 J	3.8 J	3.3
113-C	ETHYLBENZENE	-	-	-	-	-	-	-	-	11	4.6	-	-	1.6 J	2.6 J	-	2.3
113-C	M+P-XYLENES	-	-	-	-	-	-	-	-	-	15	-	-	6.4 J	14 J	2.4 J	7.6
113-C	METHYLENE CHLORIDE	-	-	-	-	-	-	-	-	-	1.7	-	-	0.56	0.53 J	557 J	9.4
113-C	NAPHTHALENE	-	-	-	-	-	-	-	-	17 L	1600 J	64 J	30 J	51 J	47	3.7 J	233 J
113-C	O-XYLENE	-	-	-	-	-	-	-	-	-	7.8	-	-	2.5 J	4.5 J	0.83 J	4.7
113-C	TETRACHLOROETHENE	-	-	-	-	-	-	-	-	9 J	20	14 J	21 J	15 J	0.69 J	-	1.8
113-C	TOLUENE	-	-	-	-	-	-	-	-	16	8.4	15 J	16 J	3 J	7 J	6.1 J	7.3
113-C	TOTAL XYLENES	-	-	-	-	-	-	-	-	79	-	-	-	-	-	-	-
113-C	TRANS-1,2-DICHLOROETHENI	-	-	-	-	-	-	-	-	-	8.3	-	-	5.2 J	0.6 J	-	-
113-C	TRICHLOROETHENE	-	-	-	-	-	-	-	-	5000	7300	5700	8900	16000 J	290	243 J	222
113-C	VINYL CHLORIDE	-	-	-	-	-	-	-	-	-	0.65	-	-	0.86	-	-	-
113-C	**TOTAL VOCs**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5,487**	**9,542**	**6,331**	**9,738 J**	**17,013 J**	**455 J**	**865 J**	**565 J**
126-C	1,1-DICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	360	1300	680	720	199	80.4
126-C	1,2,3-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	5.5 J	5.8 J	-	1.4
126-C	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	29 J	-	-	6.2 J	4.3	1.7
126-C	1,3,5-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1 J	-
126-C	BENZENE	-	-	-	-	-	-	-	-	-	-	86	270	250 J	300	88.4	29.3
126-C	CARBON TETRACHLORIDE	-	-	-	-	-	-	-	-	-	-	-	22 J	1.2 J	-	-	-
126-C	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	-	-	-	20 J	-	-	-	-	5.3
126-C	CHLOROFORM	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3 J	0.84 J	-
126-C	CIS-1,2-DICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	350	900	560	740	205	74.2
126-C	DICHLORODIFLUOROMETHA	-	-	-	-	-	-	-	-	-	-	-	-	0.96 J	0.55 J	1.5 J	3.1
126-C	ETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	72	220	8.7 J	13 J	3	1.1 J
126-C	M+P-XYLENES	-	-	-	-	-	-	-	-	-	-	-	-	18 J	15 J	13.4	3.9
126-C	METHYLENE CHLORIDE	-	-	-	-	-	-	-	-	-	-	-	-	4.2 J	3.1 J	9.2	-
126-C	NAPHTHALENE	-	-	-	-	-	-	-	-	-	-	250	380	200 J	100 J	70.6	152 J
126-C	O-XYLENE	-	-	-	-	-	-	-	-	-	-	-	-	11 J	14 J	5.7	1.8
126-C	TETRACHLOROETHENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2
126-C	TOLUENE	-	-	-	-	-	-	-	-	-	-	54	110	19 J	45 J	14.7	20
126-C	TOTAL XYLENES	-	-	-	-	-	-	-	-	-	-	350	1200	-	-	-	-
126-C	TRANS-1,2-DICHLOROETHENI	-	-	-	-	-	-	-	-	-	-	41 J	95	32 J	92	-	8.5
126-C	TRICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	280	5800 J	920 J	2400	177	26.4
126-C	VINYL CHLORIDE	-	-	-	-	-	-	-	-	-	-	82000	110000	37000	28000	11900	4030
126-C	**TOTAL VOCs**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**83,892 J**	**120,297 J**	**39,711 J**	**32,457 J**	**12,694 J**	**4,440 J**

TABLE 4-2

SUMMARY OF VOC DETECTIONS NEAR SSDS, BUILDING C
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Location	VOC (µg/m^3)	3/22/2006	12/11/2006	4/26/2007	10/29/2007	7/7/2009	10/27/2009	2/24/2010	8/30/2010	2/24/2011	8/17/2011	2/21/2012	8/15/2012	2/4/2013	8/28/2013	2/24/2014	9/3/2014
127-C	1,1,1-TRICHLOROETHANE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	268
127-C	1,1-DICHLOROETHANE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.1
127-C	1,2,3-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	2200	-	-	-	-	-
127-C	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	4000	-	-	-	-	0.91 J
127-C	1,3,5-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	1000 J	-	-	-	-	-
127-C	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.8
127-C	DICHLORODIFLUOROMETHA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1
127-C	ETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4 J
127-C	M+P-XYLENES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2
127-C	METHYLENE CHLORIDE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1 J
127-C	NAPHTHALENE	-	-	-	-	-	-	-	-	-	-	4300 J	-	-	-	-	5.9 J
127-C	O-XYLENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6
127-C	TETRACHLOROETHENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6
127-C	TOLUENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9
127-C	TOTAL XYLENES	-	-	-	-	-	-	-	-	-	-	2900 J	-	-	-	-	-
127-C	TRICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	240000	-	-	-	-	410
127-C	VINYL CHLORIDE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1
127-C	**TOTAL VOCs**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**254,400 J**	**-**	**-**	**-**	**-**	**763 J**
133-C	1,1,1-TRICHLOROETHANE	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	-	-
133-C	1,1-DICHLOROETHANE	-	-	-	-	-	-	-	-	-	-	-	-	-	4.6 J	-	-
133-C	1,1-DICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5 J	-	-
133-C	1,2,3-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	0.95	4.1 J	-	-
133-C	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	2.1	28 J	-	-
133-C	1,2-DICHLOROETHANE	-	-	-	-	-	-	-	-	-	-	-	-	0.7	0.66	0.92	-
133-C	1,3,5-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	0.6 J	3.6	-	-
133-C	BENZENE	-	-	-	-	-	-	-	-	-	-	-	-	1.3	0.71	0.87	-
133-C	CARBON TETRACHLORIDE	-	-	-	-	-	-	-	-	-	-	-	-	2.5	0.9 J	-	-
133-C	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	-	-	-	1500	290 J	-	440 J	4.4	12.7
133-C	CHLOROFORM	-	-	-	-	-	-	-	-	-	-	83 J	-	43	8.3	6.7	-
133-C	CIS-1,2-DICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	-	-	33	2.5	8.7	-
133-C	DICHLORODIFLUOROMETHA	-	-	-	-	-	-	-	-	-	-	130 J	-	-	2.8 J	3.2	4.3
133-C	ETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	0.93	2.5	-	1.2 J
133-C	M+P-XYLENES	-	-	-	-	-	-	-	-	-	-	-	-	0.93 J	9.6	2 J	4
133-C	METHYLENE CHLORIDE	-	-	-	-	-	-	-	-	-	-	2700 J	13000 J	-	0.74	20.2 J	-
133-C	NAPHTHALENE	-	-	-	-	-	-	-	-	-	-	2200	-	110	42 J	4.7	3.3 J
133-C	O-XYLENE	-	-	-	-	-	-	-	-	-	-	-	-	0.57 J	2.3	0.95 J	1.5
133-C	TETRACHLOROETHENE	-	-	-	-	-	-	-	-	-	-	2200	740	1500	77	169	3.3 J
133-C	TOLUENE	-	-	-	-	-	-	-	-	-	-	180 J	2400 J	1.3	9.2	5.5 J	5.1
133-C	TOTAL XYLENES	-	-	-	-	-	-	-	-	-	-	170 J	-	-	-	-	-
133-C	TRANS-1,2-DICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	-	-	25 L	3.1	3.6 J+	-
133-C	TRICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	50000	20000	60000	5600	10700	199 J
133-C	VINYL CHLORIDE	-	-	-	-	-	-	-	-	-	-	-	-	-	0.57	-	-
133-C	**TOTAL VOCs**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**59,163 J**	**36,430 J**	**61,723 J**	**6,250 J**	**10,931 J**	**234 J**

TABLE 4-2

SUMMARY OF VOC DETECTIONS NEAR SSDS, BUILDING C
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Location	VOC (µg/m^3)	3/22/2006	12/11/2006	4/26/2007	10/29/2007	7/7/2009	10/27/2009	2/24/2010	8/30/2010	2/24/2011	8/17/2011	2/21/2012	8/15/2012	2/4/2013	8/28/2013	2/24/2014	9/3/2014
135-C	1,1,1-TRICHLOROETHANE	-	-	-	-	-	-	-	-	-	-	-	-	-	0.78 J	-	-
135-C	1,2,3-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	-
135-C	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	81	-	4.1	2.1	-	-
135-C	1,2-DICHLOROETHANE	-	-	-	-	-	-	-	-	-	-	-	-	-	0.49 J	-	-
135-C	1,3,5-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	27 J	-	1.2 J	1	-	-
135-C	BENZENE	-	-	-	-	-	-	-	-	-	-	-	-	0.75	1.1	0.33 J	-
135-C	CARBON TETRACHLORIDE	-	-	-	-	-	-	-	-	-	-	-	-	52	1.7	-	-
135-C	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	-	-	-	-	-		89	2.1	-
135-C	CHLOROFORM	-	-	-	-	-	-	-	-	-	-	14 J	-	21	0.84	-	-
135-C	CIS-1,2-DICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	220	260	130	-	-	-
135-C	DICHLORODIFLUOROMETHA	-	-	-	-	-	-	-	-	-	-	-	-	2.7	3.4	2.1	-
135-C	ETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	40 J	-	-	3	4.2	-
135-C	M+P-XYLENES	-	-	-	-	-	-	-	-	-	-	-	-	1.9	9.2	18.1	-
135-C	METHYLENE CHLORIDE	-	-	-	-	-	-	-	-	-	-	-	-	0.49 J	-	2.1 J	-
135-C	NAPHTHALENE	-	-	-	-	-	-	-	-	-	-	510	580	280	6.7	3.8 J	-
135-C	O-XYLENE	-	-	-	-	-	-	-	-	-	-	-	-	0.66	4.8	4.3	-
135-C	TETRACHLOROETHENE	-	-	-	-	-	-	-	-	-	-	22 J	-	11	-	-	-
135-C	TOLUENE	-	-	-	-	-	-	-	-	-	-	49	-	0.61	7.7	-	-
135-C	TOTAL XYLENES	-	-	-	-	-	-	-	-	-	-	210	-	-	-	-	-
135-C	TRANS-1,2-DICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	15 J	-	3.9	-	-	-
135-C	TRICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	11000	16000	4500	29	5.6	-
135-C	**TOTAL VOCs**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**12,188 J**	**16,840**	**5,010 J**	**161 J**	**46 J**	**-**
141-C	1,1-DICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	-	-	-	0.44 J	1.7	-
141-C	1,2,3-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	3.1 J	-	-	-
141-C	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	7.5 J	1.9	-	1.5 J
141-C	1,3,5-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	1.9 J	-	-	-
141-C	BENZENE	-	-	-	-	-	-	-	-	-	-	-	-	0.58 J	-	0.88	-
141-C	CARBON TETRACHLORIDE	-	-	-	-	-	-	-	-	-	-	-	-	-	0.64 J	-	-
141-C	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	-	-	-	-	-	1.7 J	3.4	2.6	19.9
141-C	CIS-1,2-DICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	-	-		0.73	2.2	
141-C	DICHLORODIFLUOROMETHA	-	-	-	-	-	-	-	-	-	-	-	-	2.7 J	2.3	2.3	2.7
141-C	ETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	48	1.9	2.2	2.6
141-C	M+P-XYLENES	-	-	-	-	-	-	-	-	-	-	-	-	250	10	11.6	10.3
141-C	METHYLENE CHLORIDE	-	-	-	-	-	-	-	-	-	-	-	-	1.3 J	1	39.1	1.4 J
141-C	NAPHTHALENE	-	-	-	-	-	-	-	-	-	-	-	-	170	1.7	4.1 J	1.5 J
141-C	O-XYLENE	-	-	-	-	-	-	-	-	-	-	-	-	62	2.4 J	3.7	4.6
141-C	TETRACHLOROETHENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5
141-C	TOLUENE	-	-	-	-	-	-	-	-	-	-	-	-	3.7 J	15	3.7	5.2
141-C	TRICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	-	-	7.4 J	5.7	25.2	3.2
141-C	**TOTAL VOCs**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**560 J**	**47 J**	**99 J**	**54 J**
149-C	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3 J
149-C	BENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.95 J
149-C	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
149-C	DICHLORODIFLUOROMETHA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4
149-C	ETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
149-C	M+P-XYLENES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2
149-C	METHYLENE CHLORIDE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1 J
149-C	NAPHTHALENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2 J
149-C	O-XYLENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.6
149-C	TETRACHLOROETHENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6
149-C	TOLUENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.1
149-C	TRICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4
149-C	**TOTAL VOCs**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**59 J**

TABLE 4-2

SUMMARY OF VOC DETECTIONS NEAR SSDS, BUILDING C
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Location	VOC (µg/m^3)	3/22/2006	12/11/2006	4/26/2007	10/29/2007	7/7/2009	10/27/2009	2/24/2010	8/30/2010	2/24/2011	8/17/2011	2/21/2012	8/15/2012	2/4/2013	8/28/2013	2/24/2014	9/3/2014
153-C	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.7
153-C	DICHLORODIFLUOROMETHA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
153-C	ETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8
153-C	M+P-XYLENES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9
153-C	METHYLENE CHLORIDE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.97 J
153-C	NAPHTHALENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5 J
153-C	O-XYLENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6
153-C	TETRACHLOROETHENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
153-C	TOLUENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.6
153-C	**TOTAL VOCs**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**42 J**
155-C	1,2,4-TRIMETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.91 J
155-C	CHLORODIFLUOROMETHANE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.4
155-C	DICHLORODIFLUOROMETHA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9
155-C	ETHYLBENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4 J
155-C	M+P-XYLENES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.5
155-C	METHYLENE CHLORIDE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4 J
155-C	NAPHTHALENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3 J
155-C	O-XYLENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1
155-C	TOLUENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.2
155-C	TRICHLOROETHENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5 J
155-C	**TOTAL VOCs**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**39 J**

Notes:

VOC = volatile organic compound
SSDS = sub-slab depressurization system
µg/m^3 = micrograms per cubic meter
- = not detected (below detection limit) or location not sampled

J = estimated value
J+ = estimated value, may be biased high
K = value is biased high
L = value is biased low

TABLE 4-3A

SUMMARY OF VOC DETECTIONS IN SSDS INFLUENT, BUILDING A
LOCKHEED MARTIN CORPORATION, MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Building A - Influent Volatiles (ug/m3)																									
Date	benzene	carbon tetrachloride	chlorodifluoromethane	chloroform	dichlorodifluoromethane	1,1-dichloroethane	1,2-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	naphthalene	tetrachloroethene	toluene	1,1,1,-trichloroethane	trichloroethene	trichlorofluoromethane	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs
Mar-08	--	--	N/A	--	--	2,100	--	7,900	8,300	--	300	--	--	--	330	30,000	44,000	--	--	--	--	--	1,100	280	94,310
Apr-08	--	--	N/A	--	--	660	--	4,500	3,800	--	--	--	--	--	--	16,000	34,000	--	--	--	--	--	--	--	58,960
Apr-08	--	--	N/A	--	--	460	--	3,300	2,300	--	--	--	--	--	--	13,000	30,000	--	--	--	--	--	--	--	49,060
Apr-08	--	--	N/A	--	--	280	--	1,500	1,100	--	--	--	--	--	120	9,100	14,000	--	--	--	--	--	--	--	26,100
Apr-08	--	--	N/A	--	--	480	--	2,200	2,000	--	--	--	--	--	120	11,000	18,000	--	--	--	--	--	110	--	33,910
Apr-08	--	--	N/A	--	--	260	--	1,200	930	--	--	--	--	--	86	6,500	8,600	--	--	--	--	--	--	--	17,576
May-08	--	--	N/A	--	--	320	--	950	1,000	--	--	--	--	--	--	6,000	5,500	--	--	--	--	--	--	--	13,770
Jun-08	180	--	N/A	--	--	180	--	760	720	--	--	--	--	--	--	4,800	7,100	--	--	--	--	--	--	--	13,740
Jul-08	--	--	N/A	--	--	110	--	430	350	--	--	--	--	--	--	3,200	3,700	--	--	--	--	--	--	--	7,790
Aug-08	--	--	N/A	--	--	150	--	400	470	--	--	--	--	--	28	2,900	3,400	--	--	--	--	--	--	--	7,348
Sep-08	--	--	N/A	--	--	130	--	430	380	--	--	17	--	70	52	1,900	2,700	32	--	--	--	--	--	--	5,711
Nov-08	--	--	N/A	--	--	300	--	1,100	1,300	--	--	--	--	--	72	6,500	7,200	--	--	--	--	--	--	--	16,472
Dec-08	--	--	N/A	--	--	120	--	380	420	--	--	--	--	--	--	2,300	4,100	--	--	--	--	--	53	--	7,373
Jan-09	--	--	N/A	--	--	110	--	380	380	--	--	--	--	--	--	2,100	2,100	--	--	--	--	--	--	--	5,070
Feb-09	--	--	N/A	--	--	78	--	260	270	--	--	--	--	--	24	1,600	1,600	--	--	--	--	--	--	--	3,832
Mar-09	--	--	N/A	--	--	470	--	150	620	--	--	--	--	--	--	3,800	3,700	--	--	--	--	--	--	--	8,740
Apr-09	--	--	N/A	--	--	100	--	220	360	--	--	--	--	--	--	1,900	2,400	--	--	--	--	--	--	--	4,980
May-09	--	--	N/A	--	--	62	--	140	200	--	--	--	--	--	32	1,700	1,500	--	--	--	--	--	--	--	3,634
Jun-09	--	--	N/A	--	--	77	--	200	280	--	--	--	--	--	19	1,700	1,800	--	--	--	--	--	--	--	4,076
Jul-09	--	--	N/A	--	--	68	--	180	250	--	--	27	--	--	13	1,400	1,700	14	--	--	--	--	--	--	3,652
Aug-09	--	--	N/A	--	--	79	--	200	280	--	--	--	--	--	42	1,900	1,900	--	--	--	--	--	--	--	4,401
Sep-09	--	--	N/A	--	--	40	--	110	150	--	--	--	--	--	13	870	1,000	--	--	--	--	--	--	--	2,183
Oct-09	--	--	N/A	--	--	64	--	210	230	--	--	--	--	--	20	1,500	1,400	--	--	--	--	--	9.7	--	3,434
Nov-09	--	--	N/A	--	--	43	--	180	180	--	--	--	--	--	14	1,200	1,100	--	--	--	--	--	--	--	2,717
Dec-09	--	--	N/A	--	--	48	--	180	190	--	--	--	--	--	39	1,100	1,300	--	--	--	--	--	--	--	2,857
Jan-10	--	--	N/A	--	--	67	--	180	240	--	--	--	--	--	16	1,500	1,600	--	--	--	--	--	--	--	3,603
Feb-10	--	--	N/A	--	--	35	--	120	140	--	--	--	--	--	24	760	930	--	--	--	--	--	--	--	2,009
Mar-10	--	--	N/A	--	--	62	--	190	250	--	--	--	--	--	21	1,500	1,900	--	--	--	--	--	--	--	3,923
Apr-10	--	--	N/A	--	--	41	--	160	160	--	--	--	--	--	--	1,100	1,000	--	--	--	--	--	--	--	2,461
May-10	--	--	N/A	--	--	42	--	170	170	--	19	--	--	--	95	960	1,100	--	--	18	--	--	75	23	2,672
Jun-10	--	--	N/A	--	--	24	--	110	96	--	12	--	--	--	15	630	600	12	--	130	28	--	50	26	1,733
Jul-10	--	--	N/A	--	--	52	--	180	220	--	--	--	--	--	--	1,500	1,500	--	--	24	--	--	--	--	3,476
Aug-10	--	--	N/A	--	--	45	--	170	200	--	--	--	--	--	12	1,200	1,100	16	--	--	--	--	--	--	2,743
Sep-10	--	--	N/A	--	--	35	--	150	140	--	--	--	--	--	29	860	1,100	20	--	--	--	--	--	--	2,334
10/12/2010	--	--	N/A	--	--	40	--	140	170	--	--	--	--	--	940	1,100	1,400	20	--	--	--	--	89	33	3,932
Nov-10	--	--	N/A	--	--	34	--	100	150	--	--	--	--	--	71	920	1,200	53	--	--	--	--	14	--	2,542
Dec-10	--	--	N/A	--	--	28	--	110	120	--	42	--	--	--	54	790	970	13	--	--	--	--	170	31	2,328
Jan-11	--	--	N/A	--	--	34	--	130	150	--	14	--	--	--	13	860	1,200	--	--	--	--	--	47	10	2,458
Feb-11	--	--	N/A	--	--	32	--	160	130	--	--	--	--	--	23	910	900	--	--	--	--	--	29	--	2,184
Mar-11	--	--	N/A	--	--	98	--	350	390	--	19	--	--	--	23	2,800	2,500	--	--	--	--	--	61	--	6,241
Apr-11	--	--	N/A	--	--	36	--	160	150	--	--	30	--	--	10	900	1,100	--	--	--	--	--	--	--	2,386
May-11	--	--	N/A	--	--	39	--	150	150	--	--	--	--	--	--	880	890	--	--	--	--	--	--	--	2,109
Jun-11	--	--	N/A	--	--	59	--	190	240	--	--	--	--	--	35	1,600	1,600	20	--	--	--	--	--	--	3,744
Jul-11	--	--	N/A	--	--	51	--	170	200	--	--	40	--	--	81	1,300	1,300	--	--	--	--	--	26	--	3,168
Aug-11	--	--	N/A	--	--	44	--	160	200	--	--	--	--	--	29	1,200	1,400	--	--	--	--	--	--	--	3,033
Sep-11	12	--	N/A	--	--	29	--	130	130	--	--	--	--	--	11	750	990	12	--	--	--	--	--	--	2,064

TABLE 4-3A

SUMMARY OF VOC DETECTIONS IN SSDS INFLUENT, BUILDING A
LOCKHEED MARTIN CORPORATION, MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Building A - Influent Volatiles (ug/m3)																									
Date	benzene	carbon tetrachloride	chlorodifluoromethane	chloroform	dichlorodifluoromethane	1,1-dichloroethane	1,2-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	naphthalene	tetrachloroethene	toluene	1,1,1,-trichloroethane	trichloroethene	trichlorofluoromethane	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs
Mar-08	--	--	N/A	--	--	2,100	--	7,900	8,300	--	300	--	--	--	330	30,000	44,000	--	--	--	--	--	1,100	280	94,310
Apr-08	--	--	N/A	--	--	660	--	4,500	3,800	--	--	--	--	--	--	16,000	34,000	--	--	--	--	--	--	--	58,960
Apr-08	--	--	N/A	--	--	460	--	3,300	2,300	--	--	--	--	--	--	13,000	30,000	--	--	--	--	--	--	--	49,060
Apr-08	--	--	N/A	--	--	280	--	1,500	1,100	--	--	--	--	--	120	9,100	14,000	--	--	--	--	--	--	--	26,100
Oct-11	8.3	--	N/A	--	--	28	--	93	120	--	--	--	--	--	51	640	780	--	--	--	--	--	--	--	1,720
Nov-11	10	--	N/A	--	--	34	--	110	140	--	--	--	--	--	9.2	730	930	--	--	--	--	--	--	--	1,963
Dec-11	7.3	--	N/A	--	--	29	--	110	130	--	--	--	--	--	46	600	800	--	--	--	--	--	--	--	1,722
Jan-12	--	--	N/A	--	--	30	--	140	130	--	--	--	--	--	16	590	840	--	--	--	--	--	--	--	1,746
Feb-12	--	--	N/A	--	--	31	--	110	140	--	--	--	--	--	--	760	980	--	--	--	--	--	--	--	2,021
Mar-12	--	--	N/A	--	--	36	--	130	160	--	--	--	--	--	14	880	1,100	--	--	--	--	--	--	--	2,320
Apr-12	--	--	N/A	--	--	34	--	140	170	--	--	--	--	--	--	880	1,300	--	--	--	--	--	20	--	2,544
May-12	--	--	N/A	--	--	56	--	200	290	--	--	--	--	--	32	1,700	2,300	--	--	--	--	--	--	--	4,578
Jun-12	--	--	N/A	--	--	66	--	200	320	--	--	--	--	--	--	1,700	2,100	--	--	--	--	--	--	--	4,386
Jul-12	--	--	N/A	--	--	50	--	180	250	--	--	--	--	--	16	1,300	1,300	--	--	--	--	--	--	--	3,096
Aug-12	--	--	N/A	--	--	30	--	130	150	--	--	--	--	--	22	730	1,000	17	--	--	--	--	--	--	2,079
Sep-12	--	--	N/A	--	--	23	--	120	110	--	--	--	--	--	170	560	720	--	--	--	--	--	11	--	1,714
Oct-12	--	--	N/A	--	--	36	--	180	190	--	--	--	--	--	--	1,000	1,400	--	--	--	--	--	--	--	2,806
Nov-12	--	--	N/A	--	--	23	--	140	120	--	--	--	--	--	--	600	910	--	--	--	--	--	--	--	1,793
Dec-12	--	--	N/A	--	--	21	--	120	130	--	--	--	--	--	8	590	1,000	--	--	--	--	--	--	--	1,869
Jan-13	--	--	N/A	--	--	24	--	190	130	--	--	--	--	--	--	630	950	--	--	--	--	--	--	--	1,924
Feb-13	--	--	N/A	--	--	26	--	130	130	--	--	--	--	--	--	560	860	--	--	--	--	--	--	--	1,706
Mar-13	--	--	N/A	--	--	30	--	94	140	--	--	--	--	--	10	670	1,100	--	--	--	--	--	--	--	2,044
Apr-13	--	--	N/A	--	--	290	--	1,500	2,200	--	--	--	--	--	--	2,900	5,900	--	--	--	--	--	--	--	12,790
May-13	--	--	N/A	--	11	29	--	130	140	--	--	--	--	--	14	730	1,200	17	--	--	--	--	--	--	2,271
Jun-13	--	--	N/A	--	--	22	--	110	100	--	--	--	--	--	--	530	790	--	--	--	--	--	--	--	1,552
Jul-13	--	--	N/A	--	--	33	--	100	160	--	--	--	--	--	--	820	1,100	--	--	--	--	--	--	--	2,213
Aug-13	--	--	N/A	--	--	34	--	120	180	--	--	--	--	--	15	780	1,300	--	--	--	--	--	--	--	2,429
Sep-13	--	--	N/A	--	--	16	--	90	100	--	--	--	--	--	--	410	630	--	--	--	--	--	--	--	1,246
Oct-13	--	--	N/A	--	--	39	--	190	220	--	--	--	--	--	15	810	1,400	16	--	--	--	--	--	--	2,690
Nov-13	--	--	N/A	--	--	39	--	170	200	--	--	--	--	--	11	930	1,500	41	--	--	--	--	--	--	2,891
Dec-13	0.94	--	--	21.2	--	30.7	--	132	165	2.5	--	4.4	--	--	12.2	883	1,530	--	--	--	--	--	--	--	2,782
Jan-14	--	--	6.5	11.6	2.2	29.3	--	141	173	--	1.8	3.3	4.9	--	9,820	570	795	--	--	1.9	--	--	4.3	1.7	11,567
Feb-14	--	--	2.4	7.4	--	21.2	--	92.7	126	--	--	2.1	--	--	15.3	429	843	--	--	--	--	--	--	--	1,539
Mar-14	--	--	2.4	--	2.0	29.3	36.4	130	176	--	--	--	--	3.6	9.1	1,310	2,100	--	--	--	--	--	3.0	--	3,802
Apr-14	81.7	--	--	--	--	31.8	--	131	194	--	120	--	--	--	75.7	646	1,490	--	--	--	--	--	387	109	3,266
May-14	4.8	--	8.8	3.9	4.1	6.7	--	32.6	44.7	--	6.5	202	2.3 J	1.2	29.5	142	292	--	2.8	11.5	3.0	--	24.3	9.3	832
		--																							
		--																							
Aug-14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sep-14	51.1	1.1	1.0 J	54	4.7	104	--	323	416	8.1	--	0.67 J	--	2.3	8.8	1,290	3,250	--	--	2.3	0.83 J	1.5	1.5 J	1.1 J	5,522
Average	244.5	1.1	13.4	50.6	4.4	148.8	81.2	694.3	910.7	29.9	63.3	113.6	18.6	1.8	66.8	789.8	1,554.4	--	2.8	10.5	1.9	1.5	109.6	39.8	4,709
6-Month	0.9	--	3.8	13.4	2.1	31.4	36.4	142.6	176.7	2.5	1.8	3.3	4.9	3.6	1,647.1	822.0	1,361.3	28.5	--	1.9	--	--	3.7	1.7	4,212

SSD - sub-slab depressurization SV - soil vapor D - duplicate J - estimated NA - not applicable NS - not sampled -- - non-detect (below detection limit); not included in total VOC calculation

TABLE 4-3b

SUMMARY OF VOC DETECTIONS IN SSDS INFLUENT, BUILDING C
LOCKHEED MARTIN, MIDDLE RIVER COMPLEX

Building C - Influent Volatiles (ug/m3)																								
Date	benzene	carbon tetrachloride	chlorodifluoromethane	chloroform	chloromethane	dichlorodifluoromethane	1,1-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	naphthalene	tetrachloroethene	toluene	1,1,1,-trichloroethane	trichloroethene	1,1,2-trichloro-1,2,2-trifluoroethane	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs (ug/m3)
Mar-08	--	--	N/A	--	--	--	--	--	25,000	--	320	--	--	--	--	--	550	--	N/A	990	740	2,100	1,100	370	31,170
Apr-08	--	--	N/A	--	--	--	--	--	2,700	--	--	--	--	--	--	--	84	--	N/A	63	56	320	65	--	3,288
Apr-08	--	--	N/A	--	--	--	--	32	6,600	--	44	--	--	--	--	--	440	--	N/A	180	170	690	180	68	8,404
Apr-08	--	--	N/A	--	--	--	--	--	4,100	--	--	--	--	--	--	--	600	--	N/A	73	61	370	48	--	5,252
Apr-08	--	--	N/A	--	--	--	--	--	2,900	--	--	--	--	--	--	--	670	--	N/A	69	55	190	34	--	3,918
Apr-08	--	--	N/A	--	--	--	--	--	2,600	--	--	--	--	28	--	--	750	--	N/A	85	70	130	32	17	3,712
May-08	--	--	N/A	--	--	--	--	--	1,600	--	--	--	--	17	--	--	650	--	N/A	65	51	41	15	--	2,439
Jun-08	7.4	--	N/A	--	--	--	--	--	300	--	--	--	--	--	110	--	--	--	N/A	23	19	8	9	--	476
Jul-08	--	--	N/A	--	--	--	--	--	1,300	--	--	--	--	14	--	--	440	--	N/A	45	36	35	--	--	1,870
Aug-08	--	--	N/A	16	--	--	--	--	410	--	--	--	--	--	--	--	58	--	N/A	--	--	13	--	--	497
Sep-08	--	--	N/A	--	--	--	--	--	730	--	--	18	--	--	--	13	130	--	N/A	--	--	20	--	--	911
Nov-08	--	--	N/A	--	--	--	--	--	390	--	--	--	--	--	--	--	110	--	N/A	--	--	17	--	--	517
Dec-08	--	--	N/A	--	--	--	--	--	420	--	--	--	--	--	--	--	150	--	N/A	--	--	22	--	--	592
Jan-09	--	--	N/A	--	--	--	--	--	810	--	--	--	--	170	--	--	580	--	N/A	37	29	38	17	14	1,695
Feb-09	--	--	N/A	--	--	--	--	--	630	--	--	--	--	140	--	--	270	--	N/A	39	34	25	16	12	1,166
Mar-09	--	--	N/A	--	--	--	--	--	460	--	--	--	--	160	--	--	350	--	N/A	62	51	16	14	13	1,126
Apr-09	--	--	N/A	--	--	--	--	--	200	--	--	--	--	46	--	--	86	--	N/A	19	16	6.1	--	--	373.1
May-09	--	--	N/A	--	--	--	--	--	210	--	--	--	--	24	--	--	79	--	N/A	14	14	5.7	--	--	346.7
Jun-09	--	--	N/A	--	--	--	--	--	190	--	--	--	--	--	--	--	58	--	N/A	--	--	--	--	--	248
Jul-09	--	--	N/A	--	--	--	--	--	150	--	--	--	--	--	--	--	55	--	N/A	--	--	--	--	--	205
Aug-09	--	--	N/A	--	--	--	--	--	720	--	--	17	--	--	--	--	160	--	N/A	--	--	13	--	--	910
Sep-09	--	--	N/A	--	--	--	--	--	39	--	--	110	--	--	--	--	16	--	N/A	--	--	--	--	--	165
Oct-09	--	--	N/A	--	--	--	--	--	200	--	--	--	--	--	--	--	64	--	N/A	--	--	--	--	--	264
Nov-09	--	--	N/A	--	--	--	--	--	190	--	--	--	--	--	--	--	75	--	N/A	--	--	--	--	--	265
Dec-09	--	--	N/A	--	--	--	--	--	96	--	--	--	--	--	26	--	45	--	N/A	--	--	--	8.7	--	176
Jan-10	--	--	N/A	--	--	--	--	--	140	--	--	--	--	--	--	--	57	--	N/A	--	--	--	--	--	197
Feb-10	--	--	N/A	--	--	--	--	--	100	--	--	--	--	--	--	--	37	--	N/A	--	--	--	--	--	137
Mar-10	--	--	N/A	--	--	--	--	--	87	--	--	--	--	--	--	--	33	--	N/A	--	--	--	--	--	120
Apr-10	--	--	N/A	--	--	--	--	--	110	--	--	--	--	--	--	--	39	--	N/A	--	--	--	--	--	149
May-10	58	--	N/A	--	--	--	--	--	65	--	38	--	--	--	220	--	22	--	N/A	25	--	--	140	39	607
Jun-10	--	--	N/A	--	--	--	--	--	72	--	--	--	--	--	--	--	25	--	N/A	83	17	--	30	17	244
Jul-10	--	--	N/A	--	--	--	--	--	68	--	--	--	--	--	--	--	34	--	N/A	--	--	--	--	--	102
Aug-10	--	--	N/A	--	--	--	--	--	100	--	--	--	--	--	--	--	31	--	N/A	--	--	--	--	--	131
Sep-10	--	--	N/A	--	--	--	--	--	70	--	--	--	--	--	--	--	33	--	N/A	--	--	--	--	--	103
Oct-10	10	--	N/A	--	--	--	--	--	160	--	11	--	--	--	130	110.0	70	--	N/A	--	--	--	23	--	513.5
Nov-10	--	--	N/A	--	--	--	--	--	65	--	--	--	--	--	--	--	35	--	N/A	--	--	--	--	--	100
Dec-10	--	--	N/A	--	--	--	--	--	120	--	--	--	--	19	--	--	89	--	N/A	--	--	--	--	--	228
Jan-11	--	--	N/A	--	--	--	--	--	160	--	--	--	--	94	7.7	--	250	--	N/A	--	--	9	--	--	520
Feb-11	--	--	N/A	--	--	--	--	--	180	--	--	--	--	120	--	--	270	--	N/A	--	--	--	--	--	570
Mar-11	--	--	N/A	--	--	--	--	--	170	--	--	--	--	110	34	--	180	--	N/A	--	--	--	--	--	494
Apr-11	--	--	N/A	--	--	--	--	--	130	--	--	--	--	37	10	--	90	--	N/A	--	--	--	--	--	267
May-11	8	--	N/A	--	--	--	--	--	100	--	16	--	--	19	--	--	82	--	N/A	--	--	--	9	--	234
Jun-11	26	--	N/A	--	--	--	--	--	97	--	--	--	--	--	14	--	63	--	N/A	--	--	--	--	--	200
Jul-11	20	--	N/A	--	--	--	--	--	74	--	--	37	--	--	62	--	26	--	N/A	--	--	--	21	--	240
Aug-11	14	--	N/A	--	--	--	--	--	76	--	--	--	--	--	--	--	34	--	N/A	--	--	--	--	--	124
Sep-11	10	--	N/A	--	--	--	--	--	22	--	--	--	--	--	--	--	--	--	N/A	--	--	--	--	--	32
Oct-11	--	--	N/A	--	--	--	--	--	38	--	--	27	--	--	20	--	--	--	N/A	--	--	--	11	--	96
Nov-11	12	--	N/A	--	--	--	--	--	45	--	--	--	--	--	--	--	16	--	N/A	--	--	--	--	--	73
Dec-11	--	--	N/A	--	--	--	--	--	62	--	--	--	--	--	--	--	21	--	N/A	--	--	--	--	--	83
Jan-12	--	--	N/A	--	--	--	--	--	55	--	--	--	--	--	--	--	21	--	N/A	--	--	--	--	--	76
Feb-12	--	--	N/A	--	--	--	--	--	76	--	--	--	--	--	--	--	43	--	N/A	--	--	--	--	--	119
Mar-12	--	--	N/A	--	--	--	--	--	93	--	--	--	--	16	--	--	58	--	N/A	--	--	--	--	--	167
Apr-12	--	--	N/A	--	--	--	--	--	64	--	--	--	--	16	--	--	56	--	N/A	--	--	--	--	--	136
May-12	--	--	N/A	--	--	--	--	--	72	--	--	--	--	20	9.8	--	65	--	N/A	--	--	--	--	--	167
Jun-12	--	--	N/A	--	--	--	--	--	71	--	--	--	--	17	--	--	50	--	N/A	--	--	--	--	--	138
Aug-12	--	--	N/A	--	--	--	--	--	39	--	--	--	--	--	--	--	19	--	N/A	--	--	--	--	--	58
Sep-12	--	--	N/A	--	--	--	--	--	41	--	--	--	--	--	23	--	22	--	N/A	--	--	--	--	--	86
Oct-12	--	--	N/A	--	--	--	--	--	95	--	--	--	--	--	--	--	45	--	N/A	--	--	--	--	--	140
Nov-12	--	--	N/A	--	--	--	--	--	18	--	--	--	--	--	--	--	270	--	N/A	--	--	--	31	16	335

TABLE 4-3b

SUMMARY OF VOC DETECTIONS IN SSDS INFLUENT, BUILDING C
LOCKHEED MARTIN, MIDDLE RIVER COMPLEX

Building C - Influent Volatiles (ug/m3)																								
Date	benzene	carbon tetrachloride	chlorodifluoromethane	chloroform	chloromethane	dichlorodifluoromethane	1,1-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	naphthalene	tetrachloroethene	toluene	1,1,1,-trichloroethane	trichloroethene	1,1,2-trichloro-1,2,2-trifluoroethane	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs (ug/m3)
Dec-12	--	--	N/A	--	--	--	--	--	70	--	--	--	--	22	--	--	91	--	N/A	--	--	5.3	--	--	188
Jan-13	--	--	N/A	--	--	--	--	--	66	--	--	--	--	42	--	--	110	--	N/A	--	--	--	--	--	218
Feb-13	--	--	N/A	--	--	--	--	--	49	--	--	--	--	29	--	--	91	--	N/A	--	--	--	--	--	169
Mar-13	--	--	N/A	--	--	--	--	--	60	--	--	--	--	45	--	--	100	--	N/A	--	--	--	--	--	205
Apr-13	--	--	N/A	--	--	--	--	--	44	--	--	--	--	21	--	--	52	--	N/A	--	--	--	--	--	117
May-13	--	--	N/A	--	--	--	--	--	120	--	--	--	--	--	--	--	2,900	--	N/A	--	--	--	80	--	3,100
Jun-13	--	--	N/A	--	--	--	--	--	10	--	--	--	--	--	--	--	460	50	N/A	--	--	--	31	15	566
Jul-13	12	--	N/A	--	12	--	--	--	--	--	9.4	--	--	--	--	--	290	16	N/A	11	--	--	43	23	416
Aug-13	--	--	N/A	--	--	--	--	--	--	--	--	20	--	--	--	--	210	18	N/A	--	--	--	20	11	279
Sep-13	--	--	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	150	--	N/A	--	--	--	--	--	150
Oct-13	14	--	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	200	16	N/A	--	--	--	20	10	260
Nov-13	13	--	N/A	--	--	--	--	--	18	--	9.8	--	--	--	--	--	280	--	N/A	--	--	--	45	24	390
Dec-13	6.3	--	--	--	N/A	6.6	--	--	13	--	7.3	4.1	33.9	5.4	4.0	--	228	N/A	--	4.8	2.4	--	30.4	16.1	362
Jan-14	13.7	--	4.7	--	N/A	--	--	--	5.7	--	10.3	3.4	22.6	5.6	49.6	--	298	N/A	5.5	17.8	--	--	49.1	19.3	505
Feb-14	1.8	--	4.5	--	N/A	2.2	--	--	2.3	--	2.1	--	5.3	2.2	2.7	--	157	N/A	--	2.8	--	--	8.9	4.7	197
Mar-14	9.1	--	3.0	3.2	N/A	2.2	--	--	4.9	--	5.9	--	11.5	3.3	6.0	--	261	N/A	1.6	6.0	3.0	--	25.3	12.3	358
Apr-14	10.0	--	7.1	--	N/A	--	--	--	7.0	--	67	--	12.1	5.1	50.7	6.6	266	N/A	--	6.9	--	--	218	67.4	724
May-14	11.8	1.2	5.8	1.5 J	N/A	2.9	--	--	7.6	--	4.7	1.2 J	12.7	3.6	30.6	--	236	N/A	2.1	6.8	3.5	--	20.9	11.3	364
Jun-14	12.8	--	--	2.7	N/A	2.1	--	--	2.7	--	4.1	24.5	13.1	23.1	11.6	--	154	N/A	6.1	18	6.1	--	27.0	12.1	320
Jul-14	14.4	0.77 J	11.2	5.6	N/A	1.4 J	--	0.88 J	4.1	0.81 J	6.3	147	16.9	7.1	5.7	--	183	N/A	2.8	7.3	4.7	--	19.4	9.8	449
Aug-14	10.8	1.7	N/A	66.2	1.5	--	7.6	4.8	4.7	--	7.5	--	20.6	7.0	5.0	33.6	289	N/A	N/A	7.8	3.9	--	30.2	16.0	518
Sep-14	8.0	1.1	5.6	--	N/A	2.9	7.0	--	5.3	--	2.9	0.76 J	31.2	2.1	3.4	37.9	124	N/A	2.1	5.4	2.1	--	17.2	10.8	270
6-Month Average Apr-Sep 2014	11.3	1.2	7.4	19.0	1.5	2.3	7.3	2.8	5.2	0.8	15.4	43.4	18	8.0	18	26.0	209	N/A	3.3	8.7	4.1	--	55	21	441
Previous 6-Month Average Oct 2013-Mar 2014	10	--	4.1	3.2	N/A	3.7	--	--	8.8	--	7.1	3.8	18.3	4	15.6	--	237	16	3.6	8	2.7	--	30	14	345

SSD - sub-slab depressurization SV - soil vapor D - duplicate J - estimated NA - not applicable -- - non-detect (below detection limit); not included in total VOC calculation

Section 5
Conclusions and Recommendations

5.1 CONCLUSIONS

Tetra Tech, Inc. (Tetra Tech) has completed Round 17 of vapor-intrusion monitoring (the second of two scheduled for 2014) in Buildings A, B, and C at the LMC Properties, Inc. (LMPCI) Middle River Complex (MRC) in Middle River, Maryland. This ongoing investigation seeks to evaluate whether volatile organic compounds (VOCs) in sub-slab vapor (associated with soil and groundwater chemicals of concern [COC] at the site) might be moving into indoor air at MRC facilities. The data set is comprised of indoor air (IA) and sub-slab-vapor (SV) samples collected in September 2014 from interior locations in Buildings A, B, and C; Building A indoor air samples collected in August 2014 after a shutdown of the sub-slab depressurization (SSD) system due a leaking fire-control water pipe; and follow-up samples collected from Building A in October and November 2014. Ambient air samples were collected at four outdoor background locations around the perimeter of the Middle River Complex. All data were validated to ensure compliance with analytical method requirements.

Indoor air quality (IAQ) data were compared to risk-based screening levels for industrial air set at the 10^{-5} (i.e., one-in-100,000 probability) risk level for carcinogens and at a hazard index of 1 for noncarcinogens (as published in the United States Environmental Protection Agency [USEPA] *Regional Screening Levels for Chemical Contaminants at Superfund Sites* [USEPA, 2014]), and to Occupational Safety and Health Administration (OSHA) permissible exposure limits (PELs). Alternate values, such as the "Threshold Limit Values" published by the American Council of Governmental Industrial Hygienists, were used for chemicals without published permissible exposure limits. Sub-slab-vapor (SV) data were compared to screening values derived using methods described in *Draft Guidance for Evaluating the Vapor-Intrusion to Indoor-Air Pathway*

from Groundwater and Soils [USEPA, 2002]) by applying an attenuation factor of 0.03 to the indoor-air screening-values.

Trichloroethene (TCE) and naphthalene continue to be the prevalent contaminants of concern in indoor air. Trichloroethene was detected in indoor air in all three buildings (Figure 5-1), but exceedances of its screening level were primarily in Building A. Naphthalene was also detected throughout all three buildings, but primarily in Building C, with many marginal exceedances of its screening level there.

While some evidence of sub-slab-vapor intrusion to indoor air at the Middle River Complex continues to be found, Round 17 results continue to indicate that its impact on indoor air quality appears limited. Trichloroethene, naphthalene, chloroform, ethylbenzene, and xylenes were detected at concentrations exceeding indoor-air screening levels. Trichloroethene, naphthalene, chloroform, 1,2,3-trimethylbenzene, 1,3,5-trimethylbenzene, 1,1-dichloroethane, and vinyl chloride were detected at concentrations exceeding soil-vapor screening levels.

Trichloroethene, naphthalene, and trimethylbenzenes were detected in Building A soil vapor at concentrations greater than their respective screening levels. Trichloroethene and naphthalene were detected in indoor air in the basement at concentrations greater than screening levels; trichloroethene was also consistently detected at (basement) location 093-A at concentrations greater than its screening level. Trichloroethene was detected in all but one of the indoor air samples collected from the first floor in August 2014, after the sub-slab-depressurization system had shut down due to a leaking fire-control water line, with exceedances at two locations.

The relatively infrequent detection or exceedances of screening levels of trichloroethene in indoor air during operation of the sub-slab depressurization system validates the system's effectiveness. Trichloroethene exceedances were observed at only three locations in Building A during Round 17 (September 2014), but only one of these three locations had an exceedance when resampled in October and November 2014. This reflects the variable and transient nature of indoor air concentrations. Naphthalene exceedances were detected at five locations. Trimethylbenzene was detected in indoor air, but at levels less than its screening level. The presence of chloroform, ethylbenzene, and xylenes in Building A indoor air is unlikely to be related to vapor intrusion; concentrations of these compounds in soil vapor are less than their soil-vapor screening levels.

Figure 5-2 displays the relationship between soil vapor and indoor air concentrations in Building A.

The consistent presence of trichloroethene in the Building A basement at location 093-A may be associated with vapor intrusion and could be affected by its lower elevation, since heavier vapors like trichloroethene migrate downward. Naphthalene concentrations were typically similar to background concentrations. Marginal exceedances of naphthalene's indoor air screening level were co-located with trichloroethene exceedances in the Building A basement; however, indoor air naphthalene exceedances do not really correspond to exceedances of naphthalene's soil-vapor screening level.

Trichloroethene, naphthalene, 1,1-dichloroethane, and vinyl chloride were detected in Building C soil vapor at concentrations greater than screening levels, but only naphthalene exceeded its screening level in indoor air. All Building C exceedances are less than two times their respective screening levels. Round 17 results indicate that sub-slab-vapor concentrations of naphthalene have limited impact on indoor air quality. The spatial distribution of data and a comparison of indoor air to background concentrations indicate that other factors (e.g., background, other indoor air sources) affect indoor air concentrations of naphthalene. Figure 5-3 displays the relationship between soil vapor and indoor air concentrations of naphthalene in Building C.

Trichloroethene was infrequently detected in Building C indoor air samples during Round 17. The maximum detected trichloroethene concentration in indoor air is 1.8 micrograms per cubic meter ($\mu g/m^3$) at location 149-C. Although trichloroethene has been routinely detected in indoor air in Building C, its concentrations have not typically exceeded its screening level. The only exception occurred during Round 15, when a trichloroethene exceedance was detected at location 144-C in the machine shop of the Mission Systems & Training (MST) mechanical prototype lab (MPL). A trace concentration (0.43 $\mu g/m^3$) of trichloroethene was detected in this area (at location 128-C) during the current round of sampling. The exceedance during Round 15 likely resulted from an indoor source, because the room was air-conditioned and under positive pressure.

As stated previously, indoor air concentrations of trichloroethene at location 093-A have exceeded its screening level since August 2013. All samples collected from this location in August, September, and October 2014 also exceeded its screening level, with little variability. During

Round 16, the HAPSITE field-instrument sample collected above a nearby floor grate had a trichloroethene concentration of 16.24 parts per billion (87 µg/m^3). This floor grate may serve as a preferential pathway to this part of Building A. Figure 5-4 shows the trichloroethene concentrations at location 093-A since it was first sampled in August 2010. The graph suggests a trend of increasing trichloroethene concentrations in this area over time.

The sub-slab-depressurization mitigation systems appear to be operating as designed, and appear to be effectively mitigating sub-slab-vapor intrusion from known source areas of sub-slab-vapor contamination. Contaminants are constantly removed from soil vapor during system operation, and indoor air concentrations rarely exceed screening values. However, the consistent presence of trichloroethene in the Building A basement suggests that further mitigation measures should be considered. While basement occupancy is intermittent, these areas will continue to be monitored as the sub-slab depressurization systems continue to operate.

Concentrations of vinyl chloride detected at 126-C in sub-slab vapor have continued to decrease since the SSD-system expansion, but have varied over time. Analytical results from a few discrete groundwater sampling events in the area of 126-C have shown TCE concentrations up to 1,500 µg/L, but no detectable VC concentrations. The 126-C area might be affected by groundwater fluctuation (depth to groundwater there is between four and five feet), but its correlation to VC concentrations is difficult to determine. In general, SV concentrations in the south basement area (SSD-4-C) of Building C have decreased since the March 2008 SSD-system startup. VMPs (060-C, 088-C, 113-C, 126-C, 133-C, and 135-C) in the mid-basement area also show lower concentrations as compared to results before startup of the expanded system in May 2013. Tetra Tech will continue to monitor concentrations to determine if the SSD-system is mitigating sub-slab concentrations of VOCs in the mid-basement area of Building C.

5.2 RECOMMENDATIONS

Results of the September 2014 Round 17 vapor-intrusion investigation at Buildings A, B, and C lead to the following recommendations:

- Continue sub-slab-depressurization-system operations in Buildings A and C.
- Continue semiannual indoor-air-quality/sub-slab-vapor monitoring to evaluate possible vapor intrusion and to assess the ongoing performance of the existing mitigation systems. Monitoring will continue to evaluate the effectiveness of the sub-slab-depressurization

systems. Monitoring results will be used to evaluate the control and reduction (if occurring) of known sources, identify new sources (if present), and help determine if additional mitigation or sub-slab-depressurization-system modifications are needed. Locations within the Building C sub-slab-depressurization systems' radii of influence should continue to be monitored to evaluate whether the recent system expansion affects contaminant concentrations.

- Evaluate ways to reduce trichloroethene concentrations in the Building A basement. An increasing trend in trichloroethene concentrations at 093-A suggests that a drain in the Building A basement may be a possible preferential pathway for vapor intrusion. Possible solutions include sealing the floor drain, expanding the influence of the existing sub-slab-depressurization system, or implementing engineering measures such as increased ventilation or filtration to reduce trichloroethene concentrations in indoor air near this location.

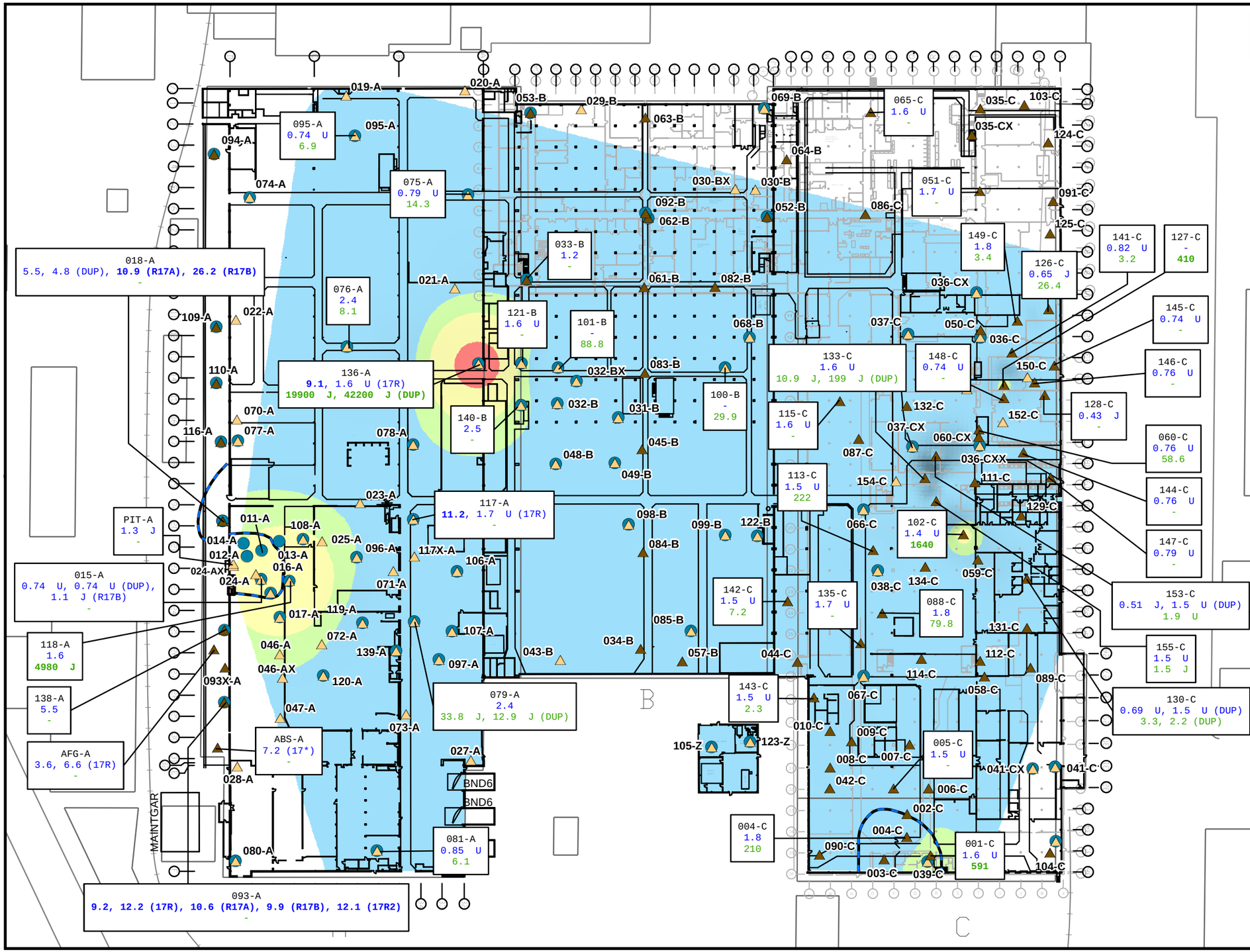


FIGURE 5-1

TRICHLOROETHENE SAMPLE RESULTS
ROUND 17
BUILDINGS A, B AND C

Legend

- IAQ, Basement
- IAQ, 1st Floor
- SSD Radius of Influence
- Buildings A, B, and C
- Building B and C Basement
- SSD Treatment Unit
- \- Indicates no soil vapor results were collected.

All units in µg/m^3.
DUP - Duplicate sample.
(R17A), (R17B) - August 2014 Supplemental Investigation sample.
(17R) - October or November 2014 resample.
(17R2) - November 2014 second resample.
(17*) - November 2014 additional sample.
X - moved from original location once.
XX - moved from original location twice.
Indoor air quality results shown in blue type.
Soil vapor results shown in green type.
Exceedances labeled in **bold** print.

Screening Levels

Indoor Air	Soil Vapor
8.8	293

September 2014 Sub-Slab Vapor TCE Concentration

- 10000 ug/m3
- 1000 ug/m3
- 293 ug/m3
- 0.1 ug/m3

Lockheed Martin Middle River Complex
Middle River, Maryland

0 60 120 Feet

N

DATE MODIFIED: 01/07/15

CREATED BY: JEE

TETRA TECH

Map Document: (P:\GIS\Middle_River\MapDocs\MXD\bldg_abc_tce_tags_nov2014_1117.mxd)
01/07/15 -- JEE

Figure 5-2
Concentrations of Select Chemicals from Round 17 - Building A - Soil Vapor

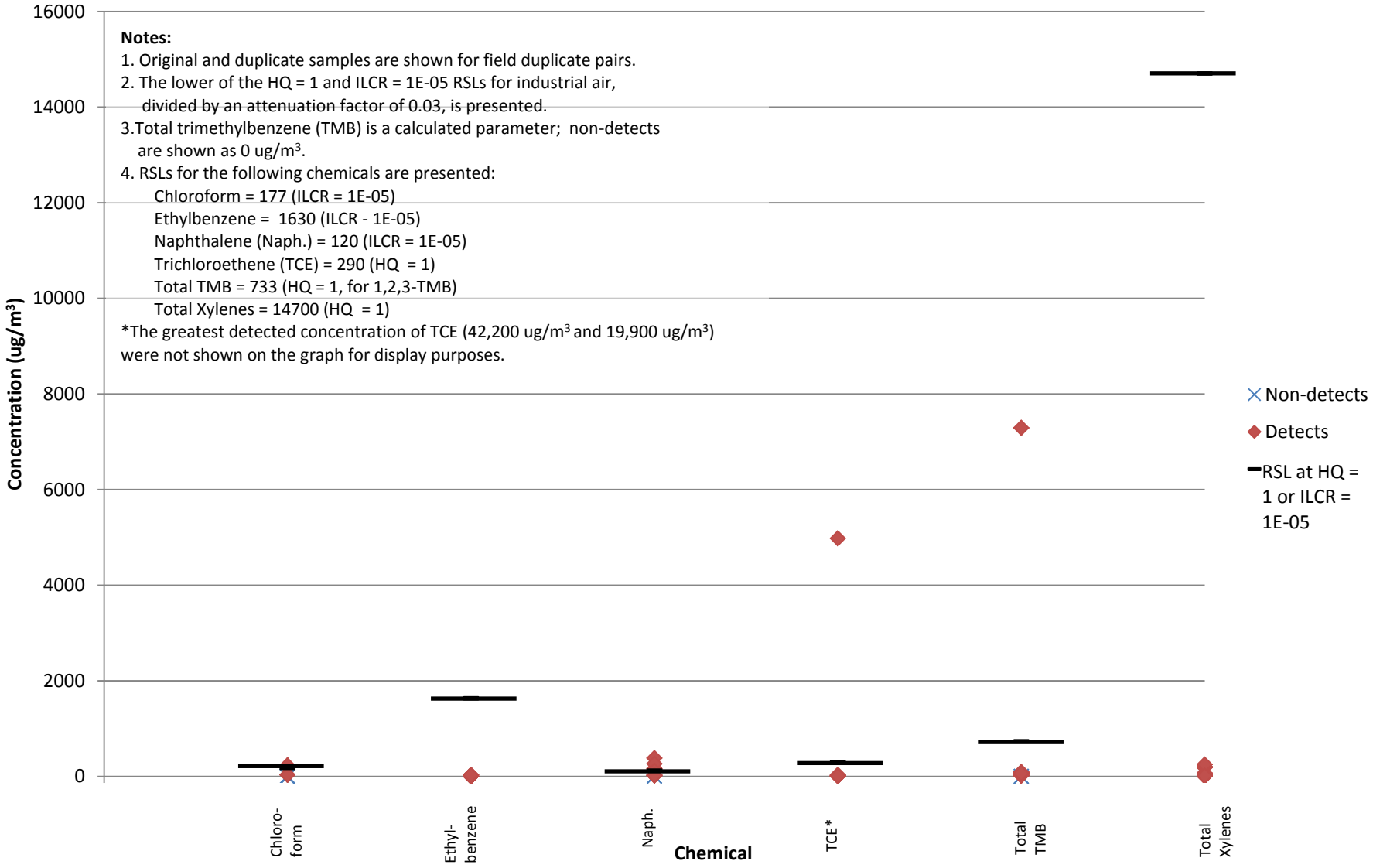


Figure 5-2 (Continued)
Concentrations of Select Chemicals from Round 17 - Building A - Indoor Air - Basement

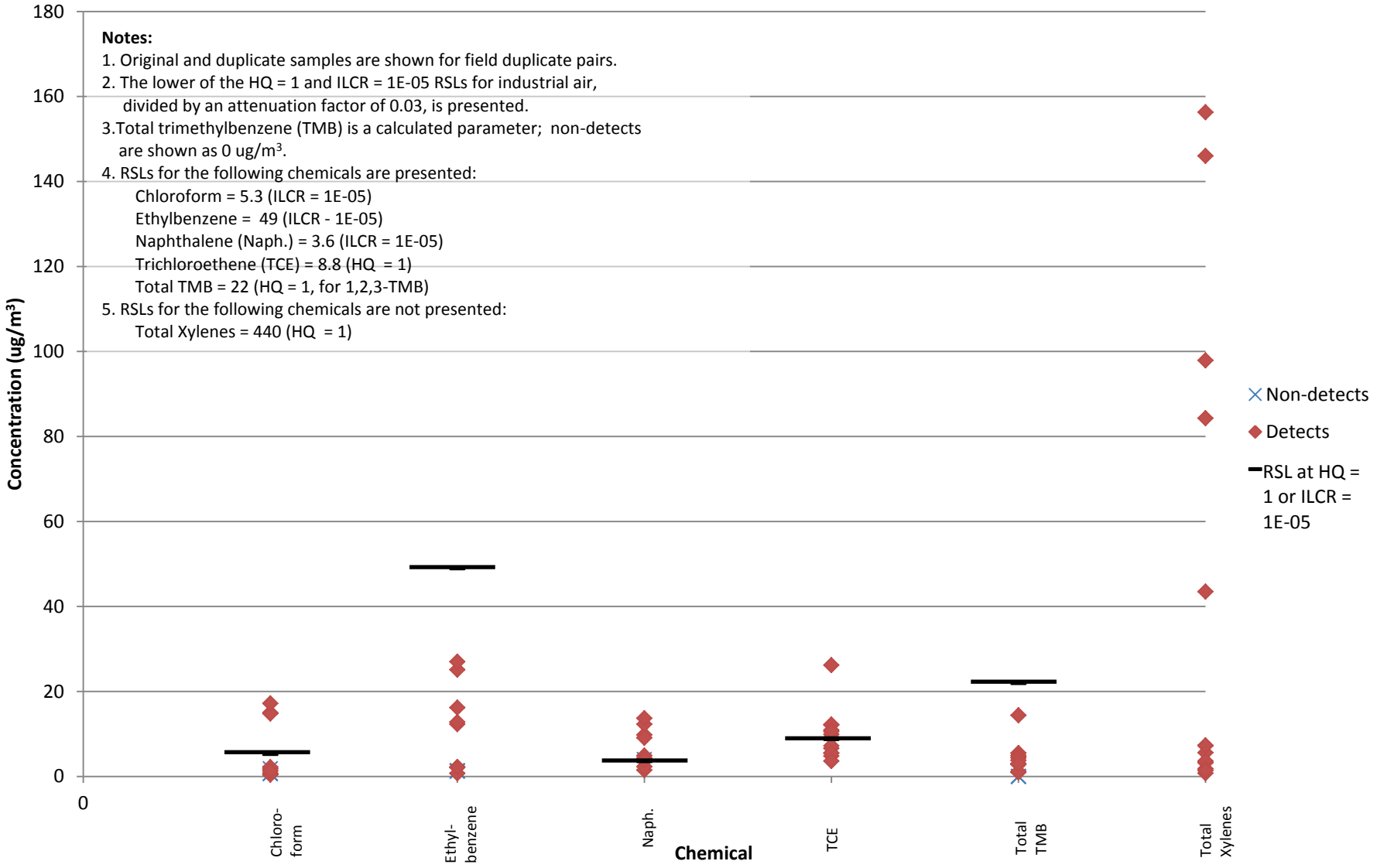


Figure 5-2 (Continued)
Concentrations of Select Chemicals from Round 17 - Building A - Indoor Air - First Floor

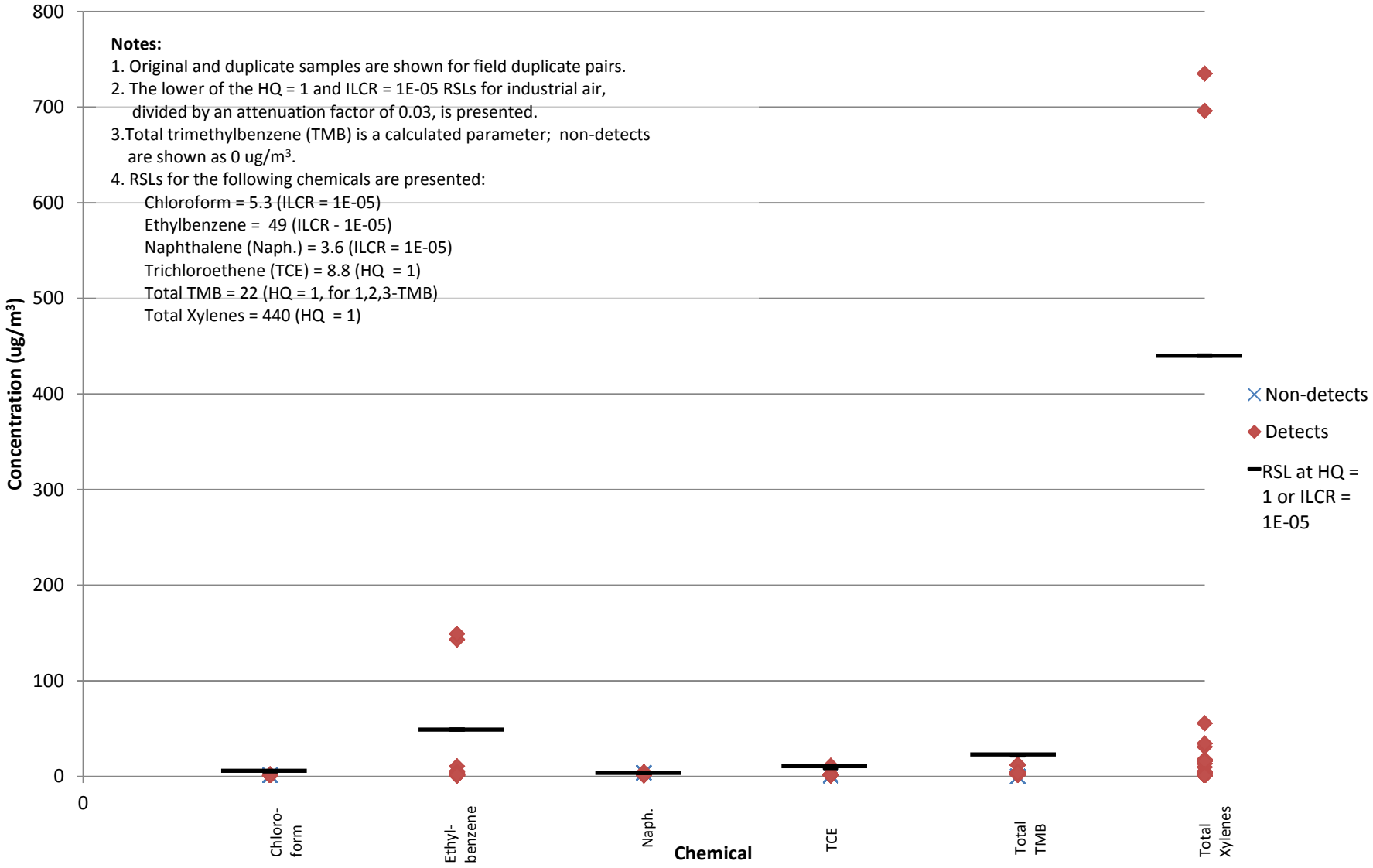
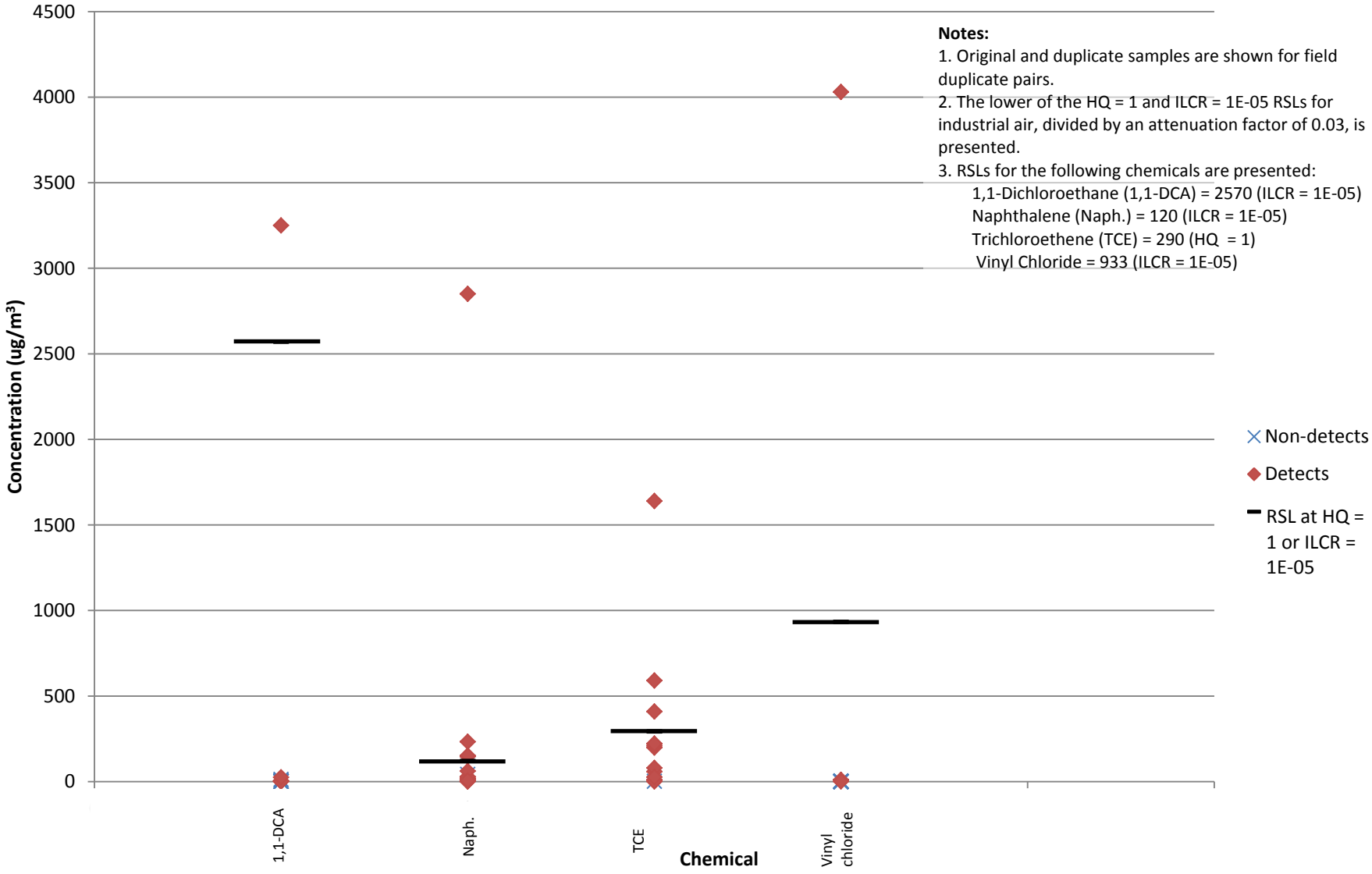


Figure 5-3
Concentrations of Select Chemicals from Round 17 - Building C - Soil Vapor



Notes:

1. Original and duplicate samples are shown for field duplicate pairs.
2. The lower of the HQ = 1 and ILCR = 1E-05 RSLs for industrial air, divided by an attenuation factor of 0.03, is presented.
3. RSLs for the following chemicals are presented:
   - 1,1-Dichloroethane (1,1-DCA) = 2570 (ILCR = 1E-05)
   - Naphthalene (Naph.) = 120 (ILCR = 1E-05)
   - Trichloroethene (TCE) = 290 (HQ = 1)
   - Vinyl Chloride = 933 (ILCR = 1E-05)

Figure 5-3 (Continued)
Concentrations of Select Chemicals from Round 17 - Building C - Indoor Air - Basement

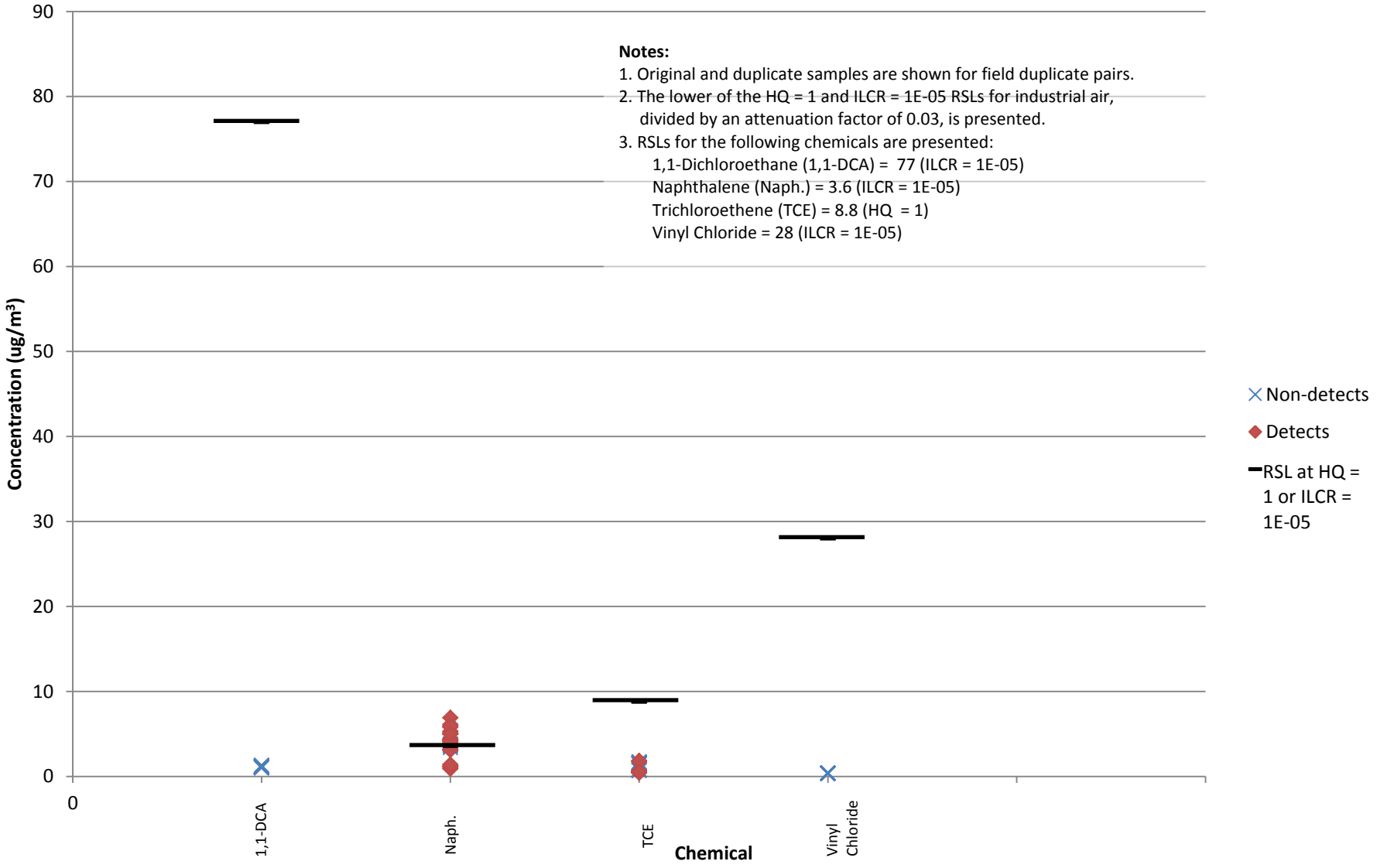
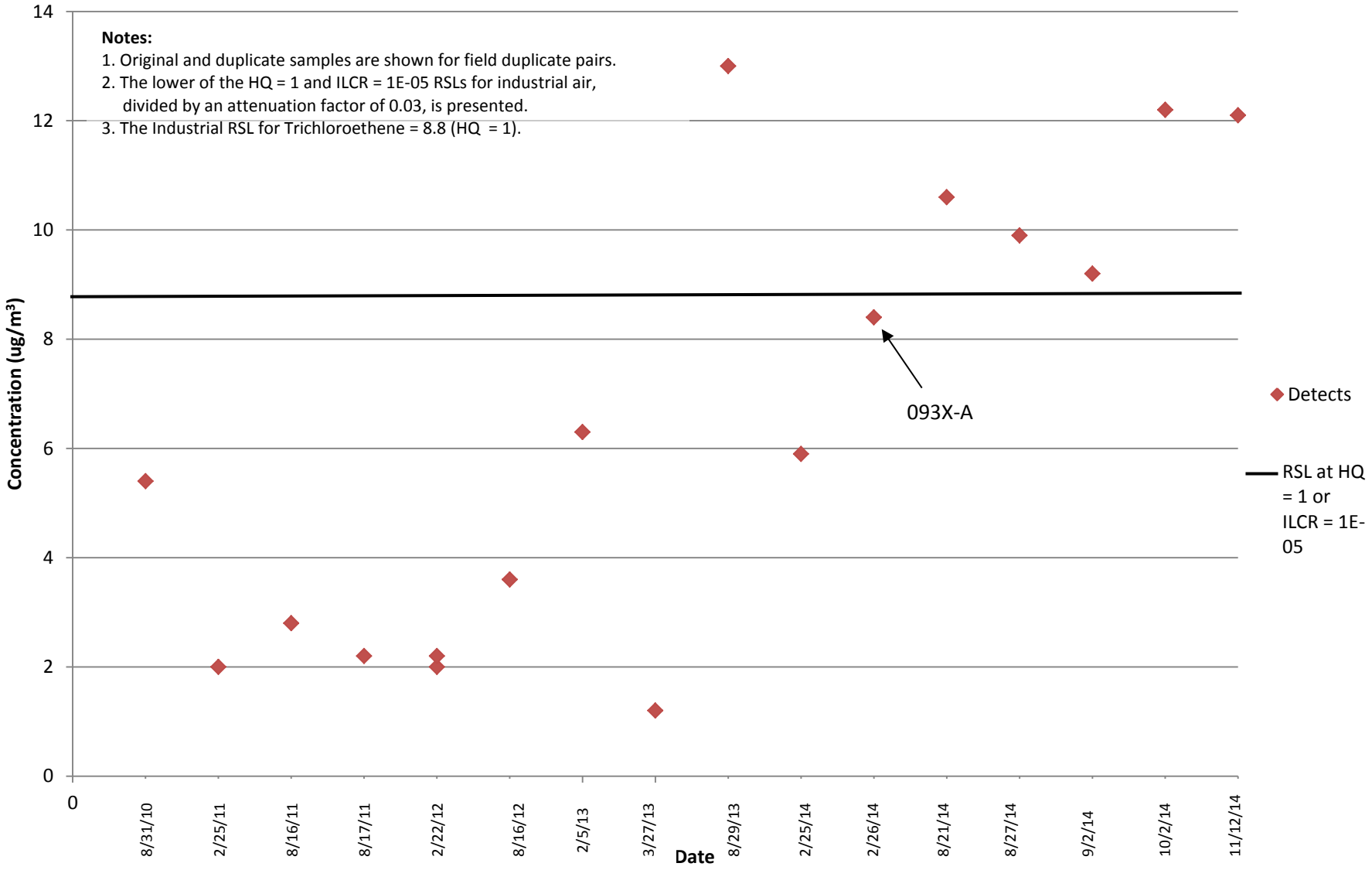


Figure 5-4
Concentrations of Trichloroethene Detected at Location 093-A
Indoor Air - Basement



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APPENDIX A—SEPTEMBER 2014
SAMPLE LOG SHEETS/CHAIN OF CUSTODY

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

09762 Page: 2 of 3

Section A Required Client Information:
Company: TE RA TECH
Address:
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:
Report To:
Copy To:
Purchase Order No.:
Project Name: MKC SV/IAQ
Project Number:

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST Superfund Emissio s Clean Ai Act Voluntary Clean Up Dry Clean RCRA Other

Locat n of Sampling by State MD

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

Valid Media Codes: Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	Section D Required Client Information: AIR SAMPLE ID (mple IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	IA 033 B 17	6LC		9/2/14	0834	9/2/14	1634	-30	-2	0720	0214							X			
2	IA-121-B 17				0838		1638	-30	-1	2101	1065							X			
3	IA 140 B-17				0844		1644	-30	-5	2684	0249							X			
4	IA-DUP1-A-17				—		—	—		1554	—							X			
5	IA-DUP2-A-17				—		—	—	—	2805	—							X			
6	SV-DUP1-A-17	1LC			—		—	—	—	2436	—							X			
7	SV-DUP2-A-17				—		—	—	—	0916	—							X			
8	SV-118-A-17				0908		1008	-30	-2	2413	0115							X			
9	SV-081-A-17				0911		1011	-30	-4	2771	0606							X			
10	SV-079-A-17				0905		1005	-30	^	2614	0048							X			
11	SV-136-A-17				0813		0913	-30	-1	1774	0607							X			
12	SV-076-A-17				0817		0927	-30	-3	0995	0054							X			

Comments:
SV-079-A-17 POSSI LE FAULTY SEAL ON FITTING F SPLITTER - IMMEDIATE PRESSURE DROP - VERIFY OLUME/SAMPLE IN CAN - POSSIBLE RESAMPLE CANDIDATE

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: TONY APANAVAGE
SIGNATURE of SAMPLER:
DATE Signed (MM/DD/YY): 9/2/14

SAMPLE CONDITIONS: Temp in °C; Received on Ice Y/N; Custody Sealed Cooler Y/N; Samples Intact Y/N

4

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

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09771

Page: of 3

Section A Required Client Information:

Company: TETRA TECH
Address: 20251 CENTURY BLVD, STE 200
GERMANTOWN, MD 20874
Email To: tony.apanavage@tetratech.com
Phone: 3012338230 Fax:
Requested Due Date/TAT: STANDARD

Section B Required Project Information:

Report To:
Copy To:
Purchase Order No.:
Project Name: MRC SV/IAQ
Project Number: 112IC06279

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST, Superfund, Emissions, Clean Air Act, Voluntary Clean Up, Dry Clean, RCRA, Other

Location of Sampling by State: MD

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level II.___ III.___ IV.___ Other ___

Valid Media Codes: MEDIA / CODE — Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	Section D Required Client Information: AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START END/GRAB DATE	TIME	COMPOSITE END/GRAB DATE	TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	Method: TO-15 Short List*	Pace Lab ID
1	1A-018-A-17	6LC		9/2/14	0726	9/2/14	1526	-30	-5	2160	0357	X	
2	1A-138-A-17				0730		1530	-30	0	2137	0216	X	
3	1A-015-A-17				0738		1538	-30	0	1251	0041	X	
4	1A-075-A-17				0822		1622	-29	-1	2179	1057	X	
5	1A-076-A-17				0815		1615	-30	-1	2331	0062	X	
6	1A-079-A-17				0750		1550	-30	0	0843	0323	X	
7	1A-081-A-17				0800		1600	-25	-1	2820	1034	X	
8	1A-093-A-17				0732		1532	-30	-2	1639	0322	X	
9	1A-095-A-17				0828		1628	-20	0	1062	1055	X	
10	1A-117-A-17				0749		1549	-29	0	0576	0312	X	
11	1A-118-A-17				0753		1553	-30	0	0632	0278	X	
12	1A-136-A-17				0810		1610	-30	-2	0581	0286	X	

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
TT	9/2/14	1500			

SAMPLE CONDITIONS

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: TONY APANAVAGE

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 9/2/14

4

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

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09772 Page: 3 of 3

Section A Required Client Information:
Company: TETRA TECH
Address:
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:
Report To:
Copy To:
Purchase Order No.:
Project Name: MRC SV/IAQ
Project Number:

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST, Superfund, Emissions, Clean Air Act, Voluntary Clean Up, Dry Clean, RCRA, Other____

Location of Sampling by State: MD

Reporting Units: µg/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level II.___ III.___ IV.___ Other____

Method: PM10, 3C- Fixed Gas (%), TO-3, TO-3M (Methane), TO-4 (PCBs), TO-13 (PAH), TO-14, TO-15, TO15 Short List*

Section D Required Client Information
AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes: Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	Sample ID	MEDIA CODE	PID Reading (Client only)	COLLECTED Composite Start Date/Time	Composite End/Grab Date/Time	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	TO-14	Pace Lab ID
1	SV-095-A-17	1LC		9/2/14 0829	9/2/14 0936	-29	-1	1796	0268	X	
2	SV-101-B-17			0840	0942	-29	-4	1011	0043	X	
3	SV-100-B-17			0851	0951	-20	-2	1131	0036	X	
4	SV-075-A-17			0823	0930	-30	0	1775	0112	X	
5	BCK-1-17	6LC		9/2/14 0713	9/2/14 1513	-30	0	2145	0328		
6	BCK-2-17			0711	1511	-28	0	1277	0031		
7	BCK-3-17			0706	1506	-30	0	2034	0026	X	
8	BCK-4-17			0703	1503	-30	0	1612		X	
9									0404		
10											
11											
12											

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
TT		10			

SAMPLE CONDITIONS: Temp in °C; Received on Ice Y/N; Custody Sealed Cooler Y/N; Samples Intact Y/N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: TONY AAANAVAGS
SIGNATURE of SAMPLER:
DATE Signed (MM/DD/YY): 9/2/14

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

09764

Section A Required Client Information:

Company: Tetra Tech INC
Address: 20251 Century Blvd Germantown MD 20874
Email To:
Phone: 301-528-3021 Fax: 3080
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: TONY Aparavage
Copy To:
Purchase Order No.:
Project Name: SV / IAQ
Project Number: 112IC06279

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST / Superfund / Emissions / Clean Air Act / Voluntary Clean Up / Dry Clean / RCRA / Other

Location of Sampling by State: MD

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level: II. ___ III. ___ IV. ___ Other ___

Method: PM10 / 3C- Fixed Gas (%) / TO-3 / TO-3M (Methane) / TO-4 (PCBs) / TO-13 (PAH) / TO-14 / TO-15 / TO15 Short List*

Section D Required Client Information

Valid Media Codes: MEDIA / CODE — Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Start DATE	Start TIME	Stop DATE	Stop TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	TO-14	TO-15	Pace Lab ID
1	~~SV-065-C-17~~	1LC		9-3-14	~~1035~~	9-3-14								
2	SV-051-C-17				1035		1205	-30	0	2474	FC0080	X		
3	SV-086-C-17				1042		1200	-30	-1	2646	FC1014	X		
4	SV-141-C-17				1048		1207	-30	-2	1143	FC0354	X		
5	SV-126-C-17				1053		1212	-31	0	1105	FC0089	X		
6	SV-149-C-17				1056		1216	-30	0	0911	FC0407	X		
7	SV-127-C-17				1102		1218	-30	-2.5	1318	FC0359	X		
8	SV-060-C-17				1105		1220	-30	0	1017	FC0134	X		
9	SV-153-C-17				1109		1222	-30	-1	1797	FC0002	X		
10	SV-133-C-17				1112		1257	-30	0	2740	FC0091	X		
11	SV-155-C-17				1117		1223	-30	0	1329	FC0356	X		
12	SV-102-C-17				1122		1227	-29	0	1776	FC0387	X		

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Walt Payne	9-4-14	1000			

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Walt Payne

SIGNATURE of SAMPLER: Walt Payne — DATE Signed (MM / DD / YY): 9-4-14

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09773

Section A Required Client Information:
Company: Tetra Tech
Address:
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:
Report To:
Copy To:
Purchase Order No.:
Project Name: MRC SV / IAQ
Project Number: 112IC06279

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other____

Location of Sampling by State MD

Reporting Units: ug/m³___ mg/m³___ PPBV___ PPMV___ Other___

Report Level II.___ III.___ IV.___ Other____

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	'Section D Required Client Information AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Start (COMPOSITE START ENDGRAB) DATE	TIME	Stop (COMPOSITE -) DATE	TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	Method: PM10	3C-Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	SV-130-C-17	1LC		9-3-14	1130	9-3-14	1230	-27	0	2195	FC0327							X			
2	SV-001-C-17				1137		1236	-30	0	2236	FC0539							X			
3	SV-004-C-17				1140		1240	-30	-4	1156	FC0120							X			
4	SV-143-C-17				1145		1245	-30	-4	922	FC0081							X			
5	SV-142-C-17				1148		1249	-29	-3	889	FC0362							X			
6	SV-088-C-17				1431		1531	-30	-4	2470	FC0144							X			
7	SV-113-C-17				1433		1533	-32	-4	1296	FC0121							X			
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Walt Pryor	9-4-14	1000			

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Walt Pryor
SIGNATURE of SAMPLER: Walt P
DATE Signed (MM / DD / YY)

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

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19146

Section A Required Client Information:

Company: Tetra Tech Inc.
Address: 20251 Century Blvd. Germantown MD 20874
Email To:
Phone: 301 528-3021 Fax: 528-3000
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Tony Aparicio
Copy To:
Purchase Order No.: SV / IAQ
Project Name: Mill Vapor point Sampling
Project Number: 112IC06279

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST / Superfund / Emissions / Clean Air Act / Voluntary Clean Up / Dry Clean / RCRA / Other____

Location of Sampling by State: MD

Reporting Units: µg/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level: II.___ III.___ IV.___ Other____

Method: PM10 / 3C- Fixed Gas (%) / TO-3 / TO-3M (Methane) / TO-4 (PCBs) / TO-13 (PAH) / TO-14 / TO-15 / TO15 Short List*

Section D Required Client Information

Valid Media Codes: MEDIA / CODE — Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Start DATE	Start TIME	Stop DATE	Stop TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	TO-14	Pace Lab ID
1	IA-149-C-17	6LC		9-3-14	0834	9-3-14	1634	-35	-3	1071	FC1040	X	
2	IA-126-C-17				0836		1636	-29	-1	2671	FC1036	X	
3	IA-141-C-17				0838		1638	-30	-2	0818	FC0237	X	
4	IA-146-C-17				0841		1645	-30	-2	0839	FC0019	X	
5	IA-145-C-17				0853		1656	-29	0	2140	FC1038	X	
6	IA-128-C-17				0856		1657	-29	-1	1055	FC0257	X	
7	IA-148-C-17				0900		1700	-30	-1	2138	FC1037	X	
8	IA-144-C-17				0903		1703	-29.5	-2	2064	FC1063	X	
9	IA-147-C-17				0905		1705	-28	-4	2117	FC0088	X	
10	IA-60-C-17				0908		1715	-30	-1	53	FC1010	X	
11	IA-130-C-17				0920		1718	-30	0	2183	FC0055	X	
12	IA-153-C-17				0931		1731	-26	-11	1762	FC0053	X	

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	9-4-14	1000			

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Walt Payne
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 9-4-14

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

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19147

Section A Required Client Information:
Company: Tetra Tech INC
Address: 20251 Century Blvd Germantown MD, 20874
Email To:
Phone: 301 528-3029 Fax: 3000
Requested Due Date/TAT:

Section B Required Project Information:
Report To: Tony Apanavage
Copy To:
Purchase Order No.: SV/IAQ
Project Name: MDE Vapor Point Sampling
Project Number: 112IC06279

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other____

Location of Sampling by State: MD

Reporting Units: ug/m³___ mg/m³___ PPBV___ PPMV___ Other___

Report Level: II.___ III.___ IV.___ Other____

Valid Media Codes: MEDIA / CODE — Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	Section D Required Client Information: AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Start (Composite Start Endgrab) DATE	TIME	Stop (Composite End) DATE	TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	IA-155-C-17	GLC		9-3-14	0936	9-3-14	1735	-27	-1	854	FC 10321							X			
2	IA-133-C-17				0939		1739	-29	-2	2043	FC 1060							X			
3	IA-102-C-17				0942		1744	-28	0	1051	FC 1039							X			
4	IA-001-C-17				0949		1748	-30	-2	2047	FC 1059							X			
5	IA-004-C-17				0951		1755	-20	-2	570	FC 1033							X			
6	IA-005-C-17				0956		1756	-28	0	54	FC 1031							X			
7	IA-145-C-17				1000		1800	-30	-1	2131	FC 0320							X			
8	IA-135-C-17				1003		1803	-30	-4	822	FC 080280							X			
9	IA-088-C-17				1005		1805	-28	-2	982	FC 0383							X			
10	IA-142-C-17				1008		1807	-32	-1	2037	FC 0149							X			
11	IA-113-C-17				1009		1808	-31	-2	0931	FC 0117							X			
12	IA-115-C-17				1012		1811	-25	-2	273	FC 1064							X			

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Walt Pa	9-4-14	1000			

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Walt Payne
SIGNATURE of SAMPLER: Walt
DATE Signed (MM / DD / YY)

ORIGINAL

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

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09763

Section A Required Client Information:
Company: Tetra Tech Inc
Address: 20251 Century Blvd
Germantown, MD 20874
Email To:
Phone: 301 528 3421 Fax: 3000
Requested Due Date/TAT: Standard

Section B Required Project Information:
Report To: Tony Apanavage
Copy To:
Purchase Order No.: SV / IAQ
Project Name: MGC Vapor Point Sampling
Project Number: 112IC06279

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST / Superfund / Emissions / Clean Air Act / Voluntary Clean Up / Dry Clean / RCRA / Other____
Location of Sampling by State: MD
Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___
Report Level: II.___ III.___ IV.___ Other____

Valid Media Codes: MEDIA / CODE — Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	Section D Required Client Information: AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Start DATE	Start TIME	Stop DATE	Stop TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List	Pace Lab ID
1	IA-065-C-17	6LC		9-3-14	0825	9-3-14	1625	-30	-3	1651	FC0334							X			
2	IA-051-C-17	↓		↓	0828	↓	1628	-30	-4	2666	FC0068							X			
3	IA-Dup4-C-17	↓		↓	—	↓	—	-26	-11	2344	FC0053							X			
4	IA-Dup9-C-17	↓		↓	—	↓	—	-30	0	2183	FC0055							X			
5	SV-Dup3-C-17	1LC		↓	—	↓	—	-30	0	2444	FC0091							X			
6	SV-Dup4-C-17	↓		↓	—	↓	—	-27	0	1798	FC0327							X			
7																					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Walt Pa	9-4-14	1000			

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Walt Pa
SIGNATURE of SAMPLER: Walt Pa
DATE Signed (MM / DD / YY): 9-4-14

ORIGINAL

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC/Tilley SV and IAQ Sampling
Date: 9/2/14 to 9/4/14
Project Number - Task: 112IC06279
Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA-015-A-17
SV Canister #:		IAQ Canister #:	1251
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0041
SV Start Time:		IAQ Start Time:	0738
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1538
SV Stop Pressure:		IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

FANS ON IN PLATING SHOP DURING SAMPLING PERIOD

DUPLICATE IA-DUP2-A-17 CAN 2805

OBSERVATIONS / NOTES:

NO SV TAKEN @ 015-A DUE TO PLATING SHOP WATER LEAK

PAINT FUMES IN PLATING SHOP AREA

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	IA-DUP2-A-17

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC/Tilley SV and IAQ Sampling
Date: 9/2/14 to 9/4/14
Project Number - Task: 112IC06279
Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 018-A-17
SV Canister #:		IAQ Canister #:	2160
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0357
SV Start Time:		IAQ Start Time:	0726
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1526
SV Stop Pressure:		IAQ Stop Pressure:	-5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

DUPLICATE
IA-DUP1-A-17
CAN 1554

OBSERVATIONS / NOTES:

NO SV TAKEN @ 018-A DUE TO PLATING SHOP WATER LEAK

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	IA-DUP1-A-17

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 075-A-17	IAQ Sample ID:	IA- 075-A-17
SV Canister #:	1775	IAQ Canister #:	2179
SV Regulator #:	FC- 0112	IAQ Regulator #:	FC- 1057
SV Start Time:	0823	IAQ Start Time:	0822
SV Start Pressure:	-30	IAQ Start Pressure:	-29
SV Stop Time:	0930	IAQ Stop Time:	1622
SV Stop Pressure:	0	IAQ Stop Pressure:	-1

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-076-A-17	IAQ Sample ID:	IA-076-A-17
SV Canister #:	0995	IAQ Canister #:	2331
SV Regulator #:	FC- 0054	IAQ Regulator #:	FC- 0062
SV Start Time:	0817	IAQ Start Time:	0815
SV Start Pressure:	-30	IAQ Start Pressure:	-30
SV Stop Time:	0927	IAQ Stop Time:	1615
SV Stop Pressure:	-3	IAQ Stop Pressure:	-1

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling
Date: 9/2/14 to 9/4/14
Project Number - Task: 112IC06279
Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-079-A-17	IAQ Sample ID:	IA-079-A-17
SV Canister #:	2614	IAQ Canister #:	0843
SV Regulator #:	FC-0048	IAQ Regulator #:	FC-0323
SV Start Time:	0905	IAQ Start Time:	0750
SV Start Pressure:	-30	IAQ Start Pressure:	-30
SV Stop Time:	1005	IAQ Stop Time:	1550
SV Stop Pressure:	0	IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

DUPLICATE CAN 0916
SV-DUP2-A-17

OBSERVATIONS / NOTES:

SV-079-A-17 POSSIBLE FAULTY SEAL ON FITTING OF SPLITTER - IMMEDIATE PRESSURE DROP - VERIFY VOLUME/SAMPLE IN CAN.

POSSIBLE RESAMPLE CANDIDATE

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	SV-DUP2-A-17

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 081-A-17	IAQ Sample ID:	IA- 081-A-17
SV Canister #:	2771	IAQ Canister #:	2820
SV Regulator #:	FC- 0606	IAQ Regulator #:	FC- 1034
SV Start Time:	0911	IAQ Start Time:	0800
SV Start Pressure:	-30	IAQ Start Pressure:	-25
SV Stop Time:	1011	IAQ Stop Time:	1600
SV Stop Pressure:	-4	IAQ Stop Pressure:	-1

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 093-A-17
SV Canister #:		IAQ Canister #:	1639
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0322
SV Start Time:		IAQ Start Time:	0732
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1532
SV Stop Pressure:		IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

NO SV SAMPLE TAKEN AT 093-A DUE TO WATER LINE LEAK IN PLATING SHOP

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 095-A-17	IAQ Sample ID:	IA- 095-A-17
SV Canister #:	1796	IAQ Canister #:	1062
SV Regulator #:	FC- 0268	IAQ Regulator #:	FC- 1055
SV Start Time:	0829	IAQ Start Time:	0828
SV Start Pressure:	-29	IAQ Start Pressure:	-20
SV Stop Time:	0936	IAQ Stop Time:	1628
SV Stop Pressure:	-1	IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

SV-095-A COLLECTED AS REPLACEMENT FOR 117-A WHICH HAD WATER IN FLUSH MOUNT

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 117-A-17
SV Canister #:		IAQ Canister #:	0576
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0312
SV Start Time:		IAQ Start Time:	0749
SV Start Pressure:		IAQ Start Pressure:	-29
SV Stop Time:		IAQ Stop Time:	1549
SV Stop Pressure:		IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

NO SV TAKEN AT 117-A DUE TO WATER IN FLUSH MOUNT CASING

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 118-A-17	IAQ Sample ID:	IA- 118-A-17
SV Canister #:	2413	IAQ Canister #:	0632
SV Regulator #:	FC- 0115	IAQ Regulator #:	FC- 0278
SV Start Time:	0908	IAQ Start Time:	0753
SV Start Pressure:	-30	IAQ Start Pressure:	-30
SV Stop Time:	1008	IAQ Stop Time:	1553
SV Stop Pressure:	-2	IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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: MRC/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 136-A-17	IAQ Sample ID:	IA- 136-A-17
SV Canister #:	1774	IAQ Canister #:	0581
SV Regulator #:	FC- 0607	IAQ Regulator #:	FC- 0286
SV Start Time:	0813	IAQ Start Time:	0810
SV Start Pressure:	-30	IAQ Start Pressure:	-30
SV Stop Time:	0913	IAQ Stop Time:	1610
SV Stop Pressure:	-1	IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

DUPLICATE
SV-DUP1-A-17
CAN 2436

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	SV-DUP1-A-17

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 138-A-17
SV Canister #:		IAQ Canister #:	2137
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0216
SV Start Time:		IAQ Start Time:	0730
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1530
SV Stop Pressure:		IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

NO SV TAKEN @ 138-A DUE TO PLATING SHOP WATER LEAK

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 033-B-17
SV Canister #:		IAQ Canister #:	0720
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0214
SV Start Time:		IAQ Start Time:	0834
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1634
SV Stop Pressure:		IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 100-B-17	IAQ Sample ID:	IA-
SV Canister #:	1131	IAQ Canister #:	
SV Regulator #:	FC- 0036	IAQ Regulator #:	FC-
SV Start Time:	0851	IAQ Start Time:	
SV Start Pressure:	-20	IAQ Start Pressure:	
SV Stop Time:	0951	IAQ Stop Time:	
SV Stop Pressure:	-2	IAQ Stop Pressure:	

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

SV SAMPLE COLLECTED HERE AT 100-B AS REPLACEMENT FOR SV @ 140-B DUE TO WATER IN FLUSH MOUNT.

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 101-B-17	IAQ Sample ID:	IA-
SV Canister #:	1011	IAQ Canister #:	
SV Regulator #:	FC- 0043	IAQ Regulator #:	FC-
SV Start Time:	0840	IAQ Start Time:	
SV Start Pressure:	-29	IAQ Start Pressure:	
SV Stop Time:	0942	IAQ Stop Time:	
SV Stop Pressure:	-4	IAQ Stop Pressure:	

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

SV SAMPLE COLLECTED HERE AT 101-B AS REPLACEMENT FOR SV @ 121-B DUE TO WATER IN FLUSH MOUNT.

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 121-B-17
SV Canister #:		IAQ Canister #:	2101
SV Regulator #:	FC-	IAQ Regulator #:	FC- 1065
SV Start Time:		IAQ Start Time:	0838
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1638
SV Stop Pressure:		IAQ Stop Pressure:	-1

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

NO SV SAMPLE COLLECTED @ 121-B DUE TO WATER IN FLUSH MOUNT.

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 140-B-17
SV Canister #:		IAQ Canister #:	2684
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0249
SV Start Time:		IAQ Start Time:	0844
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1644
SV Stop Pressure:		IAQ Stop Pressure:	-5

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

NO SV SAMPLE COLLECTED @ 140-B DUE TO WATER IN FLUSH MOUNT

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
			BCK-1-17
SV Sample ID:	SV-	IAQ Sample ID:	IA-
SV Canister #:		IAQ Canister #:	2145
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0328
SV Start Time:		IAQ Start Time:	0713
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1513
SV Stop Pressure:		IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

BACKGROUND 1

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: MRC/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- BCK-2-17
SV Canister #:		IAQ Canister #:	1277
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0431
SV Start Time:		IAQ Start Time:	0711
SV Start Pressure:		IAQ Start Pressure:	-28
SV Stop Time:		IAQ Stop Time:	1511
SV Stop Pressure:		IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

BACKGROUND 2

OBSERVATIONS / NOTES:

GRASS MOWING OCCURRED DURING SAMPLING PERIOD - GRASS CUTTINGS ON CAN.

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- BCK-3-17
SV Canister #:		IAQ Canister #:	2034
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0026
SV Start Time:		IAQ Start Time:	0706
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1506
SV Stop Pressure:		IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

BACKGROUND 3

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: MRC/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- BCK-4-17
SV Canister #:		IAQ Canister #:	1612
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0404
SV Start Time:		IAQ Start Time:	0703
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1503
SV Stop Pressure:		IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

BACKGROUND 4

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: MRC/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 001-C-17	IAQ Sample ID:	IA- 001-C-17
SV Canister #:	2236	IAQ Canister #:	2047
SV Regulator #:	FC- 0539	IAQ Regulator #:	FC- 1059
SV Start Time:	1137	IAQ Start Time:	0949
SV Start Pressure:	-30	IAQ Start Pressure:	-30
SV Stop Time:	1236	IAQ Stop Time:	1748
SV Stop Pressure:	0	IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-004-C-17	IAQ Sample ID:	IA-004-C-17
SV Canister #:	1156	IAQ Canister #:	570
SV Regulator #:	FC-0120	IAQ Regulator #:	FC-1033
SV Start Time:	1140	IAQ Start Time:	0951
SV Start Pressure:	-30	IAQ Start Pressure:	-20
SV Stop Time:	1240	IAQ Stop Time:	1755
SV Stop Pressure:	-4	IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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: MRC/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 005-C-17
SV Canister #:		IAQ Canister #:	54
SV Regulator #:	FC-	IAQ Regulator #:	FC- 1031
SV Start Time:		IAQ Start Time:	0956
SV Start Pressure:		IAQ Start Pressure:	-28
SV Stop Time:		IAQ Stop Time:	1756
SV Stop Pressure:		IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 051-C-17
SV Canister #:		IAQ Canister #:	2666
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0068
SV Start Time:		IAQ Start Time:	0828
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1628
SV Stop Pressure:		IAQ Stop Pressure:	-4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 060-C-17	IAQ Sample ID:	IA- 60-C-17
SV Canister #:	1017	IAQ Canister #:	53
SV Regulator #:	FC- 0134	IAQ Regulator #:	FC- 1010
SV Start Time:	1105	IAQ Start Time:	0908
SV Start Pressure:	-30	IAQ Start Pressure:	-30
SV Stop Time:	1220	IAQ Stop Time:	1715
SV Stop Pressure:	0	IAQ Stop Pressure:	-1

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA-065-C-17
SV Canister #:		IAQ Canister #:	1651
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0334
SV Start Time:		IAQ Start Time:	0825
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1625
SV Stop Pressure:		IAQ Stop Pressure:	-3

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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: MRC/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 088-C-17	IAQ Sample ID:	IA- 088C-17
SV Canister #:	2470	IAQ Canister #:	992
SV Regulator #:	FC- 0144	IAQ Regulator #:	FC- 0383
SV Start Time:	1431	IAQ Start Time:	1005
SV Start Pressure:	-30	IAQ Start Pressure:	-27
SV Stop Time:	1531	IAQ Stop Time:	1805
SV Stop Pressure:	-4	IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 102-C-17	IAQ Sample ID:	IA- 102-C-17
SV Canister #:	1776	IAQ Canister #:	1051
SV Regulator #:	FC- 0387	IAQ Regulator #:	FC- 1039
SV Start Time:	1122	IAQ Start Time:	0942
SV Start Pressure:	-29	IAQ Start Pressure:	-28
SV Stop Time:	1227	IAQ Stop Time:	1744
SV Stop Pressure:	0	IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 113-C-17	IAQ Sample ID:	IA- 113-C-17
SV Canister #:	1296	IAQ Canister #:	0931
SV Regulator #:	FC- 0121	IAQ Regulator #:	FC- 0117
SV Start Time:	1433	IAQ Start Time:	1009
SV Start Pressure:	-32	IAQ Start Pressure:	-31
SV Stop Time:	1533	IAQ Stop Time:	1808
SV Stop Pressure:	-4	IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 115-C-17
SV Canister #:		IAQ Canister #:	273
SV Regulator #:	FC-	IAQ Regulator #:	FC- 1064
SV Start Time:		IAQ Start Time:	1012
SV Start Pressure:		IAQ Start Pressure:	-25
SV Stop Time:		IAQ Stop Time:	1811
SV Stop Pressure:		IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 126-C-17	IAQ Sample ID:	IA- 126-C-17
SV Canister #:	1105	IAQ Canister #:	2671
SV Regulator #:	FC- 0089	IAQ Regulator #:	FC- 1036
SV Start Time:	1053	IAQ Start Time:	0836
SV Start Pressure:	-31	IAQ Start Pressure:	-29
SV Stop Time:	1212	IAQ Stop Time:	1636
SV Stop Pressure:	0	IAQ Stop Pressure:	-1

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 127-C-17	IAQ Sample ID:	IA-
SV Canister #:	1318	IAQ Canister #:	
SV Regulator #:	FC- 0359	IAQ Regulator #:	FC-
SV Start Time:	1102	IAQ Start Time:	
SV Start Pressure:	-30	IAQ Start Pressure:	
SV Stop Time:	1217	IAQ Stop Time:	
SV Stop Pressure:	-2.5	IAQ Stop Pressure:	

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

SV COLLECTED HERE @ 127-C DUE TO WATER IN SV 128-C

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 128-C-17
SV Canister #:		IAQ Canister #:	1055
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0257
SV Start Time:		IAQ Start Time:	0856
SV Start Pressure:		IAQ Start Pressure:	-29
SV Stop Time:		IAQ Stop Time:	1657
SV Stop Pressure:		IAQ Stop Pressure:	-1

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

NO SV COLLECTED DUE TO WATER IN FLUSH MOUNT. TOOK SV @ 127-C INSTEAD (NEARBY)

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/Tilley SV and IAQ Sampling	Date:	9/2/14 to 9/4/14
Project Number - Task:	112IC06279	Sampled By:	TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 130-C-17	IAQ Sample ID:	IA-130-C-17
SV Canister #:	2195	IAQ Canister #:	2183
SV Regulator #:	FC- 0327	IAQ Regulator #:	FC- 0055
SV Start Time:	1130	IAQ Start Time:	0920
SV Start Pressure:	-27	IAQ Start Pressure:	-30
SV Stop Time:	1230	IAQ Stop Time:	1718
SV Stop Pressure:	0	IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

DUPLICATE
SV-DUP4-C-17
CAN 1798

DUPLICATE
IA-DUP3-C-17
CAN 1749

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	SV-DUP4-C-17
	IA-DUP3-C-17

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 133-C-17	IAQ Sample ID:	IA- 133-C-17
SV Canister #:	2740	IAQ Canister #:	2043
SV Regulator #:	FC- 0091	IAQ Regulator #:	FC- 1060
SV Start Time:	1112	IAQ Start Time:	0939
SV Start Pressure:	-30	IAQ Start Pressure:	-29
SV Stop Time:	1257	IAQ Stop Time:	1739
SV Stop Pressure:	0	IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

DUPLICATE
SV-DUP3-C-17
2444 CAN

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	SV-DUP3-C-17

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 135-C-17
SV Canister #:		IAQ Canister #:	822
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0280
SV Start Time:		IAQ Start Time:	1003
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1803
SV Stop Pressure:		IAQ Stop Pressure:	-4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 141-C-17	IAQ Sample ID:	IA- 141-C-17
SV Canister #:	1143	IAQ Canister #:	0818
SV Regulator #:	FC- 0354	IAQ Regulator #:	FC- 0237
SV Start Time:	1048	IAQ Start Time:	0838
SV Start Pressure:	-30	IAQ Start Pressure:	-30
SV Stop Time:	1207	IAQ Stop Time:	1638
SV Stop Pressure:	-2	IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 142-C-17	IAQ Sample ID:	IA- 142-C-17
SV Canister #:	889	IAQ Canister #:	2037
SV Regulator #:	FC- 0362	IAQ Regulator #:	FC- 0149
SV Start Time:	1148	IAQ Start Time:	1008
SV Start Pressure:	-29	IAQ Start Pressure:	-32
SV Stop Time:	1249	IAQ Stop Time:	1807
SV Stop Pressure:	-3	IAQ Stop Pressure:	-1

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 143-C-17	IAQ Sample ID:	IA- 143-C-17
SV Canister #:	922	IAQ Canister #:	2131
SV Regulator #:	FC- 0081	IAQ Regulator #:	FC- 0320
SV Start Time:	1145	IAQ Start Time:	1000
SV Start Pressure:	-30	IAQ Start Pressure:	-30
SV Stop Time:	1245	IAQ Stop Time:	1800
SV Stop Pressure:	-4	IAQ Stop Pressure:	-1

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 144-C-17
SV Canister #:		IAQ Canister #:	2064
SV Regulator #:	FC-	IAQ Regulator #:	FC- 1063
SV Start Time:		IAQ Start Time:	0903
SV Start Pressure:		IAQ Start Pressure:	-29.5
SV Stop Time:		IAQ Stop Time:	1703
SV Stop Pressure:		IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 145-C-17
SV Canister #:		IAQ Canister #:	2140
SV Regulator #:	FC-	IAQ Regulator #:	FC- 1038
SV Start Time:		IAQ Start Time:	0853
SV Start Pressure:		IAQ Start Pressure:	-29
SV Stop Time:		IAQ Stop Time:	1656
SV Stop Pressure:		IAQ Stop Pressure:	0

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 146-C-17
SV Canister #:		IAQ Canister #:	0839
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0019
SV Start Time:		IAQ Start Time:	0841
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1645
SV Stop Pressure:		IAQ Stop Pressure:	-2

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA-147-C-17
SV Canister #:		IAQ Canister #:	2117
SV Regulator #:	FC-	IAQ Regulator #:	FC- 0088
SV Start Time:		IAQ Start Time:	0905
SV Start Pressure:		IAQ Start Pressure:	-28
SV Stop Time:		IAQ Stop Time:	1705
SV Stop Pressure:		IAQ Stop Pressure:	-4

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV-	IAQ Sample ID:	IA- 148-C-17
SV Canister #:		IAQ Canister #:	2138
SV Regulator #:	FC-	IAQ Regulator #:	FC- 1037
SV Start Time:		IAQ Start Time:	0900
SV Start Pressure:		IAQ Start Pressure:	-30
SV Stop Time:		IAQ Stop Time:	1700
SV Stop Pressure:		IAQ Stop Pressure:	-1

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 149-C-17	IAQ Sample ID:	IA- 149-C-17
SV Canister #:	0911	IAQ Canister #:	1071
SV Regulator #:	FC- 0407	IAQ Regulator #:	FC- 1040
SV Start Time:	1056	IAQ Start Time:	0834
SV Start Pressure:	-30	IAQ Start Pressure:	-35
SV Stop Time:	1216	IAQ Stop Time:	1634
SV Stop Pressure:	0	IAQ Stop Pressure:	-3

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

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/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 153-C-17	IAQ Sample ID:	IA- 153-C-17
SV Canister #:	1797	IAQ Canister #:	1762
SV Regulator #:	FC- 0002	IAQ Regulator #:	FC- 0053
SV Start Time:	1109	IAQ Start Time:	0931
SV Start Pressure:	-30	IAQ Start Pressure:	-26
SV Stop Time:	1222	IAQ Stop Time:	1731
SV Stop Pressure:	-1	IAQ Stop Pressure:	-11

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

DUPLICATE
IA-DUP4-C-17
CAN 2344

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	IA-DUP4-C-17

Signature(s):

TETRA TECH

SOIL VAPOR AND INDOOR AIR QUALITY SAMPLE LOG SHEET

Project Site Name: MRC/Tilley SV and IAQ Sampling

Date: 9/2/14 to 9/4/14

Project Number - Task: 112IC06279

Sampled By: TA/WP

SAMPLING DATA:

SOIL VAPOR SAMPLE		INDOOR AIR QUALITY SAMPLE	
SV Sample ID:	SV- 155-C-17	IAQ Sample ID:	IA- 155-C-17
SV Canister #:	1329	IAQ Canister #:	854
SV Regulator #:	FC- 0356	IAQ Regulator #:	FC- 10321
SV Start Time:	1117	IAQ Start Time:	0936
SV Start Pressure:	-30	IAQ Start Pressure:	-27
SV Stop Time:	1223	IAQ Stop Time:	1735
SV Stop Pressure:	0	IAQ Stop Pressure:	-1

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected
TO15	1L and 6L	X
	Summa Can	

LOCATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

APPENDIX B—METHOD DETECTION LIMITS

							Avg LCS		DUP
Analyte	CAS #	MDL (ppbv)	PRL (ppbv)	MW	MDL (ug/m^3)	PRL (ug/m^3)	Lower	Upper	RPD
1,1,1-Trichloroethane	71-55-6	0.0250	0.2	133.4047	0.139	1.11	72	128	25
1,1,2,2-Tetrachloroethane	79-34-5	0.0334	0.1	167.8498	0.233	0.70	72	136	25
1,1,2-Trichloroethane	79-00-5	0.0437	0.1	133.4047	0.243	0.55	72	130	25
1,1,2-Trichlorotrifluoroethane	76-13-1	0.0205	0.2	187.3762	0.160	1.60	68	126	25
1,1-Dichloroethane	75-34-3	0.0341	0.2	98.9596	0.140	0.82	68	128	25
1,1-Dichloroethene	75-35-4	0.0255	0.2	96.9438	0.103	0.81	68	130	25
1,2,4-Trichlorobenzene	120-82-1	0.0482	0.2	181.4487	0.364	1.51	30	150	25
1,2,4-Trimethylbenzene	95-63-6	0.0244	0.2	120.1938	0.122	1.00	71	140	25
1,2-Dibromoethane	106-93-4	0.0300	0.2	187.8616	0.234	1.56	73	136	25
1,2-Dichlorobenzene	95-50-1	0.0230	0.2	147.0036	0.141	1.22	63	150	25
1,2-Dichloroethane	107-06-2	0.0289	0.1	98.9596	0.119	0.41	71	132	25
1,2-Dichloropropane	78-87-5	0.0323	0.2	112.9864	0.152	0.94	72	130	25
1,3,5-Trimethylbenzene	108-67-8	0.0414	0.2	120.1938	0.207	1.00	73	136	25
1,3-Butadiene	106-99-0	0.0376	0.2	54.0914	0.085	0.45	72	130	25
1,3-Dichlorobenzene	541-73-1	0.0379	0.2	147.0036	0.232	1.22	69	142	25
1,4-Dichlorobenzene	106-46-7	0.0324	0.2	147.0036	0.198	1.22	65	142	25
2-Butanone (MEK)	78-93-3	0.0912	0.2	72.1066	0.273	0.6	71	135	25
2-Hexanone	591-78-6	0.0512	0.2	100.1602	0.213	0.83	75	133	25
2-Propanol	67-63-0	0.0374	0.5	60.1	0.093	1.25	68	135	25
4-Ethyltoluene	622-96-8	0.0349	0.2	120.1938	0.174	1.00	73	134	25
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0411	0.2	100.1602	0.171	0.83	72	137	25
Acetone	67-64-1	0.5000	1	58.0798	1.207	2.414	68	136	25
Benzene	71-43-2	0.0362	0.1	78.1134	0.118	0.33	69	134	25
Benzyl Chloride	100-44-7	0.1000	0.2	126.58	0.526	1.05	71	136	25
Bromodichloromethane	75-27-4	0.0268	0.2	163.8289	0.182	1.36	74	129	25
Bromoform	75-25-2	0.0307	0.2	252.7309	0.323	2.10	69	138	25
Bromomethane	74-83-9	0.0685	0.2	94.9387	0.270	0.79	68	127	25
Carbon Disulfide	75-15-0	0.0228	0.2	76.131	0.072	0.63	68	130	25
Carbon tetrachloride	56-23-5	0.0500	0.1	153.823	0.320	0.64	66	134	25

Chlorobenzene	108-90-7	0.0227	0.2	112.5585	0.106	0.94	72	137	25
Chloroethane	75-00-3	0.0600	0.2	64.5145	0.161	0.54	69	128	25
Chloroform	67-66-3	0.0360	0.2	119.3779	0.179	0.99	72	127	25
Chloromethane	74-87-3	0.0917	0.2	50.4877	0.192	0.42	69	125	25
cis-1,2-Dichloroethene	156-59-2	0.0487	0.2	96.9438	0.196	0.81	71	135	25
cis-1,3-Dichloropropene	10061-01-5	0.0295	0.2	110.9706	0.136	0.92	74	134	25
Cyclohexane	110-82-7	0.0360	0.2	84.1608	0.126	0.70	72	130	25
Dibromochloromethane	124-48-1	0.1000	0.2	208.2799	0.866	1.73	73	133	25
Dichlorodifluoromethane	75-71-8	0.0216	0.2	120.9138	0.109	1.01	69	125	25
Dichlorotetrafluoroethane	76-14-2	0.0351	0.2	170.9216	0.249	1.42	68	128	25
Ethanol	64-17-5	0.1646	0.5	46.07	0.315	0.96	70	134	25
Ethyl Acetate	141-78-6	0.0345	0.2	88.106	0.126	0.73	71	134	25
Ethyl Benzene	100-41-4	0.0405	0.2	106.167	0.179	0.88	73	139	25
Hexachlorobutadiene	87-68-3	0.0379	0.2	260.762	0.411	2.20	30	150	25
m&p-Xylene	106-42-3	0.0318	0.4	106.167	0.140	1.77	73	139	25
Methyl Tert Butyl Ether	1634-04-4	0.0243	0.2	88.1492	0.089	0.73	72	132	25
Methylene chloride	75-0902	0.0653	1	84.9328	0.231	3.53	64	134	25
Naphthalene	91-20-3	0.0483	0.5	128.1732	0.258	2.66	61	150	25
n-Heptane	142-82-5	0.0390	0.2	100.2034	0.162	0.83	70	130	25
n-Hexane	110-54-3	0.0281	0.2	86.1766	0.101	0.72	69	128	25
o-Xylene	95-47-6	0.1000	0.2	106.167	0.441	0.88	71	138	25
Propylene	115-07-1	0.0628	0.2	42.0804	0.110	0.35	69	133	25
Styrene	100-42-5	0.0313	0.2	104.1512	0.135	0.87	74	136	25
Tetrachloroethene	127-18-4	0.0273	0.1	165.834	0.188	0.69	69	136	25
Tetrahydrofuran	109-99-9	0.0464	0.2	72.1066	0.139	0.60	73	131	25
Toluene	108-88-3	0.0351	0.2	92.1402	0.135	0.77	67	133	25
trans-1,2-dichloroethene	156-60-5	0.0404	0.2	96.9438	0.163	0.81	70	131	25
trans-1,3-Dichloropropene	10061-02-6	0.0328	0.2	110.9706	0.151	0.92	72	135	25
Trichloroethene	79-01-6	0.0326	0.1	131.3889	0.178	0.55	70	135	25
Trichlorofluoromethane	75-69-4	0.0242	0.2	137.3684	0.138	1.14	67	125	25
Vinyl Acetate	108-05-4	0.0971	0.2	86.0902	0.348	0.72	72	133	25
Vinyl chloride	75-01-4	0.0359	0.1	62.4987	0.093	0.26	69	132	25
1,2,3-Trimethylbenzene		0.0355	0.2	120.19	0.177	1.00	70	130	25
Chlorodifluoromethane		0.0539	0.2	86.47	0.194	0.72	70	130	25
Di-isopropyl Ether		0.0497	0.2	102.18	0.211	0.85	70	130	25
Ethyl Tert-Butyl Ether		0.1000	0.2	102.17	0.425	0.85	70	130	25
Isopentane		0.0588	0.2	72.15	0.176	0.60	70	130	25
Methylcyclohexane		0.0652	0.2	98.186	0.266	0.82	70	130	25
p-Isopropyltoluene		0.0287	0.2	134.22	0.160	1.12	70	130	25
Tert Amyl Methyl Ether		0.0484	0.2	88.15	0.177	0.73	70	130	25
Tert-Butyl Benzene		0.0244	0.2	166.217	0.168	1.38	70	130	25

EXTRA ANALYTES (available upon request at an additional cost)

							LCS		DUP
Analyte	CAS #	MDL (ppbv)	PRL (ppbv)	MW	MDL (ug/m^3)	PRL (ug/m^3)	Lower	Upper	RPD
1,4-Dioxane	123-91-1	0.0587	1	88.1	0.215	3.66	62	148	25
2,2,4-Trimethylpentane	540-84-1	0.0286	0.5	114.22	0.136	2.37	70	130	25
Acrolein	107-02-8	0.0981	0.5	56.06	0.229	1.17	69	131	25
Acrylonitrile	107-13-1	0.0632	0.5	53.06	0.139	1.10	73	135	25
Allyl Chloride	107-05-1	0.0879	0.5	76.52	0.280	1.59	67	145	25
N-Butylbenzene	104-51-8	0.0240	0.5	134.2206	0.134	2.79	70	130	25
N-Propylbenzene	103-65-1	0.0323	0.5	120.1938	0.162	2.50	73	132	25

Sec- Butylbenzene	135-98-8	0.1000	0.5	134.2206	0.558	2.79	70	130	25
Tert Butyl Alcohol (TBA)	75-65-0	0.0737	0.5	74.12	0.227	1.54	70	130	25
Vinyl Bromide	593-60-2	0.0429	0.5	106.95	0.191	2.22	70	130	25
Isopropylbenzene	98-82-8	0.1000	0.5	120.194	0.500	2.50	73	135	25
THC as gas		7.0000	14	104.467	30.400	60.80	65	136	25
Xylene (Total)	1330-20-7	0.1243	0.6	106.17	0.548	2.65	70	130	25

Surrogates								
1,4-Dichlorobenzene-d4 (S)	3855-82-1						58	130
Hexane-d14 (S)	21666-38-6						30	150
Toluene-d8 (S)	2037-26-5						30	150

APPENDIX C—LABORATORY ANALYTICAL REPORTS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-004-C-17 **Lab ID: 10280459014** Collected: 09/03/14 12:40 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	10.2	15.71		09/13/14 19:17	71-43-2	
Carbon tetrachloride	ND	ug/m3	10.1	15.71		09/13/14 19:17	56-23-5	
Chlorodifluoromethane	**26.0**	ug/m3	11.3	15.71		09/13/14 19:17	75-45-6	
Chloroform	**34.3**	ug/m3	7.8	15.71		09/13/14 19:17	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	15.9	15.71		09/13/14 19:17	75-71-8	
1,1-Dichloroethane	ND	ug/m3	12.9	15.71		09/13/14 19:17	75-34-3	
1,2-Dichloroethane	ND	ug/m3	6.4	15.71		09/13/14 19:17	107-06-2	
1,1-Dichloroethene	ND	ug/m3	12.7	15.71		09/13/14 19:17	75-35-4	
cis-1,2-Dichloroethene	**80.4**	ug/m3	12.7	15.71		09/13/14 19:17	156-59-2	
trans-1,2-Dichloroethene	**12.4J**	ug/m3	12.7	15.71		09/13/14 19:17	156-60-5	
Ethylbenzene	ND	ug/m3	13.8	15.71		09/13/14 19:17	100-41-4	
Methylene Chloride	**145**	ug/m3	55.5	15.71		09/13/14 19:17	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	11.5	15.71		09/13/14 19:17	1634-04-4	
Naphthalene	ND	ug/m3	41.8	15.71		09/13/14 19:17	91-20-3	
Tetrachloroethene	ND	ug/m3	10.8	15.71		09/13/14 19:17	127-18-4	
Toluene	**9.6J**	ug/m3	12.1	15.71		09/13/14 19:17	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	1190	15.71		09/13/14 19:17	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	17.4	15.71		09/13/14 19:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	8.6	15.71		09/13/14 19:17	79-00-5	
Trichloroethene	**210**	ug/m3	17.2	15.71		09/13/14 19:17	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	15.7	15.71		09/13/14 19:17	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	15.7	15.71		09/13/14 19:17	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	15.7	15.71		09/13/14 19:17	108-67-8	
Vinyl chloride	ND	ug/m3	4.1	15.71		09/13/14 19:17	75-01-4	
m&p-Xylene	ND	ug/m3	27.6	15.71		09/13/14 19:17	179601-23-1	
o-Xylene	ND	ug/m3	13.8	15.71		09/13/14 19:17	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-060-C-17 **Lab ID: 10280459007** Collected: 09/03/14 12:20 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.68		09/11/14 18:51	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/11/14 18:51	56-23-5	
Chlorodifluoromethane	**9.4**	ug/m3	1.2	1.68		09/11/14 18:51	75-45-6	
Chloroform	ND	ug/m3	0.83	1.68		09/11/14 18:51	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.7	1.68		09/11/14 18:51	75-71-8	
1,1-Dichloroethane	**1.8**	ug/m3	1.4	1.68		09/11/14 18:51	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/11/14 18:51	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		09/11/14 18:51	75-35-4	
cis-1,2-Dichloroethene	**1.4**	ug/m3	1.4	1.68		09/11/14 18:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/11/14 18:51	156-60-5	
Ethylbenzene	**65.0**	ug/m3	1.5	1.68		09/11/14 18:51	100-41-4	
Methylene Chloride	**70.9**	ug/m3	5.9	1.68		09/11/14 18:51	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/11/14 18:51	1634-04-4	
Naphthalene	**28.6**	ug/m3	4.5	1.68		09/11/14 18:51	91-20-3	CH,SS
Tetrachloroethene	**2.9**	ug/m3	1.2	1.68		09/11/14 18:51	127-18-4	
Toluene	**8.2**	ug/m3	1.3	1.68		09/11/14 18:51	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/11/14 18:51	120-82-1	
1,1,1-Trichloroethane	**0.95J**	ug/m3	1.9	1.68		09/11/14 18:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/11/14 18:51	79-00-5	
Trichloroethene	**58.6**	ug/m3	1.8	1.68		09/11/14 18:51	79-01-6	
1,2,3-Trimethylbenzene	**1.0J**	ug/m3	1.7	1.68		09/11/14 18:51	526-73-8	
1,2,4-Trimethylbenzene	**4.3**	ug/m3	1.7	1.68		09/11/14 18:51	95-63-6	
1,3,5-Trimethylbenzene	**1.7**	ug/m3	1.7	1.68		09/11/14 18:51	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		09/11/14 18:51	75-01-4	
m&p-Xylene	**250**	ug/m3	29.6	16.8		09/12/14 15:34	179601-23-1	
o-Xylene	**171**	ug/m3	1.5	1.68		09/11/14 18:51	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-088-C-17 **Lab ID: 10280459017** Collected: 09/03/14 15:31 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.3	1.94		09/11/14 23:01	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.94		09/11/14 23:01	56-23-5	
Chlorodifluoromethane	**6.5**	ug/m3	1.4	1.94		09/11/14 23:01	75-45-6	
Chloroform	ND	ug/m3	0.96	1.94		09/11/14 23:01	67-66-3	
Dichlorodifluoromethane	**2.8**	ug/m3	2.0	1.94		09/11/14 23:01	75-71-8	
1,1-Dichloroethane	**1.6J**	ug/m3	1.6	1.94		09/11/14 23:01	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.80	1.94		09/11/14 23:01	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.6	1.94		09/11/14 23:01	75-35-4	
cis-1,2-Dichloroethene	**17.7**	ug/m3	1.6	1.94		09/11/14 23:01	156-59-2	
trans-1,2-Dichloroethene	**0.87J**	ug/m3	1.6	1.94		09/11/14 23:01	156-60-5	
Ethylbenzene	**1.8**	ug/m3	1.7	1.94		09/11/14 23:01	100-41-4	
Methylene Chloride	ND	ug/m3	6.8	1.94		09/11/14 23:01	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.94		09/11/14 23:01	1634-04-4	
Naphthalene	**61.7**	ug/m3	5.2	1.94		09/11/14 23:01	91-20-3	CH,SS
Tetrachloroethene	ND	ug/m3	1.3	1.94		09/11/14 23:01	127-18-4	
Toluene	**10.3**	ug/m3	1.5	1.94		09/11/14 23:01	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	146	1.94		09/11/14 23:01	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.2	1.94		09/11/14 23:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.1	1.94		09/11/14 23:01	79-00-5	
Trichloroethene	**79.8**	ug/m3	2.1	1.94		09/11/14 23:01	79-01-6	
1,2,3-Trimethylbenzene	**1.5J**	ug/m3	1.9	1.94		09/11/14 23:01	526-73-8	
1,2,4-Trimethylbenzene	**2.0**	ug/m3	1.9	1.94		09/11/14 23:01	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.9	1.94		09/11/14 23:01	108-67-8	
Vinyl chloride	ND	ug/m3	0.50	1.94		09/11/14 23:01	75-01-4	
m&p-Xylene	**8.7**	ug/m3	3.4	1.94		09/11/14 23:01	179601-23-1	
o-Xylene	**5.5**	ug/m3	1.7	1.94		09/11/14 23:01	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-102-C-17 **Lab ID: 10280459011** Collected: 09/03/14 12:27 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**5.8**	ug/m3	1.2	1.8		09/11/14 20:30	71-43-2	
Carbon tetrachloride	**2.7**	ug/m3	1.2	1.8		09/11/14 20:30	56-23-5	
Chlorodifluoromethane	**9.7**	ug/m3	1.3	1.8		09/11/14 20:30	75-45-6	
Chloroform	**73.1**	ug/m3	0.89	1.8		09/11/14 20:30	67-66-3	
Dichlorodifluoromethane	**4.4**	ug/m3	1.8	1.8		09/11/14 20:30	75-71-8	
1,1-Dichloroethane	**3250**	ug/m3	73.8	90		09/12/14 16:49	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.74	1.8		09/11/14 20:30	107-06-2	
1,1-Dichloroethene	**1150**	ug/m3	72.9	90		09/12/14 16:49	75-35-4	
cis-1,2-Dichloroethene	**60.7**	ug/m3	1.5	1.8		09/11/14 20:30	156-59-2	
trans-1,2-Dichloroethene	**4.6**	ug/m3	1.5	1.8		09/11/14 20:30	156-60-5	
Ethylbenzene	**1420**	ug/m3	79.2	90		09/12/14 16:49	100-41-4	
Methylene Chloride	**11.4**	ug/m3	6.4	1.8		09/11/14 20:30	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.8		09/11/14 20:30	1634-04-4	
Naphthalene	**2850**	ug/m3	239	90		09/12/14 16:49	91-20-3	CH,SS
Tetrachloroethene	**3.4**	ug/m3	1.2	1.8		09/11/14 20:30	127-18-4	
Toluene	**171**	ug/m3	1.4	1.8		09/11/14 20:30	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	136	1.8		09/11/14 20:30	120-82-1	
1,1,1-Trichloroethane	**1240**	ug/m3	99.9	90		09/12/14 16:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.99	1.8		09/11/14 20:30	79-00-5	
Trichloroethene	**1640**	ug/m3	98.3	90		09/12/14 16:49	79-01-6	
1,2,3-Trimethylbenzene	**150**	ug/m3	1.8	1.8		09/11/14 20:30	526-73-8	
1,2,4-Trimethylbenzene	**145**	ug/m3	1.8	1.8		09/11/14 20:30	95-63-6	
1,3,5-Trimethylbenzene	**67.7**	ug/m3	1.8	1.8		09/11/14 20:30	108-67-8	
Vinyl chloride	**10.8**	ug/m3	0.47	1.8		09/11/14 20:30	75-01-4	
m&p-Xylene	**9290**	ug/m3	158	90		09/12/14 16:49	179601-23-1	
o-Xylene	**3450**	ug/m3	79.2	90		09/12/14 16:49	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-113-C-17 **Lab ID: 10280459018** Collected: 09/03/14 15:33 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.2	1.87		09/11/14 23:26	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.87		09/11/14 23:26	56-23-5	
Chlorodifluoromethane	**6.7**	ug/m3	1.3	1.87		09/11/14 23:26	75-45-6	
Chloroform	ND	ug/m3	0.93	1.87		09/11/14 23:26	67-66-3	
Dichlorodifluoromethane	**3.3**	ug/m3	1.9	1.87		09/11/14 23:26	75-71-8	
1,1-Dichloroethane	**1.4J**	ug/m3	1.5	1.87		09/11/14 23:26	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.77	1.87		09/11/14 23:26	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.87		09/11/14 23:26	75-35-4	
cis-1,2-Dichloroethene	**17.5**	ug/m3	1.5	1.87		09/11/14 23:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.87		09/11/14 23:26	156-60-5	
Ethylbenzene	**2.3**	ug/m3	1.6	1.87		09/11/14 23:26	100-41-4	
Methylene Chloride	**9.4**	ug/m3	6.6	1.87		09/11/14 23:26	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.87		09/11/14 23:26	1634-04-4	
Naphthalene	**233**	ug/m3	5.0	1.87		09/11/14 23:26	91-20-3	CH,SS
Tetrachloroethene	**1.8**	ug/m3	1.3	1.87		09/11/14 23:26	127-18-4	
Toluene	**7.3**	ug/m3	1.4	1.87		09/11/14 23:26	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	141	1.87		09/11/14 23:26	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.1	1.87		09/11/14 23:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.0	1.87		09/11/14 23:26	79-00-5	
Trichloroethene	**222**	ug/m3	2.0	1.87		09/11/14 23:26	79-01-6	
1,2,3-Trimethylbenzene	**12.5**	ug/m3	1.9	1.87		09/11/14 23:26	526-73-8	
1,2,4-Trimethylbenzene	**29.9**	ug/m3	1.9	1.87		09/11/14 23:26	95-63-6	
1,3,5-Trimethylbenzene	**5.2**	ug/m3	1.9	1.87		09/11/14 23:26	108-67-8	
Vinyl chloride	ND	ug/m3	0.49	1.87		09/11/14 23:26	75-01-4	
m&p-Xylene	**7.6**	ug/m3	3.3	1.87		09/11/14 23:26	179601-23-1	
o-Xylene	**4.7**	ug/m3	1.6	1.87		09/11/14 23:26	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-126-C-17 **Lab ID: 10280459004** Collected: 09/03/14 12:12 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**29.3**	ug/m3	1.1	1.68		09/11/14 17:35	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/11/14 17:35	56-23-5	
Chlorodifluoromethane	**5.3**	ug/m3	1.2	1.68		09/11/14 17:35	75-45-6	
Chloroform	ND	ug/m3	0.83	1.68		09/11/14 17:35	67-66-3	
Dichlorodifluoromethane	**3.1**	ug/m3	1.7	1.68		09/11/14 17:35	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		09/11/14 17:35	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/11/14 17:35	107-06-2	
1,1-Dichloroethene	**80.4**	ug/m3	1.4	1.68		09/11/14 17:35	75-35-4	
cis-1,2-Dichloroethene	**74.2**	ug/m3	1.4	1.68		09/11/14 17:35	156-59-2	
trans-1,2-Dichloroethene	**8.5**	ug/m3	1.4	1.68		09/11/14 17:35	156-60-5	
Ethylbenzene	**1.1J**	ug/m3	1.5	1.68		09/11/14 17:35	100-41-4	
Methylene Chloride	ND	ug/m3	5.9	1.68		09/11/14 17:35	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/11/14 17:35	1634-04-4	
Naphthalene	**152**	ug/m3	4.5	1.68		09/11/14 17:35	91-20-3	CH,SS
Tetrachloroethene	**1.2**	ug/m3	1.2	1.68		09/11/14 17:35	127-18-4	
Toluene	**20.0**	ug/m3	1.3	1.68		09/11/14 17:35	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/11/14 17:35	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		09/11/14 17:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/11/14 17:35	79-00-5	
Trichloroethene	**26.4**	ug/m3	1.8	1.68		09/11/14 17:35	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/11/14 17:35	526-73-8	
1,2,4-Trimethylbenzene	**1.7**	ug/m3	1.7	1.68		09/11/14 17:35	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/11/14 17:35	108-67-8	
Vinyl chloride	**4030**	ug/m3	140	537.6		09/12/14 14:52	75-01-4	A3
m&p-Xylene	**3.9**	ug/m3	3.0	1.68		09/11/14 17:35	179601-23-1	
o-Xylene	**1.8**	ug/m3	1.5	1.68		09/11/14 17:35	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-127-C-17 **Lab ID: 10280459006** Collected: 09/03/14 12:17 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.74		09/11/14 18:25	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		09/11/14 18:25	56-23-5	
Chlorodifluoromethane	**27.8**	ug/m3	1.3	1.74		09/11/14 18:25	75-45-6	
Chloroform	ND	ug/m3	0.86	1.74		09/11/14 18:25	67-66-3	
Dichlorodifluoromethane	**4.1**	ug/m3	1.8	1.74		09/11/14 18:25	75-71-8	
1,1-Dichloroethane	**25.1**	ug/m3	1.4	1.74		09/11/14 18:25	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		09/11/14 18:25	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 18:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 18:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 18:25	156-60-5	
Ethylbenzene	**1.4J**	ug/m3	1.5	1.74		09/11/14 18:25	100-41-4	
Methylene Chloride	**2.1J**	ug/m3	6.1	1.74		09/11/14 18:25	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/11/14 18:25	1634-04-4	
Naphthalene	**5.9**	ug/m3	4.6	1.74		09/11/14 18:25	91-20-3	CH,SS
Tetrachloroethene	**2.6**	ug/m3	1.2	1.74		09/11/14 18:25	127-18-4	
Toluene	**5.9**	ug/m3	1.3	1.74		09/11/14 18:25	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/11/14 18:25	120-82-1	
1,1,1-Trichloroethane	**268**	ug/m3	1.9	1.74		09/11/14 18:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/11/14 18:25	79-00-5	
Trichloroethene	**410**	ug/m3	19.0	17.4		09/12/14 15:56	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 18:25	526-73-8	
1,2,4-Trimethylbenzene	**0.91J**	ug/m3	1.7	1.74		09/11/14 18:25	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 18:25	108-67-8	
Vinyl chloride	**1.1**	ug/m3	0.45	1.74		09/11/14 18:25	75-01-4	
m&p-Xylene	**5.2**	ug/m3	3.1	1.74		09/11/14 18:25	179601-23-1	
o-Xylene	**2.6**	ug/m3	1.5	1.74		09/11/14 18:25	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-130-C-17 **Lab ID: 10280459012** Collected: 09/03/14 12:30 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.64		09/11/14 20:55	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.0	1.64		09/11/14 20:55	56-23-5	
Chlorodifluoromethane	**3.4**	ug/m3	1.2	1.64		09/11/14 20:55	75-45-6	
Chloroform	ND	ug/m3	0.81	1.64		09/11/14 20:55	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.7	1.64		09/11/14 20:55	75-71-8	
1,1-Dichloroethane	ND	ug/m3	2.0	2.49		09/12/14 13:41	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.67	1.64		09/11/14 20:55	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.64		09/11/14 20:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	1.64		09/11/14 20:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.64		09/11/14 20:55	156-60-5	
Ethylbenzene	**2.9**	ug/m3	1.4	1.64		09/11/14 20:55	100-41-4	
Methylene Chloride	ND	ug/m3	5.8	1.64		09/11/14 20:55	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.64		09/11/14 20:55	1634-04-4	
Naphthalene	**12.6**	ug/m3	6.6	2.49		09/12/14 13:41	91-20-3	CH,SS
Tetrachloroethene	**8.9**	ug/m3	1.1	1.64		09/11/14 20:55	127-18-4	
Toluene	**7.0**	ug/m3	1.3	1.64		09/11/14 20:55	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	124	1.64		09/11/14 20:55	120-82-1	
1,1,1-Trichloroethane	**4.0**	ug/m3	1.8	1.64		09/11/14 20:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.90	1.64		09/11/14 20:55	79-00-5	
Trichloroethene	**3.3**	ug/m3	1.8	1.64		09/11/14 20:55	79-01-6	
1,2,3-Trimethylbenzene	**8.2**	ug/m3	1.6	1.64		09/11/14 20:55	526-73-8	
1,2,4-Trimethylbenzene	**8.2**	ug/m3	1.6	1.64		09/11/14 20:55	95-63-6	
1,3,5-Trimethylbenzene	**11.3**	ug/m3	1.6	1.64		09/11/14 20:55	108-67-8	
Vinyl chloride	ND	ug/m3	0.43	1.64		09/11/14 20:55	75-01-4	
m&p-Xylene	**6.4**	ug/m3	4.4	2.49		09/12/14 13:41	179601-23-1	
o-Xylene	**2.8**	ug/m3	2.2	2.49		09/12/14 13:41	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-133-C-17 **Lab ID: 10280459009** Collected: 09/03/14 12:57 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.68		09/11/14 19:41	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/11/14 19:41	56-23-5	
Chlorodifluoromethane	**12.7**	ug/m3	1.2	1.68		09/11/14 19:41	75-45-6	
Chloroform	ND	ug/m3	0.83	1.68		09/11/14 19:41	67-66-3	
Dichlorodifluoromethane	**4.3**	ug/m3	1.7	1.68		09/11/14 19:41	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		09/11/14 19:41	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/11/14 19:41	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		09/11/14 19:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/11/14 19:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/11/14 19:41	156-60-5	
Ethylbenzene	**1.2J**	ug/m3	1.5	1.68		09/11/14 19:41	100-41-4	
Methylene Chloride	ND	ug/m3	5.9	1.68		09/11/14 19:41	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/11/14 19:41	1634-04-4	
Naphthalene	**1.8J**	ug/m3	4.5	1.68		09/11/14 19:41	91-20-3	CH,SS
Tetrachloroethene	**1.4**	ug/m3	1.2	1.68		09/11/14 19:41	127-18-4	
Toluene	**5.1**	ug/m3	1.3	1.68		09/11/14 19:41	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/11/14 19:41	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		09/11/14 19:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/11/14 19:41	79-00-5	
Trichloroethene	**10.9**	ug/m3	1.8	1.68		09/11/14 19:41	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/11/14 19:41	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/11/14 19:41	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/11/14 19:41	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		09/11/14 19:41	75-01-4	
m&p-Xylene	**4.0**	ug/m3	3.0	1.68		09/11/14 19:41	179601-23-1	
o-Xylene	**1.5**	ug/m3	1.5	1.68		09/11/14 19:41	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-141-C-17 **Lab ID: 10280459003** Collected: 09/03/14 12:07 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.74		09/11/14 17:11	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		09/11/14 17:11	56-23-5	
Chlorodifluoromethane	**19.9**	ug/m3	1.3	1.74		09/11/14 17:11	75-45-6	
Chloroform	ND	ug/m3	0.86	1.74		09/11/14 17:11	67-66-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.8	1.74		09/11/14 17:11	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.74		09/11/14 17:11	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		09/11/14 17:11	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 17:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 17:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 17:11	156-60-5	
Ethylbenzene	**2.6**	ug/m3	1.5	1.74		09/11/14 17:11	100-41-4	
Methylene Chloride	**1.4J**	ug/m3	6.1	1.74		09/11/14 17:11	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/11/14 17:11	1634-04-4	
Naphthalene	**1.5J**	ug/m3	4.6	1.74		09/11/14 17:11	91-20-3	CH,SS
Tetrachloroethene	**1.5**	ug/m3	1.2	1.74		09/11/14 17:11	127-18-4	
Toluene	**5.2**	ug/m3	1.3	1.74		09/11/14 17:11	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/11/14 17:11	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.74		09/11/14 17:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/11/14 17:11	79-00-5	
Trichloroethene	**3.2**	ug/m3	1.9	1.74		09/11/14 17:11	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 17:11	526-73-8	
1,2,4-Trimethylbenzene	**1.5J**	ug/m3	1.7	1.74		09/11/14 17:11	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 17:11	108-67-8	
Vinyl chloride	ND	ug/m3	0.45	1.74		09/11/14 17:11	75-01-4	
m&p-Xylene	**10.3**	ug/m3	3.1	1.74		09/11/14 17:11	179601-23-1	
o-Xylene	**4.6**	ug/m3	1.5	1.74		09/11/14 17:11	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-142-C-17 **Lab ID: 10280459016** Collected: 09/03/14 12:49 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.2	1.8		09/11/14 22:36	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.8		09/11/14 22:36	56-23-5	
Chlorodifluoromethane	**3.4**	ug/m3	1.3	1.8		09/11/14 22:36	75-45-6	
Chloroform	ND	ug/m3	0.89	1.8		09/11/14 22:36	67-66-3	
Dichlorodifluoromethane	**2.8**	ug/m3	1.8	1.8		09/11/14 22:36	75-71-8	
1,1-Dichloroethane	**2.0**	ug/m3	1.5	1.8		09/11/14 22:36	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.74	1.8		09/11/14 22:36	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.8		09/11/14 22:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		09/11/14 22:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		09/11/14 22:36	156-60-5	
Ethylbenzene	**1.9**	ug/m3	1.6	1.8		09/11/14 22:36	100-41-4	
Methylene Chloride	**26.9**	ug/m3	6.4	1.8		09/11/14 22:36	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.8		09/11/14 22:36	1634-04-4	
Naphthalene	**146**	ug/m3	4.8	1.8		09/11/14 22:36	91-20-3	CH,SS
Tetrachloroethene	**2.2**	ug/m3	1.2	1.8		09/11/14 22:36	127-18-4	
Toluene	**5.9**	ug/m3	1.4	1.8		09/11/14 22:36	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	136	1.8		09/11/14 22:36	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.0	1.8		09/11/14 22:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.99	1.8		09/11/14 22:36	79-00-5	
Trichloroethene	**7.2**	ug/m3	2.0	1.8		09/11/14 22:36	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.8	1.8		09/11/14 22:36	526-73-8	
1,2,4-Trimethylbenzene	**1.8J**	ug/m3	1.8	1.8		09/11/14 22:36	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.8	1.8		09/11/14 22:36	108-67-8	
Vinyl chloride	ND	ug/m3	0.47	1.8		09/11/14 22:36	75-01-4	
m&p-Xylene	**6.4**	ug/m3	3.2	1.8		09/11/14 22:36	179601-23-1	
o-Xylene	**3.8**	ug/m3	1.6	1.8		09/11/14 22:36	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-143-C-17 **Lab ID: 10280459015** Collected: 09/03/14 12:45 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.3	1.94		09/11/14 22:10	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.94		09/11/14 22:10	56-23-5	
Chlorodifluoromethane	**3.1**	ug/m3	1.4	1.94		09/11/14 22:10	75-45-6	
Chloroform	ND	ug/m3	0.96	1.94		09/11/14 22:10	67-66-3	
Dichlorodifluoromethane	**2.4**	ug/m3	2.0	1.94		09/11/14 22:10	75-71-8	
1,1-Dichloroethane	ND	ug/m3	2.9	3.49		09/12/14 14:05	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.80	1.94		09/11/14 22:10	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.6	1.94		09/11/14 22:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.6	1.94		09/11/14 22:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.6	1.94		09/11/14 22:10	156-60-5	
Ethylbenzene	**1.2J**	ug/m3	1.7	1.94		09/11/14 22:10	100-41-4	
Methylene Chloride	**3.8J**	ug/m3	6.8	1.94		09/11/14 22:10	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.94		09/11/14 22:10	1634-04-4	
Naphthalene	**14.9**	ug/m3	5.2	1.94		09/11/14 22:10	91-20-3	CH,SS
Tetrachloroethene	**1.7**	ug/m3	1.3	1.94		09/11/14 22:10	127-18-4	
Toluene	**35.1**	ug/m3	1.5	1.94		09/11/14 22:10	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	146	1.94		09/11/14 22:10	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.2	1.94		09/11/14 22:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.1	1.94		09/11/14 22:10	79-00-5	
Trichloroethene	**2.3**	ug/m3	2.1	1.94		09/11/14 22:10	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.9	1.94		09/11/14 22:10	526-73-8	
1,2,4-Trimethylbenzene	**1.8J**	ug/m3	1.9	1.94		09/11/14 22:10	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.9	1.94		09/11/14 22:10	108-67-8	
Vinyl chloride	ND	ug/m3	0.50	1.94		09/11/14 22:10	75-01-4	
m&p-Xylene	**4.6**	ug/m3	3.4	1.94		09/11/14 22:10	179601-23-1	
o-Xylene	**1.9**	ug/m3	1.7	1.94		09/11/14 22:10	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-149-C-17 **Lab ID: 10280459005** Collected: 09/03/14 12:16 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.95J**	ug/m3	1.1	1.74		09/11/14 18:00	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		09/11/14 18:00	56-23-5	
Chlorodifluoromethane	**8.0**	ug/m3	1.3	1.74		09/11/14 18:00	75-45-6	
Chloroform	ND	ug/m3	0.86	1.74		09/11/14 18:00	67-66-3	
Dichlorodifluoromethane	**3.4**	ug/m3	1.8	1.74		09/11/14 18:00	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.74		09/11/14 18:00	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		09/11/14 18:00	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 18:00	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 18:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 18:00	156-60-5	
Ethylbenzene	**2.0**	ug/m3	1.5	1.74		09/11/14 18:00	100-41-4	
Methylene Chloride	**3.1J**	ug/m3	6.1	1.74		09/11/14 18:00	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/11/14 18:00	1634-04-4	
Naphthalene	**3.2J**	ug/m3	4.6	1.74		09/11/14 18:00	91-20-3	CH,SS
Tetrachloroethene	**1.6**	ug/m3	1.2	1.74		09/11/14 18:00	127-18-4	
Toluene	**21.1**	ug/m3	1.3	1.74		09/11/14 18:00	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/11/14 18:00	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.74		09/11/14 18:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/11/14 18:00	79-00-5	
Trichloroethene	**3.4**	ug/m3	1.9	1.74		09/11/14 18:00	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 18:00	526-73-8	
1,2,4-Trimethylbenzene	**1.3J**	ug/m3	1.7	1.74		09/11/14 18:00	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 18:00	108-67-8	
Vinyl chloride	ND	ug/m3	0.81	3.13		09/12/14 12:51	75-01-4	
m&p-Xylene	**7.2**	ug/m3	3.1	1.74		09/11/14 18:00	179601-23-1	
o-Xylene	**3.6**	ug/m3	1.5	1.74		09/11/14 18:00	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-153-C-17 **Lab ID: 10280459008** Collected: 09/03/14 12:22 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.74		09/11/14 19:16	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		09/11/14 19:16	56-23-5	
Chlorodifluoromethane	**10.7**	ug/m3	1.3	1.74		09/11/14 19:16	75-45-6	
Chloroform	ND	ug/m3	0.86	1.74		09/11/14 19:16	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.8	1.74		09/11/14 19:16	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.74		09/11/14 19:16	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		09/11/14 19:16	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 19:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 19:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 19:16	156-60-5	
Ethylbenzene	**1.8**	ug/m3	1.5	1.74		09/11/14 19:16	100-41-4	
Methylene Chloride	**0.97J**	ug/m3	6.1	1.74		09/11/14 19:16	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/11/14 19:16	1634-04-4	
Naphthalene	**2.5J**	ug/m3	4.6	1.74		09/11/14 19:16	91-20-3	CH,SS
Tetrachloroethene	**5.0**	ug/m3	1.2	1.74		09/11/14 19:16	127-18-4	
Toluene	**8.6**	ug/m3	1.3	1.74		09/11/14 19:16	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/11/14 19:16	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.74		09/11/14 19:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/11/14 19:16	79-00-5	
Trichloroethene	ND	ug/m3	1.9	1.74		09/11/14 19:16	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 19:16	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 19:16	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 19:16	108-67-8	
Vinyl chloride	ND	ug/m3	0.45	1.74		09/11/14 19:16	75-01-4	
m&p-Xylene	**6.9**	ug/m3	3.1	1.74		09/11/14 19:16	179601-23-1	
o-Xylene	**2.6**	ug/m3	1.5	1.74		09/11/14 19:16	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-155-C-17 **Lab ID: 10280459010** Collected: 09/03/14 12:23 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.2	1.8		09/11/14 20:05	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.8		09/11/14 20:05	56-23-5	
Chlorodifluoromethane	**9.4**	ug/m3	1.3	1.8		09/11/14 20:05	75-45-6	
Chloroform	ND	ug/m3	0.89	1.8		09/11/14 20:05	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.8	1.8		09/11/14 20:05	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	1.8		09/11/14 20:05	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.74	1.8		09/11/14 20:05	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.8		09/11/14 20:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		09/11/14 20:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		09/11/14 20:05	156-60-5	
Ethylbenzene	**1.4J**	ug/m3	1.6	1.8		09/11/14 20:05	100-41-4	
Methylene Chloride	**3.4J**	ug/m3	6.4	1.8		09/11/14 20:05	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.8		09/11/14 20:05	1634-04-4	
Naphthalene	**1.3J**	ug/m3	4.8	1.8		09/11/14 20:05	91-20-3	CH,SS
Tetrachloroethene	ND	ug/m3	1.2	1.8		09/11/14 20:05	127-18-4	
Toluene	**11.2**	ug/m3	1.4	1.8		09/11/14 20:05	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	136	1.8		09/11/14 20:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.0	1.8		09/11/14 20:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.99	1.8		09/11/14 20:05	79-00-5	
Trichloroethene	**1.5J**	ug/m3	2.0	1.8		09/11/14 20:05	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.8	1.8		09/11/14 20:05	526-73-8	
1,2,4-Trimethylbenzene	**0.91J**	ug/m3	1.8	1.8		09/11/14 20:05	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.8	1.8		09/11/14 20:05	108-67-8	
Vinyl chloride	ND	ug/m3	0.47	1.8		09/11/14 20:05	75-01-4	
m&p-Xylene	**4.5**	ug/m3	3.2	1.8		09/11/14 20:05	179601-23-1	
o-Xylene	**2.1**	ug/m3	1.6	1.8		09/11/14 20:05	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: BCK-1-17 **Lab ID: 10280465029** Collected: 09/02/14 15:13 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/14/14 06:59	71-43-2	
Carbon tetrachloride	**0.53J**	ug/m3	0.89	1.39		09/14/14 06:59	56-23-5	
Chlorodifluoromethane	**1.6**	ug/m3	1.0	1.39		09/14/14 06:59	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/14/14 06:59	67-66-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.4	1.39		09/14/14 06:59	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/14/14 06:59	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/14/14 06:59	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 06:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 06:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 06:59	156-60-5	
Ethylbenzene	ND	ug/m3	1.2	1.39		09/14/14 06:59	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/14/14 06:59	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/14/14 06:59	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/14/14 06:59	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/14/14 06:59	127-18-4	
Toluene	**2.0**	ug/m3	1.1	1.39		09/14/14 06:59	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/14/14 06:59	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/14/14 06:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/14/14 06:59	79-00-5	
Trichloroethene	**11.9**	ug/m3	1.5	1.39		09/14/14 06:59	79-01-6	
1,2,3-Trimethylbenzene	**0.75J**	ug/m3	1.4	1.39		09/14/14 06:59	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 06:59	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 06:59	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/14/14 06:59	75-01-4	
m&p-Xylene	**1.0J**	ug/m3	2.4	1.39		09/14/14 06:59	179601-23-1	
o-Xylene	ND	ug/m3	1.2	1.39		09/14/14 06:59	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: BCK-2-17 **Lab ID: 10280465030** Collected: 09/02/14 15:11 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**2.4**	ug/m3	0.45	1.39		09/14/14 00:59	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/14/14 00:59	56-23-5	
Chlorodifluoromethane	**6.3**	ug/m3	1.0	1.39		09/14/14 00:59	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/14/14 00:59	67-66-3	
Dichlorodifluoromethane	**2.0**	ug/m3	1.4	1.39		09/14/14 00:59	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/14/14 00:59	75-34-3	
1,2-Dichloroethane	**0.71**	ug/m3	0.57	1.39		09/14/14 00:59	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 00:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 00:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 00:59	156-60-5	
Ethylbenzene	**1.7**	ug/m3	1.2	1.39		09/14/14 00:59	100-41-4	
Methylene Chloride	**1.8J**	ug/m3	4.9	1.39		09/14/14 00:59	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/14/14 00:59	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/14/14 00:59	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/14/14 00:59	127-18-4	
Toluene	**33.6**	ug/m3	1.1	1.39		09/14/14 00:59	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.1	1.39		09/14/14 00:59	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/14/14 00:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/14/14 00:59	79-00-5	
Trichloroethene	**7.9**	ug/m3	0.76	1.39		09/14/14 00:59	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 00:59	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 00:59	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.5	1.39		09/14/14 00:59	108-67-8	
Vinyl chloride	ND	ug/m3	0.72	1.39		09/14/14 00:59	75-01-4	
m&p-Xylene	**3.1**	ug/m3	2.4	1.39		09/14/14 00:59	179601-23-1	
o-Xylene	**1.5**	ug/m3	1.2	1.39		09/14/14 00:59	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: BCK-3-17 **Lab ID: 10280465031** Collected: 09/02/14 15:06 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.48**	ug/m3	0.45	1.39		09/14/14 00:12	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/14/14 00:12	56-23-5	
Chlorodifluoromethane	**2.7**	ug/m3	1.0	1.39		09/14/14 00:12	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/14/14 00:12	67-66-3	
Dichlorodifluoromethane	**1.6**	ug/m3	1.4	1.39		09/14/14 00:12	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/14/14 00:12	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/14/14 00:12	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 00:12	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 00:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 00:12	156-60-5	
Ethylbenzene	**1.1J**	ug/m3	1.2	1.39		09/14/14 00:12	100-41-4	
Methylene Chloride	**0.61J**	ug/m3	4.9	1.39		09/14/14 00:12	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/14/14 00:12	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/14/14 00:12	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/14/14 00:12	127-18-4	
Toluene	**3.0**	ug/m3	1.1	1.39		09/14/14 00:12	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.1	1.39		09/14/14 00:12	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/14/14 00:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/14/14 00:12	79-00-5	
Trichloroethene	**1.1**	ug/m3	0.76	1.39		09/14/14 00:12	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 00:12	526-73-8	
1,2,4-Trimethylbenzene	**1.0J**	ug/m3	1.4	1.39		09/14/14 00:12	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.5	1.39		09/14/14 00:12	108-67-8	
Vinyl chloride	ND	ug/m3	0.72	1.39		09/14/14 00:12	75-01-4	
m&p-Xylene	**1.8J**	ug/m3	2.4	1.39		09/14/14 00:12	179601-23-1	
o-Xylene	**1.1J**	ug/m3	1.2	1.39		09/14/14 00:12	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: BCK-4-17 **Lab ID: 10280465032** Collected: 09/02/14 15:03 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.84**	ug/m3	0.45	1.39		09/13/14 21:29	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/13/14 21:29	56-23-5	
Chlorodifluoromethane	**3.0**	ug/m3	1.0	1.39		09/13/14 21:29	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/13/14 21:29	67-66-3	
Dichlorodifluoromethane	**1.7**	ug/m3	1.4	1.39		09/13/14 21:29	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/13/14 21:29	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/13/14 21:29	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/13/14 21:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/13/14 21:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/13/14 21:29	156-60-5	
Ethylbenzene	**1.2**	ug/m3	1.2	1.39		09/13/14 21:29	100-41-4	
Methylene Chloride	**0.86J**	ug/m3	4.9	1.39		09/13/14 21:29	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/13/14 21:29	1634-04-4	
Naphthalene	**1.2J**	ug/m3	3.7	1.39		09/13/14 21:29	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/13/14 21:29	127-18-4	
Toluene	**11.5**	ug/m3	1.1	1.39		09/13/14 21:29	108-88-3	
1,2,4-Trichlorobenzene	**1.6J**	ug/m3	2.1	1.39		09/13/14 21:29	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/13/14 21:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/13/14 21:29	79-00-5	
Trichloroethene	ND	ug/m3	0.76	1.39		09/13/14 21:29	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/13/14 21:29	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/13/14 21:29	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.5	1.39		09/13/14 21:29	108-67-8	
Vinyl chloride	ND	ug/m3	0.72	1.39		09/13/14 21:29	75-01-4	
m&p-Xylene	**2.3J**	ug/m3	2.4	1.39		09/13/14 21:29	179601-23-1	
o-Xylene	**1.3**	ug/m3	1.2	1.39		09/13/14 21:29	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-015-A-17 **Lab ID: 10280465003** Collected: 09/02/14 15:38 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.8**	ug/m3	0.44	1.34		09/13/14 22:39	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/13/14 22:39	56-23-5	
Chlorodifluoromethane	**6.4**	ug/m3	0.96	1.34		09/13/14 22:39	75-45-6	
Chloroform	**0.76**	ug/m3	0.66	1.34		09/13/14 22:39	67-66-3	
Dichlorodifluoromethane	**1.8**	ug/m3	1.4	1.34		09/13/14 22:39	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/13/14 22:39	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/13/14 22:39	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 22:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 22:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 22:39	156-60-5	
Ethylbenzene	**143**	ug/m3	1.2	1.34		09/13/14 22:39	100-41-4	
Methylene Chloride	**0.91J**	ug/m3	4.7	1.34		09/13/14 22:39	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/13/14 22:39	1634-04-4	
Naphthalene	ND	ug/m3	3.6	1.34		09/13/14 22:39	91-20-3	
Tetrachloroethene	ND	ug/m3	0.92	1.34		09/13/14 22:39	127-18-4	
Toluene	**4030**	ug/m3	165	214.4		09/16/14 04:41	108-88-3	A3,IS
1,2,4-Trichlorobenzene	ND	ug/m3	2.0	1.34		09/13/14 22:39	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/13/14 22:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/13/14 22:39	79-00-5	
Trichloroethene	ND	ug/m3	0.74	1.34		09/13/14 22:39	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/13/14 22:39	526-73-8	
1,2,4-Trimethylbenzene	**1.5**	ug/m3	1.3	1.34		09/13/14 22:39	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.3	1.34		09/13/14 22:39	108-67-8	
Vinyl chloride	ND	ug/m3	0.70	1.34		09/13/14 22:39	75-01-4	
m&p-Xylene	**501**	ug/m3	377	214.4		09/16/14 04:41	179601-23-1	A3
o-Xylene	**195**	ug/m3	1.2	1.34		09/13/14 22:39	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-018-A-17 **Lab ID: 10280465001** Collected: 09/02/14 15:26 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.86**	ug/m3	0.48	1.49		09/14/14 01:22	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.95	1.49		09/14/14 01:22	56-23-5	
Chlorodifluoromethane	**3.8**	ug/m3	1.1	1.49		09/14/14 01:22	75-45-6	
Chloroform	**15.0**	ug/m3	0.74	1.49		09/14/14 01:22	67-66-3	
Dichlorodifluoromethane	**2.4**	ug/m3	1.5	1.49		09/14/14 01:22	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.49		09/14/14 01:22	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	1.49		09/14/14 01:22	107-06-2	
1,1-Dichloroethene	**3.1**	ug/m3	1.2	1.49		09/14/14 01:22	75-35-4	
cis-1,2-Dichloroethene	**0.90J**	ug/m3	1.2	1.49		09/14/14 01:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/14/14 01:22	156-60-5	
Ethylbenzene	**25.1**	ug/m3	1.3	1.49		09/14/14 01:22	100-41-4	
Methylene Chloride	**0.83J**	ug/m3	5.3	1.49		09/14/14 01:22	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.49		09/14/14 01:22	1634-04-4	
Naphthalene	ND	ug/m3	4.0	1.49		09/14/14 01:22	91-20-3	
Tetrachloroethene	ND	ug/m3	1.0	1.49		09/14/14 01:22	127-18-4	
Toluene	**373**	ug/m3	22.9	29.8		09/16/14 07:09	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.2	1.49		09/14/14 01:22	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.49		09/14/14 01:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.82	1.49		09/14/14 01:22	79-00-5	
Trichloroethene	**5.5**	ug/m3	0.82	1.49		09/14/14 01:22	79-01-6	
1,2,3-Trimethylbenzene	**1.8**	ug/m3	1.5	1.49		09/14/14 01:22	526-73-8	
1,2,4-Trimethylbenzene	**1.6**	ug/m3	1.5	1.49		09/14/14 01:22	95-63-6	
1,3,5-Trimethylbenzene	**2.1J**	ug/m3	3.7	1.49		09/14/14 01:22	108-67-8	
Vinyl chloride	ND	ug/m3	0.77	1.49		09/14/14 01:22	75-01-4	
m&p-Xylene	**107**	ug/m3	2.6	1.49		09/14/14 01:22	179601-23-1	
o-Xylene	**39.0**	ug/m3	1.3	1.49		09/14/14 01:22	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-033-B-17 **Lab ID: 10280465013** Collected: 09/02/14 16:34 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.75**	ug/m3	0.45	1.39		09/14/14 11:04	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/14/14 11:04	56-23-5	
Chlorodifluoromethane	**82.9**	ug/m3	1.0	1.39		09/14/14 11:04	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/14/14 11:04	67-66-3	
Dichlorodifluoromethane	**2.0**	ug/m3	1.4	1.39		09/14/14 11:04	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/14/14 11:04	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/14/14 11:04	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 11:04	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 11:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 11:04	156-60-5	
Ethylbenzene	**2.1**	ug/m3	1.2	1.39		09/14/14 11:04	100-41-4	
Methylene Chloride	**2.6J**	ug/m3	4.9	1.39		09/14/14 11:04	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/14/14 11:04	1634-04-4	
Naphthalene	**2.7J**	ug/m3	3.7	1.39		09/14/14 11:04	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/14/14 11:04	127-18-4	
Toluene	**33.8**	ug/m3	1.1	1.39		09/16/14 09:08	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.1	1.39		09/14/14 11:04	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/14/14 11:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/14/14 11:04	79-00-5	
Trichloroethene	**1.2**	ug/m3	0.76	1.39		09/14/14 11:04	79-01-6	
1,2,3-Trimethylbenzene	**1.3J**	ug/m3	1.4	1.39		09/14/14 11:04	526-73-8	
1,2,4-Trimethylbenzene	**1.6**	ug/m3	1.4	1.39		09/14/14 11:04	95-63-6	
1,3,5-Trimethylbenzene	**2.0J**	ug/m3	3.5	1.39		09/14/14 11:04	108-67-8	
Vinyl chloride	ND	ug/m3	0.72	1.39		09/14/14 11:04	75-01-4	
m&p-Xylene	**3.0**	ug/m3	2.4	1.39		09/16/14 09:08	179601-23-1	
o-Xylene	**0.95J**	ug/m3	1.2	1.39		09/16/14 09:08	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-075-A-17 **Lab ID: 10280465004** Collected: 09/02/14 16:22 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.47	1.44		09/13/14 23:03	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/13/14 23:03	56-23-5	
Chlorodifluoromethane	**5.3**	ug/m3	1.0	1.44		09/13/14 23:03	75-45-6	
Chloroform	ND	ug/m3	0.71	1.44		09/13/14 23:03	67-66-3	
Dichlorodifluoromethane	**2.8**	ug/m3	1.5	1.44		09/13/14 23:03	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/13/14 23:03	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/13/14 23:03	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/13/14 23:03	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/13/14 23:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/13/14 23:03	156-60-5	
Ethylbenzene	**1.5**	ug/m3	1.3	1.44		09/13/14 23:03	100-41-4	
Methylene Chloride	**0.60J**	ug/m3	5.1	1.44		09/13/14 23:03	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/13/14 23:03	1634-04-4	
Naphthalene	ND	ug/m3	3.8	1.44		09/13/14 23:03	91-20-3	
Tetrachloroethene	ND	ug/m3	0.99	1.44		09/13/14 23:03	127-18-4	
Toluene	**15.4**	ug/m3	1.1	1.44		09/16/14 13:49	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.2	1.44		09/13/14 23:03	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/13/14 23:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/13/14 23:03	79-00-5	
Trichloroethene	ND	ug/m3	0.79	1.44		09/13/14 23:03	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/13/14 23:03	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/13/14 23:03	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.6	1.44		09/13/14 23:03	108-67-8	
Vinyl chloride	ND	ug/m3	0.75	1.44		09/13/14 23:03	75-01-4	
m&p-Xylene	**3.3**	ug/m3	2.5	1.44		09/13/14 23:03	179601-23-1	
o-Xylene	**1.6**	ug/m3	1.3	1.44		09/13/14 23:03	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-076-A-17 **Lab ID: 10280465005** Collected: 09/02/14 16:15 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.93	1.44		09/14/14 09:05	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/14/14 09:05	56-23-5	
Chlorodifluoromethane	**4.5**	ug/m3	1.0	1.44		09/14/14 09:05	75-45-6	
Chloroform	ND	ug/m3	0.71	1.44		09/14/14 09:05	67-66-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.5	1.44		09/14/14 09:05	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/14/14 09:05	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/14/14 09:05	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/14/14 09:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/14/14 09:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/14/14 09:05	156-60-5	
Ethylbenzene	**1.7**	ug/m3	1.3	1.44		09/14/14 09:05	100-41-4	
Methylene Chloride	ND	ug/m3	5.1	1.44		09/14/14 09:05	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/14/14 09:05	1634-04-4	
Naphthalene	ND	ug/m3	3.8	1.44		09/14/14 09:05	91-20-3	
Tetrachloroethene	ND	ug/m3	0.99	1.44		09/14/14 09:05	127-18-4	
Toluene	**60.6**	ug/m3	1.1	1.44		09/14/14 09:05	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	109	1.44		09/14/14 09:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/14/14 09:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/14/14 09:05	79-00-5	
Trichloroethene	**2.4**	ug/m3	1.6	1.44		09/14/14 22:01	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/14/14 09:05	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/14/14 09:05	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/14/14 09:05	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/14/14 09:05	75-01-4	
m&p-Xylene	**7.0**	ug/m3	2.5	1.44		09/14/14 09:05	179601-23-1	
o-Xylene	**2.7**	ug/m3	1.3	1.44		09/14/14 09:05	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-079-A-17 **Lab ID: 10280465006** Collected: 09/02/14 15:50 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/13/14 21:47	71-43-2	
Carbon tetrachloride	**0.46J**	ug/m3	0.89	1.39		09/13/14 21:47	56-23-5	
Chlorodifluoromethane	**3.0**	ug/m3	1.0	1.39		09/13/14 21:47	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/13/14 21:47	67-66-3	
Dichlorodifluoromethane	**2.4**	ug/m3	1.4	1.39		09/13/14 21:47	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/13/14 21:47	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/13/14 21:47	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/13/14 21:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/13/14 21:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/13/14 21:47	156-60-5	
Ethylbenzene	**5.3**	ug/m3	1.2	1.39		09/13/14 21:47	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/13/14 21:47	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/13/14 21:47	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/13/14 21:47	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/13/14 21:47	127-18-4	
Toluene	**166**	ug/m3	10.7	13.9		09/14/14 22:47	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/13/14 21:47	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/13/14 21:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/13/14 21:47	79-00-5	
Trichloroethene	**2.4**	ug/m3	1.5	1.39		09/14/14 23:12	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/13/14 21:47	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/13/14 21:47	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/13/14 21:47	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/13/14 21:47	75-01-4	
m&p-Xylene	**23.0**	ug/m3	2.4	1.39		09/13/14 21:47	179601-23-1	
o-Xylene	**8.0**	ug/m3	1.2	1.39		09/13/14 21:47	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-081-A-17 **Lab ID: 10280465007** Collected: 09/02/14 16:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.50	1.55		09/14/14 11:27	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.99	1.55		09/14/14 11:27	56-23-5	
Chlorodifluoromethane	**36.0**	ug/m3	1.1	1.55		09/14/14 11:27	75-45-6	
Chloroform	ND	ug/m3	0.77	1.55		09/14/14 11:27	67-66-3	
Dichlorodifluoromethane	**1.9**	ug/m3	1.6	1.55		09/14/14 11:27	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.3	1.55		09/14/14 11:27	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.64	1.55		09/14/14 11:27	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.55		09/14/14 11:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	1.55		09/14/14 11:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.55		09/14/14 11:27	156-60-5	
Ethylbenzene	**2.8**	ug/m3	1.4	1.55		09/14/14 11:27	100-41-4	
Methylene Chloride	**1.0J**	ug/m3	5.5	1.55		09/14/14 11:27	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.55		09/14/14 11:27	1634-04-4	
Naphthalene	**1.5J**	ug/m3	4.1	1.55		09/14/14 11:27	91-20-3	SS
Tetrachloroethene	ND	ug/m3	1.1	1.55		09/14/14 11:27	127-18-4	
Toluene	**74.3**	ug/m3	1.2	1.55		09/14/14 11:27	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.3	1.55		09/14/14 11:27	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.55		09/14/14 11:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.85	1.55		09/14/14 11:27	79-00-5	
Trichloroethene	ND	ug/m3	0.85	1.55		09/14/14 11:27	79-01-6	
1,2,3-Trimethylbenzene	**1.4J**	ug/m3	1.5	1.55		09/14/14 11:27	526-73-8	
1,2,4-Trimethylbenzene	**1.5J**	ug/m3	1.5	1.55		09/14/14 11:27	95-63-6	
1,3,5-Trimethylbenzene	**1.9J**	ug/m3	3.9	1.55		09/14/14 11:27	108-67-8	
Vinyl chloride	ND	ug/m3	0.81	1.55		09/14/14 11:27	75-01-4	
m&p-Xylene	**9.8**	ug/m3	2.7	1.55		09/14/14 11:27	179601-23-1	
o-Xylene	**3.5**	ug/m3	1.4	1.55		09/14/14 11:27	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-093-A-17 **Lab ID: 10280465008** Collected: 09/02/14 15:32 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.73**	ug/m3	0.47	1.44		09/13/14 22:16	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/13/14 22:16	56-23-5	
Chlorodifluoromethane	**3.4**	ug/m3	1.0	1.44		09/13/14 22:16	75-45-6	
Chloroform	**0.73**	ug/m3	0.71	1.44		09/13/14 22:16	67-66-3	
Dichlorodifluoromethane	**2.2**	ug/m3	1.5	1.44		09/13/14 22:16	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/13/14 22:16	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/13/14 22:16	107-06-2	
1,1-Dichloroethene	**1.3**	ug/m3	1.2	1.44		09/13/14 22:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/13/14 22:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/13/14 22:16	156-60-5	
Ethylbenzene	**16.2**	ug/m3	1.3	1.44		09/13/14 22:16	100-41-4	
Methylene Chloride	**0.70J**	ug/m3	5.1	1.44		09/13/14 22:16	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/13/14 22:16	1634-04-4	
Naphthalene	**1.5J**	ug/m3	3.8	1.44		09/13/14 22:16	91-20-3	SS
Tetrachloroethene	**1.0**	ug/m3	0.99	1.44		09/13/14 22:16	127-18-4	
Toluene	**214**	ug/m3	22.2	28.8		09/16/14 04:18	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.2	1.44		09/13/14 22:16	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/13/14 22:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/13/14 22:16	79-00-5	
Trichloroethene	**9.2**	ug/m3	0.79	1.44		09/13/14 22:16	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/13/14 22:16	526-73-8	
1,2,4-Trimethylbenzene	**1.2J**	ug/m3	1.4	1.44		09/13/14 22:16	95-63-6	
1,3,5-Trimethylbenzene	**1.8J**	ug/m3	3.6	1.44		09/13/14 22:16	108-67-8	
Vinyl chloride	**0.45J**	ug/m3	0.75	1.44		09/13/14 22:16	75-01-4	
m&p-Xylene	**71.5**	ug/m3	2.5	1.44		09/13/14 22:16	179601-23-1	
o-Xylene	**26.4**	ug/m3	1.3	1.44		09/13/14 22:16	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-095-A-17 **Lab ID: 10280465009** Collected: 09/02/14 16:28 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.44	1.34		09/13/14 23:49	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/13/14 23:49	56-23-5	
Chlorodifluoromethane	**129**	ug/m3	0.96	1.34		09/16/14 09:33	75-45-6	
Chloroform	ND	ug/m3	0.66	1.34		09/13/14 23:49	67-66-3	
Dichlorodifluoromethane	**1.9**	ug/m3	1.4	1.34		09/13/14 23:49	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/13/14 23:49	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/13/14 23:49	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 23:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 23:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 23:49	156-60-5	
Ethylbenzene	**1.2**	ug/m3	1.2	1.34		09/13/14 23:49	100-41-4	
Methylene Chloride	**0.66J**	ug/m3	4.7	1.34		09/13/14 23:49	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/13/14 23:49	1634-04-4	
Naphthalene	ND	ug/m3	3.6	1.34		09/13/14 23:49	91-20-3	
Tetrachloroethene	ND	ug/m3	0.92	1.34		09/13/14 23:49	127-18-4	
Toluene	**19.2**	ug/m3	1.0	1.34		09/13/14 23:49	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.0	1.34		09/13/14 23:49	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/13/14 23:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/13/14 23:49	79-00-5	
Trichloroethene	ND	ug/m3	0.74	1.34		09/13/14 23:49	79-01-6	
1,2,3-Trimethylbenzene	**1.2J**	ug/m3	1.3	1.34		09/13/14 23:49	526-73-8	
1,2,4-Trimethylbenzene	**1.2J**	ug/m3	1.3	1.34		09/13/14 23:49	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.3	1.34		09/13/14 23:49	108-67-8	
Vinyl chloride	ND	ug/m3	0.70	1.34		09/13/14 23:49	75-01-4	
m&p-Xylene	**2.3J**	ug/m3	2.4	1.34		09/13/14 23:49	179601-23-1	
o-Xylene	**1.2**	ug/m3	1.2	1.34		09/13/14 23:49	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-117-A-17 **Lab ID: 10280465010** Collected: 09/02/14 15:49 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/14/14 07:48	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/14/14 07:48	56-23-5	
Chlorodifluoromethane	**3.6**	ug/m3	1.0	1.39		09/14/14 07:48	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/14/14 07:48	67-66-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.4	1.39		09/14/14 07:48	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/14/14 07:48	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/14/14 07:48	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 07:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 07:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 07:48	156-60-5	
Ethylbenzene	**5.4**	ug/m3	1.2	1.39		09/14/14 07:48	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/14/14 07:48	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/14/14 07:48	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/14/14 07:48	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/14/14 07:48	127-18-4	
Toluene	**109**	ug/m3	11.5	14.9		09/15/14 04:25	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/14/14 07:48	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/14/14 07:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/14/14 07:48	79-00-5	
Trichloroethene	**11.2**	ug/m3	1.5	1.39		09/14/14 07:48	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 07:48	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 07:48	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 07:48	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/14/14 07:48	75-01-4	
m&p-Xylene	**25.8**	ug/m3	2.4	1.39		09/14/14 07:48	179601-23-1	
o-Xylene	**8.7**	ug/m3	1.2	1.39		09/14/14 07:48	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-118-A-17 **Lab ID: 10280465011** Collected: 09/02/14 15:53 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.73**	ug/m3	0.44	1.34		09/13/14 23:26	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/13/14 23:26	56-23-5	
Chlorodifluoromethane	**10.6**	ug/m3	0.96	1.34		09/13/14 23:26	75-45-6	
Chloroform	ND	ug/m3	0.66	1.34		09/13/14 23:26	67-66-3	
Dichlorodifluoromethane	**2.3**	ug/m3	1.4	1.34		09/13/14 23:26	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/13/14 23:26	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/13/14 23:26	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 23:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 23:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 23:26	156-60-5	
Ethylbenzene	**10.5**	ug/m3	1.2	1.34		09/13/14 23:26	100-41-4	
Methylene Chloride	ND	ug/m3	4.7	1.34		09/13/14 23:26	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/13/14 23:26	1634-04-4	
Naphthalene	ND	ug/m3	3.6	1.34		09/13/14 23:26	91-20-3	
Tetrachloroethene	ND	ug/m3	0.92	1.34		09/13/14 23:26	127-18-4	
Toluene	**60.0**	ug/m3	5.2	6.8		09/16/14 03:34	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.0	1.34		09/13/14 23:26	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/13/14 23:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/13/14 23:26	79-00-5	
Trichloroethene	**1.6**	ug/m3	0.74	1.34		09/13/14 23:26	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/13/14 23:26	526-73-8	
1,2,4-Trimethylbenzene	**1.6**	ug/m3	1.3	1.34		09/13/14 23:26	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.3	1.34		09/13/14 23:26	108-67-8	
Vinyl chloride	ND	ug/m3	0.70	1.34		09/13/14 23:26	75-01-4	
m&p-Xylene	**41.6**	ug/m3	2.4	1.34		09/13/14 23:26	179601-23-1	
o-Xylene	**13.9**	ug/m3	1.2	1.34		09/13/14 23:26	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-121-B-17 **Lab ID: 10280465014** Collected: 09/02/14 16:38 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.97	1.49		09/12/14 00:39	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.95	1.49		09/12/14 00:39	56-23-5	
Chlorodifluoromethane	**3.6**	ug/m3	1.1	1.49		09/12/14 00:39	75-45-6	
Chloroform	ND	ug/m3	0.74	1.49		09/12/14 00:39	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.5	1.49		09/12/14 00:39	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.49		09/12/14 00:39	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	1.49		09/12/14 00:39	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		09/12/14 00:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/12/14 00:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/12/14 00:39	156-60-5	
Ethylbenzene	**1.5**	ug/m3	1.3	1.49		09/12/14 00:39	100-41-4	
Methylene Chloride	**0.67J**	ug/m3	5.3	1.49		09/12/14 00:39	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.49		09/12/14 00:39	1634-04-4	
Naphthalene	ND	ug/m3	4.0	1.49		09/12/14 00:39	91-20-3	
Tetrachloroethene	ND	ug/m3	1.0	1.49		09/12/14 00:39	127-18-4	
Toluene	**56.2**	ug/m3	1.1	1.49		09/12/14 00:39	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	112	1.49		09/12/14 00:39	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.49		09/12/14 00:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.82	1.49		09/12/14 00:39	79-00-5	
Trichloroethene	ND	ug/m3	1.6	1.49		09/12/14 00:39	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/12/14 00:39	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/12/14 00:39	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/12/14 00:39	108-67-8	
Vinyl chloride	ND	ug/m3	0.39	1.49		09/12/14 00:39	75-01-4	
m&p-Xylene	**5.4**	ug/m3	2.6	1.49		09/12/14 00:39	179601-23-1	
o-Xylene	**2.3**	ug/m3	1.3	1.49		09/12/14 00:39	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-136-A-17 **Lab ID: 10280465012** Collected: 09/02/14 16:10 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/14/14 07:24	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/14/14 07:24	56-23-5	
Chlorodifluoromethane	**3.3**	ug/m3	1.0	1.39		09/14/14 07:24	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/14/14 07:24	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.4	1.39		09/14/14 07:24	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/14/14 07:24	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/14/14 07:24	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 07:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 07:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 07:24	156-60-5	
Ethylbenzene	**1.0J**	ug/m3	1.2	1.39		09/14/14 07:24	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/14/14 07:24	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/14/14 07:24	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/14/14 07:24	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/14/14 07:24	127-18-4	
Toluene	**33.8**	ug/m3	1.1	1.39		09/14/14 07:24	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/14/14 07:24	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/14/14 07:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/14/14 07:24	79-00-5	
Trichloroethene	**9.1**	ug/m3	1.5	1.39		09/14/14 07:24	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 07:24	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 07:24	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 07:24	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/14/14 07:24	75-01-4	
m&p-Xylene	**4.0**	ug/m3	2.4	1.39		09/14/14 07:24	179601-23-1	
o-Xylene	**1.3**	ug/m3	1.2	1.39		09/14/14 07:24	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-138-A-17 **Lab ID: 10280465002** Collected: 09/02/14 15:30 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.87	1.34		09/11/14 23:50	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/11/14 23:50	56-23-5	
Chlorodifluoromethane	**1.1**	ug/m3	0.96	1.34		09/11/14 23:50	75-45-6	
Chloroform	ND	ug/m3	0.66	1.34		09/11/14 23:50	67-66-3	
Dichlorodifluoromethane	**2.8**	ug/m3	1.4	1.34		09/11/14 23:50	75-71-8	
1,1-Dichloroethane	**0.62J**	ug/m3	1.1	1.34		09/11/14 23:50	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/11/14 23:50	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/11/14 23:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/11/14 23:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/11/14 23:50	156-60-5	
Ethylbenzene	**12.8**	ug/m3	1.2	1.34		09/11/14 23:50	100-41-4	
Methylene Chloride	ND	ug/m3	4.7	1.34		09/11/14 23:50	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/11/14 23:50	1634-04-4	
Naphthalene	**13.7**	ug/m3	3.6	1.34		09/11/14 23:50	91-20-3	CH,SS
Tetrachloroethene	ND	ug/m3	0.92	1.34		09/11/14 23:50	127-18-4	
Toluene	**229**	ug/m3	10.3	13.4		09/14/14 17:11	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	101	1.34		09/11/14 23:50	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/11/14 23:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/11/14 23:50	79-00-5	
Trichloroethene	**5.5**	ug/m3	1.5	1.34		09/11/14 23:50	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/11/14 23:50	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/11/14 23:50	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/11/14 23:50	108-67-8	
Vinyl chloride	ND	ug/m3	0.35	1.34		09/11/14 23:50	75-01-4	
m&p-Xylene	**59.8**	ug/m3	2.4	1.34		09/11/14 23:50	179601-23-1	
o-Xylene	**24.5**	ug/m3	1.2	1.34		09/11/14 23:50	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-140-B-17 **Lab ID: 10280465015** Collected: 09/02/14 16:44 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.97	1.49		09/14/14 09:30	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.95	1.49		09/14/14 09:30	56-23-5	
Chlorodifluoromethane	**4.0**	ug/m3	1.1	1.49		09/14/14 09:30	75-45-6	
Chloroform	ND	ug/m3	0.74	1.49		09/14/14 09:30	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.5	1.49		09/14/14 09:30	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.49		09/14/14 09:30	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	1.49		09/14/14 09:30	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		09/14/14 09:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/14/14 09:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/14/14 09:30	156-60-5	
Ethylbenzene	**1.7**	ug/m3	1.3	1.49		09/14/14 09:30	100-41-4	
Methylene Chloride	ND	ug/m3	5.3	1.49		09/14/14 09:30	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.49		09/14/14 09:30	1634-04-4	
Naphthalene	ND	ug/m3	4.0	1.49		09/14/14 09:30	91-20-3	
Tetrachloroethene	ND	ug/m3	1.0	1.49		09/14/14 09:30	127-18-4	
Toluene	**69.5**	ug/m3	1.1	1.49		09/14/14 09:30	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	112	1.49		09/14/14 09:30	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.49		09/14/14 09:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.82	1.49		09/14/14 09:30	79-00-5	
Trichloroethene	**2.5**	ug/m3	1.6	1.49		09/14/14 22:25	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/14/14 09:30	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/14/14 09:30	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/14/14 09:30	108-67-8	
Vinyl chloride	ND	ug/m3	0.39	1.49		09/14/14 09:30	75-01-4	
m&p-Xylene	**6.1**	ug/m3	2.6	1.49		09/14/14 09:30	179601-23-1	
o-Xylene	**2.3**	ug/m3	1.3	1.49		09/14/14 09:30	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-DUP1-A-17 **Lab ID: 10280465016** Collected: 09/02/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.1**	ug/m3	0.48	1.49		09/14/14 10:17	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.95	1.49		09/14/14 10:17	56-23-5	
Chlorodifluoromethane	**4.5**	ug/m3	1.1	1.49		09/14/14 10:17	75-45-6	
Chloroform	**14.8**	ug/m3	0.74	1.49		09/14/14 10:17	67-66-3	
Dichlorodifluoromethane	**1.5J**	ug/m3	1.5	1.49		09/14/14 10:17	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.49		09/14/14 10:17	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	1.49		09/14/14 10:17	107-06-2	
1,1-Dichloroethene	**3.5**	ug/m3	1.2	1.49		09/14/14 10:17	75-35-4	
cis-1,2-Dichloroethene	**0.85J**	ug/m3	1.2	1.49		09/14/14 10:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/14/14 10:17	156-60-5	
Ethylbenzene	**27.0**	ug/m3	1.3	1.49		09/14/14 10:17	100-41-4	
Methylene Chloride	**1.6J**	ug/m3	5.3	1.49		09/14/14 10:17	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.49		09/14/14 10:17	1634-04-4	
Naphthalene	**9.8**	ug/m3	4.0	1.49		09/14/14 10:17	91-20-3	SS
Tetrachloroethene	ND	ug/m3	1.0	1.49		09/14/14 10:17	127-18-4	
Toluene	**425**	ug/m3	22.9	29.8		09/16/14 07:31	108-88-3	IS
1,2,4-Trichlorobenzene	**2.2J**	ug/m3	2.2	1.49		09/14/14 10:17	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.49		09/14/14 10:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.82	1.49		09/14/14 10:17	79-00-5	
Trichloroethene	**4.8**	ug/m3	0.82	1.49		09/14/14 10:17	79-01-6	
1,2,3-Trimethylbenzene	**1.4J**	ug/m3	1.5	1.49		09/14/14 10:17	526-73-8	
1,2,4-Trimethylbenzene	**1.3J**	ug/m3	1.5	1.49		09/14/14 10:17	95-63-6	
1,3,5-Trimethylbenzene	**2.2J**	ug/m3	3.7	1.49		09/14/14 10:17	108-67-8	
Vinyl chloride	ND	ug/m3	0.77	1.49		09/14/14 10:17	75-01-4	
m&p-Xylene	**117**	ug/m3	2.6	1.49		09/14/14 10:17	179601-23-1	
o-Xylene	**39.3**	ug/m3	1.3	1.49		09/14/14 10:17	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-DUP2-A-17 **Lab ID: 10280465017** Collected: 09/02/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**2.0**	ug/m3	0.44	1.34		09/14/14 10:41	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/14/14 10:41	56-23-5	
Chlorodifluoromethane	**8.0**	ug/m3	0.96	1.34		09/14/14 10:41	75-45-6	
Chloroform	**0.76**	ug/m3	0.66	1.34		09/14/14 10:41	67-66-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.4	1.34		09/14/14 10:41	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/14/14 10:41	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/14/14 10:41	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/14/14 10:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/14/14 10:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/14/14 10:41	156-60-5	
Ethylbenzene	**149**	ug/m3	1.2	1.34		09/14/14 10:41	100-41-4	
Methylene Chloride	ND	ug/m3	4.7	1.34		09/14/14 10:41	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/14/14 10:41	1634-04-4	
Naphthalene	**1.6J**	ug/m3	3.6	1.34		09/14/14 10:41	91-20-3	SS
Tetrachloroethene	**1.8**	ug/m3	0.92	1.34		09/14/14 10:41	127-18-4	
Toluene	**4390**	ug/m3	165	214.4		09/16/14 08:44	108-88-3	IS
1,2,4-Trichlorobenzene	ND	ug/m3	2.0	1.34		09/14/14 10:41	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/14/14 10:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/14/14 10:41	79-00-5	
Trichloroethene	ND	ug/m3	0.74	1.34		09/14/14 10:41	79-01-6	
1,2,3-Trimethylbenzene	**1.2J**	ug/m3	1.3	1.34		09/14/14 10:41	526-73-8	
1,2,4-Trimethylbenzene	**1.5**	ug/m3	1.3	1.34		09/14/14 10:41	95-63-6	
1,3,5-Trimethylbenzene	**2.0J**	ug/m3	3.3	1.34		09/14/14 10:41	108-67-8	
Vinyl chloride	ND	ug/m3	0.70	1.34		09/14/14 10:41	75-01-4	
m&p-Xylene	**533**	ug/m3	377	214.4		09/16/14 08:44	179601-23-1	
o-Xylene	**202**	ug/m3	189	214.4		09/16/14 08:44	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-075-A-17 **Lab ID: 10280465028** Collected: 09/02/14 09:30 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.74		09/14/14 08:13	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		09/14/14 08:13	56-23-5	
Chlorodifluoromethane	**9.6**	ug/m3	1.3	1.74		09/14/14 08:13	75-45-6	
Chloroform	ND	ug/m3	0.86	1.74		09/14/14 08:13	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.8	1.74		09/14/14 08:13	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.74		09/14/14 08:13	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		09/14/14 08:13	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		09/14/14 08:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/14/14 08:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/14/14 08:13	156-60-5	
Ethylbenzene	**1.2J**	ug/m3	1.5	1.74		09/14/14 08:13	100-41-4	
Methylene Chloride	ND	ug/m3	6.1	1.74		09/14/14 08:13	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/14/14 08:13	1634-04-4	
Naphthalene	**384**	ug/m3	46.3	17.4		09/15/14 02:50	91-20-3	CH,SS
Tetrachloroethene	**0.78J**	ug/m3	1.2	1.74		09/14/14 08:13	127-18-4	
Toluene	**11.0**	ug/m3	1.3	1.74		09/14/14 08:13	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/14/14 08:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.74		09/14/14 08:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/14/14 08:13	79-00-5	
Trichloroethene	**14.3**	ug/m3	1.9	1.74		09/14/14 08:13	79-01-6	
1,2,3-Trimethylbenzene	**16.2**	ug/m3	1.7	1.74		09/14/14 08:13	526-73-8	
1,2,4-Trimethylbenzene	**51.2**	ug/m3	1.7	1.74		09/14/14 08:13	95-63-6	
1,3,5-Trimethylbenzene	**23.2**	ug/m3	1.7	1.74		09/14/14 08:13	108-67-8	
Vinyl chloride	ND	ug/m3	0.45	1.74		09/14/14 08:13	75-01-4	
m&p-Xylene	**4.7**	ug/m3	3.1	1.74		09/14/14 08:13	179601-23-1	
o-Xylene	**4.2**	ug/m3	1.5	1.74		09/14/14 08:13	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-076-A-17 **Lab ID: 10280465024** Collected: 09/02/14 09:27 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.2	1.8		09/13/14 21:22	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.8		09/13/14 21:22	56-23-5	
Chlorodifluoromethane	**6.0**	ug/m3	1.3	1.8		09/13/14 21:22	75-45-6	
Chloroform	ND	ug/m3	0.89	1.8		09/13/14 21:22	67-66-3	
Dichlorodifluoromethane	**4.6**	ug/m3	1.8	1.8		09/13/14 21:22	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	1.8		09/13/14 21:22	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.74	1.8		09/13/14 21:22	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.8		09/13/14 21:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		09/13/14 21:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		09/13/14 21:22	156-60-5	
Ethylbenzene	**3.9**	ug/m3	1.6	1.8		09/13/14 21:22	100-41-4	
Methylene Chloride	**2.1J**	ug/m3	6.4	1.8		09/13/14 21:22	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.8		09/13/14 21:22	1634-04-4	
Naphthalene	**162**	ug/m3	4.8	1.8		09/13/14 21:22	91-20-3	CH,SS
Tetrachloroethene	**1.3**	ug/m3	1.2	1.8		09/13/14 21:22	127-18-4	
Toluene	**112**	ug/m3	1.4	1.8		09/13/14 21:22	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	136	1.8		09/13/14 21:22	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.0	1.8		09/13/14 21:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.99	1.8		09/13/14 21:22	79-00-5	
Trichloroethene	**8.1**	ug/m3	2.0	1.8		09/14/14 20:16	79-01-6	
1,2,3-Trimethylbenzene	**21.2**	ug/m3	1.8	1.8		09/13/14 21:22	526-73-8	
1,2,4-Trimethylbenzene	**41.5**	ug/m3	1.8	1.8		09/13/14 21:22	95-63-6	
1,3,5-Trimethylbenzene	**15.3**	ug/m3	1.8	1.8		09/13/14 21:22	108-67-8	
Vinyl chloride	ND	ug/m3	0.47	1.8		09/13/14 21:22	75-01-4	
m&p-Xylene	**17.5**	ug/m3	3.2	1.8		09/13/14 21:22	179601-23-1	
o-Xylene	**7.6**	ug/m3	1.6	1.8		09/13/14 21:22	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-079-A-17 **Lab ID: 10280465022** Collected: 09/02/14 10:05 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.68		09/14/14 08:40	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/14/14 08:40	56-23-5	
Chlorodifluoromethane	**2.6**	ug/m3	1.2	1.68		09/14/14 08:40	75-45-6	
Chloroform	ND	ug/m3	0.83	1.68		09/14/14 08:40	67-66-3	
Dichlorodifluoromethane	**3.3**	ug/m3	1.7	1.68		09/14/14 08:40	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		09/14/14 08:40	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/14/14 08:40	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		09/14/14 08:40	75-35-4	
cis-1,2-Dichloroethene	**11.3**	ug/m3	1.4	1.68		09/14/14 08:40	156-59-2	
trans-1,2-Dichloroethene	**2.3**	ug/m3	1.4	1.68		09/14/14 08:40	156-60-5	
Ethylbenzene	**28.9**	ug/m3	1.5	1.68		09/14/14 08:40	100-41-4	
Methylene Chloride	**6.3**	ug/m3	5.9	1.68		09/14/14 08:40	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/14/14 08:40	1634-04-4	
Naphthalene	ND	ug/m3	4.5	1.68		09/14/14 08:40	91-20-3	
Tetrachloroethene	**1.4**	ug/m3	1.2	1.68		09/14/14 08:40	127-18-4	
Toluene	**535**	ug/m3	25.9	33.6		09/15/14 04:02	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/14/14 08:40	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		09/14/14 08:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/14/14 08:40	79-00-5	
Trichloroethene	**33.8**	ug/m3	1.8	1.68		09/14/14 08:40	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/14/14 08:40	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/14/14 08:40	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/14/14 08:40	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		09/14/14 08:40	75-01-4	
m&p-Xylene	**132**	ug/m3	3.0	1.68		09/14/14 08:40	179601-23-1	
o-Xylene	**52.0**	ug/m3	1.5	1.68		09/14/14 08:40	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-081-A-17 **Lab ID: 10280465021** Collected: 09/02/14 10:11 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.4**	ug/m3	1.3	1.94		09/14/14 06:10	71-43-2	
Carbon tetrachloride	**0.67J**	ug/m3	1.2	1.94		09/14/14 06:10	56-23-5	
Chlorodifluoromethane	**23.9**	ug/m3	1.4	1.94		09/14/14 06:10	75-45-6	
Chloroform	ND	ug/m3	0.96	1.94		09/14/14 06:10	67-66-3	
Dichlorodifluoromethane	**3.5**	ug/m3	2.0	1.94		09/14/14 06:10	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.6	1.94		09/14/14 06:10	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.80	1.94		09/14/14 06:10	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.6	1.94		09/14/14 06:10	75-35-4	
cis-1,2-Dichloroethene	**0.96J**	ug/m3	1.6	1.94		09/14/14 06:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.6	1.94		09/14/14 06:10	156-60-5	
Ethylbenzene	**4.2**	ug/m3	1.7	1.94		09/14/14 06:10	100-41-4	
Methylene Chloride	**2.0J**	ug/m3	6.8	1.94		09/14/14 06:10	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.94		09/14/14 06:10	1634-04-4	
Naphthalene	**265**	ug/m3	5.2	1.94		09/14/14 06:10	91-20-3	CH,SS
Tetrachloroethene	**5.0**	ug/m3	1.3	1.94		09/14/14 06:10	127-18-4	
Toluene	**14.5**	ug/m3	1.5	1.94		09/14/14 06:10	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	146	1.94		09/14/14 06:10	120-82-1	
1,1,1-Trichloroethane	**8.8**	ug/m3	2.2	1.94		09/14/14 06:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.1	1.94		09/14/14 06:10	79-00-5	
Trichloroethene	**6.1**	ug/m3	2.1	1.94		09/15/14 00:02	79-01-6	
1,2,3-Trimethylbenzene	**3560**	ug/m3	96.9	97		09/14/14 23:34	526-73-8	
1,2,4-Trimethylbenzene	**241**	ug/m3	96.9	97		09/14/14 23:34	95-63-6	
1,3,5-Trimethylbenzene	**3490**	ug/m3	96.9	97		09/14/14 23:34	108-67-8	
Vinyl chloride	ND	ug/m3	0.50	1.94		09/14/14 06:10	75-01-4	
m&p-Xylene	**37.4**	ug/m3	3.4	1.94		09/14/14 06:10	179601-23-1	
o-Xylene	**32.8**	ug/m3	1.7	1.94		09/14/14 06:10	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-095-A-17 **Lab ID: 10280465025** Collected: 09/02/14 09:36 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.3**	ug/m3	1.1	1.74		09/13/14 20:57	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		09/13/14 20:57	56-23-5	
Chlorodifluoromethane	**83.1**	ug/m3	1.3	1.74		09/13/14 20:57	75-45-6	
Chloroform	ND	ug/m3	0.86	1.74		09/13/14 20:57	67-66-3	
Dichlorodifluoromethane	**3.2**	ug/m3	1.8	1.74		09/13/14 20:57	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.74		09/13/14 20:57	75-34-3	
1,2-Dichloroethane	**1.2**	ug/m3	0.71	1.74		09/13/14 20:57	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		09/13/14 20:57	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/13/14 20:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/13/14 20:57	156-60-5	
Ethylbenzene	**1.8**	ug/m3	1.5	1.74		09/13/14 20:57	100-41-4	
Methylene Chloride	**7.9**	ug/m3	6.1	1.74		09/13/14 20:57	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/13/14 20:57	1634-04-4	
Naphthalene	**115**	ug/m3	4.6	1.74		09/13/14 20:57	91-20-3	CH,SS
Tetrachloroethene	**1.5**	ug/m3	1.2	1.74		09/13/14 20:57	127-18-4	
Toluene	**37.5**	ug/m3	1.3	1.74		09/13/14 20:57	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/13/14 20:57	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.74		09/13/14 20:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/13/14 20:57	79-00-5	
Trichloroethene	**6.9**	ug/m3	1.9	1.74		09/14/14 20:42	79-01-6	
1,2,3-Trimethylbenzene	**8.9**	ug/m3	1.7	1.74		09/13/14 20:57	526-73-8	
1,2,4-Trimethylbenzene	**5.6**	ug/m3	1.7	1.74		09/13/14 20:57	95-63-6	
1,3,5-Trimethylbenzene	**6.3**	ug/m3	1.7	1.74		09/13/14 20:57	108-67-8	
Vinyl chloride	ND	ug/m3	0.45	1.74		09/13/14 20:57	75-01-4	
m&p-Xylene	**4.5**	ug/m3	3.1	1.74		09/13/14 20:57	179601-23-1	
o-Xylene	**1.6**	ug/m3	1.5	1.74		09/13/14 20:57	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-100-B-17 **Lab ID: 10280465027** Collected: 09/02/14 09:51 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.2	1.87		09/13/14 23:02	71-43-2	
Carbon tetrachloride	**22.4**	ug/m3	1.2	1.87		09/13/14 23:02	56-23-5	
Chlorodifluoromethane	**3.2**	ug/m3	1.3	1.87		09/13/14 23:02	75-45-6	
Chloroform	**9.4**	ug/m3	0.93	1.87		09/13/14 23:02	67-66-3	
Dichlorodifluoromethane	**4.4**	ug/m3	1.9	1.87		09/13/14 23:02	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	1.87		09/13/14 23:02	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.77	1.87		09/13/14 23:02	107-06-2	
1,1-Dichloroethene	**6.4**	ug/m3	1.5	1.87		09/13/14 23:02	75-35-4	
cis-1,2-Dichloroethene	**2.0**	ug/m3	1.5	1.87		09/13/14 23:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.87		09/13/14 23:02	156-60-5	
Ethylbenzene	**0.86J**	ug/m3	1.6	1.87		09/13/14 23:02	100-41-4	
Methylene Chloride	**1.2J**	ug/m3	6.6	1.87		09/13/14 23:02	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.87		09/13/14 23:02	1634-04-4	
Naphthalene	ND	ug/m3	5.0	1.87		09/13/14 23:02	91-20-3	
Tetrachloroethene	**5.3**	ug/m3	1.3	1.87		09/13/14 23:02	127-18-4	
Toluene	**9.8**	ug/m3	1.4	1.87		09/13/14 23:02	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	141	1.87		09/13/14 23:02	120-82-1	
1,1,1-Trichloroethane	**2.8**	ug/m3	2.1	1.87		09/13/14 23:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.0	1.87		09/13/14 23:02	79-00-5	
Trichloroethene	**29.9**	ug/m3	2.0	1.87		09/14/14 21:08	79-01-6	
1,2,3-Trimethylbenzene	**5.3**	ug/m3	1.9	1.87		09/13/14 23:02	526-73-8	
1,2,4-Trimethylbenzene	**4.8**	ug/m3	1.9	1.87		09/13/14 23:02	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.9	1.87		09/13/14 23:02	108-67-8	
Vinyl chloride	ND	ug/m3	0.49	1.87		09/13/14 23:02	75-01-4	
m&p-Xylene	**2.8J**	ug/m3	3.3	1.87		09/13/14 23:02	179601-23-1	
o-Xylene	**1.3J**	ug/m3	1.6	1.87		09/13/14 23:02	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-101-B-17 **Lab ID: 10280465026** Collected: 09/02/14 09:42 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.2	1.87		09/14/14 10:19	71-43-2	
Carbon tetrachloride	**3.0**	ug/m3	1.2	1.87		09/14/14 10:19	56-23-5	
Chlorodifluoromethane	**5.1**	ug/m3	1.3	1.87		09/14/14 10:19	75-45-6	
Chloroform	ND	ug/m3	0.93	1.87		09/14/14 10:19	67-66-3	
Dichlorodifluoromethane	**8.1**	ug/m3	1.9	1.87		09/14/14 10:19	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	1.87		09/14/14 10:19	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.77	1.87		09/14/14 10:19	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.87		09/14/14 10:19	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	1.87		09/14/14 10:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.87		09/14/14 10:19	156-60-5	
Ethylbenzene	**1.3J**	ug/m3	1.6	1.87		09/14/14 10:19	100-41-4	
Methylene Chloride	**4.3J**	ug/m3	6.6	1.87		09/14/14 10:19	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.87		09/14/14 10:19	1634-04-4	
Naphthalene	**7.7**	ug/m3	5.0	1.87		09/14/14 10:19	91-20-3	CH,SS
Tetrachloroethene	**50.8**	ug/m3	1.3	1.87		09/14/14 10:19	127-18-4	
Toluene	**19.3**	ug/m3	1.4	1.87		09/14/14 10:19	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	141	1.87		09/14/14 10:19	120-82-1	
1,1,1-Trichloroethane	**167**	ug/m3	2.1	1.87		09/14/14 10:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.0	1.87		09/14/14 10:19	79-00-5	
Trichloroethene	**88.8**	ug/m3	2.0	1.87		09/14/14 10:19	79-01-6	
1,2,3-Trimethylbenzene	**6.6**	ug/m3	1.9	1.87		09/14/14 10:19	526-73-8	
1,2,4-Trimethylbenzene	**9.9**	ug/m3	1.9	1.87		09/14/14 10:19	95-63-6	
1,3,5-Trimethylbenzene	**4.6**	ug/m3	1.9	1.87		09/14/14 10:19	108-67-8	
Vinyl chloride	ND	ug/m3	0.49	1.87		09/14/14 10:19	75-01-4	
m&p-Xylene	**4.4**	ug/m3	3.3	1.87		09/14/14 10:19	179601-23-1	
o-Xylene	**2.4**	ug/m3	1.6	1.87		09/14/14 10:19	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-118-A-17 **Lab ID: 10280465020** Collected: 09/02/14 10:08 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**2.4**	ug/m3	1.2	1.87		09/13/14 22:36	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.87		09/13/14 22:36	56-23-5	
Chlorodifluoromethane	**8.6**	ug/m3	1.3	1.87		09/13/14 22:36	75-45-6	
Chloroform	**34.6**	ug/m3	0.93	1.87		09/13/14 22:36	67-66-3	
Dichlorodifluoromethane	**3.2**	ug/m3	1.9	1.87		09/13/14 22:36	75-71-8	
1,1-Dichloroethane	**110**	ug/m3	1.5	1.87		09/13/14 22:36	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.77	1.87		09/13/14 22:36	107-06-2	
1,1-Dichloroethene	**1220**	ug/m3	75.7	93.5		09/15/14 15:15	75-35-4	IS
cis-1,2-Dichloroethene	**365**	ug/m3	75.7	93.5		09/15/14 15:15	156-59-2	IS
trans-1,2-Dichloroethene	**19.8**	ug/m3	1.5	1.87		09/13/14 22:36	156-60-5	
Ethylbenzene	**26.4**	ug/m3	1.6	1.87		09/13/14 22:36	100-41-4	
Methylene Chloride	**17.2**	ug/m3	6.6	1.87		09/13/14 22:36	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.87		09/13/14 22:36	1634-04-4	
Naphthalene	**22.8**	ug/m3	5.0	1.87		09/13/14 22:36	91-20-3	CH,SS
Tetrachloroethene	**1.8**	ug/m3	1.3	1.87		09/13/14 22:36	127-18-4	
Toluene	**47.3**	ug/m3	1.4	1.87		09/13/14 22:36	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	141	1.87		09/13/14 22:36	120-82-1	
1,1,1-Trichloroethane	**43.8**	ug/m3	2.1	1.87		09/13/14 22:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.0	1.87		09/13/14 22:36	79-00-5	
Trichloroethene	**4980**	ug/m3	102	93.5		09/15/14 15:15	79-01-6	IS
1,2,3-Trimethylbenzene	**14.3**	ug/m3	1.9	1.87		09/13/14 22:36	526-73-8	
1,2,4-Trimethylbenzene	**30.9**	ug/m3	1.9	1.87		09/13/14 22:36	95-63-6	
1,3,5-Trimethylbenzene	**19.5**	ug/m3	1.9	1.87		09/13/14 22:36	108-67-8	
Vinyl chloride	**4.0**	ug/m3	0.49	1.87		09/13/14 22:36	75-01-4	
m&p-Xylene	**167**	ug/m3	3.3	1.87		09/13/14 22:36	179601-23-1	
o-Xylene	**80.4**	ug/m3	1.6	1.87		09/13/14 22:36	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-136-A-17 **Lab ID: 10280465023** Collected: 09/02/14 09:13 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**3.7**	ug/m3	1.1	1.74		09/13/14 20:08	71-43-2	
Carbon tetrachloride	**0.63J**	ug/m3	1.1	1.74		09/13/14 20:08	56-23-5	
Chlorodifluoromethane	**9.5**	ug/m3	1.3	1.74		09/13/14 20:08	75-45-6	
Chloroform	**208**	ug/m3	0.86	1.74		09/13/14 20:08	67-66-3	
Dichlorodifluoromethane	**3.3**	ug/m3	1.8	1.74		09/13/14 20:08	75-71-8	
1,1-Dichloroethane	**1.3J**	ug/m3	1.4	1.74		09/13/14 20:08	75-34-3	
1,2-Dichloroethane	**0.38J**	ug/m3	0.71	1.74		09/13/14 20:08	107-06-2	
1,1-Dichloroethene	**0.95J**	ug/m3	1.4	1.74		09/13/14 20:08	75-35-4	
cis-1,2-Dichloroethene	**19.3**	ug/m3	1.4	1.74		09/13/14 20:08	156-59-2	
trans-1,2-Dichloroethene	**10.4**	ug/m3	1.4	1.74		09/13/14 20:08	156-60-5	
Ethylbenzene	**1.5J**	ug/m3	1.5	1.74		09/13/14 20:08	100-41-4	
Methylene Chloride	**24.7**	ug/m3	6.1	1.74		09/13/14 20:08	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/13/14 20:08	1634-04-4	
Naphthalene	**15.2**	ug/m3	4.6	1.74		09/13/14 20:08	91-20-3	CH,SS
Tetrachloroethene	**10.9**	ug/m3	1.2	1.74		09/13/14 20:08	127-18-4	
Toluene	**30.5**	ug/m3	1.3	1.74		09/13/14 20:08	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/13/14 20:08	120-82-1	
1,1,1-Trichloroethane	**1.7J**	ug/m3	1.9	1.74		09/13/14 20:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/13/14 20:08	79-00-5	
Trichloroethene	**19900**	ug/m3	608	556.8		09/15/14 15:59	79-01-6	A3,IS
1,2,3-Trimethylbenzene	**4.8**	ug/m3	1.7	1.74		09/13/14 20:08	526-73-8	
1,2,4-Trimethylbenzene	**8.6**	ug/m3	1.7	1.74		09/13/14 20:08	95-63-6	
1,3,5-Trimethylbenzene	**3.0**	ug/m3	1.7	1.74		09/13/14 20:08	108-67-8	
Vinyl chloride	ND	ug/m3	0.45	1.74		09/13/14 20:08	75-01-4	
m&p-Xylene	**6.0**	ug/m3	3.1	1.74		09/13/14 20:08	179601-23-1	
o-Xylene	**3.1**	ug/m3	1.5	1.74		09/13/14 20:08	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-DUP1-A-17 **Lab ID: 10280465018** Collected: 09/02/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**5.4**	ug/m3	1.1	1.74		09/13/14 20:33	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		09/13/14 20:33	56-23-5	
Chlorodifluoromethane	**12.7**	ug/m3	1.3	1.74		09/13/14 20:33	75-45-6	
Chloroform	**231J**	ug/m3	276	556.8		09/15/14 15:37	67-66-3	A3,IS
Dichlorodifluoromethane	**2.9**	ug/m3	1.8	1.74		09/13/14 20:33	75-71-8	
1,1-Dichloroethane	**1.9**	ug/m3	1.4	1.74		09/13/14 20:33	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		09/13/14 20:33	107-06-2	
1,1-Dichloroethene	**1.2J**	ug/m3	1.4	1.74		09/13/14 20:33	75-35-4	
cis-1,2-Dichloroethene	**27.8**	ug/m3	1.4	1.74		09/13/14 20:33	156-59-2	
trans-1,2-Dichloroethene	**16.4**	ug/m3	1.4	1.74		09/13/14 20:33	156-60-5	
Ethylbenzene	**2.2**	ug/m3	1.5	1.74		09/13/14 20:33	100-41-4	
Methylene Chloride	**1.4J**	ug/m3	6.1	1.74		09/13/14 20:33	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/13/14 20:33	1634-04-4	
Naphthalene	**25.1**	ug/m3	4.6	1.74		09/13/14 20:33	91-20-3	CH,SS
Tetrachloroethene	**15.4**	ug/m3	1.2	1.74		09/13/14 20:33	127-18-4	
Toluene	**24.0**	ug/m3	1.3	1.74		09/13/14 20:33	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/13/14 20:33	120-82-1	
1,1,1-Trichloroethane	**2.8**	ug/m3	1.9	1.74		09/13/14 20:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/13/14 20:33	79-00-5	
Trichloroethene	**42200**	ug/m3	608	556.8		09/15/14 15:37	79-01-6	A3,IS
1,2,3-Trimethylbenzene	**7.1**	ug/m3	1.7	1.74		09/13/14 20:33	526-73-8	
1,2,4-Trimethylbenzene	**14.0**	ug/m3	1.7	1.74		09/13/14 20:33	95-63-6	
1,3,5-Trimethylbenzene	**4.7**	ug/m3	1.7	1.74		09/13/14 20:33	108-67-8	
Vinyl chloride	ND	ug/m3	0.45	1.74		09/13/14 20:33	75-01-4	
m&p-Xylene	**6.7**	ug/m3	3.1	1.74		09/13/14 20:33	179601-23-1	
o-Xylene	**3.1**	ug/m3	1.5	1.74		09/13/14 20:33	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-DUP2-A-17 **Lab ID: 10280465019** Collected: 09/02/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**ND**	ug/m3	1.1	1.68		09/14/14 09:54	71-43-2	
Carbon tetrachloride	**0.56J**	ug/m3	1.1	1.68		09/14/14 09:54	56-23-5	
Chlorodifluoromethane	**3.3**	ug/m3	1.2	1.68		09/14/14 09:54	75-45-6	
Chloroform	**ND**	ug/m3	0.83	1.68		09/14/14 09:54	67-66-3	
Dichlorodifluoromethane	**3.5**	ug/m3	1.7	1.68		09/14/14 09:54	75-71-8	
1,1-Dichloroethane	**ND**	ug/m3	1.4	1.68		09/14/14 09:54	75-34-3	
1,2-Dichloroethane	**ND**	ug/m3	0.69	1.68		09/14/14 09:54	107-06-2	
1,1-Dichloroethene	**ND**	ug/m3	1.4	1.68		09/14/14 09:54	75-35-4	
cis-1,2-Dichloroethene	**1.6**	ug/m3	1.4	1.68		09/14/14 09:54	156-59-2	
trans-1,2-Dichloroethene	**ND**	ug/m3	1.4	1.68		09/14/14 09:54	156-60-5	
Ethylbenzene	**30.5**	ug/m3	1.5	1.68		09/14/14 09:54	100-41-4	
Methylene Chloride	**2.6J**	ug/m3	5.9	1.68		09/14/14 09:54	75-09-2	
Methyl-tert-butyl ether	**ND**	ug/m3	1.2	1.68		09/14/14 09:54	1634-04-4	
Naphthalene	**ND**	ug/m3	4.5	1.68		09/14/14 09:54	91-20-3	
Tetrachloroethene	**1.0J**	ug/m3	1.2	1.68		09/14/14 09:54	127-18-4	
Toluene	**729**	ug/m3	25.9	33.6		09/15/14 03:40	108-88-3	
1,2,4-Trichlorobenzene	**ND**	ug/m3	127	1.68		09/14/14 09:54	120-82-1	
1,1,1-Trichloroethane	**ND**	ug/m3	1.9	1.68		09/14/14 09:54	71-55-6	
1,1,2-Trichloroethane	**ND**	ug/m3	0.92	1.68		09/14/14 09:54	79-00-5	
Trichloroethene	**12.9**	ug/m3	1.8	1.68		09/14/14 09:54	79-01-6	
1,2,3-Trimethylbenzene	**ND**	ug/m3	1.7	1.68		09/14/14 09:54	526-73-8	
1,2,4-Trimethylbenzene	**ND**	ug/m3	1.7	1.68		09/14/14 09:54	95-63-6	
1,3,5-Trimethylbenzene	**ND**	ug/m3	1.7	1.68		09/14/14 09:54	108-67-8	
Vinyl chloride	**ND**	ug/m3	0.44	1.68		09/14/14 09:54	75-01-4	
m&p-Xylene	**146**	ug/m3	3.0	1.68		09/14/14 09:54	179601-23-1	
o-Xylene	**55.5**	ug/m3	1.5	1.68		09/14/14 09:54	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-001-C-17 **Lab ID: 10280474016** Collected: 09/03/14 17:48 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.93	1.44		09/15/14 19:05	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/15/14 19:05	56-23-5	
Chlorodifluoromethane	**1.7**	ug/m3	1.0	1.44		09/15/14 19:05	75-45-6	
Chloroform	ND	ug/m3	0.71	1.44		09/15/14 19:05	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.5	1.44		09/15/14 19:05	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/15/14 19:05	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/15/14 19:05	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 19:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 19:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 19:05	156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.44		09/15/14 19:05	100-41-4	
Methylene Chloride	ND	ug/m3	5.1	1.44		09/15/14 19:05	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/15/14 19:05	1634-04-4	
Naphthalene	ND	ug/m3	3.8	1.44		09/15/14 19:05	91-20-3	
Tetrachloroethene	ND	ug/m3	0.99	1.44		09/15/14 19:05	127-18-4	
Toluene	**1.8**	ug/m3	1.1	1.44		09/15/14 19:05	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	109	1.44		09/15/14 19:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/15/14 19:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/15/14 19:05	79-00-5	
Trichloroethene	ND	ug/m3	1.6	1.44		09/15/14 19:05	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 19:05	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 19:05	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 19:05	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/15/14 19:05	75-01-4	
m&p-Xylene	**1.7J**	ug/m3	2.5	1.44		09/15/14 19:05	179601-23-1	
o-Xylene	**0.73J**	ug/m3	1.3	1.44		09/15/14 19:05	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-004-C-17 **Lab ID: 10280474017** Collected: 09/03/14 17:55 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**7.4**	ug/m3	0.87	1.34		09/15/14 21:59	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/15/14 21:59	56-23-5	
Chlorodifluoromethane	ND	ug/m3	0.96	1.34		09/15/14 21:59	75-45-6	
Chloroform	ND	ug/m3	0.66	1.34		09/15/14 21:59	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.4	1.34		09/15/14 21:59	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/15/14 21:59	75-34-3	
1,2-Dichloroethane	**4.6**	ug/m3	0.55	1.34		09/15/14 21:59	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/15/14 21:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/15/14 21:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/15/14 21:59	156-60-5	
Ethylbenzene	**3.4**	ug/m3	1.2	1.34		09/15/14 21:59	100-41-4	
Methylene Chloride	**6.6**	ug/m3	4.7	1.34		09/15/14 21:59	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/15/14 21:59	1634-04-4	
Naphthalene	ND	ug/m3	3.6	1.34		09/15/14 21:59	91-20-3	
Tetrachloroethene	ND	ug/m3	0.92	1.34		09/15/14 21:59	127-18-4	
Toluene	**174**	ug/m3	10.7	13.9		09/16/14 14:40	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	101	1.34		09/15/14 21:59	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/15/14 21:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/15/14 21:59	79-00-5	
Trichloroethene	**1.8**	ug/m3	1.5	1.34		09/15/14 21:59	79-01-6	
1,2,3-Trimethylbenzene	**1.2J**	ug/m3	1.3	1.34		09/15/14 21:59	526-73-8	
1,2,4-Trimethylbenzene	**2.3**	ug/m3	1.3	1.34		09/15/14 21:59	95-63-6	
1,3,5-Trimethylbenzene	**1.3J**	ug/m3	1.3	1.34		09/15/14 21:59	108-67-8	
Vinyl chloride	ND	ug/m3	0.35	1.34		09/15/14 21:59	75-01-4	
m&p-Xylene	**9.7**	ug/m3	2.4	1.34		09/15/14 21:59	179601-23-1	
o-Xylene	**3.7**	ug/m3	1.2	1.34		09/15/14 21:59	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-005-C-17 **Lab ID: 10280474018** Collected: 09/03/14 17:56 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/16/14 00:02	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/16/14 00:02	56-23-5	
Chlorodifluoromethane	**3.5**	ug/m3	1.0	1.39		09/16/14 00:02	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/16/14 00:02	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.4	1.39		09/16/14 00:02	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/16/14 00:02	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/16/14 00:02	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 00:02	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 00:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 00:02	156-60-5	
Ethylbenzene	ND	ug/m3	1.2	1.39		09/16/14 00:02	100-41-4	
Methylene Chloride	**1.4J**	ug/m3	4.9	1.39		09/16/14 00:02	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/16/14 00:02	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/16/14 00:02	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/16/14 00:02	127-18-4	
Toluene	**5.1**	ug/m3	1.1	1.39		09/16/14 00:02	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/16/14 00:02	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/16/14 00:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/16/14 00:02	79-00-5	
Trichloroethene	ND	ug/m3	1.5	1.39		09/16/14 00:02	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 00:02	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 00:02	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 00:02	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/16/14 00:02	75-01-4	
m&p-Xylene	**2.0J**	ug/m3	2.4	1.39		09/16/14 00:02	179601-23-1	
o-Xylene	**0.79J**	ug/m3	1.2	1.39		09/16/14 00:02	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-051-C-17 **Lab ID: 10280474026** Collected: 09/03/14 16:28 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.0	1.55		09/15/14 20:19	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.99	1.55		09/15/14 20:19	56-23-5	
Chlorodifluoromethane	**38.2**	ug/m3	1.1	1.55		09/15/14 20:19	75-45-6	
Chloroform	ND	ug/m3	0.77	1.55		09/15/14 20:19	67-66-3	
Dichlorodifluoromethane	**3.5**	ug/m3	1.6	1.55		09/15/14 20:19	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.3	1.55		09/15/14 20:19	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.64	1.55		09/15/14 20:19	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.55		09/15/14 20:19	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	1.55		09/15/14 20:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.55		09/15/14 20:19	156-60-5	
Ethylbenzene	ND	ug/m3	1.4	1.55		09/15/14 20:19	100-41-4	
Methylene Chloride	ND	ug/m3	5.5	1.55		09/15/14 20:19	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.55		09/15/14 20:19	1634-04-4	
Naphthalene	**5.0**	ug/m3	4.1	1.55		09/15/14 20:19	91-20-3	SS
Tetrachloroethene	ND	ug/m3	1.1	1.55		09/15/14 20:19	127-18-4	
Toluene	**4.1**	ug/m3	1.2	1.55		09/15/14 20:19	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	117	1.55		09/15/14 20:19	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.55		09/15/14 20:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.85	1.55		09/15/14 20:19	79-00-5	
Trichloroethene	ND	ug/m3	1.7	1.55		09/15/14 20:19	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.5	1.55		09/15/14 20:19	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.55		09/15/14 20:19	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.55		09/15/14 20:19	108-67-8	
Vinyl chloride	ND	ug/m3	0.40	1.55		09/15/14 20:19	75-01-4	
m&p-Xylene	**2.1J**	ug/m3	2.7	1.55		09/15/14 20:19	179601-23-1	
o-Xylene	**0.84J**	ug/m3	1.4	1.55		09/15/14 20:19	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-065-C-17 **Lab ID: 10280474025** Collected: 09/03/14 16:25 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.93	1.44		09/16/14 00:27	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/16/14 00:27	56-23-5	
Chlorodifluoromethane	**13.7**	ug/m3	1.0	1.44		09/16/14 00:27	75-45-6	
Chloroform	ND	ug/m3	0.71	1.44		09/16/14 00:27	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.5	1.44		09/16/14 00:27	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/16/14 00:27	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/16/14 00:27	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 00:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 00:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 00:27	156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.44		09/16/14 00:27	100-41-4	
Methylene Chloride	**4.2J**	ug/m3	5.1	1.44		09/16/14 00:27	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/16/14 00:27	1634-04-4	
Naphthalene	**6.1**	ug/m3	3.8	1.44		09/16/14 00:27	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.99	1.44		09/16/14 00:27	127-18-4	
Toluene	**11.4**	ug/m3	1.1	1.44		09/16/14 00:27	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	109	1.44		09/16/14 00:27	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/16/14 00:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/16/14 00:27	79-00-5	
Trichloroethene	ND	ug/m3	1.6	1.44		09/16/14 00:27	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/16/14 00:27	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/16/14 00:27	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/16/14 00:27	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/16/14 00:27	75-01-4	
m&p-Xylene	**1.1J**	ug/m3	2.5	1.44		09/16/14 00:27	179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.44		09/16/14 00:27	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-088-C-17 **Lab ID: 10280474021** Collected: 09/03/14 18:05 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.93	1.44		09/15/14 22:23	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/15/14 22:23	56-23-5	
Chlorodifluoromethane	**7.5**	ug/m3	1.0	1.44		09/15/14 22:23	75-45-6	
Chloroform	ND	ug/m3	0.71	1.44		09/15/14 22:23	67-66-3	
Dichlorodifluoromethane	**3.2**	ug/m3	1.5	1.44		09/15/14 22:23	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/15/14 22:23	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/15/14 22:23	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 22:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 22:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 22:23	156-60-5	
Ethylbenzene	**0.85J**	ug/m3	1.3	1.44		09/15/14 22:23	100-41-4	
Methylene Chloride	**0.58J**	ug/m3	5.1	1.44		09/15/14 22:23	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/15/14 22:23	1634-04-4	
Naphthalene	**5.8**	ug/m3	3.8	1.44		09/15/14 22:23	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.99	1.44		09/15/14 22:23	127-18-4	
Toluene	**6.0**	ug/m3	1.1	1.44		09/15/14 22:23	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	109	1.44		09/15/14 22:23	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/15/14 22:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/15/14 22:23	79-00-5	
Trichloroethene	**1.8**	ug/m3	1.6	1.44		09/15/14 22:23	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 22:23	526-73-8	
1,2,4-Trimethylbenzene	**0.84J**	ug/m3	1.4	1.44		09/15/14 22:23	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 22:23	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/15/14 22:23	75-01-4	
m&p-Xylene	**3.2**	ug/m3	2.5	1.44		09/15/14 22:23	179601-23-1	
o-Xylene	**1.1J**	ug/m3	1.3	1.44		09/15/14 22:23	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-102-C-17 **Lab ID: 10280474015** Collected: 09/03/14 17:44 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.82	1.26		09/15/14 20:45	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.81	1.26		09/15/14 20:45	56-23-5	
Chlorodifluoromethane	**3.5**	ug/m3	0.91	1.26		09/15/14 20:45	75-45-6	
Chloroform	ND	ug/m3	0.62	1.26		09/15/14 20:45	67-66-3	
Dichlorodifluoromethane	**3.1**	ug/m3	1.3	1.26		09/15/14 20:45	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.0	1.26		09/15/14 20:45	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.52	1.26		09/15/14 20:45	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.0	1.26		09/15/14 20:45	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.0	1.26		09/15/14 20:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.0	1.26		09/15/14 20:45	156-60-5	
Ethylbenzene	**0.88J**	ug/m3	1.1	1.26		09/15/14 20:45	100-41-4	
Methylene Chloride	**38.8J**	ug/m3	89.0	25.2		09/16/14 14:11	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.92	1.26		09/15/14 20:45	1634-04-4	
Naphthalene	ND	ug/m3	3.4	1.26		09/15/14 20:45	91-20-3	
Tetrachloroethene	ND	ug/m3	0.87	1.26		09/15/14 20:45	127-18-4	
Toluene	**3.7**	ug/m3	0.97	1.26		09/15/14 20:45	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	95.0	1.26		09/15/14 20:45	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.4	1.26		09/15/14 20:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.69	1.26		09/15/14 20:45	79-00-5	
Trichloroethene	ND	ug/m3	1.4	1.26		09/15/14 20:45	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.3	1.26		09/15/14 20:45	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.3	1.26		09/15/14 20:45	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	1.26		09/15/14 20:45	108-67-8	
Vinyl chloride	ND	ug/m3	0.33	1.26		09/15/14 20:45	75-01-4	
m&p-Xylene	**3.3**	ug/m3	2.2	1.26		09/15/14 20:45	179601-23-1	
o-Xylene	**1.1J**	ug/m3	1.1	1.26		09/15/14 20:45	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-113-C-17 **Lab ID: 10280474023** Collected: 09/03/14 18:08 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/15/14 23:13	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/15/14 23:13	56-23-5	
Chlorodifluoromethane	**8.1**	ug/m3	1.0	1.39		09/15/14 23:13	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/15/14 23:13	67-66-3	
Dichlorodifluoromethane	**2.6**	ug/m3	1.4	1.39		09/15/14 23:13	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/15/14 23:13	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/15/14 23:13	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 23:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 23:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 23:13	156-60-5	
Ethylbenzene	**0.81J**	ug/m3	1.2	1.39		09/15/14 23:13	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/15/14 23:13	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/15/14 23:13	1634-04-4	
Naphthalene	**1.2J**	ug/m3	3.7	1.39		09/15/14 23:13	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/15/14 23:13	127-18-4	
Toluene	**5.5**	ug/m3	1.1	1.39		09/15/14 23:13	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/15/14 23:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/15/14 23:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/15/14 23:13	79-00-5	
Trichloroethene	ND	ug/m3	1.5	1.39		09/15/14 23:13	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 23:13	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 23:13	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 23:13	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/15/14 23:13	75-01-4	
m&p-Xylene	**2.9**	ug/m3	2.4	1.39		09/15/14 23:13	179601-23-1	
o-Xylene	**1.2J**	ug/m3	1.2	1.39		09/15/14 23:13	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-115-C-17 **Lab ID: 10280474024** Collected: 09/03/14 18:11 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.93	1.44		09/15/14 19:55	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/15/14 19:55	56-23-5	
Chlorodifluoromethane	**7.6**	ug/m3	1.0	1.44		09/15/14 19:55	75-45-6	
Chloroform	ND	ug/m3	0.71	1.44		09/15/14 19:55	67-66-3	
Dichlorodifluoromethane	**2.8**	ug/m3	1.5	1.44		09/15/14 19:55	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/15/14 19:55	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/15/14 19:55	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 19:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 19:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 19:55	156-60-5	
Ethylbenzene	**0.76J**	ug/m3	1.3	1.44		09/15/14 19:55	100-41-4	
Methylene Chloride	ND	ug/m3	5.1	1.44		09/15/14 19:55	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/15/14 19:55	1634-04-4	
Naphthalene	ND	ug/m3	3.8	1.44		09/15/14 19:55	91-20-3	
Tetrachloroethene	ND	ug/m3	0.99	1.44		09/15/14 19:55	127-18-4	
Toluene	**5.3**	ug/m3	1.1	1.44		09/15/14 19:55	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	109	1.44		09/15/14 19:55	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/15/14 19:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/15/14 19:55	79-00-5	
Trichloroethene	ND	ug/m3	1.6	1.44		09/15/14 19:55	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 19:55	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 19:55	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 19:55	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/15/14 19:55	75-01-4	
m&p-Xylene	**2.7**	ug/m3	2.5	1.44		09/15/14 19:55	179601-23-1	
o-Xylene	**1.1J**	ug/m3	1.3	1.44		09/15/14 19:55	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-126-C-17 **Lab ID: 10280474002** Collected: 09/03/14 16:36 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.39J**	ug/m3	0.45	1.39		09/16/14 17:10	71-43-2	
Carbon tetrachloride	**0.50J**	ug/m3	0.89	1.39		09/16/14 17:10	56-23-5	
Chlorodifluoromethane	**9.1**	ug/m3	1.0	1.39		09/16/14 17:10	75-45-6	
Chloroform	**0.71**	ug/m3	0.69	1.39		09/16/14 17:10	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.4	1.39		09/16/14 17:10	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/16/14 17:10	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/16/14 17:10	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 17:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 17:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 17:10	156-60-5	
Ethylbenzene	**0.83J**	ug/m3	1.2	1.39		09/16/14 17:10	100-41-4	
Methylene Chloride	**2.5J**	ug/m3	4.9	1.39		09/16/14 17:10	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/16/14 17:10	1634-04-4	
Naphthalene	**5.3**	ug/m3	3.7	1.39		09/16/14 17:10	91-20-3	
Tetrachloroethene	ND	ug/m3	4.8	1.39		09/16/14 17:10	127-18-4	
Toluene	**22.6**	ug/m3	1.1	1.39		09/16/14 17:10	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.2	1.39		09/16/14 17:10	120-82-1	
1,1,1-Trichloroethane	**1.6**	ug/m3	1.5	1.39		09/16/14 17:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/16/14 17:10	79-00-5	
Trichloroethene	**0.65J**	ug/m3	0.76	1.39		09/16/14 17:10	79-01-6	
1,2,3-Trimethylbenzene	**1.7**	ug/m3	1.4	1.39		09/16/14 17:10	526-73-8	
1,2,4-Trimethylbenzene	**0.84J**	ug/m3	1.4	1.39		09/16/14 17:10	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 17:10	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/16/14 17:10	75-01-4	
m&p-Xylene	**2.7**	ug/m3	2.4	1.39		09/16/14 17:10	179601-23-1	
o-Xylene	**1.0J**	ug/m3	1.2	1.39		09/16/14 17:10	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-128-C-17 **Lab ID: 10280474006** Collected: 09/03/14 16:57 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.51**	ug/m3	0.45	1.39		09/16/14 18:55	71-43-2	
Carbon tetrachloride	**0.46J**	ug/m3	0.89	1.39		09/16/14 18:55	56-23-5	
Chlorodifluoromethane	**136**	ug/m3	1.0	1.39		09/16/14 18:55	75-45-6	
Chloroform	**0.37J**	ug/m3	0.69	1.39		09/16/14 18:55	67-66-3	
Dichlorodifluoromethane	**2.4**	ug/m3	1.4	1.39		09/16/14 18:55	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/16/14 18:55	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/16/14 18:55	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 18:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 18:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 18:55	156-60-5	
Ethylbenzene	**2.7**	ug/m3	1.2	1.39		09/16/14 18:55	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/16/14 18:55	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/16/14 18:55	1634-04-4	
Naphthalene	**5.1**	ug/m3	3.7	1.39		09/16/14 18:55	91-20-3	
Tetrachloroethene	ND	ug/m3	4.8	1.39		09/16/14 18:55	127-18-4	
Toluene	**6.9**	ug/m3	1.1	1.39		09/16/14 18:55	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.2	1.39		09/16/14 18:55	120-82-1	
1,1,1-Trichloroethane	**1.5J**	ug/m3	1.5	1.39		09/16/14 18:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/16/14 18:55	79-00-5	
Trichloroethene	**0.43J**	ug/m3	0.76	1.39		09/16/14 18:55	79-01-6	
1,2,3-Trimethylbenzene	**3.5**	ug/m3	1.4	1.39		09/16/14 18:55	526-73-8	
1,2,4-Trimethylbenzene	**0.92J**	ug/m3	1.4	1.39		09/16/14 18:55	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 18:55	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/16/14 18:55	75-01-4	
m&p-Xylene	**9.2**	ug/m3	2.4	1.39		09/16/14 18:55	179601-23-1	
o-Xylene	**3.1**	ug/m3	1.2	1.39		09/16/14 18:55	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-130-C-17 **Lab ID: 10280474011** Collected: 09/03/14 17:18 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.44**	ug/m3	0.41	1.26		09/16/14 21:11	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.81	1.26		09/16/14 21:11	56-23-5	
Chlorodifluoromethane	**5.5**	ug/m3	0.91	1.26		09/16/14 21:11	75-45-6	
Chloroform	ND	ug/m3	0.62	1.26		09/16/14 21:11	67-66-3	
Dichlorodifluoromethane	**1.3**	ug/m3	1.3	1.26		09/16/14 21:11	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.0	1.26		09/16/14 21:11	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.52	1.26		09/16/14 21:11	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.0	1.26		09/16/14 21:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.0	1.26		09/16/14 21:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.0	1.26		09/16/14 21:11	156-60-5	
Ethylbenzene	**1.8**	ug/m3	1.1	1.26		09/16/14 21:11	100-41-4	
Methylene Chloride	**28.6**	ug/m3	4.4	1.26		09/16/14 21:11	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.92	1.26		09/16/14 21:11	1634-04-4	
Naphthalene	**3.1J**	ug/m3	3.4	1.26		09/16/14 21:11	91-20-3	
Tetrachloroethene	**4.0J**	ug/m3	4.3	1.26		09/16/14 21:11	127-18-4	
Toluene	**5.9**	ug/m3	0.97	1.26		09/16/14 21:11	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	4.8	1.26		09/16/14 21:11	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.4	1.26		09/16/14 21:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.69	1.26		09/16/14 21:11	79-00-5	
Trichloroethene	ND	ug/m3	0.69	1.26		09/16/14 21:11	79-01-6	
1,2,3-Trimethylbenzene	**1.5**	ug/m3	1.3	1.26		09/16/14 21:11	526-73-8	
1,2,4-Trimethylbenzene	**0.71J**	ug/m3	1.3	1.26		09/16/14 21:11	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	1.26		09/16/14 21:11	108-67-8	
Vinyl chloride	ND	ug/m3	0.33	1.26		09/16/14 21:11	75-01-4	
m&p-Xylene	**7.5**	ug/m3	2.2	1.26		09/16/14 21:11	179601-23-1	
o-Xylene	**2.7**	ug/m3	1.1	1.26		09/16/14 21:11	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-133-C-17 **Lab ID: 10280474014** Collected: 09/03/14 17:39 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.93	1.44		09/15/14 21:09	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/15/14 21:09	56-23-5	
Chlorodifluoromethane	**19.3**	ug/m3	1.0	1.44		09/15/14 21:09	75-45-6	
Chloroform	ND	ug/m3	0.71	1.44		09/15/14 21:09	67-66-3	
Dichlorodifluoromethane	**3.2**	ug/m3	1.5	1.44		09/15/14 21:09	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/15/14 21:09	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/15/14 21:09	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 21:09	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 21:09	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 21:09	156-60-5	
Ethylbenzene	**0.64J**	ug/m3	1.3	1.44		09/15/14 21:09	100-41-4	
Methylene Chloride	**1.2J**	ug/m3	5.1	1.44		09/15/14 21:09	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/15/14 21:09	1634-04-4	
Naphthalene	**0.90J**	ug/m3	3.8	1.44		09/15/14 21:09	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.99	1.44		09/15/14 21:09	127-18-4	
Toluene	**4.8**	ug/m3	1.1	1.44		09/15/14 21:09	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	109	1.44		09/15/14 21:09	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/15/14 21:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/15/14 21:09	79-00-5	
Trichloroethene	ND	ug/m3	1.6	1.44		09/15/14 21:09	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 21:09	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 21:09	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 21:09	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/15/14 21:09	75-01-4	
m&p-Xylene	**2.5J**	ug/m3	2.5	1.44		09/15/14 21:09	179601-23-1	
o-Xylene	**1.0J**	ug/m3	1.3	1.44		09/15/14 21:09	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-135-C-17 **Lab ID: 10280474020** Collected: 09/03/14 18:03 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.0	1.55		09/15/14 22:48	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.99	1.55		09/15/14 22:48	56-23-5	
Chlorodifluoromethane	**8.7**	ug/m3	1.1	1.55		09/15/14 22:48	75-45-6	
Chloroform	ND	ug/m3	0.77	1.55		09/15/14 22:48	67-66-3	
Dichlorodifluoromethane	**3.2**	ug/m3	1.6	1.55		09/15/14 22:48	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.3	1.55		09/15/14 22:48	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.64	1.55		09/15/14 22:48	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.55		09/15/14 22:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	1.55		09/15/14 22:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.55		09/15/14 22:48	156-60-5	
Ethylbenzene	**1.0J**	ug/m3	1.4	1.55		09/15/14 22:48	100-41-4	
Methylene Chloride	ND	ug/m3	5.5	1.55		09/15/14 22:48	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.55		09/15/14 22:48	1634-04-4	
Naphthalene	**1.1J**	ug/m3	4.1	1.55		09/15/14 22:48	91-20-3	SS
Tetrachloroethene	ND	ug/m3	1.1	1.55		09/15/14 22:48	127-18-4	
Toluene	**7.7**	ug/m3	1.2	1.55		09/15/14 22:48	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	117	1.55		09/15/14 22:48	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.55		09/15/14 22:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.85	1.55		09/15/14 22:48	79-00-5	
Trichloroethene	ND	ug/m3	1.7	1.55		09/15/14 22:48	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.5	1.55		09/15/14 22:48	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.55		09/15/14 22:48	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.55		09/15/14 22:48	108-67-8	
Vinyl chloride	ND	ug/m3	0.40	1.55		09/15/14 22:48	75-01-4	
m&p-Xylene	**3.5**	ug/m3	2.7	1.55		09/15/14 22:48	179601-23-1	
o-Xylene	**1.2J**	ug/m3	1.4	1.55		09/15/14 22:48	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-141-C-17 **Lab ID: 10280474003** Collected: 09/03/14 16:38 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.46J**	ug/m3	0.48	1.49		09/16/14 17:36	71-43-2	
Carbon tetrachloride	**0.50J**	ug/m3	0.95	1.49		09/16/14 17:36	56-23-5	
Chlorodifluoromethane	**71.2**	ug/m3	1.1	1.49		09/16/14 17:36	75-45-6	
Chloroform	ND	ug/m3	0.74	1.49		09/16/14 17:36	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.5	1.49		09/16/14 17:36	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.49		09/16/14 17:36	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	1.49		09/16/14 17:36	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		09/16/14 17:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/16/14 17:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/16/14 17:36	156-60-5	
Ethylbenzene	**1.2J**	ug/m3	1.3	1.49		09/16/14 17:36	100-41-4	
Methylene Chloride	ND	ug/m3	5.3	1.49		09/16/14 17:36	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.49		09/16/14 17:36	1634-04-4	
Naphthalene	**3.9J**	ug/m3	4.0	1.49		09/16/14 17:36	91-20-3	
Tetrachloroethene	**4.0J**	ug/m3	5.1	1.49		09/16/14 17:36	127-18-4	
Toluene	**4.7**	ug/m3	1.1	1.49		09/16/14 17:36	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.6	1.49		09/16/14 17:36	120-82-1	
1,1,1-Trichloroethane	**0.53J**	ug/m3	1.7	1.49		09/16/14 17:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.82	1.49		09/16/14 17:36	79-00-5	
Trichloroethene	ND	ug/m3	0.82	1.49		09/16/14 17:36	79-01-6	
1,2,3-Trimethylbenzene	**1.6**	ug/m3	1.5	1.49		09/16/14 17:36	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/16/14 17:36	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/16/14 17:36	108-67-8	
Vinyl chloride	ND	ug/m3	0.39	1.49		09/16/14 17:36	75-01-4	
m&p-Xylene	**4.6**	ug/m3	2.6	1.49		09/16/14 17:36	179601-23-1	
o-Xylene	**2.0**	ug/m3	1.3	1.49		09/16/14 17:36	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-142-C-17 **Lab ID: 10280474022** Collected: 09/03/14 18:07 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/15/14 19:30	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/15/14 19:30	56-23-5	
Chlorodifluoromethane	**8.1**	ug/m3	1.0	1.39		09/15/14 19:30	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/15/14 19:30	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.4	1.39		09/15/14 19:30	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/15/14 19:30	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/15/14 19:30	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 19:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 19:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 19:30	156-60-5	
Ethylbenzene	**0.82J**	ug/m3	1.2	1.39		09/15/14 19:30	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/15/14 19:30	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/15/14 19:30	1634-04-4	
Naphthalene	**1.2J**	ug/m3	3.7	1.39		09/15/14 19:30	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/15/14 19:30	127-18-4	
Toluene	**5.2**	ug/m3	1.1	1.39		09/15/14 19:30	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/15/14 19:30	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/15/14 19:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/15/14 19:30	79-00-5	
Trichloroethene	ND	ug/m3	1.5	1.39		09/15/14 19:30	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 19:30	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 19:30	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 19:30	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/15/14 19:30	75-01-4	
m&p-Xylene	**2.9**	ug/m3	2.4	1.39		09/15/14 19:30	179601-23-1	
o-Xylene	**0.97J**	ug/m3	1.2	1.39		09/15/14 19:30	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-143-C-17 **Lab ID: 10280474019** Collected: 09/03/14 18:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/16/14 00:52	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/16/14 00:52	56-23-5	
Chlorodifluoromethane	**1.4**	ug/m3	1.0	1.39		09/16/14 00:52	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/16/14 00:52	67-66-3	
Dichlorodifluoromethane	**3.3**	ug/m3	1.4	1.39		09/16/14 00:52	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/16/14 00:52	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/16/14 00:52	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 00:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 00:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 00:52	156-60-5	
Ethylbenzene	ND	ug/m3	1.2	1.39		09/16/14 00:52	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/16/14 00:52	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/16/14 00:52	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/16/14 00:52	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/16/14 00:52	127-18-4	
Toluene	**1.3**	ug/m3	1.1	1.39		09/16/14 00:52	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/16/14 00:52	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/16/14 00:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/16/14 00:52	79-00-5	
Trichloroethene	ND	ug/m3	1.5	1.39		09/16/14 00:52	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 00:52	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 00:52	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 00:52	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/16/14 00:52	75-01-4	
m&p-Xylene	**1.3J**	ug/m3	2.4	1.39		09/16/14 00:52	179601-23-1	
o-Xylene	ND	ug/m3	1.2	1.39		09/16/14 00:52	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-144-C-17 **Lab ID: 10280474008** Collected: 09/03/14 17:03 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.65**	ug/m3	0.45	1.39		09/16/14 19:48	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/16/14 19:48	56-23-5	
Chlorodifluoromethane	**129**	ug/m3	1.0	1.39		09/16/14 19:48	75-45-6	
Chloroform	**0.40J**	ug/m3	0.69	1.39		09/16/14 19:48	67-66-3	
Dichlorodifluoromethane	**2.0**	ug/m3	1.4	1.39		09/16/14 19:48	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/16/14 19:48	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/16/14 19:48	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 19:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 19:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 19:48	156-60-5	
Ethylbenzene	**2.6**	ug/m3	1.2	1.39		09/16/14 19:48	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/16/14 19:48	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/16/14 19:48	1634-04-4	
Naphthalene	**4.4**	ug/m3	3.7	1.39		09/16/14 19:48	91-20-3	
Tetrachloroethene	ND	ug/m3	4.8	1.39		09/16/14 19:48	127-18-4	
Toluene	**10.5**	ug/m3	1.1	1.39		09/16/14 19:48	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.2	1.39		09/16/14 19:48	120-82-1	
1,1,1-Trichloroethane	**1.6**	ug/m3	1.5	1.39		09/16/14 19:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/16/14 19:48	79-00-5	
Trichloroethene	ND	ug/m3	0.76	1.39		09/16/14 19:48	79-01-6	
1,2,3-Trimethylbenzene	**2.9**	ug/m3	1.4	1.39		09/16/14 19:48	526-73-8	
1,2,4-Trimethylbenzene	**0.93J**	ug/m3	1.4	1.39		09/16/14 19:48	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 19:48	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/16/14 19:48	75-01-4	
m&p-Xylene	**9.1**	ug/m3	2.4	1.39		09/16/14 19:48	179601-23-1	
o-Xylene	**3.1**	ug/m3	1.2	1.39		09/16/14 19:48	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-145-C-17 **Lab ID: 10280474005** Collected: 09/03/14 16:56 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.50**	ug/m3	0.44	1.34		09/16/14 18:29	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/16/14 18:29	56-23-5	
Chlorodifluoromethane	**167**	ug/m3	9.6	13.4		09/17/14 14:04	75-45-6	
Chloroform	ND	ug/m3	0.66	1.34		09/16/14 18:29	67-66-3	
Dichlorodifluoromethane	**3.1**	ug/m3	1.4	1.34		09/16/14 18:29	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/16/14 18:29	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/16/14 18:29	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 18:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 18:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 18:29	156-60-5	
Ethylbenzene	**2.5**	ug/m3	1.2	1.34		09/16/14 18:29	100-41-4	
Methylene Chloride	ND	ug/m3	4.7	1.34		09/16/14 18:29	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/16/14 18:29	1634-04-4	
Naphthalene	**4.2**	ug/m3	3.6	1.34		09/16/14 18:29	91-20-3	
Tetrachloroethene	ND	ug/m3	4.6	1.34		09/16/14 18:29	127-18-4	
Toluene	**6.8**	ug/m3	1.0	1.34		09/16/14 18:29	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.1	1.34		09/16/14 18:29	120-82-1	
1,1,1-Trichloroethane	**1.2J**	ug/m3	1.5	1.34		09/16/14 18:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/16/14 18:29	79-00-5	
Trichloroethene	ND	ug/m3	0.74	1.34		09/16/14 18:29	79-01-6	
1,2,3-Trimethylbenzene	**3.0**	ug/m3	1.3	1.34		09/16/14 18:29	526-73-8	
1,2,4-Trimethylbenzene	**0.81J**	ug/m3	1.3	1.34		09/16/14 18:29	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/16/14 18:29	108-67-8	
Vinyl chloride	ND	ug/m3	0.35	1.34		09/16/14 18:29	75-01-4	
m&p-Xylene	**9.2**	ug/m3	2.4	1.34		09/16/14 18:29	179601-23-1	
o-Xylene	**3.2**	ug/m3	1.2	1.34		09/16/14 18:29	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-146-C-17 **Lab ID: 10280474004** Collected: 09/03/14 16:45 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.50**	ug/m3	0.45	1.39		09/16/14 18:03	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/16/14 18:03	56-23-5	
Chlorodifluoromethane	**158**	ug/m3	10	13.9		09/17/14 13:42	75-45-6	
Chloroform	**0.36J**	ug/m3	0.69	1.39		09/16/14 18:03	67-66-3	
Dichlorodifluoromethane	**2.5**	ug/m3	1.4	1.39		09/16/14 18:03	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/16/14 18:03	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/16/14 18:03	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 18:03	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 18:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 18:03	156-60-5	
Ethylbenzene	**2.4**	ug/m3	1.2	1.39		09/16/14 18:03	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/16/14 18:03	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/16/14 18:03	1634-04-4	
Naphthalene	**4.3**	ug/m3	3.7	1.39		09/16/14 18:03	91-20-3	
Tetrachloroethene	ND	ug/m3	4.8	1.39		09/16/14 18:03	127-18-4	
Toluene	**6.8**	ug/m3	1.1	1.39		09/16/14 18:03	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.2	1.39		09/16/14 18:03	120-82-1	
1,1,1-Trichloroethane	**1.3J**	ug/m3	1.5	1.39		09/16/14 18:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/16/14 18:03	79-00-5	
Trichloroethene	ND	ug/m3	0.76	1.39		09/16/14 18:03	79-01-6	
1,2,3-Trimethylbenzene	**2.5**	ug/m3	1.4	1.39		09/16/14 18:03	526-73-8	
1,2,4-Trimethylbenzene	**0.84J**	ug/m3	1.4	1.39		09/16/14 18:03	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 18:03	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/16/14 18:03	75-01-4	
m&p-Xylene	**8.9**	ug/m3	2.4	1.39		09/16/14 18:03	179601-23-1	
o-Xylene	**3.0**	ug/m3	1.2	1.39		09/16/14 18:03	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-147-C-17 **Lab ID: 10280474009** Collected: 09/03/14 17:05 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.62**	ug/m3	0.47	1.44		09/16/14 20:16	71-43-2	
Carbon tetrachloride	**0.48J**	ug/m3	0.92	1.44		09/16/14 20:16	56-23-5	
Chlorodifluoromethane	**127**	ug/m3	1.0	1.44		09/16/14 20:16	75-45-6	
Chloroform	**0.40J**	ug/m3	0.71	1.44		09/16/14 20:16	67-66-3	
Dichlorodifluoromethane	**2.2**	ug/m3	1.5	1.44		09/16/14 20:16	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/16/14 20:16	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/16/14 20:16	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 20:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 20:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 20:16	156-60-5	
Ethylbenzene	**2.9**	ug/m3	1.3	1.44		09/16/14 20:16	100-41-4	
Methylene Chloride	ND	ug/m3	5.1	1.44		09/16/14 20:16	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/16/14 20:16	1634-04-4	
Naphthalene	**5.0**	ug/m3	3.8	1.44		09/16/14 20:16	91-20-3	
Tetrachloroethene	ND	ug/m3	5.0	1.44		09/16/14 20:16	127-18-4	
Toluene	**7.5**	ug/m3	1.1	1.44		09/16/14 20:16	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.4	1.44		09/16/14 20:16	120-82-1	
1,1,1-Trichloroethane	**1.7**	ug/m3	1.6	1.44		09/16/14 20:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/16/14 20:16	79-00-5	
Trichloroethene	ND	ug/m3	0.79	1.44		09/16/14 20:16	79-01-6	
1,2,3-Trimethylbenzene	**3.7**	ug/m3	1.4	1.44		09/16/14 20:16	526-73-8	
1,2,4-Trimethylbenzene	**1.9**	ug/m3	1.4	1.44		09/16/14 20:16	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/16/14 20:16	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/16/14 20:16	75-01-4	
m&p-Xylene	**10.4**	ug/m3	2.5	1.44		09/16/14 20:16	179601-23-1	
o-Xylene	**3.6**	ug/m3	1.3	1.44		09/16/14 20:16	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-148-C-17 **Lab ID: 10280474007** Collected: 09/03/14 17:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.56**	ug/m3	0.44	1.34		09/16/14 19:21	71-43-2	
Carbon tetrachloride	**0.47J**	ug/m3	0.86	1.34		09/16/14 19:21	56-23-5	
Chlorodifluoromethane	**152**	ug/m3	0.96	1.34		09/16/14 19:21	75-45-6	
Chloroform	**0.36J**	ug/m3	0.66	1.34		09/16/14 19:21	67-66-3	
Dichlorodifluoromethane	**2.6**	ug/m3	1.4	1.34		09/16/14 19:21	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/16/14 19:21	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/16/14 19:21	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 19:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 19:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 19:21	156-60-5	
Ethylbenzene	**2.5**	ug/m3	1.2	1.34		09/16/14 19:21	100-41-4	
Methylene Chloride	ND	ug/m3	4.7	1.34		09/16/14 19:21	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/16/14 19:21	1634-04-4	
Naphthalene	**5.9**	ug/m3	3.6	1.34		09/16/14 19:21	91-20-3	
Tetrachloroethene	ND	ug/m3	4.6	1.34		09/16/14 19:21	127-18-4	
Toluene	**6.7**	ug/m3	1.0	1.34		09/16/14 19:21	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.1	1.34		09/16/14 19:21	120-82-1	
1,1,1-Trichloroethane	**1.6**	ug/m3	1.5	1.34		09/16/14 19:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/16/14 19:21	79-00-5	
Trichloroethene	ND	ug/m3	0.74	1.34		09/16/14 19:21	79-01-6	
1,2,3-Trimethylbenzene	**5.5**	ug/m3	1.3	1.34		09/16/14 19:21	526-73-8	
1,2,4-Trimethylbenzene	**1.1J**	ug/m3	1.3	1.34		09/16/14 19:21	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/16/14 19:21	108-67-8	
Vinyl chloride	ND	ug/m3	0.35	1.34		09/16/14 19:21	75-01-4	
m&p-Xylene	**9.0**	ug/m3	2.4	1.34		09/16/14 19:21	179601-23-1	
o-Xylene	**3.0**	ug/m3	1.2	1.34		09/16/14 19:21	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-149-C-17 **Lab ID: 10280474001** Collected: 09/03/14 16:34 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.83**	ug/m3	0.47	1.44		09/16/14 16:43	71-43-2	
Carbon tetrachloride	**0.52J**	ug/m3	0.92	1.44		09/16/14 16:43	56-23-5	
Chlorodifluoromethane	**6.7**	ug/m3	1.0	1.44		09/16/14 16:43	75-45-6	
Chloroform	**0.46J**	ug/m3	0.71	1.44		09/16/14 16:43	67-66-3	
Dichlorodifluoromethane	**2.0**	ug/m3	1.5	1.44		09/16/14 16:43	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/16/14 16:43	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/16/14 16:43	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 16:43	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 16:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 16:43	156-60-5	
Ethylbenzene	**0.97J**	ug/m3	1.3	1.44		09/16/14 16:43	100-41-4	
Methylene Chloride	**128**	ug/m3	5.1	1.44		09/16/14 16:43	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/16/14 16:43	1634-04-4	
Naphthalene	**3.8**	ug/m3	3.8	1.44		09/16/14 16:43	91-20-3	
Tetrachloroethene	ND	ug/m3	5.0	1.44		09/16/14 16:43	127-18-4	
Toluene	**22.3**	ug/m3	1.1	1.44		09/16/14 16:43	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.4	1.44		09/16/14 16:43	120-82-1	
1,1,1-Trichloroethane	**0.45J**	ug/m3	1.6	1.44		09/16/14 16:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/16/14 16:43	79-00-5	
Trichloroethene	**1.8**	ug/m3	0.79	1.44		09/16/14 16:43	79-01-6	
1,2,3-Trimethylbenzene	**1.1J**	ug/m3	1.4	1.44		09/16/14 16:43	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/16/14 16:43	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/16/14 16:43	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/16/14 16:43	75-01-4	
m&p-Xylene	**3.1**	ug/m3	2.5	1.44		09/16/14 16:43	179601-23-1	
o-Xylene	**1.0J**	ug/m3	1.3	1.44		09/16/14 16:43	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-153-C-17 **Lab ID: 10280474012** Collected: 09/03/14 17:31 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.62**	ug/m3	0.44	1.34		09/16/14 21:38	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/16/14 21:38	56-23-5	
Chlorodifluoromethane	**8.5**	ug/m3	0.96	1.34		09/16/14 21:38	75-45-6	
Chloroform	ND	ug/m3	0.66	1.34		09/16/14 21:38	67-66-3	
Dichlorodifluoromethane	**2.1**	ug/m3	1.4	1.34		09/16/14 21:38	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/16/14 21:38	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/16/14 21:38	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 21:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 21:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 21:38	156-60-5	
Ethylbenzene	**1.7**	ug/m3	1.2	1.34		09/16/14 21:38	100-41-4	
Methylene Chloride	**3.9J**	ug/m3	4.7	1.34		09/16/14 21:38	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/16/14 21:38	1634-04-4	
Naphthalene	**4.1**	ug/m3	3.6	1.34		09/16/14 21:38	91-20-3	
Tetrachloroethene	ND	ug/m3	4.6	1.34		09/16/14 21:38	127-18-4	
Toluene	**7.2**	ug/m3	1.0	1.34		09/16/14 21:38	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.1	1.34		09/16/14 21:38	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/16/14 21:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/16/14 21:38	79-00-5	
Trichloroethene	**0.51J**	ug/m3	0.74	1.34		09/16/14 21:38	79-01-6	
1,2,3-Trimethylbenzene	**2.1**	ug/m3	1.3	1.34		09/16/14 21:38	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/16/14 21:38	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/16/14 21:38	108-67-8	
Vinyl chloride	ND	ug/m3	0.35	1.34		09/16/14 21:38	75-01-4	
m&p-Xylene	**6.2**	ug/m3	2.4	1.34		09/16/14 21:38	179601-23-1	
o-Xylene	**2.2**	ug/m3	1.2	1.34		09/16/14 21:38	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-155-C-17 **Lab ID: 10280474013** Collected: 09/03/14 17:35 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/15/14 21:34	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/15/14 21:34	56-23-5	
Chlorodifluoromethane	**17.8**	ug/m3	1.0	1.39		09/15/14 21:34	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/15/14 21:34	67-66-3	
Dichlorodifluoromethane	**3.3**	ug/m3	1.4	1.39		09/15/14 21:34	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/15/14 21:34	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/15/14 21:34	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 21:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 21:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 21:34	156-60-5	
Ethylbenzene	**0.82J**	ug/m3	1.2	1.39		09/15/14 21:34	100-41-4	
Methylene Chloride	**0.60J**	ug/m3	4.9	1.39		09/15/14 21:34	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/15/14 21:34	1634-04-4	
Naphthalene	**1.4J**	ug/m3	3.7	1.39		09/15/14 21:34	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/15/14 21:34	127-18-4	
Toluene	**4.8**	ug/m3	1.1	1.39		09/15/14 21:34	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/15/14 21:34	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/15/14 21:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/15/14 21:34	79-00-5	
Trichloroethene	ND	ug/m3	1.5	1.39		09/15/14 21:34	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 21:34	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 21:34	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 21:34	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/15/14 21:34	75-01-4	
m&p-Xylene	**3.1**	ug/m3	2.4	1.39		09/15/14 21:34	179601-23-1	
o-Xylene	**1.0J**	ug/m3	1.2	1.39		09/15/14 21:34	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-60-C-17 **Lab ID: 10280474010** Collected: 09/03/14 17:15 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.42J**	ug/m3	0.45	1.39		09/16/14 20:43	71-43-2	
Carbon tetrachloride	**0.50J**	ug/m3	0.89	1.39		09/16/14 20:43	56-23-5	
Chlorodifluoromethane	**59.9**	ug/m3	1.0	1.39		09/16/14 20:43	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/16/14 20:43	67-66-3	
Dichlorodifluoromethane	**2.6**	ug/m3	1.4	1.39		09/16/14 20:43	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/16/14 20:43	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/16/14 20:43	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 20:43	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 20:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 20:43	156-60-5	
Ethylbenzene	**1.8**	ug/m3	1.2	1.39		09/16/14 20:43	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/16/14 20:43	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/16/14 20:43	1634-04-4	
Naphthalene	**3.2J**	ug/m3	3.7	1.39		09/16/14 20:43	91-20-3	
Tetrachloroethene	ND	ug/m3	4.8	1.39		09/16/14 20:43	127-18-4	
Toluene	**6.0**	ug/m3	1.1	1.39		09/16/14 20:43	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.2	1.39		09/16/14 20:43	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/16/14 20:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/16/14 20:43	79-00-5	
Trichloroethene	ND	ug/m3	0.76	1.39		09/16/14 20:43	79-01-6	
1,2,3-Trimethylbenzene	**1.9**	ug/m3	1.4	1.39		09/16/14 20:43	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 20:43	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 20:43	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/16/14 20:43	75-01-4	
m&p-Xylene	**6.8**	ug/m3	2.4	1.39		09/16/14 20:43	179601-23-1	
o-Xylene	**2.4**	ug/m3	1.2	1.39		09/16/14 20:43	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-DUP3-C-17 **Lab ID: 10280474028** Collected: 09/03/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/15/14 23:38	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/15/14 23:38	56-23-5	
Chlorodifluoromethane	**6.3**	ug/m3	1.0	1.39		09/15/14 23:38	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/15/14 23:38	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.4	1.39		09/15/14 23:38	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/15/14 23:38	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/15/14 23:38	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 23:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 23:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 23:38	156-60-5	
Ethylbenzene	**2.7**	ug/m3	1.2	1.39		09/15/14 23:38	100-41-4	
Methylene Chloride	**0.71J**	ug/m3	4.9	1.39		09/15/14 23:38	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/15/14 23:38	1634-04-4	
Naphthalene	**6.9**	ug/m3	3.7	1.39		09/15/14 23:38	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/15/14 23:38	127-18-4	
Toluene	**7.9**	ug/m3	1.1	1.39		09/15/14 23:38	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/15/14 23:38	120-82-1	
1,1,1-Trichloroethane	**0.89J**	ug/m3	1.5	1.39		09/15/14 23:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/15/14 23:38	79-00-5	
Trichloroethene	ND	ug/m3	1.5	1.39		09/15/14 23:38	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 23:38	526-73-8	
1,2,4-Trimethylbenzene	**0.75J**	ug/m3	1.4	1.39		09/15/14 23:38	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 23:38	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/15/14 23:38	75-01-4	
m&p-Xylene	**11.8**	ug/m3	2.4	1.39		09/15/14 23:38	179601-23-1	
o-Xylene	**3.9**	ug/m3	1.2	1.39		09/15/14 23:38	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-DUP4-C-17 **Lab ID: 10280474027** Collected: 09/03/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.92	1.41		09/16/14 01:16	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.90	1.41		09/16/14 01:16	56-23-5	
Chlorodifluoromethane	**7.7**	ug/m3	1.0	1.41		09/16/14 01:16	75-45-6	
Chloroform	ND	ug/m3	0.70	1.41		09/16/14 01:16	67-66-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.4	1.41		09/16/14 01:16	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.41		09/16/14 01:16	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.58	1.41		09/16/14 01:16	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.41		09/16/14 01:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.41		09/16/14 01:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.41		09/16/14 01:16	156-60-5	
Ethylbenzene	**1.4**	ug/m3	1.2	1.41		09/16/14 01:16	100-41-4	
Methylene Chloride	ND	ug/m3	5.0	1.41		09/16/14 01:16	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.41		09/16/14 01:16	1634-04-4	
Naphthalene	**5.0**	ug/m3	3.8	1.41		09/16/14 01:16	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.97	1.41		09/16/14 01:16	127-18-4	
Toluene	**6.6**	ug/m3	1.1	1.41		09/16/14 01:16	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	106	1.41		09/16/14 01:16	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.41		09/16/14 01:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.78	1.41		09/16/14 01:16	79-00-5	
Trichloroethene	ND	ug/m3	1.5	1.41		09/16/14 01:16	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.41		09/16/14 01:16	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.41		09/16/14 01:16	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.41		09/16/14 01:16	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.41		09/16/14 01:16	75-01-4	
m&p-Xylene	**5.7**	ug/m3	2.5	1.41		09/16/14 01:16	179601-23-1	
o-Xylene	**2.2**	ug/m3	1.2	1.41		09/16/14 01:16	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: SV-DUP3-C-17 **Lab ID: 10280474029** Collected: 09/03/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.68		09/16/14 02:06	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/16/14 02:06	56-23-5	
Chlorodifluoromethane	**9.0**	ug/m3	1.2	1.68		09/16/14 02:06	75-45-6	
Chloroform	ND	ug/m3	0.83	1.68		09/16/14 02:06	67-66-3	
Dichlorodifluoromethane	**3.1**	ug/m3	1.7	1.68		09/16/14 02:06	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		09/16/14 02:06	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/16/14 02:06	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		09/16/14 02:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/16/14 02:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/16/14 02:06	156-60-5	
Ethylbenzene	**0.78J**	ug/m3	1.5	1.68		09/16/14 02:06	100-41-4	
Methylene Chloride	ND	ug/m3	5.9	1.68		09/16/14 02:06	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/16/14 02:06	1634-04-4	
Naphthalene	**3.3J**	ug/m3	4.5	1.68		09/16/14 02:06	91-20-3	SS
Tetrachloroethene	**3.3**	ug/m3	1.2	1.68		09/16/14 02:06	127-18-4	
Toluene	**4.2**	ug/m3	1.3	1.68		09/16/14 02:06	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/16/14 02:06	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		09/16/14 02:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/16/14 02:06	79-00-5	
Trichloroethene	**199**	ug/m3	1.8	1.68		09/16/14 02:06	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/16/14 02:06	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/16/14 02:06	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/16/14 02:06	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		09/16/14 02:06	75-01-4	
m&p-Xylene	**2.4J**	ug/m3	3.0	1.68		09/16/14 02:06	179601-23-1	
o-Xylene	**0.89J**	ug/m3	1.5	1.68		09/16/14 02:06	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: SV-DUP4-C-17 **Lab ID: 10280474030** Collected: 09/03/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.68		09/16/14 01:41	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/16/14 01:41	56-23-5	
Chlorodifluoromethane	**3.3**	ug/m3	1.2	1.68		09/16/14 01:41	75-45-6	
Chloroform	ND	ug/m3	0.83	1.68		09/16/14 01:41	67-66-3	
Dichlorodifluoromethane	**4.2**	ug/m3	1.7	1.68		09/16/14 01:41	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		09/16/14 01:41	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/16/14 01:41	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		09/16/14 01:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/16/14 01:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/16/14 01:41	156-60-5	
Ethylbenzene	**2.4**	ug/m3	1.5	1.68		09/16/14 01:41	100-41-4	
Methylene Chloride	**2.6J**	ug/m3	5.9	1.68		09/16/14 01:41	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/16/14 01:41	1634-04-4	
Naphthalene	**26.9**	ug/m3	4.5	1.68		09/16/14 01:41	91-20-3	SS
Tetrachloroethene	**2.4**	ug/m3	1.2	1.68		09/16/14 01:41	127-18-4	
Toluene	**5.2**	ug/m3	1.3	1.68		09/16/14 01:41	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/16/14 01:41	120-82-1	
1,1,1-Trichloroethane	**2.0**	ug/m3	1.9	1.68		09/16/14 01:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/16/14 01:41	79-00-5	
Trichloroethene	**2.2**	ug/m3	1.8	1.68		09/16/14 01:41	79-01-6	
1,2,3-Trimethylbenzene	**3.4**	ug/m3	1.7	1.68		09/16/14 01:41	526-73-8	
1,2,4-Trimethylbenzene	**4.1**	ug/m3	1.7	1.68		09/16/14 01:41	95-63-6	
1,3,5-Trimethylbenzene	**4.6**	ug/m3	1.7	1.68		09/16/14 01:41	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		09/16/14 01:41	75-01-4	
m&p-Xylene	**6.9**	ug/m3	3.0	1.68		09/16/14 01:41	179601-23-1	
o-Xylene	**3.2**	ug/m3	1.5	1.68		09/16/14 01:41	95-47-6	

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APPENDIX D—DATA VALIDATION REPORTS

TETRA TECH **INTERNAL CORRESPONDENCE**

TO:	**T. APANAVAGE**	**DATE:**	**OCTOBER 30, 2014**
FROM:	**EDWARD SEDLMYER**	**COPIES:**	**DV FILE**
SUBJECT:	**ORGANIC DATA VALIDATION – VOC MIDDLE RIVER CENTER SDG 10280459**		
SAMPLES:	16/Air/VOC		

SV-001-C-17	SV-004-C-17	SV-060-C-17
SV-088-C-17	SV-102-C-17	SV-113-C-17
SV-126-C-17	SV-127-C-17	SV-130-C-17
SV-133-C-17	SV-141-C-17	SV-142-C-17
SV-143-C-17	SV-149-C-17	SV-153-C-17
SV-155-C-17		

Overview

The sample set for Middle River Center, SDG 10280459 consists of sixteen (16) soil vapor air environmental samples. Samples were analyzed for volatile organic compounds (VOC). Two field duplicate sample pairs were included in this SDG: SV-133-C-17 / SV-DUP3-C-17 and SV-130-C-17 / SV-DUP4-C-17. The results for SV-DUP3-C-17 and SV-DUP4-C-17 are contained in SDG 10280474.

The samples were collected by Tetra Tech on September 3, 2014 and analyzed by Pace Analytical. 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, blank spike/blank spike duplicate results, internal standard recoveries, laboratory duplicate results, field duplicate results, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major

- None.

Minor

- The continuing calibration percent differences (%Ds) for 1,2,4-trichlorobenzene and naphthalene exceeded the 30% quality control limit on September 11, 2014 @ 08:57 on instrument 10AIRB. The detected and nondetected results were qualified as estimated (J) and (UJ), respectively in the affected samples.

- The continuing calibration %Ds for 1,2,4-trichlorobenzene and naphthalene exceeded the 30% quality control limit on September 12, 2014 @ 08:48 on instrument 10AIRB. The detected naphthalene results were qualified as estimated (J) in samples SV-102-C-17 and SV-130-C-17. No action was taken for 1,2,4-trichlorobenzene because this analyte was not reported using this calibration.

- The continuing calibration %Ds for 1,2,4-trichlorobenzene and naphthalene exceeded the 30% quality control limit on September 13, 2014 @ 11:44 on instrument 10AIRB. The nondetected results for the aforementioned compounds were qualified as estimated (UJ), in sample SV-

TO: T. Apanavage
FROM: E. Sedlmyer
SDG: 10280459
DATE: October 30, 2014

- 004-C-17.
- The Relative Percent Differences (RPDs) for tetrachloroethene and trichloroethene exceeded the 50% quality control limit in the field duplicate pair SDG: SV-133-C-17 / SV-DUP3-C-17. The detected results for these compounds in this field duplicate pair were qualified as estimated, (J), due to field duplicate imprecision.
- The RPDs for 1,1,1-trichloroethane, 1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, and tetrachloroethene exceeded the 50% quality control limit in the field duplicate pair SV-130-C-17 / SV-DUP4-C-17. The detected results for these compounds in this field duplicate pair were qualified as estimated, (J), due to field duplicate imprecision.
- Positive results reported below the reporting limit but above the method detection limit were qualified as estimated, (J).

Notes

The contaminant below was detected in the laboratory method blank analyzed on 9/11/14 at the following maximum concentration:

Analyte	Maximum Concentration	Action Level
Toluene	0.48 ug/m^3	2.4 ug/m^3

An action level of 5X for toluene maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. No action was taken on this basis because all toluene results were greater than the action level.

The laboratory control sample (LCS) percent recoveries (%Rs) of 1,2,4-trichlorobenzene were greater than the upper quality control limit in LCSs 1786623 and 1788456. No action was taken on this basis because only nondetected 1,2,4-trichlorobenzene results were reported for all samples.

The laboratory reported the nondetected results to the reporting limit.

Several samples were analyzed at dilutions because of VOC concentrations greater than the linear calibration range of the instrument. Only the compounds required by the dilution were reported from the diluted analyses.

Executive Summary

Laboratory Performance: Continuing calibration %D noncompliances for 1,2,4-trichlorobenzene and naphthalene resulted in qualification of the data.

Other Factors Affecting Data Quality: Positive results reported below the reporting limit but above the method detection limit were qualified as estimated. Field duplicate imprecision resulted in the qualification of data for both field duplicate pairs.

The data for these analyses were reviewed with reference to EPA Compendium Method TO-15 (Jan. 1999) and USEPA National Functional Guidelines for Organic Data Validation (June 2008). The text of this report has been formulated to address only those problem areas affecting data quality.

For Tetra Tech
Edward Sedlmyer
Chemist/Data Validator

Tetra Tech
Joseph A. Samchuck
Data Validation Manager

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 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate

PROJ_NO: 06279	NSAMPLE	SV-001-C-17			SV-004-C-17			SV-060-C-17			SV-088-C-17		
SDG: 10280459	LAB_ID	10280459013			10280459014			10280459007			10280459017		
FRACTION: OV	SAMP_DATE	9/3/2014			9/3/2014			9/3/2014			9/3/2014		
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		2	J	P	17.4	U		0.95	J	P	2.2	U	
1,1,2-TRICHLOROETHANE		1.1	U		8.6	U		0.92	U		1.1	U	
1,1-DICHLOROETHANE		5.8			12.9	U		1.8			1.6	J	P
1,1-DICHLOROETHENE		1.6	U		12.7	U		1.4	U		1.6	U	
1,2,3-TRIMETHYLBENZENE		1.9	U		15.7	U		1	J	P	1.5	J	P
1,2,4-TRICHLOROBENZENE		146	UJ	C	1190	UJ	C	127	UJ	C	146	UJ	C
1,2,4-TRIMETHYLBENZENE		1.4	J	P	15.7	U		4.3			2		
1,2-DICHLOROETHANE		0.8	U		6.4	U		0.69	U		0.8	U	
1,3,5-TRIMETHYLBENZENE		1.9	U		15.7	U		1.7			1.9	U	
BENZENE		1.3	U		10.2	U		1.1	U		1.3	U	
CARBON TETRACHLORIDE		1.2	U		10.1	U		1.1	U		1.2	U	
CHLORODIFLUOROMETHANE		6.3			26			9.4			6.5		
CHLOROFORM		16.3			34.3			0.83	U		0.96	U	
CIS-1,2-DICHLOROETHENE		251			80.4			1.4			17.7		
DICHLORODIFLUOROMETHANE		2.6			15.9	U		3			2.8		
ETHYLBENZENE		4.3			13.8	U		65			1.8		
M+P-XYLENES		4.8			27.6	U		250			8.7		
METHYL TERT-BUTYL ETHER		1.4	U		11.5	U		1.2	U		1.4	U	
METHYLENE CHLORIDE		6.8	U		145			70.9			6.8	U	
NAPHTHALENE		18.3	J	C	41.8	UJ	C	28.6	J	C	61.7	J	C
O-XYLENE		2.5			13.8	U		171			5.5		
TETRACHLOROETHENE		7			10.8	U		2.9			1.3	U	
TOLUENE		3.2			9.6	J	P	8.2			10.3		
TRANS-1,2-DICHLOROETHENE		45.7			12.4	J	P	1.4	U		0.87	J	P
TRICHLOROETHENE		591			210			58.6			79.8		
VINYL CHLORIDE		0.5	U		4.1	U		0.44	U		0.5	U	

PROJ_NO: 06279	NSAMPLE	SV-102-C-17			SV-113-C-17			SV-126-C-17			SV-127-C-17		
SDG: 10280459	LAB_ID	10280459011			10280459018			10280459004			10280459006		
FRACTION: OV	SAMP_DATE	9/3/2014			9/3/2014			9/3/2014			9/3/2014		
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		1240			2.1	U		1.9	U		268		
1,1,2-TRICHLOROETHANE		0.99	U		1	U		0.92	U		0.96	U	
1,1-DICHLOROETHANE		3250			1.4	J	P	1.4	U		25.1		
1,1-DICHLOROETHENE		1150			1.5	U		80.4			1.4	U	
1,2,3-TRIMETHYLBENZENE		150			12.5			1.7	U		1.7	U	
1,2,4-TRICHLOROBENZENE		136	UJ	C	141	UJ	C	127	UJ	C	131	UJ	C
1,2,4-TRIMETHYLBENZENE		145			29.9			1.7			0.91	J	P
1,2-DICHLOROETHANE		0.74	U		0.77	U		0.69	U		0.71	U	
1,3,5-TRIMETHYLBENZENE		67.7			5.2			1.7	U		1.7	U	
BENZENE		5.8			1.2	U		29.3			1.1	U	
CARBON TETRACHLORIDE		2.7			1.2	U		1.1	U		1.1	U	
CHLORODIFLUOROMETHANE		9.7			6.7			5.3			27.8		
CHLOROFORM		73.1			0.93	U		0.83	U		0.86	U	
CIS-1,2-DICHLOROETHENE		60.7			17.5			74.2			1.4	U	
DICHLORODIFLUOROMETHANE		4.4			3.3			3.1			4.1		
ETHYLBENZENE		1420			2.3			1.1	J	P	1.4	J	P
M+P-XYLENES		9290			7.6			3.9			5.2		
METHYL TERT-BUTYL ETHER		1.3	U		1.4	U		1.2	U		1.3	U	
METHYLENE CHLORIDE		11.4			9.4			5.9	U		2.1	J	P
NAPHTHALENE		2850	J	C	233	J	C	152	J	C	5.9	J	C
O-XYLENE		3450			4.7			1.8			2.6		
TETRACHLOROETHENE		3.4			1.8			1.2			2.6		
TOLUENE		171			7.3			20			5.9		
TRANS-1,2-DICHLOROETHENE		4.6			1.5	U		8.5			1.4	U	
TRICHLOROETHENE		1640			222			26.4			410		
VINYL CHLORIDE		10.8			0.49	U		4030			1.1		

PROJ_NO: 06279	NSAMPLE	SV-130-C-17			SV-133-C-17			SV-141-C-17			SV-142-C-17		
SDG: 10280459	LAB_ID	10280459012			10280459009			10280459003			10280459016		
FRACTION: OV	SAMP_DATE	9/3/2014			9/3/2014			9/3/2014			9/3/2014		
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		4	J	G	1.9	U		1.9	U		2	U	
1,1,2-TRICHLOROETHANE		0.9	U		0.92	U		0.96	U		0.99	U	
1,1-DICHLOROETHANE		2	U		1.4	U		1.4	U		2		
1,1-DICHLOROETHENE		1.3	U		1.4	U		1.4	U		1.5	U	
1,2,3-TRIMETHYLBENZENE		8.2	J	G	1.7	U		1.7	U		1.8	U	
1,2,4-TRICHLOROBENZENE		124	UJ	C	127	UJ	C	131	UJ	C	136	UJ	C
1,2,4-TRIMETHYLBENZENE		8.2	J	G	1.7	U		1.5	J	P	1.8	J	P
1,2-DICHLOROETHANE		0.67	U		0.69	U		0.71	U		0.74	U	
1,3,5-TRIMETHYLBENZENE		11.3	J	G	1.7	U		1.7	U		1.8	U	
BENZENE		1.1	U		1.1	U		1.1	U		1.2	U	
CARBON TETRACHLORIDE		1	U		1.1	U		1.1	U		1.2	U	
CHLORODIFLUOROMETHANE		3.4			12.7			19.9			3.4		
CHLOROFORM		0.81	U		0.83	U		0.86	U		0.89	U	
CIS-1,2-DICHLOROETHENE		1.3	U		1.4	U		1.4	U		1.5	U	
DICHLORODIFLUOROMETHANE		3			4.3			2.7			2.8		
ETHYLBENZENE		2.9			1.2	J	P	2.6			1.9		
M+P-XYLENES		6.4			4			10.3			6.4		
METHYL TERT-BUTYL ETHER		1.2	U		1.2	U		1.3	U		1.3	U	
METHYLENE CHLORIDE		5.8	U		5.9	U		1.4	J	P	26.9		
NAPHTHALENE		12.6	J	CG	1.8	J	CP	1.5	J	CP	146	J	C
O-XYLENE		2.8			1.5			4.6			3.8		
TETRACHLOROETHENE		8.9	J	G	1.4	J	G	1.5			2.2		
TOLUENE		7			5.1			5.2			5.9		
TRANS-1,2-DICHLOROETHENE		1.3	U		1.4	U		1.4	U		1.5	U	
TRICHLOROETHENE		3.3			10.9	J	G	3.2			7.2		
VINYL CHLORIDE		0.43	U		0.44	U		0.45	U		0.47	U	

PROJ_NO: 06279	NSAMPLE	SV-143-C-17			SV-149-C-17			SV-153-C-17			SV-155-C-17		
SDG: 10280459	LAB_ID	10280459015			10280459005			10280459008			10280459010		
FRACTION: OV	SAMP_DATE	9/3/2014			9/3/2014			9/3/2014			9/3/2014		
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		2.2	U		1.9	U		1.9	U		2	U	
1,1,2-TRICHLOROETHANE		1.1	U		0.96	U		0.96	U		0.99	U	
1,1-DICHLOROETHANE		2.9	U		1.4	U		1.4	U		1.5	U	
1,1-DICHLOROETHENE		1.6	U		1.4	U		1.4	U		1.5	U	
1,2,3-TRIMETHYLBENZENE		1.9	U		1.7	U		1.7	U		1.8	U	
1,2,4-TRICHLOROBENZENE		146	UJ	C	131	UJ	C	131	UJ	C	136	UJ	C
1,2,4-TRIMETHYLBENZENE		1.8	J	P	1.3	J	P	1.7	U		0.91	J	P
1,2-DICHLOROETHANE		0.8	U		0.71	U		0.71	U		0.74	U	
1,3,5-TRIMETHYLBENZENE		1.9	U		1.7	U		1.7	U		1.8	U	
BENZENE		1.3	U		0.95	J	P	1.1	U		1.2	U	
CARBON TETRACHLORIDE		1.2	U		1.1	U		1.1	U		1.2	U	
CHLORODIFLUOROMETHANE		3.1			8			10.7			9.4		
CHLOROFORM		0.96	U		0.86	U		0.86	U		0.89	U	
CIS-1,2-DICHLOROETHENE		1.6	U		1.4	U		1.4	U		1.5	U	
DICHLORODIFLUOROMETHANE		2.4			3.4			3			2.9		
ETHYLBENZENE		1.2	J	P	2			1.8			1.4	J	P
M+P-XYLENES		4.6			7.2			6.9			4.5		
METHYL TERT-BUTYL ETHER		1.4	U		1.3	U		1.3	U		1.3	U	
METHYLENE CHLORIDE		3.8	J	P	3.1	J	P	0.97	J	P	3.4	J	P
NAPHTHALENE		14.9	J	C	3.2	J	CP	2.5	J	CP	1.3	J	CP
O-XYLENE		1.9			3.6			2.6			2.1		
TETRACHLOROETHENE		1.7			1.6			5			1.2	U	
TOLUENE		35.1			21.1			8.6			11.2		
TRANS-1,2-DICHLOROETHENE		1.6	U		1.4	U		1.4	U		1.5	U	
TRICHLOROETHENE		2.3			3.4			1.9	U		1.5	J	P
VINYL CHLORIDE		0.5	U		0.81	U		0.45	U		0.47	U	

Appendix B

Results as Reported by the Laboratory

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Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-001-C-17 **Lab ID: 10280459013** Collected: 09/03/14 12:36 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.3	1.94		09/11/14 21:19	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.94		09/11/14 21:19	56-23-5	
Chlorodifluoromethane	**6.3**	ug/m3	1.4	1.94		09/11/14 21:19	75-45-6	
Chloroform	**16.3**	ug/m3	0.96	1.94		09/11/14 21:19	67-66-3	
Dichlorodifluoromethane	**2.6**	ug/m3	2.0	1.94		09/11/14 21:19	75-71-8	
1,1-Dichloroethane	**5.8**	ug/m3	1.6	1.94		09/11/14 21:19	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.80	1.94		09/11/14 21:19	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.6	1.94		09/11/14 21:19	75-35-4	
cis-1,2-Dichloroethene	**251**	ug/m3	1.6	1.94		09/11/14 21:19	156-59-2	
trans-1,2-Dichloroethene	**45.7**	ug/m3	1.6	1.94		09/11/14 21:19	156-60-5	
Ethylbenzene	**4.3**	ug/m3	1.7	1.94		09/11/14 21:19	100-41-4	
Methylene Chloride	ND	ug/m3	6.8	1.94		09/11/14 21:19	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.94		09/11/14 21:19	1634-04-4	
Naphthalene	**18.3**	ug/m3	5.2	1.94		09/11/14 21:19	91-20-3	CH,SS
Tetrachloroethene	**7.0**	ug/m3	1.3	1.94		09/11/14 21:19	127-18-4	
Toluene	**3.2**	ug/m3	1.5	1.94		09/11/14 21:19	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	146	1.94		09/11/14 21:19	120-82-1	
1,1,1-Trichloroethane	**2.0J**	ug/m3	2.2	1.94		09/11/14 21:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.1	1.94		09/11/14 21:19	79-00-5	
Trichloroethene	**591**	ug/m3	42.4	38.8		09/12/14 16:27	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.9	1.94		09/11/14 21:19	526-73-8	
1,2,4-Trimethylbenzene	**1.4J**	ug/m3	1.9	1.94		09/11/14 21:19	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.9	1.94		09/11/14 21:19	108-67-8	
Vinyl chloride	ND	ug/m3	0.50	1.94		09/11/14 21:19	75-01-4	
m&p-Xylene	**4.8**	ug/m3	3.4	1.94		09/11/14 21:19	179601-23-1	
o-Xylene	**2.5**	ug/m3	1.7	1.94		09/11/14 21:19	95-47-6	

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Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-004-C-17 **Lab ID: 10280459014** Collected: 09/03/14 12:40 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	10.2	15.71		09/13/14 19:17	71-43-2	
Carbon tetrachloride	ND	ug/m3	10.1	15.71		09/13/14 19:17	56-23-5	
Chlorodifluoromethane	**26.0**	ug/m3	11.3	15.71		09/13/14 19:17	75-45-6	
Chloroform	**34.3**	ug/m3	7.8	15.71		09/13/14 19:17	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	15.9	15.71		09/13/14 19:17	75-71-8	
1,1-Dichloroethane	ND	ug/m3	12.9	15.71		09/13/14 19:17	75-34-3	
1,2-Dichloroethane	ND	ug/m3	6.4	15.71		09/13/14 19:17	107-06-2	
1,1-Dichloroethene	ND	ug/m3	12.7	15.71		09/13/14 19:17	75-35-4	
cis-1,2-Dichloroethene	**80.4**	ug/m3	12.7	15.71		09/13/14 19:17	156-59-2	
trans-1,2-Dichloroethene	**12.4J**	ug/m3	12.7	15.71		09/13/14 19:17	156-60-5	
Ethylbenzene	ND	ug/m3	13.8	15.71		09/13/14 19:17	100-41-4	
Methylene Chloride	**145**	ug/m3	55.5	15.71		09/13/14 19:17	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	11.5	15.71		09/13/14 19:17	1634-04-4	
Naphthalene	ND	ug/m3	41.8	15.71		09/13/14 19:17	91-20-3	
Tetrachloroethene	ND	ug/m3	10.8	15.71		09/13/14 19:17	127-18-4	
Toluene	**9.6J**	ug/m3	12.1	15.71		09/13/14 19:17	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	1190	15.71		09/13/14 19:17	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	17.4	15.71		09/13/14 19:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	8.6	15.71		09/13/14 19:17	79-00-5	
Trichloroethene	**210**	ug/m3	17.2	15.71		09/13/14 19:17	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	15.7	15.71		09/13/14 19:17	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	15.7	15.71		09/13/14 19:17	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	15.7	15.71		09/13/14 19:17	108-67-8	
Vinyl chloride	ND	ug/m3	4.1	15.71		09/13/14 19:17	75-01-4	
m&p-Xylene	ND	ug/m3	27.6	15.71		09/13/14 19:17	179601-23-1	
o-Xylene	ND	ug/m3	13.8	15.71		09/13/14 19:17	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-060-C-17 **Lab ID: 10280459007** Collected: 09/03/14 12:20 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.68		09/11/14 18:51	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/11/14 18:51	56-23-5	
Chlorodifluoromethane	**9.4**	ug/m3	1.2	1.68		09/11/14 18:51	75-45-6	
Chloroform	ND	ug/m3	0.83	1.68		09/11/14 18:51	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.7	1.68		09/11/14 18:51	75-71-8	
1,1-Dichloroethane	**1.8**	ug/m3	1.4	1.68		09/11/14 18:51	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/11/14 18:51	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		09/11/14 18:51	75-35-4	
cis-1,2-Dichloroethene	**1.4**	ug/m3	1.4	1.68		09/11/14 18:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/11/14 18:51	156-60-5	
Ethylbenzene	**65.0**	ug/m3	1.5	1.68		09/11/14 18:51	100-41-4	
Methylene Chloride	**70.9**	ug/m3	5.9	1.68		09/11/14 18:51	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/11/14 18:51	1634-04-4	
Naphthalene	**28.6**	ug/m3	4.5	1.68		09/11/14 18:51	91-20-3	CH,SS
Tetrachloroethene	**2.9**	ug/m3	1.2	1.68		09/11/14 18:51	127-18-4	
Toluene	**8.2**	ug/m3	1.3	1.68		09/11/14 18:51	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/11/14 18:51	120-82-1	
1,1,1-Trichloroethane	**0.95J**	ug/m3	1.9	1.68		09/11/14 18:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/11/14 18:51	79-00-5	
Trichloroethene	**58.6**	ug/m3	1.8	1.68		09/11/14 18:51	79-01-6	
1,2,3-Trimethylbenzene	**1.0J**	ug/m3	1.7	1.68		09/11/14 18:51	526-73-8	
1,2,4-Trimethylbenzene	**4.3**	ug/m3	1.7	1.68		09/11/14 18:51	95-63-6	
1,3,5-Trimethylbenzene	**1.7**	ug/m3	1.7	1.68		09/11/14 18:51	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		09/11/14 18:51	75-01-4	
m&p-Xylene	**250**	ug/m3	29.6	16.8		09/12/14 15:34	179601-23-1	
o-Xylene	**171**	ug/m3	1.5	1.68		09/11/14 18:51	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-088-C-17 **Lab ID: 10280459017** Collected: 09/03/14 15:31 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.3	1.94		09/11/14 23:01	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.94		09/11/14 23:01	56-23-5	
Chlorodifluoromethane	**6.5**	ug/m3	1.4	1.94		09/11/14 23:01	75-45-6	
Chloroform	ND	ug/m3	0.96	1.94		09/11/14 23:01	67-66-3	
Dichlorodifluoromethane	**2.8**	ug/m3	2.0	1.94		09/11/14 23:01	75-71-8	
1,1-Dichloroethane	**1.6J**	ug/m3	1.6	1.94		09/11/14 23:01	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.80	1.94		09/11/14 23:01	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.6	1.94		09/11/14 23:01	75-35-4	
cis-1,2-Dichloroethene	**17.7**	ug/m3	1.6	1.94		09/11/14 23:01	156-59-2	
trans-1,2-Dichloroethene	**0.87J**	ug/m3	1.6	1.94		09/11/14 23:01	156-60-5	
Ethylbenzene	**1.8**	ug/m3	1.7	1.94		09/11/14 23:01	100-41-4	
Methylene Chloride	ND	ug/m3	6.8	1.94		09/11/14 23:01	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.94		09/11/14 23:01	1634-04-4	
Naphthalene	**61.7**	ug/m3	5.2	1.94		09/11/14 23:01	91-20-3	CH,SS
Tetrachloroethene	ND	ug/m3	1.3	1.94		09/11/14 23:01	127-18-4	
Toluene	**10.3**	ug/m3	1.5	1.94		09/11/14 23:01	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	146	1.94		09/11/14 23:01	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.2	1.94		09/11/14 23:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.1	1.94		09/11/14 23:01	79-00-5	
Trichloroethene	**79.8**	ug/m3	2.1	1.94		09/11/14 23:01	79-01-6	
1,2,3-Trimethylbenzene	**1.5J**	ug/m3	1.9	1.94		09/11/14 23:01	526-73-8	
1,2,4-Trimethylbenzene	**2.0**	ug/m3	1.9	1.94		09/11/14 23:01	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.9	1.94		09/11/14 23:01	108-67-8	
Vinyl chloride	ND	ug/m3	0.50	1.94		09/11/14 23:01	75-01-4	
m&p-Xylene	**8.7**	ug/m3	3.4	1.94		09/11/14 23:01	179601-23-1	
o-Xylene	**5.5**	ug/m3	1.7	1.94		09/11/14 23:01	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-102-C-17 **Lab ID: 10280459011** Collected: 09/03/14 12:27 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**5.8**	ug/m3	1.2	1.8		09/11/14 20:30	71-43-2	
Carbon tetrachloride	**2.7**	ug/m3	1.2	1.8		09/11/14 20:30	56-23-5	
Chlorodifluoromethane	**9.7**	ug/m3	1.3	1.8		09/11/14 20:30	75-45-6	
Chloroform	**73.1**	ug/m3	0.89	1.8		09/11/14 20:30	67-66-3	
Dichlorodifluoromethane	**4.4**	ug/m3	1.8	1.8		09/11/14 20:30	75-71-8	
1,1-Dichloroethane	**3250**	ug/m3	73.8	90		09/12/14 16:49	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.74	1.8		09/11/14 20:30	107-06-2	
1,1-Dichloroethene	**1150**	ug/m3	72.9	90		09/12/14 16:49	75-35-4	
cis-1,2-Dichloroethene	**60.7**	ug/m3	1.5	1.8		09/11/14 20:30	156-59-2	
trans-1,2-Dichloroethene	**4.6**	ug/m3	1.5	1.8		09/11/14 20:30	156-60-5	
Ethylbenzene	**1420**	ug/m3	79.2	90		09/12/14 16:49	100-41-4	
Methylene Chloride	**11.4**	ug/m3	6.4	1.8		09/11/14 20:30	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.8		09/11/14 20:30	1634-04-4	
Naphthalene	**2850**	ug/m3	239	90		09/12/14 16:49	91-20-3	CH,SS
Tetrachloroethene	**3.4**	ug/m3	1.2	1.8		09/11/14 20:30	127-18-4	
Toluene	**171**	ug/m3	1.4	1.8		09/11/14 20:30	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	136	1.8		09/11/14 20:30	120-82-1	
1,1,1-Trichloroethane	**1240**	ug/m3	99.9	90		09/12/14 16:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.99	1.8		09/11/14 20:30	79-00-5	
Trichloroethene	**1640**	ug/m3	98.3	90		09/12/14 16:49	79-01-6	
1,2,3-Trimethylbenzene	**150**	ug/m3	1.8	1.8		09/11/14 20:30	526-73-8	
1,2,4-Trimethylbenzene	**145**	ug/m3	1.8	1.8		09/11/14 20:30	95-63-6	
1,3,5-Trimethylbenzene	**67.7**	ug/m3	1.8	1.8		09/11/14 20:30	108-67-8	
Vinyl chloride	**10.8**	ug/m3	0.47	1.8		09/11/14 20:30	75-01-4	
m&p-Xylene	**9290**	ug/m3	158	90		09/12/14 16:49	179601-23-1	
o-Xylene	**3450**	ug/m3	79.2	90		09/12/14 16:49	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-113-C-17 **Lab ID: 10280459018** Collected: 09/03/14 15:33 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.2	1.87		09/11/14 23:26	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.87		09/11/14 23:26	56-23-5	
Chlorodifluoromethane	**6.7**	ug/m3	1.3	1.87		09/11/14 23:26	75-45-6	
Chloroform	ND	ug/m3	0.93	1.87		09/11/14 23:26	67-66-3	
Dichlorodifluoromethane	**3.3**	ug/m3	1.9	1.87		09/11/14 23:26	75-71-8	
1,1-Dichloroethane	**1.4J**	ug/m3	1.5	1.87		09/11/14 23:26	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.77	1.87		09/11/14 23:26	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.87		09/11/14 23:26	75-35-4	
cis-1,2-Dichloroethene	**17.5**	ug/m3	1.5	1.87		09/11/14 23:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.87		09/11/14 23:26	156-60-5	
Ethylbenzene	**2.3**	ug/m3	1.6	1.87		09/11/14 23:26	100-41-4	
Methylene Chloride	**9.4**	ug/m3	6.6	1.87		09/11/14 23:26	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.87		09/11/14 23:26	1634-04-4	
Naphthalene	**233**	ug/m3	5.0	1.87		09/11/14 23:26	91-20-3	CH,SS
Tetrachloroethene	**1.8**	ug/m3	1.3	1.87		09/11/14 23:26	127-18-4	
Toluene	**7.3**	ug/m3	1.4	1.87		09/11/14 23:26	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	141	1.87		09/11/14 23:26	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.1	1.87		09/11/14 23:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.0	1.87		09/11/14 23:26	79-00-5	
Trichloroethene	**222**	ug/m3	2.0	1.87		09/11/14 23:26	79-01-6	
1,2,3-Trimethylbenzene	**12.5**	ug/m3	1.9	1.87		09/11/14 23:26	526-73-8	
1,2,4-Trimethylbenzene	**29.9**	ug/m3	1.9	1.87		09/11/14 23:26	95-63-6	
1,3,5-Trimethylbenzene	**5.2**	ug/m3	1.9	1.87		09/11/14 23:26	108-67-8	
Vinyl chloride	ND	ug/m3	0.49	1.87		09/11/14 23:26	75-01-4	
m&p-Xylene	**7.6**	ug/m3	3.3	1.87		09/11/14 23:26	179601-23-1	
o-Xylene	**4.7**	ug/m3	1.6	1.87		09/11/14 23:26	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-126-C-17 **Lab ID: 10280459004** Collected: 09/03/14 12:12 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**29.3**	ug/m3	1.1	1.68		09/11/14 17:35	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/11/14 17:35	56-23-5	
Chlorodifluoromethane	**5.3**	ug/m3	1.2	1.68		09/11/14 17:35	75-45-6	
Chloroform	ND	ug/m3	0.83	1.68		09/11/14 17:35	67-66-3	
Dichlorodifluoromethane	**3.1**	ug/m3	1.7	1.68		09/11/14 17:35	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		09/11/14 17:35	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/11/14 17:35	107-06-2	
1,1-Dichloroethene	**80.4**	ug/m3	1.4	1.68		09/11/14 17:35	75-35-4	
cis-1,2-Dichloroethene	**74.2**	ug/m3	1.4	1.68		09/11/14 17:35	156-59-2	
trans-1,2-Dichloroethene	**8.5**	ug/m3	1.4	1.68		09/11/14 17:35	156-60-5	
Ethylbenzene	**1.1J**	ug/m3	1.5	1.68		09/11/14 17:35	100-41-4	
Methylene Chloride	ND	ug/m3	5.9	1.68		09/11/14 17:35	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/11/14 17:35	1634-04-4	
Naphthalene	**152**	ug/m3	4.5	1.68		09/11/14 17:35	91-20-3	CH,SS
Tetrachloroethene	**1.2**	ug/m3	1.2	1.68		09/11/14 17:35	127-18-4	
Toluene	**20.0**	ug/m3	1.3	1.68		09/11/14 17:35	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/11/14 17:35	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		09/11/14 17:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/11/14 17:35	79-00-5	
Trichloroethene	**26.4**	ug/m3	1.8	1.68		09/11/14 17:35	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/11/14 17:35	526-73-8	
1,2,4-Trimethylbenzene	**1.7**	ug/m3	1.7	1.68		09/11/14 17:35	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/11/14 17:35	108-67-8	
Vinyl chloride	**4030**	ug/m3	140	537.6		09/12/14 14:52	75-01-4	A3
m&p-Xylene	**3.9**	ug/m3	3.0	1.68		09/11/14 17:35	179601-23-1	
o-Xylene	**1.8**	ug/m3	1.5	1.68		09/11/14 17:35	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-127-C-17 **Lab ID: 10280459006** Collected: 09/03/14 12:17 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.74		09/11/14 18:25	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		09/11/14 18:25	56-23-5	
Chlorodifluoromethane	**27.8**	ug/m3	1.3	1.74		09/11/14 18:25	75-45-6	
Chloroform	ND	ug/m3	0.86	1.74		09/11/14 18:25	67-66-3	
Dichlorodifluoromethane	**4.1**	ug/m3	1.8	1.74		09/11/14 18:25	75-71-8	
1,1-Dichloroethane	**25.1**	ug/m3	1.4	1.74		09/11/14 18:25	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		09/11/14 18:25	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 18:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 18:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 18:25	156-60-5	
Ethylbenzene	**1.4J**	ug/m3	1.5	1.74		09/11/14 18:25	100-41-4	
Methylene Chloride	**2.1J**	ug/m3	6.1	1.74		09/11/14 18:25	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/11/14 18:25	1634-04-4	
Naphthalene	**5.9**	ug/m3	4.6	1.74		09/11/14 18:25	91-20-3	CH,SS
Tetrachloroethene	**2.6**	ug/m3	1.2	1.74		09/11/14 18:25	127-18-4	
Toluene	**5.9**	ug/m3	1.3	1.74		09/11/14 18:25	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/11/14 18:25	120-82-1	
1,1,1-Trichloroethane	**268**	ug/m3	1.9	1.74		09/11/14 18:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/11/14 18:25	79-00-5	
Trichloroethene	**410**	ug/m3	19.0	17.4		09/12/14 15:56	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 18:25	526-73-8	
1,2,4-Trimethylbenzene	**0.91J**	ug/m3	1.7	1.74		09/11/14 18:25	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 18:25	108-67-8	
Vinyl chloride	**1.1**	ug/m3	0.45	1.74		09/11/14 18:25	75-01-4	
m&p-Xylene	**5.2**	ug/m3	3.1	1.74		09/11/14 18:25	179601-23-1	
o-Xylene	**2.6**	ug/m3	1.5	1.74		09/11/14 18:25	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-130-C-17 **Lab ID: 10280459012** Collected: 09/03/14 12:30 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.64		09/11/14 20:55	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.0	1.64		09/11/14 20:55	56-23-5	
Chlorodifluoromethane	**3.4**	ug/m3	1.2	1.64		09/11/14 20:55	75-45-6	
Chloroform	ND	ug/m3	0.81	1.64		09/11/14 20:55	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.7	1.64		09/11/14 20:55	75-71-8	
1,1-Dichloroethane	ND	ug/m3	2.0	2.49		09/12/14 13:41	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.67	1.64		09/11/14 20:55	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.64		09/11/14 20:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	1.64		09/11/14 20:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.64		09/11/14 20:55	156-60-5	
Ethylbenzene	**2.9**	ug/m3	1.4	1.64		09/11/14 20:55	100-41-4	
Methylene Chloride	ND	ug/m3	5.8	1.64		09/11/14 20:55	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.64		09/11/14 20:55	1634-04-4	
Naphthalene	**12.6**	ug/m3	6.6	2.49		09/12/14 13:41	91-20-3	CH,SS
Tetrachloroethene	**8.9**	ug/m3	1.1	1.64		09/11/14 20:55	127-18-4	
Toluene	**7.0**	ug/m3	1.3	1.64		09/11/14 20:55	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	124	1.64		09/11/14 20:55	120-82-1	
1,1,1-Trichloroethane	**4.0**	ug/m3	1.8	1.64		09/11/14 20:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.90	1.64		09/11/14 20:55	79-00-5	
Trichloroethene	**3.3**	ug/m3	1.8	1.64		09/11/14 20:55	79-01-6	
1,2,3-Trimethylbenzene	**8.2**	ug/m3	1.6	1.64		09/11/14 20:55	526-73-8	
1,2,4-Trimethylbenzene	**8.2**	ug/m3	1.6	1.64		09/11/14 20:55	95-63-6	
1,3,5-Trimethylbenzene	**11.3**	ug/m3	1.6	1.64		09/11/14 20:55	108-67-8	
Vinyl chloride	ND	ug/m3	0.43	1.64		09/11/14 20:55	75-01-4	
m&p-Xylene	**6.4**	ug/m3	4.4	2.49		09/12/14 13:41	179601-23-1	
o-Xylene	**2.8**	ug/m3	2.2	2.49		09/12/14 13:41	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-133-C-17 **Lab ID: 10280459009** Collected: 09/03/14 12:57 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.68		09/11/14 19:41	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/11/14 19:41	56-23-5	
Chlorodifluoromethane	**12.7**	ug/m3	1.2	1.68		09/11/14 19:41	75-45-6	
Chloroform	ND	ug/m3	0.83	1.68		09/11/14 19:41	67-66-3	
Dichlorodifluoromethane	**4.3**	ug/m3	1.7	1.68		09/11/14 19:41	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		09/11/14 19:41	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/11/14 19:41	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		09/11/14 19:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/11/14 19:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/11/14 19:41	156-60-5	
Ethylbenzene	**1.2J**	ug/m3	1.5	1.68		09/11/14 19:41	100-41-4	
Methylene Chloride	ND	ug/m3	5.9	1.68		09/11/14 19:41	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/11/14 19:41	1634-04-4	
Naphthalene	**1.8J**	ug/m3	4.5	1.68		09/11/14 19:41	91-20-3	CH,SS
Tetrachloroethene	**1.4**	ug/m3	1.2	1.68		09/11/14 19:41	127-18-4	
Toluene	**5.1**	ug/m3	1.3	1.68		09/11/14 19:41	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/11/14 19:41	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		09/11/14 19:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/11/14 19:41	79-00-5	
Trichloroethene	**10.9**	ug/m3	1.8	1.68		09/11/14 19:41	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/11/14 19:41	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/11/14 19:41	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/11/14 19:41	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		09/11/14 19:41	75-01-4	
m&p-Xylene	**4.0**	ug/m3	3.0	1.68		09/11/14 19:41	179601-23-1	
o-Xylene	**1.5**	ug/m3	1.5	1.68		09/11/14 19:41	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-141-C-17 **Lab ID: 10280459003** Collected: 09/03/14 12:07 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.74		09/11/14 17:11	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		09/11/14 17:11	56-23-5	
Chlorodifluoromethane	**19.9**	ug/m3	1.3	1.74		09/11/14 17:11	75-45-6	
Chloroform	ND	ug/m3	0.86	1.74		09/11/14 17:11	67-66-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.8	1.74		09/11/14 17:11	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.74		09/11/14 17:11	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		09/11/14 17:11	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 17:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 17:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 17:11	156-60-5	
Ethylbenzene	**2.6**	ug/m3	1.5	1.74		09/11/14 17:11	100-41-4	
Methylene Chloride	**1.4J**	ug/m3	6.1	1.74		09/11/14 17:11	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/11/14 17:11	1634-04-4	
Naphthalene	**1.5J**	ug/m3	4.6	1.74		09/11/14 17:11	91-20-3	CH,SS
Tetrachloroethene	**1.5**	ug/m3	1.2	1.74		09/11/14 17:11	127-18-4	
Toluene	**5.2**	ug/m3	1.3	1.74		09/11/14 17:11	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/11/14 17:11	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.74		09/11/14 17:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/11/14 17:11	79-00-5	
Trichloroethene	**3.2**	ug/m3	1.9	1.74		09/11/14 17:11	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 17:11	526-73-8	
1,2,4-Trimethylbenzene	**1.5J**	ug/m3	1.7	1.74		09/11/14 17:11	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 17:11	108-67-8	
Vinyl chloride	ND	ug/m3	0.45	1.74		09/11/14 17:11	75-01-4	
m&p-Xylene	**10.3**	ug/m3	3.1	1.74		09/11/14 17:11	179601-23-1	
o-Xylene	**4.6**	ug/m3	1.5	1.74		09/11/14 17:11	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-142-C-17 **Lab ID: 10280459016** Collected: 09/03/14 12:49 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.2	1.8		09/11/14 22:36	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.8		09/11/14 22:36	56-23-5	
Chlorodifluoromethane	**3.4**	ug/m3	1.3	1.8		09/11/14 22:36	75-45-6	
Chloroform	ND	ug/m3	0.89	1.8		09/11/14 22:36	67-66-3	
Dichlorodifluoromethane	**2.8**	ug/m3	1.8	1.8		09/11/14 22:36	75-71-8	
1,1-Dichloroethane	**2.0**	ug/m3	1.5	1.8		09/11/14 22:36	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.74	1.8		09/11/14 22:36	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.8		09/11/14 22:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		09/11/14 22:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		09/11/14 22:36	156-60-5	
Ethylbenzene	**1.9**	ug/m3	1.6	1.8		09/11/14 22:36	100-41-4	
Methylene Chloride	**26.9**	ug/m3	6.4	1.8		09/11/14 22:36	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.8		09/11/14 22:36	1634-04-4	
Naphthalene	**146**	ug/m3	4.8	1.8		09/11/14 22:36	91-20-3	CH,SS
Tetrachloroethene	**2.2**	ug/m3	1.2	1.8		09/11/14 22:36	127-18-4	
Toluene	**5.9**	ug/m3	1.4	1.8		09/11/14 22:36	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	136	1.8		09/11/14 22:36	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.0	1.8		09/11/14 22:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.99	1.8		09/11/14 22:36	79-00-5	
Trichloroethene	**7.2**	ug/m3	2.0	1.8		09/11/14 22:36	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.8	1.8		09/11/14 22:36	526-73-8	
1,2,4-Trimethylbenzene	**1.8J**	ug/m3	1.8	1.8		09/11/14 22:36	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.8	1.8		09/11/14 22:36	108-67-8	
Vinyl chloride	ND	ug/m3	0.47	1.8		09/11/14 22:36	75-01-4	
m&p-Xylene	**6.4**	ug/m3	3.2	1.8		09/11/14 22:36	179601-23-1	
o-Xylene	**3.8**	ug/m3	1.6	1.8		09/11/14 22:36	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-143-C-17 **Lab ID: 10280459015** Collected: 09/03/14 12:45 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.3	1.94		09/11/14 22:10	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.94		09/11/14 22:10	56-23-5	
Chlorodifluoromethane	**3.1**	ug/m3	1.4	1.94		09/11/14 22:10	75-45-6	
Chloroform	ND	ug/m3	0.96	1.94		09/11/14 22:10	67-66-3	
Dichlorodifluoromethane	**2.4**	ug/m3	2.0	1.94		09/11/14 22:10	75-71-8	
1,1-Dichloroethane	ND	ug/m3	2.9	3.49		09/12/14 14:05	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.80	1.94		09/11/14 22:10	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.6	1.94		09/11/14 22:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.6	1.94		09/11/14 22:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.6	1.94		09/11/14 22:10	156-60-5	
Ethylbenzene	**1.2J**	ug/m3	1.7	1.94		09/11/14 22:10	100-41-4	
Methylene Chloride	**3.8J**	ug/m3	6.8	1.94		09/11/14 22:10	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.94		09/11/14 22:10	1634-04-4	
Naphthalene	**14.9**	ug/m3	5.2	1.94		09/11/14 22:10	91-20-3	CH,SS
Tetrachloroethene	**1.7**	ug/m3	1.3	1.94		09/11/14 22:10	127-18-4	
Toluene	**35.1**	ug/m3	1.5	1.94		09/11/14 22:10	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	146	1.94		09/11/14 22:10	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.2	1.94		09/11/14 22:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.1	1.94		09/11/14 22:10	79-00-5	
Trichloroethene	**2.3**	ug/m3	2.1	1.94		09/11/14 22:10	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.9	1.94		09/11/14 22:10	526-73-8	
1,2,4-Trimethylbenzene	**1.8J**	ug/m3	1.9	1.94		09/11/14 22:10	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.9	1.94		09/11/14 22:10	108-67-8	
Vinyl chloride	ND	ug/m3	0.50	1.94		09/11/14 22:10	75-01-4	
m&p-Xylene	**4.6**	ug/m3	3.4	1.94		09/11/14 22:10	179601-23-1	
o-Xylene	**1.9**	ug/m3	1.7	1.94		09/11/14 22:10	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-149-C-17 **Lab ID: 10280459005** Collected: 09/03/14 12:16 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.95J**	ug/m3	1.1	1.74		09/11/14 18:00	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		09/11/14 18:00	56-23-5	
Chlorodifluoromethane	**8.0**	ug/m3	1.3	1.74		09/11/14 18:00	75-45-6	
Chloroform	ND	ug/m3	0.86	1.74		09/11/14 18:00	67-66-3	
Dichlorodifluoromethane	**3.4**	ug/m3	1.8	1.74		09/11/14 18:00	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.74		09/11/14 18:00	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		09/11/14 18:00	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 18:00	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 18:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 18:00	156-60-5	
Ethylbenzene	**2.0**	ug/m3	1.5	1.74		09/11/14 18:00	100-41-4	
Methylene Chloride	**3.1J**	ug/m3	6.1	1.74		09/11/14 18:00	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/11/14 18:00	1634-04-4	
Naphthalene	**3.2J**	ug/m3	4.6	1.74		09/11/14 18:00	91-20-3	CH,SS
Tetrachloroethene	**1.6**	ug/m3	1.2	1.74		09/11/14 18:00	127-18-4	
Toluene	**21.1**	ug/m3	1.3	1.74		09/11/14 18:00	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/11/14 18:00	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.74		09/11/14 18:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/11/14 18:00	79-00-5	
Trichloroethene	**3.4**	ug/m3	1.9	1.74		09/11/14 18:00	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 18:00	526-73-8	
1,2,4-Trimethylbenzene	**1.3J**	ug/m3	1.7	1.74		09/11/14 18:00	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 18:00	108-67-8	
Vinyl chloride	ND	ug/m3	0.81	3.13		09/12/14 12:51	75-01-4	
m&p-Xylene	**7.2**	ug/m3	3.1	1.74		09/11/14 18:00	179601-23-1	
o-Xylene	**3.6**	ug/m3	1.5	1.74		09/11/14 18:00	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-153-C-17 **Lab ID: 10280459008** Collected: 09/03/14 12:22 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.74		09/11/14 19:16	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		09/11/14 19:16	56-23-5	
Chlorodifluoromethane	**10.7**	ug/m3	1.3	1.74		09/11/14 19:16	75-45-6	
Chloroform	ND	ug/m3	0.86	1.74		09/11/14 19:16	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.8	1.74		09/11/14 19:16	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.74		09/11/14 19:16	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		09/11/14 19:16	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 19:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 19:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/11/14 19:16	156-60-5	
Ethylbenzene	**1.8**	ug/m3	1.5	1.74		09/11/14 19:16	100-41-4	
Methylene Chloride	**0.97J**	ug/m3	6.1	1.74		09/11/14 19:16	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/11/14 19:16	1634-04-4	
Naphthalene	**2.5J**	ug/m3	4.6	1.74		09/11/14 19:16	91-20-3	CH,SS
Tetrachloroethene	**5.0**	ug/m3	1.2	1.74		09/11/14 19:16	127-18-4	
Toluene	**8.6**	ug/m3	1.3	1.74		09/11/14 19:16	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/11/14 19:16	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.74		09/11/14 19:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/11/14 19:16	79-00-5	
Trichloroethene	ND	ug/m3	1.9	1.74		09/11/14 19:16	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 19:16	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 19:16	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.74		09/11/14 19:16	108-67-8	
Vinyl chloride	ND	ug/m3	0.45	1.74		09/11/14 19:16	75-01-4	
m&p-Xylene	**6.9**	ug/m3	3.1	1.74		09/11/14 19:16	179601-23-1	
o-Xylene	**2.6**	ug/m3	1.5	1.74		09/11/14 19:16	95-47-6	

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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-155-C-17 **Lab ID: 10280459010** Collected: 09/03/14 12:23 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.2	1.8		09/11/14 20:05	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.8		09/11/14 20:05	56-23-5	
Chlorodifluoromethane	**9.4**	ug/m3	1.3	1.8		09/11/14 20:05	75-45-6	
Chloroform	ND	ug/m3	0.89	1.8		09/11/14 20:05	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.8	1.8		09/11/14 20:05	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	1.8		09/11/14 20:05	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.74	1.8		09/11/14 20:05	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.8		09/11/14 20:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		09/11/14 20:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		09/11/14 20:05	156-60-5	
Ethylbenzene	**1.4J**	ug/m3	1.6	1.8		09/11/14 20:05	100-41-4	
Methylene Chloride	**3.4J**	ug/m3	6.4	1.8		09/11/14 20:05	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.8		09/11/14 20:05	1634-04-4	
Naphthalene	**1.3J**	ug/m3	4.8	1.8		09/11/14 20:05	91-20-3	CH,SS
Tetrachloroethene	ND	ug/m3	1.2	1.8		09/11/14 20:05	127-18-4	
Toluene	**11.2**	ug/m3	1.4	1.8		09/11/14 20:05	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	136	1.8		09/11/14 20:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.0	1.8		09/11/14 20:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.99	1.8		09/11/14 20:05	79-00-5	
Trichloroethene	**1.5J**	ug/m3	2.0	1.8		09/11/14 20:05	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.8	1.8		09/11/14 20:05	526-73-8	
1,2,4-Trimethylbenzene	**0.91J**	ug/m3	1.8	1.8		09/11/14 20:05	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.8	1.8		09/11/14 20:05	108-67-8	
Vinyl chloride	ND	ug/m3	0.47	1.8		09/11/14 20:05	75-01-4	
m&p-Xylene	**4.5**	ug/m3	3.2	1.8		09/11/14 20:05	179601-23-1	
o-Xylene	**2.1**	ug/m3	1.6	1.8		09/11/14 20:05	95-47-6	

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Appendix C

Support Documentation

FIELD DUPLICATE PRECISION
LMC - MRC & TILLEY CHEMICAL CO, INC.
SDG 10280474

SAMPLE	PARAMETER	RESULT (µg/m³)	DUPLICATE SAMPLE	PARAMETER	RESULT (µg/m³)	RPD (%)	DIFFERENCE	RL (µg/m³)
SV-130-C-17	1,1,1-TRICHLOROETHANE	4	**SV-DUP4-C-17**	1,1,1-TRICHLOROETHANE	2	66.67	2	
	1,2,3-TRIMETHYLBENZENE	8.2		1,2,3-TRIMETHYLBENZENE	3.4	82.76	4.8	
	1,2,4-TRIMETHYLBENZENE	8.2		1,2,4-TRIMETHYLBENZENE	4.1	66.67	4.1	
	1,3,5-TRIMETHYLBENZENE	11.3		1,3,5-TRIMETHYLBENZENE	4.6	84.28	6.7	
	CHLORODIFLUOROMETHANE	3.4		CHLORODIFLUOROMETHANE	3.3	2.99	0.1	
	DICHLORODIFLUOROMETHANE	3		DICHLORODIFLUOROMETHANE	4.2	33.33	1.2	
	ETHYLBENZENE	2.9		ETHYLBENZENE	2.4	18.87	0.5	
	M+P-XYLENES	6.4		M+P-XYLENES	6.9	7.52	0.5	
	METHYLENE CHLORIDE	U		METHYLENE CHLORIDE	2.6 J	NA	2.6	5.8
	NAPHTHALENE	12.6		NAPHTHALENE	26.9	72.41	14.3	
	O-XYLENE	2.8		O-XYLENE	3.2	13.33	0.4	
	TETRACHLOROETHENE	8.9		TETRACHLOROETHENE	2.4	115.04	6.5	
	TOLUENE	7		TOLUENE	5.2	29.51	1.8	
	TRICHLOROETHENE	3.3		TRICHLOROETHENE	2.2	40.00	1.1	

QC: RPD < 50%
or DIFFERENCE < 2X RL

U - NON-DETECT
NA - NOT APPLICABLE

FIELD DUPLICATE PRECISION
LMC - MRC & TILLEY CHEMICAL CO, INC.
SDG 10280474

SAMPLE	PARAMETER	RESULT (µg/m³)	DUPLICATE SAMPLE	PARAMETER	RESULT (µg/m³)	RPD (%)	DIFFERENCE	RL (µg/m³)
SV-133-C-17	CHLORODIFLUOROMETHANE	12.7	**SV-DUP3-C-17**	CHLORODIFLUOROMETHANE	9	34.10	3.7	
	DICHLORODIFLUOROMETHANE	4.3		DICHLORODIFLUOROMETHANE	3.1	32.43	1.2	
	ETHYLBENZENE	1.2 J		ETHYLBENZENE	0.78 J	42.42	0.42	1.5
	M+P-XYLENES	4		M+P-XYLENES	2.4 J	50.00	1.6	3
	NAPHTHALENE	1.8 J		NAPHTHALENE	3.3 J	58.82	1.5	4.5
	O-XYLENE	1.5		O-XYLENE	0.89 J	51.05	0.61	1.5
	TETRACHLOROETHENE	1.4		TETRACHLOROETHENE	3.3	80.85	1.9	
	TOLUENE	5.1		TOLUENE	4.2	19.35	0.9	
	TRICHLOROETHENE	10.9		TRICHLOROETHENE	199	179.23	188.1	

QC: RPD < 50%
or DIFFERENCE < 2X RL

U - NON-DETECT
NA - NOT APPLICABLE

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September 17, 2014

Tony Apanavage
Tetra Tech
20251 Century Blvd
Suite 200
Germantown, MD 20874

RE: Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Dear Tony Apanavage:
Enclosed are the analytical results for sample(s) received by the laboratory on September 08, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nathan Boberg
nathan.boberg@pacelabs.com
Project Manager

Enclosures

cc: Samantha Brenner
Dawn Monico, Tetra Tech GEO

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10280459003	SV-141-C-17	Air	09/03/14 12:07	09/08/14 09:30
10280459004	SV-126-C-17	Air	09/03/14 12:12	09/08/14 09:30
10280459005	SV-149-C-17	Air	09/03/14 12:16	09/08/14 09:30
10280459006	SV-127-C-17	Air	09/03/14 12:17	09/08/14 09:30
10280459007	SV-060-C-17	Air	09/03/14 12:20	09/08/14 09:30
10280459008	SV-153-C-17	Air	09/03/14 12:22	09/08/14 09:30
10280459009	SV-133-C-17	Air	09/03/14 12:57	09/08/14 09:30
10280459010	SV-155-C-17	Air	09/03/14 12:23	09/08/14 09:30
10280459011	SV-102-C-17	Air	09/03/14 12:27	09/08/14 09:30
10280459012	SV-130-C-17	Air	09/03/14 12:30	09/08/14 09:30
10280459013	SV-001-C-17	Air	09/03/14 12:36	09/08/14 09:30
10280459014	SV-004-C-17	Air	09/03/14 12:40	09/08/14 09:30
10280459015	SV-143-C-17	Air	09/03/14 12:45	09/08/14 09:30
10280459016	SV-142-C-17	Air	09/03/14 12:49	09/08/14 09:30
10280459017	SV-088-C-17	Air	09/03/14 15:31	09/08/14 09:30
10280459018	SV-113-C-17	Air	09/03/14 15:33	09/08/14 09:30

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SAMPLE ANALYTE COUNT

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10280459003	SV-141-C-17	TO-15	MJL	26
10280459004	SV-126-C-17	TO-15	DL1, MJL	26
10280459005	SV-149-C-17	TO-15	MJL	26
10280459006	SV-127-C-17	TO-15	DL1, MJL	26
10280459007	SV-060-C-17	TO-15	DL1, MJL	26
10280459008	SV-153-C-17	TO-15	MJL	26
10280459009	SV-133-C-17	TO-15	MJL	26
10280459010	SV-155-C-17	TO-15	MJL	26
10280459011	SV-102-C-17	TO-15	DL1, MJL	26
10280459012	SV-130-C-17	TO-15	MJL	26
10280459013	SV-001-C-17	TO-15	DL1, MJL	26
10280459014	SV-004-C-17	TO-15	DL1	26
10280459015	SV-143-C-17	TO-15	MJL	26
10280459016	SV-142-C-17	TO-15	MJL	26
10280459017	SV-088-C-17	TO-15	MJL	26
10280459018	SV-113-C-17	TO-15	MJL	26

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PROJECT NARRATIVE

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Method: TO-15
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: September 17, 2014

General Information:
16 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/21284

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- LCS (Lab ID: 1786623)
  - 1,2,4-Trichlorobenzene
  - Naphthalene
- SV-001-C-17 (Lab ID: 10280459013)
  - Naphthalene
- SV-060-C-17 (Lab ID: 10280459007)
  - Naphthalene
- SV-088-C-17 (Lab ID: 10280459017)
  - Naphthalene
- SV-102-C-17 (Lab ID: 10280459011)
  - Naphthalene
- SV-113-C-17 (Lab ID: 10280459018)
  - Naphthalene
- SV-126-C-17 (Lab ID: 10280459004)
  - Naphthalene
- SV-127-C-17 (Lab ID: 10280459006)
  - Naphthalene
- SV-130-C-17 (Lab ID: 10280459012)
  - Naphthalene
- SV-133-C-17 (Lab ID: 10280459009)
  - Naphthalene
- SV-141-C-17 (Lab ID: 10280459003)
  - Naphthalene
- SV-142-C-17 (Lab ID: 10280459016)
  - Naphthalene
- SV-143-C-17 (Lab ID: 10280459015)
  - Naphthalene
- SV-149-C-17 (Lab ID: 10280459005)
  - Naphthalene
- SV-153-C-17 (Lab ID: 10280459008)
  - Naphthalene
- SV-155-C-17 (Lab ID: 10280459010)
  - Naphthalene

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PROJECT NARRATIVE

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: September 17, 2014

QC Batch: AIR/21304

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- LCS (Lab ID: 1788456)
  - 1,2,4-Trichlorobenzene
  - Naphthalene

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/21284

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 1786623)
  - 1,2,4-Trichlorobenzene
  - Naphthalene
- SV-001-C-17 (Lab ID: 10280459013)
  - Naphthalene
- SV-060-C-17 (Lab ID: 10280459007)
  - Naphthalene
- SV-088-C-17 (Lab ID: 10280459017)
  - Naphthalene
- SV-102-C-17 (Lab ID: 10280459011)
  - Naphthalene
- SV-113-C-17 (Lab ID: 10280459018)
  - Naphthalene
- SV-126-C-17 (Lab ID: 10280459004)
  - Naphthalene
- SV-127-C-17 (Lab ID: 10280459006)
  - Naphthalene
- SV-130-C-17 (Lab ID: 10280459012)
  - Naphthalene
- SV-133-C-17 (Lab ID: 10280459009)
  - Naphthalene
- SV-141-C-17 (Lab ID: 10280459003)
  - Naphthalene
- SV-142-C-17 (Lab ID: 10280459016)
  - Naphthalene
- SV-143-C-17 (Lab ID: 10280459015)
  - Naphthalene
- SV-149-C-17 (Lab ID: 10280459005)
  - Naphthalene
- SV-153-C-17 (Lab ID: 10280459008)
  - Naphthalene
- SV-155-C-17 (Lab ID: 10280459010)
  - Naphthalene

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PROJECT NARRATIVE

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Method: TO-15
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: September 17, 2014

QC Batch: AIR/21304

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 1788456)
  - 1,2,4-Trichlorobenzene
  - Naphthalene

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: AIR/21284

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- LCS (Lab ID: 1786623)
  - 1,2,4-Trichlorobenzene

QC Batch: AIR/21304

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- LCS (Lab ID: 1788456)
  - 1,2,4-Trichlorobenzene

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/21284

A3: The sample was analyzed by serial dilution.

- SV-126-C-17 (Lab ID: 10280459004)
  - Vinyl chloride

This data package has been reviewed for quality and completeness and is approved for release.

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10280459

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

09764

Page: 1 of 2

Section A Required Client Information:

Company: Tetra Tech Inc
Address: 20251 Century Blvd Germantown MD 20874
Email To:
Phone: 301-528-3021 Fax: 3000
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Tony Apanavage
Copy To:
Purchase Order No.:
Project Name: SV / IAQ
Project Number: 112IC06279

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST / Superfund / Emissions / Clean Air Act / Voluntary Clean Up / Dry Clean / RCRA / Other

Location of Sampling by State: MD

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level II.___ III.___ IV.___ Other___

Section D Required Client Information

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Start DATE	Start TIME	Stop DATE	Stop TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C-Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	~~SV-065-C-17~~	1LC		9-3-14	~~1035~~	9-3-14															
2	SV-051-C-17				1035		1205	-30	0	2474	FC0080							X			001
3	SV-086-C-17				1042		1200	-30	-1	2646	FC1014							X			002
4	SV-141-C-17				1048		1207	-30	-2	1143	FC0354							X			003
5	SV-126-C-17				1053		1212	-31	0	1105	FC0089							X			004
6	SV-149-C-17				1056		1216	-30	0	0911	FC0407							X			005
7	SV-127-C-17				1102		1218	-30	-2.5	1318	FC0354							X			006
8	SV-060-C-17				1105		1220	-30	0	1017	FC0134							X			007
9	SV-153-C-17				1109		1222	-30	-1	1797	FC0002							X			008
10	SV-133-C-17				1112		1257	-30	0	2740	FC0091							X			009
11	SV-155-C-17				1117		1223	-30	0	1329	FC0356							X			010
12	SV-102-C-17				1122		1227	-29	0	1776	FC0387							X			011

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Walt Payne	9-4-14	1000	[illegible] Pace	9814	0930

SAMPLE CONDITIONS

AMB	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Walt Payne

SIGNATURE of SAMPLER: Walt Payne

DATE Signed (MM / DD / YY): 9-4-14

ORIGINAL

10280459

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

09773

Section A Required Client Information:
Company: Tetra Tech
Address:
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:
Report To:
Copy To:
Purchase Order No.:
Project Name: MIC SV / IAQ
Project Number: 112IC06279

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST, Superfund, Emissions, Clean Air Act, Voluntary Clean Up, Dry Clean, RCRA, Other____

Location of Sampling by State: MD

Reporting Units: ug/m³___ mg/m³___ PPBV___ PPMV___ Other___

Report Level: II.___ III.___ IV.___ Other____

Section D Required Client Information

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Start (COMPOSITE START END/GRAB) DATE	TIME	Stop (COMPOSITE - END) DATE	TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	SV-130-C-17	1LC		9-3-14	1130	9-3-14	1230	-27	0	2195	FC0327							X			012
2	SV-001-C-17	↓		↓	1137	↓	1236	-30	0	2236	FC0539							X			013
3	SV-004-C-17	↓		↓	1140	↓	1240	-30	-4	1156	FC0120							X			014
4	SV-143-C-17	↓		↓	1145	↓	1245	-30	-4	922	FC0081							X			015
5	SV-142-C-17	↓		↓	1148	↓	1249	-29	-3	889	FC0362							X			016
6	SV-088-C-17	↓		↓	1431	↓	1531	-30	-4	2470	FC0144							X			017
7	SV-113-C-17	↓		↓	1433	↓	1533	-32	-4	1296	FC0121							X			018
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Walt Pryor	9-4-14	1000	[illegible]	9814	0930

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
NM	Y/N (Y)	Y/N (N)	Y/N (N)
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Walt Pryor
SIGNATURE of SAMPLER: Walt P
DATE Signed (MM / DD / YY)

ORIGINAL

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: tetra tech

Project #: WO# : 10280459

10280459

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: on other sheet

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other: **Temp Blank rec:** ☐ Yes ☑ No

Temp. (TO17 and TO13 samples only) (°C): — **Corrected Temp (°C):** — **Thermom. Used:** ☐ B88A912167504 ☐ B88A9132521491 ☐ 72337080 ☐ 80512447

Temp should be above freezing to 6°C **Correction Factor:** — **Date & Initials of Person Examining Contents:** 9/8/14

Type of ice Received ☐ Blue ☐ Wet ☑ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: air can				11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
051	2474	0080	102	1776	0387
086	2646	1014	130	2195	0327
141	1143	0354	001	2236	0539
126	1105	0089	004	1156	0120
149	0911	0407	143	0922	0081
127	1318	0359	142	0889	0362
060	1017	0134	080	2470	0144
153	1797	0002	113	1246	0121
133	2740	0091			
155	1329	0356			

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Date: 9/8/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical	Document Name: **SCUR Exceptions Form**	Document Revised: 16Apr2012 Page 1 of 1
	Document No.: **F-MN-L-220-Rev.00**	Issuing Authority: Pace Minnesota Quality Office

Workorder #: _____

Issue	Sample ID	Container Type/#
6146 1782 2744		
6146 1782 2940		
6146 1782 2906		
6146 1782 2939		
6146 1782 2847		
6146 1782 2870		
6146 1782 2836		
6146 1782 2814		
6146 1782 2880		
6146 1782 2766		
6146 1782 2928		
6146 1782 2825		
6146 1782 2891		
6146 1782 2788		
6146 1782 2803		
6146 1782 2777		
6146 1782 2858		
6146 1782 2755		
6146 1782 2869		
6146 1782 2917		
6146 1782 2799		

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Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

A3	The sample was analyzed by serial dilution.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10280459003	**SV-141-C-17**	TO-15	AIR/21284		
10280459004	**SV-126-C-17**	TO-15	AIR/21284		
10280459005	**SV-149-C-17**	TO-15	AIR/21284		
10280459006	**SV-127-C-17**	TO-15	AIR/21284		
10280459007	**SV-060-C-17**	TO-15	AIR/21284		
10280459008	**SV-153-C-17**	TO-15	AIR/21284		
10280459009	**SV-133-C-17**	TO-15	AIR/21284		
10280459010	**SV-155-C-17**	TO-15	AIR/21284		
10280459011	**SV-102-C-17**	TO-15	AIR/21284		
10280459012	**SV-130-C-17**	TO-15	AIR/21284		
10280459013	**SV-001-C-17**	TO-15	AIR/21284		
10280459014	**SV-004-C-17**	TO-15	AIR/21304		
10280459015	**SV-143-C-17**	TO-15	AIR/21284		
10280459016	**SV-142-C-17**	TO-15	AIR/21284		
10280459017	**SV-088-C-17**	TO-15	AIR/21284		
10280459018	**SV-113-C-17**	TO-15	AIR/21284		

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QUALITY CONTROL DATA

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

QC Batch: AIR/21284 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10280459003, 10280459004, 10280459005, 10280459006, 10280459007, 10280459008, 10280459009, 10280459010, 10280459011, 10280459012, 10280459013, 10280459015, 10280459016, 10280459017, 10280459018

METHOD BLANK: 1786622 Matrix: Air
Associated Lab Samples: 10280459003, 10280459004, 10280459005, 10280459006, 10280459007, 10280459008, 10280459009, 10280459010, 10280459011, 10280459012, 10280459013, 10280459015, 10280459016, 10280459017, 10280459018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	09/11/14 15:48	
1,1,2-Trichloroethane	ug/m3	ND	0.55	09/11/14 15:48	
1,1-Dichloroethane	ug/m3	ND	0.82	09/11/14 15:48	
1,1-Dichloroethene	ug/m3	ND	0.81	09/11/14 15:48	
1,2,3-Trimethylbenzene	ug/m3	ND	1.0	09/11/14 15:48	
1,2,4-Trichlorobenzene	ug/m3	ND	75.4	09/11/14 15:48	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	09/11/14 15:48	
1,2-Dichloroethane	ug/m3	ND	0.41	09/11/14 15:48	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	09/11/14 15:48	
Benzene	ug/m3	ND	0.65	09/11/14 15:48	
Carbon tetrachloride	ug/m3	ND	0.64	09/11/14 15:48	
Chlorodifluoromethane	ug/m3	ND	0.72	09/11/14 15:48	
Chloroform	ug/m3	ND	0.50	09/11/14 15:48	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	09/11/14 15:48	
Dichlorodifluoromethane	ug/m3	ND	1.0	09/11/14 15:48	
Ethylbenzene	ug/m3	ND	0.88	09/11/14 15:48	
m&p-Xylene	ug/m3	ND	1.8	09/11/14 15:48	
Methyl-tert-butyl ether	ug/m3	ND	0.73	09/11/14 15:48	
Methylene Chloride	ug/m3	ND	3.5	09/11/14 15:48	
Naphthalene	ug/m3	ND	2.7	09/11/14 15:48	
o-Xylene	ug/m3	ND	0.88	09/11/14 15:48	
Tetrachloroethene	ug/m3	ND	0.69	09/11/14 15:48	
Toluene	ug/m3	0.48J	0.77	09/11/14 15:48	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	09/11/14 15:48	
Trichloroethene	ug/m3	ND	1.1	09/11/14 15:48	
Vinyl chloride	ug/m3	ND	0.26	09/11/14 15:48	

LABORATORY CONTROL SAMPLE: 1786623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	48.7	88	72-128	
1,1,2-Trichloroethane	ug/m3	55.5	50.9	92	72-130	
1,1-Dichloroethane	ug/m3	41.2	37.6	91	68-128	
1,1-Dichloroethene	ug/m3	40.3	39.0	97	68-130	
1,2,3-Trimethylbenzene	ug/m3	50	56.7	113	60-140	
1,2,4-Trichlorobenzene	ug/m3	75.5	155	206	30-150	CH,L3,SS

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

LABORATORY CONTROL SAMPLE: 1786623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/m3	50	54.1	108	71-140	
1,2-Dichloroethane	ug/m3	41.2	36.7	89	71-132	
1,3,5-Trimethylbenzene	ug/m3	50	54.8	110	73-136	
Benzene	ug/m3	32.5	32.1	99	69-134	
Carbon tetrachloride	ug/m3	64	54.3	85	66-134	
Chlorodifluoromethane	ug/m3	36	35.3	98	60-140	
Chloroform	ug/m3	49.7	47.0	95	72-127	
cis-1,2-Dichloroethene	ug/m3	40.3	38.0	94	71-135	
Dichlorodifluoromethane	ug/m3	50.3	47.0	93	69-125	
Ethylbenzene	ug/m3	44.2	42.1	95	73-139	
m&p-Xylene	ug/m3	44.2	44.6	101	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	38.9	106	72-132	
Methylene Chloride	ug/m3	35.3	33.2	94	64-134	
Naphthalene	ug/m3	53.3	78.9	148	61-150	CH,SS
o-Xylene	ug/m3	44.2	49.9	113	71-138	
Tetrachloroethene	ug/m3	69	63.0	91	69-136	
Toluene	ug/m3	38.3	38.1	99	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	37.6	93	70-131	
Trichloroethene	ug/m3	54.6	51.9	95	70-135	
Vinyl chloride	ug/m3	26	25.6	98	69-132	

SAMPLE DUPLICATE: 1787387

Parameter	Units	10280465014 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,3-Trimethylbenzene	ug/m3	ND	ND		25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
Benzene	ug/m3	ND	ND		25	
Carbon tetrachloride	ug/m3	ND	ND		25	
Chlorodifluoromethane	ug/m3	3.6	4.0	11	25	
Chloroform	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.9	2.4	16	25	
Ethylbenzene	ug/m3	1.5	1.3	14	25	
m&p-Xylene	ug/m3	5.4	5.1	4	25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	0.67J	0.63J		25	
Naphthalene	ug/m3	ND	ND		25	
o-Xylene	ug/m3	2.3	1.8	25	25	

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QUALITY CONTROL DATA

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

SAMPLE DUPLICATE: 1787387

Parameter	Units	10280465014 Result	Dup Result	RPD	Max RPD	Qualifiers
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	56.2	52.4	7	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

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QUALITY CONTROL DATA

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

QC Batch: AIR/21304 | Analysis Method: TO-15
QC Batch Method: TO-15 | Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10280459014

METHOD BLANK: 1788455 | Matrix: Air
Associated Lab Samples: 10280459014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	09/13/14 15:47	
1,1,2-Trichloroethane	ug/m3	ND	0.55	09/13/14 15:47	
1,1-Dichloroethane	ug/m3	ND	0.82	09/13/14 15:47	
1,1-Dichloroethene	ug/m3	ND	0.81	09/13/14 15:47	
1,2,3-Trimethylbenzene	ug/m3	ND	1.0	09/13/14 15:47	
1,2,4-Trichlorobenzene	ug/m3	ND	75.4	09/13/14 15:47	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	09/13/14 15:47	
1,2-Dichloroethane	ug/m3	ND	0.41	09/13/14 15:47	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	09/13/14 15:47	
Benzene	ug/m3	ND	0.65	09/13/14 15:47	
Carbon tetrachloride	ug/m3	ND	0.64	09/13/14 15:47	
Chlorodifluoromethane	ug/m3	ND	0.72	09/13/14 15:47	
Chloroform	ug/m3	ND	0.50	09/13/14 15:47	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	09/13/14 15:47	
Dichlorodifluoromethane	ug/m3	ND	1.0	09/13/14 15:47	
Ethylbenzene	ug/m3	ND	0.88	09/13/14 15:47	
m&p-Xylene	ug/m3	ND	1.8	09/13/14 15:47	
Methyl-tert-butyl ether	ug/m3	ND	0.73	09/13/14 15:47	
Methylene Chloride	ug/m3	ND	3.5	09/13/14 15:47	
Naphthalene	ug/m3	ND	2.7	09/13/14 15:47	
o-Xylene	ug/m3	ND	0.88	09/13/14 15:47	
Tetrachloroethene	ug/m3	ND	0.69	09/13/14 15:47	
Toluene	ug/m3	ND	0.77	09/13/14 15:47	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	09/13/14 15:47	
Trichloroethene	ug/m3	ND	1.1	09/13/14 15:47	
Vinyl chloride	ug/m3	ND	0.26	09/13/14 15:47	

LABORATORY CONTROL SAMPLE: 1788456

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	54.0	97	72-128	
1,1,2-Trichloroethane	ug/m3	55.5	47.3	85	72-130	
1,1-Dichloroethane	ug/m3	41.2	36.6	89	68-128	
1,1-Dichloroethene	ug/m3	40.3	40.0	99	68-130	
1,2,3-Trimethylbenzene	ug/m3	50	58.8	118	60-140	
1,2,4-Trichlorobenzene	ug/m3	75.5	149	198	30-150	CH,L3,SS
1,2,4-Trimethylbenzene	ug/m3	50	54.6	109	71-140	
1,2-Dichloroethane	ug/m3	41.2	41.6	101	71-132	
1,3,5-Trimethylbenzene	ug/m3	50	54.9	110	73-136	
Benzene	ug/m3	32.5	29.7	91	69-134	

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QUALITY CONTROL DATA

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

LABORATORY CONTROL SAMPLE: 1788456

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/m3	64	63.2	99	66-134	
Chlorodifluoromethane	ug/m3	36	36.4	101	60-140	
Chloroform	ug/m3	49.7	49.4	99	72-127	
cis-1,2-Dichloroethene	ug/m3	40.3	35.1	87	71-135	
Dichlorodifluoromethane	ug/m3	50.3	52.6	105	69-125	
Ethylbenzene	ug/m3	44.2	41.2	93	73-139	
m&p-Xylene	ug/m3	44.2	43.0	97	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	37.9	103	72-132	
Methylene Chloride	ug/m3	35.3	30.9	87	64-134	
Naphthalene	ug/m3	53.3	75.8	142	61-150	CH,SS
o-Xylene	ug/m3	44.2	47.9	108	71-138	
Tetrachloroethene	ug/m3	69	62.5	91	69-136	
Toluene	ug/m3	38.3	35.7	93	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	35.2	87	70-131	
Trichloroethene	ug/m3	54.6	48.8	89	70-135	
Vinyl chloride	ug/m3	26	24.0	92	69-132	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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Fraction: TO15

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Instrument Run Log

Instrument: 10AIRB Method: Misc. Prep. Info: Surrogate Lot:
Column: J&W DB-5 0.32mm Helium Tune Standard: ISTD Lot: 8393-345 Cal. Standard:

Path/File	Lab ID	Matrix/Batch	Type	DF	pH	Method	Date & Time	Oper.	Comments
23901BFB.D	BFB	L/	Tune	1		50ng_bfb	8/27/14 09:58	MJL	
23902.D	ICAL5	G/	Ical	1		TO15_239-14_Markes	8/27/14 10:19	MJL	
23903.D	ICAL6	G/	Ical	1		TO15_239-14_Markes	8/27/14 10:42	MJL	
23904.D	ICAL7	G/	Ical	1		TO15_239-14_Markes	8/27/14 11:09	MJL	
23905.D	0	G/	Sample	1		TO15_239-14_Markes	8/27/14 11:31	MJL	
23906.D	ICAL1	G/	Ical	1		TO15_239-14_Markes	8/27/14 11:52	MJL	
23907.D	ICAL2	G/	Ical	1		TO15_239-14_Markes	8/27/14 12:14	MJL	
23908.D	ICAL3	G/	Ical	1		TO15_239-14_Markes	8/27/14 12:35	MJL	
23909.D	ICAL4	G/	Ical	1		TO15_239-14_Markes	8/27/14 12:57	MJL	
23910.D	ICV	G/	LCS	1		TO15_239-14_Markes	8/27/14 13:19	MJL	
23911LCS.D	LCS	G/	LCS	1		TO15_239-14_Markes	8/27/14 13:41	MJL	
23911.D	LCS	G/	Sample	1		TO15_239-14_Markes	8/27/14 13:41	MJL	
23911_21169.D	1773628	G/21169	LCS	1		TO15_239-14_Markes	8/27/14 13:41	MJL	
23912.D	0	G/	Sample	1		TO15_239-14_Markes	8/27/14 14:08	MJL	
23913.D	CERT	G/	Sample	1		TO15_239-14_Markes	8/27/14 14:31	MJL	
23914.D	CERT	G/	Sample	1		TO15_239-14_Markes	8/27/14 14:53	MJL	
23914_21169.D	1773627	G/21169	Blank	1		TO15_239-14_Markes	8/27/14 14:53	MJL	
23915.D	10278968006	G/21154	Sample	12.876		TO15_239-14_Markes	8/27/14 15:55	MJL	
23916.D	10278968009	G/21154	Sample	14.616		TO15_239-14_Markes	8/27/14 16:16	MJL	
23917.D	10278968004	G/21154	Sample	30.276		TO15_239-14_Markes	8/27/14 16:38	MJL	
23918.D	10278968005	G/21154	Sample	24.36		TO15_239-14_Markes	8/27/14 16:59	MJL	
23919.D	10278585001	G/21154	Sample	1843.2		TO15_239-14_Markes	8/27/14 17:21	MJL	
23920.D	10278585002	G/21154	Sample	115.2		TO15_239-14_Markes	8/27/14 17:43	MJL	
23921.D	10278585005	G/21154	Sample	1.49		TO15_239-14_Markes	8/27/14 18:15	MJL	
23922.D	10277813001	G/21169	Sample	42		TO15_239-14_Markes	8/27/14 18:40	MJL	
23923.D	10277813002	G/21169	Sample	10.5		TO15_239-14_Markes	8/27/14 19:02	MJL	
23924.D	10277811001	G/21169	Sample	2304		TO15_239-14_Markes	8/27/14 19:23	MJL	
23925.D	10277811002	G/21169	Sample	9		TO15_239-14_Markes	8/27/14 19:45	MJL	
23926.D	60175779001	G/21169	Sample	38.8		TO15_239-14_Markes	8/27/14 20:06	MJL	
23927.D	60175779002	G/21169	Sample	310.4		TO15_239-14_Markes	8/27/14 20:28	MJL	
23928.D	60175793001	G/21169	Sample	38.8		TO15_239-14_Markes	8/27/14 20:49	MJL	
23929.D	60175793002	G/21169	Sample	310.4		TO15_239-14_Markes	8/27/14 21:11	MJL	
23930.D	92213701001	G/21169	Sample	1.49		TO15_239-14_Markes	8/27/14 21:34	AH2	
23931.D	-DUP	G/21169	Sample	1.49		TO15_239-14_Markes	8/27/14 21:56	AH2	
23932.D	92213701002	G/21169	Sample	1.49		TO15_239-14_Markes	8/27/14 22:19	AH2	
23933.D	1775318	G/21169	Duplicate	1.49		TO15_239-14_Markes	8/27/14 22:42	AH2	
23934.D	92213701003	G/21169	Sample	1.55		TO15_239-14_Markes	8/27/14 23:04	AH2	
23935.D	92213701004	G/21169	Sample	1.49		TO15_239-14_Markes	8/27/14 23:27	AH2	
23936.D	92213701005	G/21169	Sample	1.44		TO15_239-14_Markes	8/27/14 23:50	AH2	
23937.D	92213701006	G/21169	Sample	1.55		TO15_239-14_Markes	8/28/14 00:12	AH2	
23938.D	10277603001	G/21169	Sample	1.74		TO15_239-14_Markes	8/28/14 08:35	MJL	
23939.D	10277603002	G/21169	Sample	1.68		TO15_239-14_Markes	8/28/14 08:58	MJL	
23940.D	10277603003	G/21169	Sample	8.4		TO15_239-14_Markes	8/28/14 09:20	MJL	

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Instrument Run Log

2

Instrument: 10AIRB
Column: J&W DB-5 0.32mm Helium

Method:
Tune Standard:

Misc. Prep. Info:
ISTD Lot: 8393-345

Surrogate Lot:
Cal. Standard:

Path/File	Lab ID	Matrix/Batch	Type	DF	pH	Method	Date & Time	Oper.	Comments

Check Maintenance Items Performed:

Changed septum	Clipped column	Changed column - Lot #
Cleaned liner	Changed trap - Lot #	Other minor parts replaced
Replaced/Cleaned gold seal	Cleaned MS Source	No maintenance performed today

Additional Comments:

File Path 1: U:\10AIRB.I\082714.B\
Matrix Codes: [G]as, [L]iquid, [S]olid, [N]one

Run order verified:

Report Date: 09/03/2014 15:01
Reviewed By/Date:

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Instrument Run Log

Instrument: 10AIRB Method: Misc. Prep. Info: Surrogate Lot: 8393-345
Column: J&W DB-5 0.32mm Helium Tune Standard: 8393-345 ISTD Lot: 8393-345 Cal. Standard: 10288-16-5

Path/File	Lab ID	Matrix/Batch	Type	DF	pH	Method	Date & Time	Oper.	Comments
25401BFB.D	BFB	L/	Tune	1		50NG_BFB	9/11/14 08:33	MJL	
25402.D	CCV	G/	CCal	1		TO15_239-14_MARKES	9/11/14 08:57	MJL	
25402LCS.D	LCS	G/	LCS	1		TO15_239-14_MARKES	9/11/14 08:57	MJL	
25402_21284.D	1786623	G/21284	LCS	1		TO15_239-14_MARKES	9/11/14 08:57	MJL	
25403.D	0	G/	Sample	1		TO15_239-14_MARKES	9/11/14 10:02	MJL	
25404.D	CERT	G/	Sample	1		TO15_239-14_MARKES	9/11/14 10:26	MJL	
25405.D	CERT	G/	Sample	1		TO15_239-14_MARKES	9/11/14 10:51	MJL	
25406.D	CERT	G/	Sample	1		TO15_239-14_MARKES	9/11/14 11:21	MJL	
25407.D	0	G/	Sample	1		TO15_239-14_MARKES	9/11/14 11:45	MJL	
25408.D	0	G/	Sample	1		TO15_239-14_MARKES	9/11/14 12:20	MJL	
25409.D	CERT	G/	Sample	1		TO15_239-14_MARKES	9/11/14 12:46	MJL	
25410.D	0	G/	Sample	1		TO15_239-14_MARKES	9/11/14 13:17	MJL	
25411.D	0	G/	Sample	1		TO15_239-14_MARKES	9/11/14 13:53	MJL	
25412.D	BLANK	G/	Sample	1		TO15_239-14_MARKES	9/11/14 14:18	MJL	
25413.D	0	G/	Sample	1		TO15_239-14_MARKES	9/11/14 14:46	MJL	
25414.D	0	G/	Sample	1		TO15_239-14_MARKES	9/11/14 15:22	MJL	
25415_21284.D	1786622	G/21284	Blank	1		TO15_239-14_MARKES	9/11/14 15:48	MJL	
25415.D	BLANK	G/	Sample	1		TO15_239-14_MARKES	9/11/14 15:48	MJL	
25416.D	10280459003	G/21284	Sample	1.74		TO15_239-14_MARKES	9/11/14 17:11	MJL	
25417.D	10280459004	G/21284	Sample	1.68		TO15_239-14_MARKES	9/11/14 17:35	MJL	
25418.D	10280459005	G/21284	Sample	1.74		TO15_239-14_MARKES	9/11/14 18:00	MJL	
25419.D	10280459006	G/21284	Sample	1.74		TO15_239-14_MARKES	9/11/14 18:25	MJL	
25420.D	10280459007	G/21284	Sample	1.68		TO15_239-14_MARKES	9/11/14 18:51	MJL	
25421.D	10280459008	G/21284	Sample	1.74		TO15_239-14_MARKES	9/11/14 19:16	MJL	
25422.D	10280459009	G/21284	Sample	1.68		TO15_239-14_MARKES	9/11/14 19:41	MJL	
25423.D	10280459010	G/21284	Sample	1.8		TO15_239-14_MARKES	9/11/14 20:05	MJL	
25424.D	10280459011	G/21284	Sample	1.8		TO15_239-14_MARKES	9/11/14 20:30	MJL	
25425.D	10280459012	G/21284	Sample	1.64		TO15_239-14_MARKES	9/11/14 20:55	MJL	
25426.D	10280459013	G/21284	Sample	1.94		TO15_239-14_MARKES	9/11/14 21:19	MJL	
25427.D	10280459014	G/21284	Sample	1.87		TO15_239-14_MARKES	9/11/14 21:45	MJL	
25428.D	10280459015	G/21284	Sample	1.94		TO15_239-14_MARKES	9/11/14 22:10	MJL	
25429.D	10280459016	G/21284	Sample	1.8		TO15_239-14_MARKES	9/11/14 22:36	MJL	
25430.D	10280459017	G/21284	Sample	1.94		TO15_239-14_MARKES	9/11/14 23:01	MJL	
25431.D	10280459018	G/21284	Sample	1.87		TO15_239-14_MARKES	9/11/14 23:26	MJL	
25432.D	10280465002	G/21284	Sample	1.34		TO15_239-14_MARKES	9/11/14 23:50	MJL	
25433.D	-DUP	G/21284	Sample	1.34		TO15_239-14_MARKES	9/12/14 00:15	MJL	
25434.D	10280465014	G/21284	Sample	1.49		TO15_239-14_MARKES	9/12/14 00:39	MJL	
25435.D	1787387	G/21284	Duplicate	1.49		TO15_239-14_MARKES	9/12/14 01:04	MJL	
25436.D	10280106001	G/21284	Sample	1.94		TO15_239-14_MARKES	9/12/14 01:30	MJL	
25437.D	10279862001	G/21285	Sample	36		TO15_239-14_MARKES	9/12/14 01:52	MJL	
25438.D	10279568001	G/21272	Sample	36		TO15_239-14_MARKES	9/12/14 02:14	MJL	
25439.D	10279568002	G/21272	Sample	34.8		TO15_239-14_MARKES	9/12/14 02:36	MJL	
25440.D	10279568003	G/21272	Sample	17.4		TO15_239-14_MARKES	9/12/14 02:58	MJL	
25441.D	10280610002	G/21278	Sample	1.49		TO15_239-14_MARKES	9/12/14 03:23	MJL	
25442.D	10279919003	G/21278	Sample	1.55		TO15_239-14_MARKES	9/12/14 03:47	MJL	

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Instrument Run Log

2

Instrument: 10AIRB
Column: J&W DB-5 0.32mm Helium

Method:
Tune Standard: 8393-345

Misc. Prep. Info:
ISTD Lot: 8393-345

Surrogate Lot: 8393-345
Cal. Standard: 10288-16-5

Path/File	Lab ID	Matrix/Batch	Type	DF	pH	Method	Date & Time	Oper.	Comments

Check Maintenance Items Performed:

Changed septum	Clipped column	Changed column - Lot #
Cleaned liner	Changed trap - Lot #	Other minor parts replaced
Replaced/Cleaned gold seal	Cleaned MS Source	No maintenance performed today

Additional Comments:

File Path 1: U:\10AIRB.I\091114.B\
Matrix Codes: [G]as, [L]iquid, [S]olid, [N]one

Run order verified:

Report Date: 09/12/2014 15:12
Reviewed By/Date:

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Instrument Run Log

Instrument: 10AIRB Method: Misc. Prep. Info: Surrogate Lot:
Column: J&W DB-5 0.32mm Helium Tune Standard: 8393-345 ISTD Lot: 8393-345 Cal. Standard: 10288-16-5

Path/File	Lab ID	Matrix/Batch	Type	DF	pH	Method	Date & Time	Oper.	Comments
25501BFB.D	BFB	L/	Tune	1		50NG_BFB	9/12/14 08:24	MJL	
25502_21294.D	1787821	G/21294	LCS	1		TO15_239-14_MARKES	9/12/14 08:48	MJL	
25502_21299.D	1787847	G/21299	LCS	1		TO15_239-14_MARKES	9/12/14 08:48	MJL	
25502_21293.D	1787819	G/21293	LCS	1		TO15_239-14_MARKES	9/12/14 08:48	MJL	
25502_21296.D	1787829	G/21296	LCS	1		TO15_239-14_MARKES	9/12/14 08:48	MJL	
25502.D	CCV	G/	CCal	1		TO15_239-14_MARKES	9/12/14 08:48	MJL	
25502LCS.D	LCS	G/	LCS	1		TO15_239-14_MARKES	9/12/14 08:48	MJL	
25503.D	0	G/	Sample	1		TO15_239-14_MARKES	9/12/14 09:48	MJL	
25504.D	CERT	G/	Sample	1		TO15_239-14_MARKES	9/12/14 10:14	MJL	
25505.D	BLANK	G/	Sample	1		TO15_239-14_MARKES	9/12/14 10:39	MJL	
25506_21296.D	1787828	G/21296	Blank	1		TO15_239-14_MARKES	9/12/14 11:25	MJL	
25506.D	BLANK	G/	Sample	1		TO15_239-14_MARKES	9/12/14 11:25	MJL	
25506_21294.D	1787820	G/21294	Blank	1		TO15_239-14_MARKES	9/12/14 11:25	MJL	
25506_21299.D	1787846	G/21299	Blank	1		TO15_239-14_MARKES	9/12/14 11:25	MJL	
25506_21293.D	1787818	G/21293	Blank	1		TO15_239-14_MARKES	9/12/14 11:25	MJL	
25507.D	10279919004	G/21278	Sample	537.6		TO15_239-14_MARKES	9/12/14 12:05	MJL	
25508.D	10280610001	G/21278	Sample	77.5		TO15_239-14_MARKES	9/12/14 12:27	MJL	
25509.D	10280459005	G/21284	Sample	3.132		TO15_239-14_MARKES	9/12/14 12:51	MJL	
25510.D	10280459008	G/21284	Sample	2.7318		TO15_239-14_MARKES	9/12/14 13:16	MJL	
25511.D	10280459012	G/21284	Sample	2.4864		TO15_239-14_MARKES	9/12/14 13:41	MJL	
25512.D	10280459015	G/21284	Sample	3.492		TO15_239-14_MARKES	9/12/14 14:05	MJL	
25513.D	10280610001	G/21278	Sample	992		TO15_239-14_MARKES	9/12/14 14:30	MJL	
25514.D	10280459004	G/21284	Sample	537.6		TO15_239-14_MARKES	9/12/14 14:52	DL1	
25515.D	10280459007	G/21284	Sample	16.8		TO15_239-14_MARKES	9/12/14 15:34	DL1	
25516.D	10280459006	G/21284	Sample	17.4		TO15_239-14_MARKES	9/12/14 15:56	DL1	
25517.D	10280459013	G/21284	Sample	38.8		TO15_239-14_MARKES	9/12/14 16:27	DL1	
25518.D	10280459011	G/21284	Sample	90		TO15_239-14_MARKES	9/12/14 16:49	DL1	
25519.D	10279862001	G/21293	Sample	9216		TO15_239-14_MARKES	9/12/14 17:11	DL1	
25520.D	1788267	G/21293	Duplicate	9216		TO15_239-14_MARKES	9/12/14 17:34	DL1	
25521.D	10279762001	G/21294	Sample	2.37		TO15_239-14_MARKES	9/12/14 17:58	DL1	
25522.D	10279762002	G/21294	Sample	1.44		TO15_239-14_MARKES	9/12/14 18:23	DL1	
25523.D	10279763001	G/21294	Sample	1.61		TO15_239-14_MARKES	9/12/14 18:48	DL1	
25524.D	10279763002	G/21294	Sample	1.55		TO15_239-14_MARKES	9/12/14 19:12	DL1	
25525.D	1788485	G/21294	Duplicate	1.55		TO15_239-14_MARKES	9/12/14 19:37	DL1	
25526.D	1238260001	G/21299	Sample	1.49		TO15_239-14_MARKES	9/12/14 20:02	DL1	
25527.D	1238260002	G/21299	Sample	1.49		TO15_239-14_MARKES	9/12/14 20:26	DL1	
25528.D	1238260003	G/21299	Sample	1.83		TO15_239-14_MARKES	9/12/14 20:51	DL1	
25529.D	1238260004	G/21299	Sample	1.61		TO15_239-14_MARKES	9/12/14 21:16	DL1	
25530.D	1238260005	G/21299	Sample	1.61		TO15_239-14_MARKES	9/12/14 21:41	DL1	
25531.D	1238260006	G/21299	Sample	1.61		TO15_239-14_MARKES	9/12/14 22:05	DL1	
25532.D	10279701001	G/21299	Sample	1.55		TO15_239-14_MARKES	9/12/14 22:30	DL1	
25533.D	10279701003	G/21299	Sample	1.55		TO15_239-14_MARKES	9/12/14 22:55	DL1	
25534.D	10279701005	G/21299	Sample	1.49		TO15_239-14_MARKES	9/12/14 23:20	DL1	
25535.D	10279701006	G/21299	Sample	7.26		TO15_239-14_MARKES	9/12/14 23:45	DL1	
25536.D	10279701007	G/21299	Sample	2.19		TO15_239-14_MARKES	9/13/14 00:10	DL1	
25537.D	10279701008	G/21299	Sample	2.29		TO15_239-14_MARKES	9/13/14 00:34	DL1	

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Instrument Run Log

Instrument: 10AIRB Method: Misc. Prep. Info: Surrogate Lot:
Column: J&W DB-5 0.32mm Helium Tune Standard: 8393-345 ISTD Lot: 8393-345 Cal. Standard: 10288-16-5

Path/File	Lab ID	Matrix/Batch	Type	DF	pH	Method	Date & Time	Oper.	Comments
25538.D	10280459014	G/21299	Sample	37.4		TO15_239-14_MARKES	9/13/14 00:56	DL1	
25539.D	10280110001	G/21296	Sample	28.8		TO15_239-14_MARKES	9/13/14 01:18	DL1	
25540.D	10280111001	G/21296	Sample	28.8		TO15_239-14_MARKES	9/13/14 01:40	DL1	

Check Maintenance Items Performed:

Changed septum
Clipped column
Changed column - Lot #
Cleaned liner
Changed trap - Lot #
Other minor parts replaced
Replaced/Cleaned gold seal
Cleaned MS Source
No maintenance performed today

Additional Comments:

File Path 1: U:\10AIRB.I\091214.B\
Matrix Codes: [G]as, [L]iquid, [S]olid, [N]one

Run order verified:

Report Date: 09/15/2014 12:11
Reviewed By/Date:

Pace Analytical™

Instrument Run Log

Instrument: 10AIRB Method: Misc. Prep. Info: Surrogate Lot:
Column: J&W DB-5 0.32mm Helium Tune Standard: 8393-345 ISTD Lot: 8393-345 Cal. Standard: 10288-16-5

Path/File	Lab ID	Matrix/Batch	Type	DF	pH	Method	Date & Time	Oper.	Comments
25601BFB.D	BFB	L/	Tune	1		50NG_BFB	9/13/14 11:20	DL1	
25602LCS.D	LCS	G/	LCS	1		TO15_239-14_MARKES	9/13/14 11:44	DL1	
25602C.D	CCV	G/	CCal	1		TO15_239-14_MARKES	9/13/14 11:44	DL1	
25602_21304.D	1788456	G/21304	LCS	1		TO15_239-14_MARKES	9/13/14 11:44	DL1	
25603.D	0	G/	Sample	1		TO15_239-14_MARKES	9/13/14 13:25	DL1	
25604.D	CERT9972	G/	Sample	1		TO15_239-14_MARKES	9/13/14 13:50	DL1	
25605.D	CERT9969	G/	Sample	1		TO15_239-14_MARKES	9/13/14 14:42	DL1	
25606.D	CERT9970	G/	Sample	1		TO15_239-14_MARKES	9/13/14 15:07	DL1	
25607.D	CERT9966	G/	Sample	1		TO15_239-14_MARKES	9/13/14 15:47	DL1	
25607_21304.D	1788455	G/21304	Blank	1		TO15_239-14_MARKES	9/13/14 15:47	DL1	
25608.D	10280459014	G/21304	Sample	15.708		TO15_239-14_MARKES	9/13/14 19:17	DL1	
25609.D	10280464002	G/21304	Sample	1.68		TO15_239-14_MARKES	9/13/14 19:42	DL1	
25610.D	10280465023	G/21304	Sample	1.74		TO15_239-14_MARKES	9/13/14 20:08	DL1	
25611.D	10280465018	G/21304	Sample	1.74		TO15_239-14_MARKES	9/13/14 20:33	DL1	
25612.D	10280465025	G/21304	Sample	1.74		TO15_239-14_MARKES	9/13/14 20:57	DL1	
25613.D	10280465024	G/21304	Sample	1.8		TO15_239-14_MARKES	9/13/14 21:22	DL1	
25614.D	10280465006	G/21304	Sample	1.39		TO15_239-14_MARKES	9/13/14 21:47	DL1	
25615.D	-DUP	G/21304	Sample	1.39		TO15_239-14_MARKES	9/13/14 22:12	DL1	
25616.D	10280465020	G/21304	Sample	1.87		TO15_239-14_MARKES	9/13/14 22:36	DL1	
25617.D	10280465027	G/21304	Sample	1.87		TO15_239-14_MARKES	9/13/14 23:02	DL1	
25618.D	10280465021	G/21304	Sample	1.94		TO15_239-14_MARKES	9/14/14 06:10	DL1	
25619.D	10280465029	G/21304	Sample	1.39		TO15_239-14_MARKES	9/14/14 06:34	DL1	
25620.D	10280465029	G/21304	Sample	1.39		TO15_239-14_MARKES	9/14/14 06:59	DL1	
25621.D	10280465012	G/21304	Sample	1.39		TO15_239-14_MARKES	9/14/14 07:24	DL1	
25622.D	10280465010	G/21304	Sample	1.39		TO15_239-14_MARKES	9/14/14 07:48	DL1	
25623.D	10280465028	G/21304	Sample	1.74		TO15_239-14_MARKES	9/14/14 08:13	DL1	
25624.D	10280465022	G/21304	Sample	1.68		TO15_239-14_MARKES	9/14/14 08:40	DL1	
25625.D	10280465005	G/21304	Sample	1.44		TO15_239-14_MARKES	9/14/14 09:05	DL1	
25626.D	10280465015	G/21304	Sample	1.49		TO15_239-14_MARKES	9/14/14 09:30	DL1	
25627.D	10280465019	G/21304	Sample	1.68		TO15_239-14_MARKES	9/14/14 09:54	DL1	
25628.D	10280465026	G/21304	Sample	1.87		TO15_239-14_MARKES	9/14/14 10:19	DL1	
25629.D	10280464006	G/21304	Sample	1.87		TO15_239-14_MARKES	9/14/14 10:44	DL1	

Check Maintenance Items Performed:

Changed septum	Clipped column	Changed column - Lot #
Cleaned liner	Changed trap - Lot #	Other minor parts replaced
Replaced/Cleaned gold seal	Cleaned MS Source	No maintenance performed today

Additional Comments:

File Path 1: U:\10AIRB.I\091314.B\ Report Date: 09/16/2014 13:11
Matrix Codes: [G]as, [L]iquid, [S]olid, [N]one Run order verified: Reviewed By/Date:

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280459
Lab File ID: 23901BFB.D BFB Injection Date: 08/27/2014
Instrument ID: 10AIRB BFB Injection Time: 09:58
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	17.26	
75	30.00 - 66.00% of mass 95	53.99	
96	5.00 - 9.00% of mass 95	7.08	
173	Less than 2.00% of mass 174	0.28	(0.33)
174	50.00 - 120.00% of mass 95	84.66	
175	4.00 - 9.00% of mass 174	6.89	(8.14)
176	93.00 - 101.00% of mass 174	80.33	(94.88)
177	5.00 - 9.00% of mass 176	5.47	(6.81)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	ICAL5	ICAL5	23902.D	08/27/2014	10:19
2	ICAL6	ICAL6	23903.D	08/27/2014	10:42
3	ICAL7	ICAL7	23904.D	08/27/2014	11:09
4	ICAL1	ICAL1	23906.D	08/27/2014	11:52
5	ICAL2	ICAL2	23907.D	08/27/2014	12:14
6	ICAL3	ICAL3	23908.D	08/27/2014	12:35
7	ICAL4	ICAL4	23909.D	08/27/2014	12:57
8	ICV (LCS)	ICV	23910.D	08/27/2014	13:19
9	LCS (LCS)	LCS	23911LCS.D	08/27/2014	13:41
10	LCS (LCS)	LCS	23911.D	08/27/2014	13:41
11	CERT	CERT	23914.D	08/27/2014	14:53

Report Date : 28-Aug-2014 15:43

Pace Analytical Services, Inc.

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Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Calibration File Names:
Level 1: \\192.168.10.12\chem\10airB.i\082714.b\23906.D
Level 2: \\192.168.10.12\chem\10airB.i\082714.b\23907.D
Level 3: \\192.168.10.12\chem\10airB.i\082714.b\23908.D
Level 4: \\192.168.10.12\chem\10airB.i\082714.b\23909.D
Level 5: \\192.168.10.12\chem\10airB.i\082714.b\23902.D
Level 6: \\192.168.10.12\chem\10airB.i\082714.b\23903.D
Level 7: \\192.168.10.12\chem\10airB.i\082714.b\23904.D

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
1 Propylene	0.01592	0.01395	0.01362	0.01490	0.01393	0.01419	0.01421	AVRG		0.01439		5.42173
2 Dichlorodifluoromethane	0.10035	0.10077	0.09846	0.10573	0.10999	0.10660	0.10384	AVRG		0.10368		3.92409
3 Chlorodifluoromethane	0.03930	0.04032	0.03954	0.03647	0.04054	0.03717	0.03295	AVRG		0.03804		7.15033
4 Dichlorotetrafluoroethane	0.14744	0.10191	0.09615	0.10071	0.10528	0.10538	0.10028	AVRG		0.10816		16.27645

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
5 Chloromethane	0.02522	0.02955	0.02431	0.02155	0.01948	0.01777					
	0.01582						AVRG		0.02196		21.63461
6 Vinyl chloride	0.02723	0.02443	0.02392	0.02581	0.02792	0.02749					
	0.02802						AVRG		0.02640		6.41914
7 1,3-Butadiene	0.01971	0.01357	0.01789	0.01372	0.01753	0.01781					
	0.01743						AVRG		0.01681		13.63628
8 Bromomethane	0.02442	0.01936	0.02483	0.02659	0.02733	0.02531					
	0.02339						AVRG		0.02446		10.65587
9 Chloroethane	0.02195	0.01003	0.01347	0.01142	0.01437	0.01369					
	0.01398						AVRG		0.01413		26.79726
10 Isopentane	+++++	3247	5105	8627	87022	182560					
	282202						LINR	-0.01208	40.70659		0.99989
11 Vinyl Bromide	0.04404	0.02881	0.03029	0.02916	0.03363	0.03394					
	0.03350						AVRG		0.03334		15.59788

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
12 Trichlorofluoromethane	0.20326	0.14550	0.13292	0.12710	0.12814	0.12717						
	0.12179						AVRG		0.14084		20.24982	
13 Ethanol	+++++	748	1569	2822	15185	36394						
	63667						QUAD	0.00029	0.00346	0.00067	0.99960	
14 Acrolein	0.00781	0.00378	0.00570	0.00553	0.00687	0.00721						
	0.00773						AVRG		0.00638		22.84978	<-
15 Freon 113	0.10294	0.07733	0.07303	0.07060	0.07263	0.07172						
	0.07032						AVRG		0.07694		15.20492	
16 Acetone	8827	11511	20076	33204	195973	414591						
	642472						LINR	-0.04817	18.17711		0.99962	
17 Isopropyl Alcohol	0.05513	0.04051	0.03787	0.03697	0.02806	0.03491						
	0.03804						AVRG		0.03878		21.18116	
18 1,1-Dichloroethene	0.06142	0.04249	0.03771	0.04160	0.04663	0.04770						
	0.04628						AVRG		0.04626		16.29969	

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
19 Carbon Disulfide	0.18461	0.12534	0.10543	0.09483	0.10617	0.10648					
	0.10463						AVRG		0.11821		25.92920
20 Allyl Chloride	0.18461	0.12534	0.10544	0.09483	0.10617	0.10648					
	0.10463						AVRG		0.11821		25.92866
21 Tert Butyl Alcohol	0.07541	0.04994	0.05361	0.05624	0.05468	0.06565					
	0.06938						AVRG		0.06070		15.61051
22 Methylene chloride	8358	8650	11020	13789	96745	192843					
	292044						LINR	-0.08334	40.08144		0.99973
23 Acrylonitrile	0.01551	0.01197	0.01459	0.01745	0.01827	0.01808					
	0.01837						AVRG		0.01632		14.78248
24 Methyl Tert Butyl Ether	0.11615	0.08748	0.08202	0.08310	0.10638	0.10910					
	0.10780						AVRG		0.09886		14.31629
25 trans-1,2-dichloroethene	0.04895	0.03623	0.03230	0.03194	0.03581	0.03642					
	0.03701						AVRG		0.03695		15.34387

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	ml	m2	%RSD or R^2
26 n-Hexane	12347	12179	14838	20041	144664	299174					
	462025						LINR	-0.06293	25.36805		0.99985
27 Vinyl Acetate	+++++	7419	15013	30972	380463	807422					
	1264213						LINR	0.01093	9.04614		0.99994
28 Di-isopropyl Ether	0.08033	0.06361	0.06243	0.06640	0.07932	0.08045					
	0.07988						AVRG		0.07320		11.69330
29 1,1-Dichloroethane	0.08087	0.06232	0.05300	0.05573	0.05699	0.05821					
	0.05644						AVRG		0.06051		15.55154
30 Ethyl Tert-Butyl Ether	0.08846	0.06673	0.07678	0.07653	0.09574	0.09981					
	0.10049						AVRG		0.08636		15.29414
31 Ethyl Acetate	0.14956	0.11818	0.10427	0.10002	0.10944	0.11307					
	0.11275						AVRG		0.11533		14.08451
32 Methyl Ethyl Ketone	0.01617	0.01669	0.01368	0.01354	0.01540	0.01630					
	0.01688						AVRG		0.01553		8.94610

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
33 cis-1,2-Dichloroethene	0.04645	0.03725	0.03323	0.03219	0.03625	0.03735					
	0.03715						AVRG		0.03712		12.41356
34 Tetrahydrofuran	0.04028	0.02925	0.02254	0.02385	0.02441	0.02561					
	0.02616						AVRG		0.02744		22.01802
35 Chloroform	5203	7220	15422	27395	300317	613164					
	939648						LINR	-0.01109	12.15880		0.99973
36 1,1,1-Trichloroethane	0.12572	0.10764	0.09094	0.09632	0.09982	0.09896					
	0.09597						AVRG		0.10219		11.29298
37 Cyclohexane	8912	9064	11622	17637	146886	298576					
	464584						LINR	-0.04237	25.04904		0.99996
38 Carbon tetrachloride	0.14037	0.11220	0.10447	0.10085	0.10967	0.11071					
	0.10656						AVRG		0.11212		11.64255
39 Benzene	13517	14818	23665	40100	372098	783703					
	1223810						QUAD	0.00198	0.10432	0.00059	0.99993

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	ml	m2	%RSD or R^2
40 1,2-Dichloroethane	0.07579	0.07071	0.05523	0.05970	0.05970	0.05855					
	0.05688						AVRG		0.06237		12.41092
41 Tert Amyl Methyl Ether	0.09368	0.08128	0.08627	0.08684	0.10765	0.11126					
	0.11107						AVRG		0.09687		13.26837
42 2,2,4-Trimethylpentane	43677	45479	57316	74808	480394	964739					
	1502730						LINR	-0.08066	7.86446		0.99997
43 Heptane	7170	7023	10470	17231	141622	305468					
	477533						LINR	-0.02275	24.30799		0.99966
45 Trichloroethene	3081	4317	9035	17530	198658	423845					
	655718						LINR	0.00186	17.44074		0.99986
46 Methylcyclohexane	+++++	0.03995	0.03021	0.02620	0.03023	0.03166					
	0.03155						AVRG		0.03163		14.32307
47 1,2-Dichloropropane	0.04867	0.02695	0.03074	0.03185	0.03399	0.03380					
	0.03358						AVRG		0.03422		19.95747

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
48 1,4-Dioxane	0.02356	0.02249	0.01900	0.02055	0.01638	0.02058					
	0.02206						AVRG		0.02066		11.65325
49 Bromodichloromethane	0.12121	0.09257	0.08780	0.08574	0.09015	0.09154					
	0.08935						AVRG		0.09405		12.95993
50 cis-1,3-Dichloropropene	0.06530	0.04561	0.04740	0.05289	0.05686	0.05896					
	0.05923						AVRG		0.05518		12.66882
51 Methyl Isobutyl Ketone	0.07283	0.05084	0.04615	0.05016	0.05632	0.05848					
	0.05943						AVRG		0.05632		15.51931
52 Toluene	11148	12592	22542	43287	459554	980423					
	1526843						LINR	-0.00220	7.52080		0.99988
53 trans-1,3-Dichloropropene	0.05499	0.04312	0.04740	0.05299	0.06112	0.06578					
	0.06550						AVRG		0.05584		15.71607
54 1,1,2-Trichloroethane	0.06295	0.05450	0.04264	0.04483	0.04563	0.04677					
	0.04645						AVRG		0.04911		14.52911

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
55 Tetrachloroethene	7136	8915	15390	26713	264444	549762						
	852716						LINR	-0.01498	11.91466		0.99997	
56 Methyl Butyl Ketone	0.05265	0.04314	0.03872	0.04299	0.06001	0.06421						
	0.06485						AVRG		0.05237		20.82553	
57 Dibromochloromethane	0.13322	0.10530	0.09472	0.10268	0.11081	0.10990						
	0.10842						AVRG		0.10929		10.87825	
58 1,2-Dibromoethane	0.07853	0.07546	0.07299	0.07408	0.08241	0.08399						
	0.08373						AVRG		0.07874		5.94350	
60 Chlorobenzene	25579	29593	40367	57351	395815	837980						
	1298356						LINR	-0.05222	7.95563		0.99983	
61 Ethyl Benzene	0.28960	0.20831	0.17412	0.17918	0.19507	0.20032						
	0.19828						AVRG		0.20641		18.70054	
62 m&p-Xylene	0.19402	0.14911	0.13648	0.13693	0.14824	0.15861						
	0.15745						AVRG		0.15441		12.65041	<-

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
63 o-Xylene	0.13099	0.11040	0.11671	0.13264	0.15370	0.16020						
	0.15825						AVRG		0.13755		14.66130	<-
64 Styrene	0.07380	0.07486	0.08448	0.08975	0.11206	0.12144						
	0.11993						AVRG		0.09662		21.48820	
65 Bromoform	0.08386	0.08045	0.09012	0.09191	0.09843	0.09931						
	0.09620						AVRG		0.09147		7.90597	
66 Isopropylbenzene	0.15953	0.14585	0.16951	0.17511	0.21864	0.22089						
	0.21604						AVRG		0.18651		16.79329	
67 1,1,2,2-Tetrachloroethane	0.11680	0.08722	0.09126	0.09309	0.09061	0.09132						
	0.09044						AVRG		0.09439		10.63375	
68 N-Propylbenzene	0.25242	0.21214	0.21472	0.21765	0.22856	0.23948						
	0.23543						AVRG		0.22863		6.47687	
69 4-Ethyltoluene	0.15845	0.13982	0.16173	0.17055	0.18377	0.19874						
	0.19558						AVRG		0.17266		12.36219	

Report Date : 28-Aug-2014 15:43

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
70 1,3,5-Trimethylbenzene	0.16364	0.14714	0.15096	0.16642	0.17688	0.18702					
	0.18466						AVRG		0.16810		9.29601
71 Tert Butyl Benzene	0.17040	0.13099	0.14370	0.14188	0.17546	0.17900					
	0.17719						AVRG		0.15980		12.61550
72 1,2,4-Trimethylbenzene	0.19113	0.14242	0.14189	0.16338	0.16009	0.17476					
	0.17310						AVRG		0.16382		10.87492
73 Sec- Butylbenzene	0.22848	0.17942	0.19733	0.20946	0.23702	0.24303					
	0.23692						AVRG		0.21881		10.94268
74 p-isopropyltoluene	4393	9507	22602	49644	598046	1357600					
	2106840						LINR	0.01746	4.78529		0.99947
75 1,3-Dichlorobenzene	0.16383	0.12860	0.12972	0.13135	0.09503	0.11205					
	0.11024						AVRG		0.12440		17.56451
76 1,4-Dichlorobenzene	0.15776	0.12878	0.11869	0.12637	0.08728	0.10471					
	0.10489						AVRG		0.11835		19.07766

Report Date : 28-Aug-2014 15:43

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
77 1,2,3-Trimethylbenzene	0.15011	0.11533	0.12181	0.14195	0.15478	0.16763					
	0.16535						AVRG		0.14528		13.98086
78 Benzyl Chloride	0.12058	0.12141	0.11694	0.11849	0.11281	0.12907					
	0.12902						AVRG		0.12119		4.98936
79 N-Butylbenzene	0.16475	0.11896	0.13522	0.15245	0.14093	0.15954					
	0.16009						AVRG		0.14742		11.19412
80 1,2-Dichlorobenzene	0.14685	0.11808	0.11724	0.12004	0.09109	0.10204					
	0.10110						AVRG		0.11378		15.95283
81 1,2,4-Trichlorobenzene	+++++	4446	11057	20176	52816	190362					
	319308						QUAD	0.00250	0.01452	0.00557	0.99031
82 Hexachlorobutadiene	0.07338	0.06277	0.06927	0.06498	0.03326	0.04062					
	0.04030						AVRG		0.05494		29.69683
83 Naphthalene	+++++	9160	21810	41034	187340	577361					
	930256						QUAD	0.00306	0.06020	0.01064	0.99395

Data File: \\192.168.10.12\chem\10airB.i\082714.b\23910.D
Report Date: 27-Aug-2014 14:47

Pace Analytical Services, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: GAS
Lab Smp Id: ICV
Level: LOW
Data Type: MS DATA
SpikeList File: SSV+add.spk
Sublist File: all.sub
Method File: \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Misc Info:

Client SDG: 082714.b
Fraction: VOA

Operator: MJL
SampleType: LCS
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ppbv	CONC RECOVERED ppbv	% RECOVERED	LIMITS
1 Propylene	10.6	8.81	83.16	60-140
2 Dichlorodifluorome	9.60	9.85	102.63	60-140
3 Chlorodifluorometh	10.0	9.92	99.22	60-140
4 Dichlorotetrafluor	9.80	8.96	91.39	60-140
5 Chloromethane	11.0	8.59	78.11	60-140
6 Vinyl chloride	9.70	9.26	95.48	60-140
7 1,3-Butadiene	10.0	9.28	92.75	60-140
8 Bromomethane	7.20	8.18	113.69	60-140
9 Chloroethane	7.70	7.52	97.64	60-140
10 Isopentane	10.4	8.78	84.43	60-140
11 Vinyl Bromide	9.90	8.94	90.30	60-140
12 Trichlorofluoromet	9.70	8.57	88.38	60-140
13 Ethanol	8.30	11.4	137.88	60-140
14 Acrolein	9.60	11.3	117.52	60-140
15 Freon 113	9.40	9.35	99.49	60-140
16 Acetone	9.60	9.30	96.86	60-140
17 Isopropyl Alcohol	10.3	9.00	87.43	60-140
18 1,1-Dichloroethene	11.7	12.2	104.13	60-140
19 Carbon Disulfide	10.0	6.18	61.84	60-140
20 Allyl Chloride	10.1	6.18	61.22	60-140
21 Tert Butyl Alcohol	10.0	8.96	89.62	60-140
22 Methylene chloride	10.1	10.4	102.64	60-140
23 Acrylonitrile	9.70	9.42	97.13	60-140
24 Methyl Tert Butyl	9.80	9.37	95.62	60-140
25 trans-1,2-dichloro	10.4	9.84	94.67	60-140
26 n-Hexane	10.3	9.00	87.36	60-140
27 Vinyl Acetate	10.5	9.46	90.06	60-140
28 Di-isopropyl Ether	10.2	10.2	99.97	60-140
29 1,1-Dichloroethane	10.4	9.56	91.91	60-140
30 Ethyl Tert-Butyl E	10.2	10.4	101.58	60-140
31 Ethyl Acetate	10.8	8.96	82.98	60-140
32 Methyl Ethyl Keton	10.4	9.70	93.31	60-140
33 cis-1,2-Dichloroet	10.2	9.36	91.82	60-140
34 Tetrahydrofuran	11.1	9.15	82.43	60-140
35 Chloroform	11.0	10.4	94.76	60-140
36 1,1,1-Trichloroeth	10.0	9.47	94.71	60-140
37 Cyclohexane	10.7	9.83	91.88	60-140
38 Carbon tetrachlori	10.4	9.91	95.28	60-140
39 Benzene	10.8	10.1	93.45	60-140
40 1,2-Dichloroethane	11.1	10.1	91.40	60-140

Data File: \\192.168.10.12\chem\10airB.i\082714.b\23910.D
Report Date: 27-Aug-2014 14:47

SPIKE COMPOUND	CONC ADDED ppbv	CONC RECOVERED ppbv	% RECOVERED	LIMITS
41 Tert Amyl Methyl E	10.4	10.7	102.58	60-140
42 2,2,4-Trimethylpen	10.2	9.46	92.80	60-140
43 Heptane	11.5	10.6	92.34	60-140
45 Trichloroethene	9.70	9.79	100.92	60-140
46 Methylcyclohexane	9.90	9.19	92.84	60-140
47 1,2-Dichloropropan	10.3	9.05	87.90	60-140
48 1,4-Dioxane	9.90	9.80	99.01	60-140
49 Bromodichlorometha	9.80	9.93	101.31	60-140
50 cis-1,3-Dichloropr	11.9	11.5	96.89	60-140
51 Methyl Isobutyl Ke	10.0	9.99	99.89	60-140
52 Toluene	10.6	9.66	91.19	60-140
53 trans-1,3-Dichloro	10.1	10.9	107.74	60-140
54 1,1,2-Trichloroeth	9.80	8.78	89.61	60-140
55 Tetrachloroethene	9.80	9.11	92.94	60-140
56 Methyl Butyl Keton	10.0	11.0	109.56	60-140
57 Dibromochlorometha	9.60	9.26	96.47	60-140
58 1,2-Dibromoethane	9.80	9.94	101.42	60-140
60 Chlorobenzene	10.4	10.3	99.03	60-140
61 Ethyl Benzene	10.1	9.33	92.38	60-140
62 m&p-Xylene	20.3	20.9	103.07	60-140
63 o-Xylene	9.30	10.0	107.81	60-140
64 Styrene	11.6	14.5	124.96	60-140
65 Bromoform	10.0	11.1	111.46	60-140
66 Isopropylbenzene	9.50	11.7	123.24	60-140
67 1,1,2,2-Tetrachlor	9.30	10.1	109.02	60-140
68 N-Propylbenzene	9.00	10.6	118.35	60-140
69 4-Ethyltoluene	8.40	10.9	129.31	60-140
70 1,3,5-Trimethylben	9.60	11.5	119.67	60-140
71 Tert Butyl Benzene	10.2	12.3	120.70	60-140
72 1,2,4-Trimethylben	9.30	11.1	119.73	60-140
73 Sec- Butylbenzene	9.70	11.6	119.73	60-140
74 p-isopropyltoluene	9.90	12.2	122.76	60-140
75 1,3-Dichlorobenzen	10.1	11.1	110.11	60-140
76 1,4-Dichlorobenzen	9.90	11.4	115.47	60-140
77 1,2,3-Trimethylben	10.8	14.0	129.38	60-140
78 Benzyl Chloride	9.70	12.7	131.34	60-140
79 N-Butylbenzene	9.50	13.0	136.49	60-140
80 1,2-Dichlorobenzen	9.70	10.6	109.88	60-140
81 1,2,4-Trichloroben	8.90	24.3	273.29*	60-140
82 Hexachlorobutadien	8.50	10.2	120.65	60-140
83 Naphthalene	9.00	18.2	202.75*	60-140

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280459
Lab File ID: 25401BFB.D BFB Injection Date: 09/11/2014
Instrument ID: 10AIRB BFB Injection Time: 08:33
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	17.10	
75	30.00 - 66.00% of mass 95	52.39	
96	5.00 - 9.00% of mass 95	6.94	
173	Less than 2.00% of mass 174	0.98	(1.16)
174	50.00 - 120.00% of mass 95	84.25	
175	4.00 - 9.00% of mass 174	6.74	(8.00)
176	93.00 - 101.00% of mass 174	80.15	(95.14)
177	5.00 - 9.00% of mass 176	5.61	(7.00)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV	CCV	25402.D	09/11/2014	08:57
2	LCS (LCS)	LCS	25402LCS.D	09/11/2014	08:57
3	LCS for HBN 317735 [AIR/	1786623	25402_21284.D	09/11/2014	08:57
4	BLANK for HBN 317735 [AI	1786622	25415_21284.D	09/11/2014	15:48
5	BLANK (BLK)	BLANK	25415.D	09/11/2014	15:48
6	SV-141-C-17	10280459003	25416.D	09/11/2014	17:11
7	SV-126-C-17	10280459004	25417.D	09/11/2014	17:35
8	SV-149-C-17	10280459005	25418.D	09/11/2014	18:00
9	SV-127-C-17	10280459006	25419.D	09/11/2014	18:25
10	SV-060-C-17	10280459007	25420.D	09/11/2014	18:51
11	SV-153-C-17	10280459008	25421.D	09/11/2014	19:16
12	SV-133-C-17	10280459009	25422.D	09/11/2014	19:41
13	SV-155-C-17	10280459010	25423.D	09/11/2014	20:05
14	SV-102-C-17	10280459011	25424.D	09/11/2014	20:30
15	SV-130-C-17	10280459012	25425.D	09/11/2014	20:55
16	SV-001-C-17	10280459013	25426.D	09/11/2014	21:19
17	SV-143-C-17	10280459015	25428.D	09/11/2014	22:10
18	SV-142-C-17	10280459016	25429.D	09/11/2014	22:36
19	SV-088-C-17	10280459017	25430.D	09/11/2014	23:01
20	SV-113-C-17	10280459018	25431.D	09/11/2014	23:26
21	IA-121-B-17(1782864DUP)	1787387-DUP	25435.D	09/12/2014	01:04

Data File: \\192.168.10.12\chem\10airB.i\091114.b\25402.D
Report Date: 11-Sep-2014 08:45

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 11-SEP-2014 08:57
Lab File ID: 25402.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Propylene	0.01439	0.01461	0.01461	0.010	1.56354	30.00000	Averaged
2 Dichlorodifluoromethane	0.10368	0.09697	0.09697	0.010	-6.47364	30.00000	Averaged
3 Chlorodifluoromethane	0.03804	0.03739	0.03739	0.010	-1.72196	30.00000	Averaged
4 Dichlorotetrafluoroethane	0.10816	0.09041	0.09041	0.010	-16.41603	30.00000	Averaged
5 Chloromethane	0.02196	0.01784	0.01784	0.010	-18.74138	30.00000	Averaged
6 Vinyl chloride	0.02640	0.02601	0.02601	0.010	-1.49037	30.00000	Averaged
7 1,3-Butadiene	0.01681	0.01703	0.01703	0.010	1.32099	30.00000	Averaged
8 Bromomethane	0.02446	0.02682	0.02682	0.010	9.62690	30.00000	Averaged
9 Chloroethane	0.01413	0.01417	0.01417	0.010	0.29369	30.00000	Averaged
10 Isopentane	10.00000	10.07426	39.92795	0.010	0.74259	30.00000	Linear
11 Vinyl Bromide	0.03334	0.03157	0.03157	0.010	-5.30536	30.00000	Averaged
12 Trichlorofluoromethane	0.14084	0.11170	0.11170	0.010	-20.69213	30.00000	Averaged
13 Ethanol	10.00000	14.19790	153	0.010	41.97898	30.00000	Quadratic <-
14 Acrolein	0.00638	0.00593	0.00593	0.010	-6.95885	30.00000	Averaged <-
15 Freon 113	0.07694	0.06507	0.06507	0.010	-15.41961	30.00000	Averaged
16 Acetone	10.00000	11.05676	15.75356	0.010	10.56765	30.00000	Linear
17 Isopropyl Alcohol	0.03878	0.04156	0.04156	0.010	7.16646	30.00000	Averaged
18 1,1-Dichloroethene	0.04626	0.04480	0.04480	0.010	-3.15581	30.00000	Averaged
19 Carbon Disulfide	0.11821	0.10163	0.10163	0.010	-14.03207	30.00000	Averaged
20 Allyl Chloride	0.11821	0.10163	0.10163	0.010	-14.03268	30.00000	Averaged
21 Tert Butyl Alcohol	0.06070	0.07054	0.07054	0.010	16.20594	30.00000	Averaged
22 Methylene chloride	10.00000	9.40557	39.14579	0.010	-5.94429	30.00000	Linear
23 Acrylonitrile	0.01632	0.01846	0.01846	0.010	13.09812	30.00000	Averaged
24 Methyl Tert Butyl Ether	0.09886	0.10494	0.10494	0.010	6.15416	30.00000	Averaged
25 trans-1,2-dichloroethene	0.03695	0.03448	0.03448	0.010	-6.69522	30.00000	Averaged
26 n-Hexane	10.00000	9.53465	24.95892	0.010	-4.65353	30.00000	Linear
27 Vinyl Acetate	10.00000	10.07739	9.07509	0.010	0.77387	30.00000	Linear
28 Di-isopropyl Ether	0.07320	0.08228	0.08228	0.010	12.40453	30.00000	Averaged
29 1,1-Dichloroethane	0.06051	0.05533	0.05533	0.010	-8.55990	30.00000	Averaged
30 Ethyl Tert-Butyl Ether	0.08636	0.09701	0.09701	0.010	12.33377	30.00000	Averaged
31 Ethyl Acetate	0.11533	0.11657	0.11657	0.010	1.07399	30.00000	Averaged
32 Methyl Ethyl Ketone	0.01553	0.01599	0.01599	0.010	2.96240	30.00000	Averaged
33 cis-1,2-Dichloroethene	0.03712	0.03499	0.03499	0.010	-5.74753	30.00000	Averaged
34 Tetrahydrofuran	0.02744	0.02618	0.02618	0.010	-4.61483	30.00000	Averaged
35 Chloroform	10.00000	9.47922	12.67851	0.010	-5.20778	30.00000	Linear
36 1,1,1-Trichloroethane	0.10219	0.08969	0.08969	0.010	-12.23684	30.00000	Averaged
37 Cyclohexane	10.00000	10.65569	22.60866	0.010	6.55685	30.00000	Linear
38 Carbon tetrachloride	0.11212	0.09527	0.09527	0.010	-15.03031	30.00000	Averaged
39 Benzene	10.00000	9.89156	9.45777	0.300	-1.08436	30.00000	Quadratic
40 1,2-Dichloroethane	0.06237	0.05570	0.05570	0.010	-10.68493	30.00000	Averaged
41 Tert Amyl Methyl Ether	0.09687	0.10965	0.10965	0.010	13.19856	30.00000	Averaged
42 2,2,4-Trimethylpentane	10.00000	10.55707	6.92069	0.010	5.57065	30.00000	Linear
43 Heptane	10.00000	10.58564	22.48001	0.010	5.85640	30.00000	Linear

Data File: \\192.168.10.12\chem\10airB.i\091114.b\25402.D
Report Date: 11-Sep-2014 08:45

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 11-SEP-2014 08:57
Lab File ID: 25402.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
45 Trichloroethene	10.00000	9.51013	18.37507	0.010	-4.89874	30.00000	Linear
46 Methylcyclohexane	0.03163	0.02980	0.02980	0.010	-5.79029	30.00000	Averaged
47 1,2-Dichloropropane	0.03422	0.03379	0.03379	0.010	-1.26330	30.00000	Averaged
48 1,4-Dioxane	0.02066	0.02490	0.02490	0.010	20.53939	30.00000	Averaged
49 Bromodichloromethane	0.09405	0.08468	0.08468	0.010	-9.96398	30.00000	Averaged
50 cis-1,3-Dichloropropene	0.05518	0.05843	0.05843	0.010	5.88364	30.00000	Averaged
51 Methyl Isobutyl Ketone	0.05632	0.06144	0.06144	0.010	9.10049	30.00000	Averaged
52 Toluene	10.00000	9.93803	7.55097	0.010	-0.61967	30.00000	Linear
53 trans-1,3-Dichloropropene	0.05584	0.06450	0.06450	0.010	15.49745	30.00000	Averaged
54 1,1,2-Trichloroethane	0.04911	0.04510	0.04510	0.010	-8.16218	30.00000	Averaged
55 Tetrachloroethene	10.00000	9.13740	12.82914	0.010	-8.62596	30.00000	Linear
56 Methyl Butyl Ketone	0.05237	0.06643	0.06643	0.010	26.85763	30.00000	Averaged
57 Dibromochloromethane	0.10929	0.10019	0.10019	0.010	-8.33373	30.00000	Averaged
58 1,2-Dibromoethane	0.07874	0.07888	0.07888	0.010	0.17671	30.00000	Averaged
60 Chlorobenzene	10.00000	10.14652	7.45696	0.010	1.46524	30.00000	Linear
61 Ethyl Benzene	0.20641	0.19668	0.19668	0.030	-4.71514	30.00000	Averaged
62 m&p-Xylene	0.15441	0.15616	0.15616	0.300	1.13628	30.00000	Averaged <-
63 o-Xylene	0.13755	0.15557	0.15557	0.300	13.09614	30.00000	Averaged <-
64 Styrene	0.09662	0.11715	0.11715	0.010	21.25633	30.00000	Averaged
65 Bromoform	0.09147	0.08501	0.08501	0.010	-7.06306	30.00000	Averaged
66 Isopropylbenzene	0.18651	0.21112	0.21112	0.010	13.19813	30.00000	Averaged
67 1,1,2,2-Tetrachloroethane	0.09439	0.08863	0.08863	0.010	-6.09857	30.00000	Averaged
68 N-Propylbenzene	0.22863	0.24258	0.24258	0.010	6.10017	30.00000	Averaged
69 4-Ethyltoluene	0.17266	0.19833	0.19833	0.010	14.86780	30.00000	Averaged
70 1,3,5-Trimethylbenzene	0.16810	0.18428	0.18428	0.010	9.62434	30.00000	Averaged
71 Tert Butyl Benzene	0.15980	0.16763	0.16763	0.010	4.89525	30.00000	Averaged
72 1,2,4-Trimethylbenzene	0.16382	0.17720	0.17720	0.010	8.16450	30.00000	Averaged
73 Sec- Butylbenzene	0.21881	0.23436	0.23436	0.010	7.10901	30.00000	Averaged
74 p-isopropyltoluene	10.00000	10.51412	4.62815	0.010	5.14124	30.00000	Linear
75 1,3-Dichlorobenzene	0.12440	0.12181	0.12181	0.010	-2.08438	30.00000	Averaged
76 1,4-Dichlorobenzene	0.11835	0.11815	0.11815	0.010	-0.17209	30.00000	Averaged
77 1,2,3-Trimethylbenzene	0.14528	0.16491	0.16491	0.010	13.51149	30.00000	Averaged
78 Benzyl Chloride	0.12119	0.12990	0.12990	0.010	7.18871	30.00000	Averaged
79 N-Butylbenzene	0.14742	0.17207	0.17207	0.010	16.72233	30.00000	Averaged
80 1,2-Dichlorobenzene	0.11378	0.10607	0.10607	0.010	-6.77401	30.00000	Averaged
81 1,2,4-Trichlorobenzene	10.00000	20.60886	17.83876	0.010	106	30.00000	Quadratic <-
82 Hexachlorobutadiene	0.05494	0.04252	0.04252	0.010	-22.60526	30.00000	Averaged
83 Naphthalene	10.00000	14.80738	8.65567	0.010	48.07379	30.00000	Quadratic <-

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280459
Lab File ID: 25501BFB.D BFB Injection Date: 09/12/2014
Instrument ID: 10AIRB BFB Injection Time: 08:24
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	17.97	
75	30.00 - 66.00% of mass 95	54.53	
96	5.00 - 9.00% of mass 95	6.86	
173	Less than 2.00% of mass 174	0.37	(0.45)
174	50.00 - 120.00% of mass 95	83.57	
175	4.00 - 9.00% of mass 174	6.63	(7.94)
176	93.00 - 101.00% of mass 174	79.02	(94.56)
177	5.00 - 9.00% of mass 176	5.32	(6.73)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV	CCV	25502.D	09/12/2014	08:48
2	LCS (LCS)	LCS	25502LCS.D	09/12/2014	08:48
3	BLANK (BLK)	BLANK	25506.D	09/12/2014	11:25
4	SV-149-C-17	10280459005	25509.D	09/12/2014	12:51
5	SV-130-C-17	10280459012	25511.D	09/12/2014	13:41
6	SV-143-C-17	10280459015	25512.D	09/12/2014	14:05
7	SV-126-C-17	10280459004	25514.D	09/12/2014	14:52
8	SV-060-C-17	10280459007	25515.D	09/12/2014	15:34
9	SV-127-C-17	10280459006	25516.D	09/12/2014	15:56
10	SV-001-C-17	10280459013	25517.D	09/12/2014	16:27
11	SV-102-C-17	10280459011	25518.D	09/12/2014	16:49

Data File: \\192.168.10.12\chem\10airB.i\091214.b\25502.D
Report Date: 12-Sep-2014 08:25

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 12-SEP-2014 08:48
Lab File ID: 25502.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091214.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Propylene	0.01439	0.01301	0.01301	0.010	-9.55579	30.00000	Averaged
2 Dichlorodifluoromethane	0.10368	0.10515	0.10515	0.010	1.41813	30.00000	Averaged
3 Chlorodifluoromethane	0.03804	0.03821	0.03821	0.010	0.43977	30.00000	Averaged
4 Dichlorotetrafluoroethane	0.10816	0.09533	0.09533	0.010	-11.86342	30.00000	Averaged
5 Chloromethane	0.02196	0.01665	0.01665	0.010	-24.18817	30.00000	Averaged
6 Vinyl chloride	0.02640	0.02573	0.02573	0.010	-2.56511	30.00000	Averaged
7 1,3-Butadiene	0.01681	0.01636	0.01636	0.010	-2.68484	30.00000	Averaged
8 Bromomethane	0.02446	0.02647	0.02647	0.010	8.19052	30.00000	Averaged
9 Chloroethane	0.01413	0.01341	0.01341	0.010	-5.10577	30.00000	Averaged
10 Isopentane	10.00000	9.12526	44.02610	0.010	-8.74739	30.00000	Linear
11 Vinyl Bromide	0.03334	0.03079	0.03079	0.010	-7.63854	30.00000	Averaged
12 Trichlorofluoromethane	0.14084	0.12468	0.12468	0.010	-11.47354	30.00000	Averaged
13 Ethanol	10.00000	13.13110	167	0.010	31.31101	30.00000	Quadratic<-
14 Acrolein	0.00638	0.00579	0.00579	0.010	-9.14085	30.00000	Averaged<-
15 Freon 113	0.07694	0.06714	0.06714	0.010	-12.72992	30.00000	Averaged
16 Acetone	10.00000	11.17221	15.59750	0.010	11.72211	30.00000	Linear
17 Isopropyl Alcohol	0.03878	0.04008	0.04008	0.010	3.35189	30.00000	Averaged
18 1,1-Dichloroethene	0.04626	0.04599	0.04599	0.010	-0.59820	30.00000	Averaged
19 Carbon Disulfide	0.11821	0.10109	0.10109	0.010	-14.48798	30.00000	Averaged
20 Allyl Chloride	0.11821	0.10109	0.10109	0.010	-14.48860	30.00000	Averaged
21 Tert Butyl Alcohol	0.06070	0.07139	0.07139	0.010	17.61300	30.00000	Averaged
22 Methylene chloride	10.00000	9.23483	39.80964	0.010	-7.65170	30.00000	Linear
23 Acrylonitrile	0.01632	0.01704	0.01704	0.010	4.39724	30.00000	Averaged
24 Methyl Tert Butyl Ether	0.09886	0.10561	0.10561	0.010	6.82895	30.00000	Averaged
25 trans-1,2-dichloroethene	0.03695	0.03485	0.03485	0.010	-5.68175	30.00000	Averaged
26 n-Hexane	10.00000	8.44792	27.94702	0.010	-15.52078	30.00000	Linear
27 Vinyl Acetate	10.00000	9.87736	9.26093	0.010	-1.22639	30.00000	Linear
28 Di-isopropyl Ether	0.07320	0.07780	0.07780	0.010	6.28383	30.00000	Averaged
29 1,1-Dichloroethane	0.06051	0.05565	0.05565	0.010	-8.03720	30.00000	Averaged
30 Ethyl Tert-Butyl Ether	0.08636	0.09666	0.09666	0.010	11.92262	30.00000	Averaged
31 Ethyl Acetate	0.11533	0.11049	0.11049	0.010	-4.19575	30.00000	Averaged
32 Methyl Ethyl Ketone	0.01553	0.01612	0.01612	0.010	3.83513	30.00000	Averaged
33 cis-1,2-Dichloroethene	0.03712	0.03463	0.03463	0.010	-6.72080	30.00000	Averaged
34 Tetrahydrofuran	0.02744	0.02445	0.02445	0.010	-10.90466	30.00000	Averaged
35 Chloroform	10.00000	9.88628	12.16227	0.010	-1.13717	30.00000	Linear
36 1,1,1-Trichloroethane	0.10219	0.09682	0.09682	0.010	-5.26102	30.00000	Averaged
37 Cyclohexane	10.00000	9.38710	25.53206	0.010	-6.12899	30.00000	Linear
38 Carbon tetrachloride	0.11212	0.10612	0.10612	0.010	-5.35049	30.00000	Averaged
39 Benzene	10.00000	9.61580	9.72527	0.300	-3.84204	30.00000	Quadratic
40 1,2-Dichloroethane	0.06237	0.06101	0.06101	0.010	-2.17036	30.00000	Averaged
41 Tert Amyl Methyl Ether	0.09687	0.10550	0.10550	0.010	8.90852	30.00000	Averaged
42 2,2,4-Trimethylpentane	10.00000	9.83228	7.39217	0.010	-1.67723	30.00000	Linear
43 Heptane	10.00000	9.84916	24.12302	0.010	-1.50840	30.00000	Linear

Data File: \\192.168.10.12\chem\10airB.i\091214.b\25502.D
Report Date: 12-Sep-2014 08:25

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 12-SEP-2014 08:48
Lab File ID: 25502.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091214.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
45 Trichloroethene	10.00000	9.65151	18.10538	0.010	-3.48493	30.00000	Linear
46 Methylcyclohexane	0.03163	0.02979	0.02979	0.010	-5.83677	30.00000	Averaged
47 1,2-Dichloropropane	0.03422	0.03316	0.03316	0.010	-3.10027	30.00000	Averaged
48 1,4-Dioxane	0.02066	0.02417	0.02417	0.010	16.99516	30.00000	Averaged
49 Bromodichloromethane	0.09405	0.09213	0.09213	0.010	-2.04133	30.00000	Averaged
50 cis-1,3-Dichloropropene	0.05518	0.05796	0.05796	0.010	5.03813	30.00000	Averaged
51 Methyl Isobutyl Ketone	0.05632	0.05880	0.05880	0.010	4.42083	30.00000	Averaged
52 Toluene	10.00000	9.75458	7.69266	0.010	-2.45415	30.00000	Linear
53 trans-1,3-Dichloropropene	0.05584	0.06623	0.06623	0.010	18.61057	30.00000	Averaged
54 1,1,2-Trichloroethane	0.04911	0.04443	0.04443	0.010	-9.52141	30.00000	Averaged
55 Tetrachloroethene	10.00000	9.28656	12.62636	0.010	-7.13439	30.00000	Linear
56 Methyl Butyl Ketone	0.05237	0.06231	0.06231	0.010	18.99455	30.00000	Averaged
57 Dibromochloromethane	0.10929	0.10459	0.10459	0.010	-4.30668	30.00000	Averaged
58 1,2-Dibromoethane	0.07874	0.08044	0.08044	0.010	2.15279	30.00000	Averaged
60 Chlorobenzene	10.00000	9.79618	7.71014	0.010	-2.03818	30.00000	Linear
61 Ethyl Benzene	0.20641	0.19774	0.19774	0.030	-4.20079	30.00000	Averaged
62 m&p-Xylene	0.15441	0.15762	0.15762	0.300	2.08219	30.00000	Averaged<-
63 o-Xylene	0.13755	0.15831	0.15831	0.300	15.09042	30.00000	Averaged<-
64 Styrene	0.09662	0.11463	0.11463	0.010	18.64785	30.00000	Averaged
65 Bromoform	0.09147	0.08974	0.08974	0.010	-1.89003	30.00000	Averaged
66 Isopropylbenzene	0.18651	0.21334	0.21334	0.010	14.38547	30.00000	Averaged
67 1,1,2,2-Tetrachloroethane	0.09439	0.08805	0.08805	0.010	-6.72162	30.00000	Averaged
68 N-Propylbenzene	0.22863	0.24318	0.24318	0.010	6.36547	30.00000	Averaged
69 4-Ethyltoluene	0.17266	0.20498	0.20498	0.010	18.71754	30.00000	Averaged
70 1,3,5-Trimethylbenzene	0.16810	0.18800	0.18800	0.010	11.83906	30.00000	Averaged
71 Tert Butyl Benzene	0.15980	0.16995	0.16995	0.010	6.35121	30.00000	Averaged
72 1,2,4-Trimethylbenzene	0.16382	0.18062	0.18062	0.010	10.25457	30.00000	Averaged
73 Sec- Butylbenzene	0.21881	0.23458	0.23458	0.010	7.20758	30.00000	Averaged
74 p-isopropyltoluene	10.00000	10.54795	4.61306	0.010	5.47950	30.00000	Linear
75 1,3-Dichlorobenzene	0.12440	0.12218	0.12218	0.010	-1.78824	30.00000	Averaged
76 1,4-Dichlorobenzene	0.11835	0.11893	0.11893	0.010	0.48835	30.00000	Averaged
77 1,2,3-Trimethylbenzene	0.14528	0.16737	0.16737	0.010	15.20267	30.00000	Averaged
78 Benzyl Chloride	0.12119	0.13095	0.13095	0.010	8.05966	30.00000	Averaged
79 N-Butylbenzene	0.14742	0.17299	0.17299	0.010	17.34260	30.00000	Averaged
80 1,2-Dichlorobenzene	0.11378	0.10619	0.10619	0.010	-6.67235	30.00000	Averaged
81 1,2,4-Trichlorobenzene	10.00000	19.65777	19.03121	0.010	96.57766	30.00000	Quadratic<-
82 Hexachlorobutadiene	0.05494	0.04384	0.04384	0.010	-20.20093	30.00000	Averaged
83 Naphthalene	10.00000	14.54750	8.83742	0.010	45.42495	30.00000	Quadratic<-

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280459
Lab File ID: 25601BFB.D BFB Injection Date: 09/13/2014
Instrument ID: 10AIRB BFB Injection Time: 11:20
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	18.53	
75	30.00 - 66.00% of mass 95	56.37	
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	81.83	
175	4.00 - 9.00% of mass 174	6.40	(7.82)
176	93.00 - 101.00% of mass 174	78.26	(95.63)
177	5.00 - 9.00% of mass 176	5.36	(6.84)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV	CCV	25602C.D	09/13/2014	11:44
2	LCS for HBN 318070 [AIR/	1788456	25602_21304.D	09/13/2014	11:44
3	BLANK for HBN 318070 [AI	1788455	25607_21304.D	09/13/2014	15:47
4	SV-004-C-17	10280459014	25608.D	09/13/2014	19:17

Data File: \\192.168.10.12\chem\10airB.i\091314.b\25602c.D
Report Date: 13-Sep-2014 12:55

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 13-SEP-2014 11:44
Lab File ID: 25602c.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Propylene	0.01439	0.01231	0.01231	0.010	-14.42979	30.00000	Averaged
2 Dichlorodifluoromethane	0.10368	0.10858	0.10858	0.010	4.73110	30.00000	Averaged
3 Chlorodifluoromethane	0.03804	0.03852	0.03852	0.010	1.25310	30.00000	Averaged
4 Dichlorotetrafluoroethane	0.10816	0.09624	0.09624	0.010	-11.02279	30.00000	Averaged
5 Chloromethane	0.02196	0.01569	0.01569	0.010	-28.54028	30.00000	Averaged
6 Vinyl chloride	0.02640	0.02440	0.02440	0.010	-7.58248	30.00000	Averaged
7 1,3-Butadiene	0.01681	0.01376	0.01376	0.010	-18.11777	30.00000	Averaged
8 Bromomethane	0.02446	0.02539	0.02539	0.010	3.77918	30.00000	Averaged
9 Chloroethane	0.01413	0.01241	0.01241	0.010	-12.15693	30.00000	Averaged
10 Isopentane	10.00000	8.30385	48.31871	0.010	-16.96150	30.00000	Linear
11 Vinyl Bromide	0.03334	0.02950	0.02950	0.010	-11.51592	30.00000	Averaged
12 Trichlorofluoromethane	0.14084	0.12735	0.12735	0.010	-9.57696	30.00000	Averaged
13 Ethanol	10.00000	12.28766	180	0.010	22.87658	30.00000	Quadratic
14 Acrolein	0.00638	0.00497	0.00497	0.010	-21.99962	30.00000	Averaged<-
15 Freon 113	0.07694	0.06702	0.06702	0.010	-12.88496	30.00000	Averaged
16 Acetone	10.00000	11.04367	15.77146	0.010	10.43665	30.00000	Linear
17 Isopropyl Alcohol	0.03878	0.03644	0.03644	0.010	-6.03070	30.00000	Averaged
18 1,1-Dichloroethene	0.04626	0.04596	0.04596	0.010	-0.65652	30.00000	Averaged
19 Carbon Disulfide	0.11821	0.09509	0.09509	0.010	-19.55983	30.00000	Averaged
20 Allyl Chloride	0.11821	0.09509	0.09509	0.010	-19.56041	30.00000	Averaged
21 Tert Butyl Alcohol	0.06070	0.06568	0.06568	0.010	8.20481	30.00000	Averaged
22 Methylene chloride	10.00000	8.74045	41.86535	0.010	-12.59553	30.00000	Linear
23 Acrylonitrile	0.01632	0.01521	0.01521	0.010	-6.79051	30.00000	Averaged
24 Methyl Tert Butyl Ether	0.09886	0.10225	0.10225	0.010	3.43243	30.00000	Averaged
25 trans-1,2-dichloroethene	0.03695	0.03226	0.03226	0.010	-12.69581	30.00000	Averaged
26 n-Hexane	10.00000	8.18911	28.76725	0.010	-18.10895	30.00000	Linear
27 Vinyl Acetate	10.00000	9.36026	9.77859	0.010	-6.39742	30.00000	Linear
28 Di-isopropyl Ether	0.07320	0.07100	0.07100	0.010	-3.00818	30.00000	Averaged
29 1,1-Dichloroethane	0.06051	0.05384	0.05384	0.010	-11.01571	30.00000	Averaged
30 Ethyl Tert-Butyl Ether	0.08636	0.08856	0.08856	0.010	2.54080	30.00000	Averaged
31 Ethyl Acetate	0.11533	0.10532	0.10532	0.010	-8.67555	30.00000	Averaged
32 Methyl Ethyl Ketone	0.01553	0.01503	0.01503	0.010	-3.22547	30.00000	Averaged
33 cis-1,2-Dichloroethene	0.03712	0.03230	0.03230	0.010	-12.98492	30.00000	Averaged
34 Tetrahydrofuran	0.02744	0.02258	0.02258	0.010	-17.70979	30.00000	Averaged
35 Chloroform	10.00000	9.94367	12.09285	0.010	-0.56329	30.00000	Linear
36 1,1,1-Trichloroethane	0.10219	0.09950	0.09950	0.010	-2.63593	30.00000	Averaged
37 Cyclohexane	10.00000	8.99824	26.58582	0.010	-10.01760	30.00000	Linear
38 Carbon tetrachloride	0.11212	0.11078	0.11078	0.010	-1.19743	30.00000	Averaged
39 Benzene	10.00000	9.13906	10.22501	0.300	-8.60941	30.00000	Quadratic
40 1,2-Dichloroethane	0.06237	0.06305	0.06305	0.010	1.08859	30.00000	Averaged
41 Tert Amyl Methyl Ether	0.09687	0.10170	0.10170	0.010	4.99010	30.00000	Averaged
42 2,2,4-Trimethylpentane	10.00000	9.27029	7.80442	0.010	-7.29705	30.00000	Linear
43 Heptane	10.00000	8.97328	26.41943	0.010	-10.26717	30.00000	Linear

Data File: \\192.168.10.12\chem\10airB.i\091314.b\25602c.D
Report Date: 13-Sep-2014 12:55

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 13-SEP-2014 11:44
Lab File ID: 25602c.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
45 Trichloroethene	10.00000	8.93269	19.56538	0.010	-10.67313	30.00000	Linear	
46 Methylcyclohexane	0.03163	0.02787	0.02787	0.010	-11.88615	30.00000	Averaged	
47 1,2-Dichloropropane	0.03422	0.03152	0.03152	0.010	-7.89474	30.00000	Averaged	
48 1,4-Dioxane	0.02066	0.02313	0.02313	0.010	11.94731	30.00000	Averaged	
49 Bromodichloromethane	0.09405	0.09277	0.09277	0.010	-1.35994	30.00000	Averaged	
50 cis-1,3-Dichloropropene	0.05518	0.05507	0.05507	0.010	-0.20319	30.00000	Averaged	
51 Methyl Isobutyl Ketone	0.05632	0.05450	0.05450	0.010	-3.22208	30.00000	Averaged	
52 Toluene	10.00000	9.32277	8.04813	0.010	-6.77231	30.00000	Linear	
53 trans-1,3-Dichloropropene	0.05584	0.06442	0.06442	0.010	15.35561	30.00000	Averaged	
54 1,1,2-Trichloroethane	0.04911	0.04184	0.04184	0.010	-14.79387	30.00000	Averaged	
55 Tetrachloroethene	10.00000	9.06663	12.92766	0.010	-9.33371	30.00000	Linear	
56 Methyl Butyl Ketone	0.05237	0.05948	0.05948	0.010	13.58551	30.00000	Averaged	
57 Dibromochloromethane	0.10929	0.10452	0.10452	0.010	-4.37066	30.00000	Averaged	
58 1,2-Dibromoethane	0.07874	0.07668	0.07668	0.010	-2.61389	30.00000	Averaged	
60 Chlorobenzene	10.00000	9.77261	7.72779	0.010	-2.27387	30.00000	Linear	
61 Ethyl Benzene	0.20641	0.19270	0.19270	0.030	-6.64206	30.00000	Averaged	
62 m&p-Xylene	0.15441	0.15036	0.15036	0.300	-2.61858	30.00000	Averaged	<-
63 o-Xylene	0.13755	0.14913	0.14913	0.300	8.41363	30.00000	Averaged	<-
64 Styrene	0.09662	0.11115	0.11115	0.010	15.04512	30.00000	Averaged	
65 Bromoform	0.09147	0.09008	0.09008	0.010	-1.51709	30.00000	Averaged	
66 Isopropylbenzene	0.18651	0.20762	0.20762	0.010	11.31929	30.00000	Averaged	
67 1,1,2,2-Tetrachloroethane	0.09439	0.08614	0.08614	0.010	-8.74286	30.00000	Averaged	
68 N-Propylbenzene	0.22863	0.23637	0.23637	0.010	3.38754	30.00000	Averaged	
69 4-Ethyltoluene	0.17266	0.20099	0.20099	0.010	16.40911	30.00000	Averaged	
70 1,3,5-Trimethylbenzene	0.16810	0.18463	0.18463	0.010	9.83157	30.00000	Averaged	
71 Tert Butyl Benzene	0.15980	0.16815	0.16815	0.010	5.22265	30.00000	Averaged	
72 1,2,4-Trimethylbenzene	0.16382	0.17888	0.17888	0.010	9.19214	30.00000	Averaged	
73 Sec- Butylbenzene	0.21881	0.22891	0.22891	0.010	4.61901	30.00000	Averaged	
74 p-isopropyltoluene	10.00000	10.60677	4.58705	0.010	6.06775	30.00000	Linear	
75 1,3-Dichlorobenzene	0.12440	0.12246	0.12246	0.010	-1.56583	30.00000	Averaged	
76 1,4-Dichlorobenzene	0.11835	0.12116	0.12116	0.010	2.36962	30.00000	Averaged	
77 1,2,3-Trimethylbenzene	0.14528	0.17108	0.17108	0.010	17.75575	30.00000	Averaged	
78 Benzyl Chloride	0.12119	0.13251	0.13251	0.010	9.34510	30.00000	Averaged	
79 N-Butylbenzene	0.14742	0.17823	0.17823	0.010	20.90105	30.00000	Averaged	
80 1,2-Dichlorobenzene	0.11378	0.10588	0.10588	0.010	-6.94153	30.00000	Averaged	
81 1,2,4-Trichlorobenzene	10.00000	19.81709	18.82295	0.010	88.17091	30.00000	Quadratic	<-
82 Hexachlorobutadiene	0.05494	0.04421	0.04421	0.010	-19.52154	30.00000	Averaged	
83 Naphthalene	10.00000	14.21554	9.07926	0.010	42.15545	30.00000	Quadratic	<-

Data File: \\192.168.10.12\chem\10airB.i\091114.b\25416.D
Report Date: 12-Sep-2014 08:04

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25416.D
Lab Smp Id: 10280459003
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 11-SEP-2014
Calibration Time: 08:57

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2569888	-27.29
59 Chlorobenzene - d	3095570	1857342	4333798	2277800	-26.42

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091114.b\25418.D
Report Date: 12-Sep-2014 08:42

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25418.D
Lab Smp Id: 10280459005
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 11-SEP-2014
Calibration Time: 08:57

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2669763	-24.46
59 Chlorobenzene - d	3095570	1857342	4333798	2390000	-22.79

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091114.b\25417.D
Report Date: 12-Sep-2014 08:36

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25417.D
Lab Smp Id: 10280459004
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 11-SEP-2014
Calibration Time: 08:57

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2641448	-25.26
59 Chlorobenzene - d	3095570	1857342	4333798	2353621	-23.97

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091214.b\25514.D
Report Date: 13-Sep-2014 11:57

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25514.D
Lab Smp Id: 10280459004
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091214.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 12-SEP-2014
Calibration Time: 08:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2370732	-32.92
59 Chlorobenzene - d	3095570	1857342	4333798	2102592	-32.08

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.11
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091214.b\25509.D
Report Date: 12-Sep-2014 13:08

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25509.D
Lab Smp Id: 10280459005
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091214.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 12-SEP-2014
Calibration Time: 08:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2508133	-29.03
59 Chlorobenzene - d	3095570	1857342	4333798	2237008	-27.74

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091114.b\25419.D
Report Date: 15-Sep-2014 11:45

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25419.D
Lab Smp Id: 10280459006
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 11-SEP-2014
Calibration Time: 08:57

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2683713	-24.06
59 Chlorobenzene - d	3095570	1857342	4333798	2362559	-23.68

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091214.b\25516.D
Report Date: 13-Sep-2014 11:58

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25516.D
Lab Smp Id: 10280459006
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091214.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 12-SEP-2014
Calibration Time: 08:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2209878	-37.47
59 Chlorobenzene - d	3095570	1857342	4333798	1969533	-36.38

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091114.b\25420.D
Report Date: 12-Sep-2014 08:51

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25420.D
Lab Smp Id: 10280459007
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 11-SEP-2014
Calibration Time: 08:57

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2755499	-22.03
59 Chlorobenzene - d	3095570	1857342	4333798	2445733	-20.99

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	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: \\192.168.10.12\chem\10airB.i\091214.b\25515.D
Report Date: 13-Sep-2014 11:57

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25515.D
Lab Smp Id: 10280459007
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091214.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 12-SEP-2014
Calibration Time: 08:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2269703	-35.78
59 Chlorobenzene - d	3095570	1857342	4333798	1987792	-35.79

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.11
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10airB.i\091114.b\25421.D
Report Date: 12-Sep-2014 08:53

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25421.D
Lab Smp Id: 10280459008
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 11-SEP-2014
Calibration Time: 08:57

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2660104	-24.73
59 Chlorobenzene - d	3095570	1857342	4333798	2376250	-23.24

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091114.b\25422.D
Report Date: 12-Sep-2014 08:55

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25422.D
Lab Smp Id: 10280459009
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 11-SEP-2014
Calibration Time: 08:57

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2798349	-20.82
59 Chlorobenzene - d	3095570	1857342	4333798	2472194	-20.14

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091114.b\25423.D
Report Date: 12-Sep-2014 09:01

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25423.D
Lab Smp Id: 10280459010
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 11-SEP-2014
Calibration Time: 08:57

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2729518	-22.77
59 Chlorobenzene - d	3095570	1857342	4333798	2399863	-22.47

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10airB.i\091114.b\25424.D
Report Date: 12-Sep-2014 09:09

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25424.D
Lab Smp Id: 10280459011
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 11-SEP-2014
Calibration Time: 08:57

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2733060	-22.67
59 Chlorobenzene - d	3095570	1857342	4333798	2413726	-22.03

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091214.b\25518.D
Report Date: 13-Sep-2014 11:58

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25518.D
Lab Smp Id: 10280459011
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091214.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 12-SEP-2014
Calibration Time: 08:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2151165	-39.13
59 Chlorobenzene - d	3095570	1857342	4333798	1912307	-38.22

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10airB.i\091114.b\25425.D
Report Date: 12-Sep-2014 13:26

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25425.D
Lab Smp Id: 10280459012
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 11-SEP-2014
Calibration Time: 08:57

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	3149651	-10.88
59 Chlorobenzene - d	3095570	1857342	4333798	2834167	-8.44

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10airB.i\091214.b\25511.D
Report Date: 12-Sep-2014 13:28

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25511.D
Lab Smp Id: 10280459012
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091214.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 12-SEP-2014
Calibration Time: 08:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2460084	-30.39
59 Chlorobenzene - d	3095570	1857342	4333798	2186439	-29.37

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091114.b\25426.D
Report Date: 12-Sep-2014 09:26

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25426.D
Lab Smp Id: 10280459013
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 11-SEP-2014
Calibration Time: 08:57

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	3203574	-9.35
59 Chlorobenzene - d	3095570	1857342	4333798	2828881	-8.62

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091214.b\25517.D
Report Date: 13-Sep-2014 11:58

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25517.D
Lab Smp Id: 10280459013
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091214.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 12-SEP-2014
Calibration Time: 08:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2194933	-37.89
59 Chlorobenzene - d	3095570	1857342	4333798	1935026	-37.49

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091314.b\25608.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25608.D
Lab Smp Id: 10280459014
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2166155	-38.71
59 Chlorobenzene - d	3095570	1857342	4333798	1895235	-38.78

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10airB.i\091114.b\25428.D
Report Date: 12-Sep-2014 09:33

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25428.D
Lab Smp Id: 10280459015
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 11-SEP-2014
Calibration Time: 08:57

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	3253312	-7.95
59 Chlorobenzene - d	3095570	1857342	4333798	2850875	-7.90

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091214.b\25518.D
Report Date: 13-Sep-2014 11:58

SV-102-C-17

Pace Analytical Services, Inc.

TO15 Analysis (UNIX)

Data file : \\192.168.10.12\chem\10airB.i\091214.b\25518.D
Lab Smp Id: 10280459011
Inj Date : 12-SEP-2014 16:49
Operator : DL1 Inst ID: 10airB.i
Smp Info :
Misc Info : 21284
Comment : Volatile Organic COMPOUNDS in Air
Method : \\192.168.10.12\chem\10airB.i\091214.b\TO15_239-14_Markes.m
Meth Date : 13-Sep-2014 11:56 dlee Quant Type: ISTD
Cal Date : 27-AUG-2014 12:57 Cal File: 23909.D
Als bottle: 18
Dil Factor: 90.00000
Integrator: HP RTE Compound Sublist: DIL.sub
Target Version: 4.14
Processing Host: VIRTUALXP-77637

Concentration Formula: Amt * DF * Uf * CpndVariable

Name	Value	Description
DF	90.000	Dilution Factor
Uf	1.000	ng unit correction factor
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
6 Vinyl chloride	62	Compound Not Detected.					
18 1,1-Dichloroethene	61	4.302	4.302	(0.637)	31561	3.17137	285(M)
29 1,1-Dichloroethane	63	5.216	5.223	(0.772)	114308	8.78165	790
36 1,1,1-Trichloroethane	97	6.129	6.137	(0.907)	54739	2.49000	224(M)
* 44 1,4-Difluorobenzene	114	6.759	6.766	(1.000)	2151165	10.0000	
45 Trichloroethene	130	7.035	7.035	(1.041)	40801	3.32658	299
52 Toluene	91	8.386	8.387	(1.241)	14201	0.47447	42.7
* 59 Chlorobenzene - d5	117	10.072	10.078	(1.000)	1912307	10.0000	
61 Ethyl Benzene	91	10.195	10.201	(1.012)	141161	3.57617	322
62 m&p-Xylene	91	10.348	10.348	(1.027)	690272	23.3777	2100
63 o-Xylene	91	10.852	10.858	(1.077)	228582	8.68980	782
83 Naphthalene	128	15.345	15.346	(1.524)	81537	5.94839	535(M)

QC Flag Legend

M - Compound response manually integrated.

O-xylene = 3450 ug/m³

$$\frac{228582 \times 10 \times 90}{1912307 \times 0.13755} = 782 \text{ ppb}$$

$$782 \times \frac{106.165}{24.45} = 3400 \text{ ug/m}^3$$

TETRA TECH **INTERNAL CORRESPONDENCE**

TO: **T. APANAVAGE** **DATE:** **OCTOBER 30, 2014**

FROM: **A. COGNETTI** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
MIDDLE RIVER and TILLEY CHEMICAL
SAMPLE DELIVERY GROUP (SDG) – 10280465

SAMPLES: 32/Air/VOC

BCK-1-17	BCK-2-17	BCK-3-17	BCK-4-17	IA-015-A-17	IA-018-A-17
IA-033-B-17	IA-075-A-17	IA-076-A-17	IA-079-A-17	IA-081-A-17	IA-093-A-17
IA-095-A-17	IA-117-A-17	IA-118-A-17	IA-121-B-17	IA-136-A-17	IA-138-A-17
IA-140-B-17	IA-DUP1-A-17	IA-DUP2-A-17	SV-075-A-17	SV-076-A-17	SV-079-A-17
SV-081-A-17	SV-095-A-17	SV-100-B-17	SV-101-B-17	SV-118-A-17	SV-136-A-17
SV-DUP1-A-17	SV-DUP2-A-17				

Overview

The sample set for Middle River and Tilley Chemical, SDG 10280465 consisted of thirty-two (32) air samples. All samples were analyzed for volatile organic compounds (VOC). There are four (4) field duplicate pairs included in this SDG: IA-DUP1-A-17/IA-018-A-17, IA-DUP2-A-17/IA-015-A-17, SV-DUP1-A-17/SV-136-A-17, SV-DUP2-A-17/SV-079-A-17.

The samples were collected on September 2, 2014 and analyzed by Pace Analytical. 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

- The continuing calibration percent differences (%Ds) for 1,2,4-trichlorobenzene and naphthalene exceeded the 30% quality control limit on September 11, 2014 @ 8:57 on instrument 10AIRB. The detected and nondetected 1,2,4-trichlorobenzene and naphthalene results were qualified as estimated (J) and (UJ), respectively in the affected samples IA-138-A-17 and IA-121-B-17.

- The continuing calibration %Ds for 1,2,4-trichlorobenzene and naphthalene exceeded the 30% quality control limit on September 13, 2014 @ 11:44 on instrument 10AIRB. The detected and nondetected 1,2,4-trichlorobenzene and naphthalene results were qualified as estimated (J) and (UJ), respectively in the affected samples.

- The continuing calibration %Ds for 1,2,4-trichlorobenzene and naphthalene exceeded the 30% quality control limit on September 14, 2014 @ 13:54 on instrument 10AIRB. The detected naphthalene result was qualified as estimated (J) in the affected sample SV-075-A-17.

- The continuing calibration %D for 1,2,4-trichlorobenzene exceeded the 30% quality control limit on September 15, 2014 @ 11:11 on instrument 10AIRB. The nondetected 1,2,4-trichlorobenzene result was qualified as estimated (UJ) in sample IA-033-B-17.

- Contamination was detected in the laboratory method blank associated with batch 318081 (1788481) analyzed on September 13, 2014 on instrument 10AIRB.

Contaminant	Maximum Concentration (ug/m^3)	Action Level (ug/m^3)
Toluene	0.51	2.55

An action level of 5X the maximum concentration of contaminant was established in order to evaluate samples for blank contamination. Dilution factors and percent aliquot were taken into consideration when applying the action level. The detected toluene result in sample BCK-3-17 was qualified as (U).

- The internal standard areas were outside quality control limits in several samples:

Sample	Internal Standard	Validation Action
IA-015-A-17 (analyzed 9/16, toluene, m&p xylenes reported)	1,4-difluorobenzene	Toluene (J)
IA-DUP1-A-17 (analyzed 9/16, toluene reported)	1,4-difluorobenzene, Chlorobenzene-d5	Toluene (J)
IA-DUP2-A-17 (analyzed 9/16 , toluene, m&p xylenes, o-xylene reported)	1,4-difluorobenzene	Toluene (J)
SV-DUP1-A-17 (analyzed 9/15, chloroform, trichloroethene reported)	1,4-difluorobenzene, Chlorobenzene-d5	Chloroform, trichloroethene (J)
SV-118-A-17(analyzed 9/15, 1,1-dichloroethene, cis-1,2-dichloroethene and trichloroethene reported)	1,4-difluorobenzene, Chlorobenzene-d5	1,1-dichloroethene, cis-1,2-dichloroethene and trichloroethene (J)
SV-136-A-17 (analyzed 9/15, trichloroethene reported)	1,4-difluorobenzene, Chlorobenzene-d5	Trichloroethene (J)

- Field duplicate imprecision was noted in the field duplicate pair SV-DUP1-A-17 and SV-136-A-17 for methylene chloride and trichloroethene. The RPDs were greater than the 50% quality control limit. The detected methylene chloride and trichloroethene results were qualified as estimated (J).

- Field duplicate imprecision was noted in the field duplicate pair SV-DUP2-A-17 and SV-079-A-17 for cis-1,2-dichloroethene, methylene chloride and trichloroethene. The RPDs for these analytes were greater than the 50% quality control limit. The detected for cis-1,2-dichloroethene, methylene chloride and trichloroethene results were qualified as estimated (J).

Notes

Contamination was detected in the laboratory method blank associated with batch 317735 (1786622) analyzed on September 11, 2014 on instrument 10AIRB.

Contaminant	Maximum Concentration (ug/m^3)	Action Level (ug/m^3)
Toluene	0.48	2.4

An action level of 5X the maximum concentration of contaminant was established in order to evaluate samples for blank contamination. Dilution factors and percent aliquot were taken into consideration when applying the action level. No action was taken on the detected toluene results in the affected samples IA-138-A-17 and IA-121-B-17 greater than the action level.

The laboratory control sample (LCS) percent recoveries (%Rs) of 1,2,4-trichlorobenzene was greater than the upper quality control limit in batches 1786623 and 1788456. No action was taken on the nondetected 1,2,4-trichlorobenzene results in the affected samples.

The continuing calibration %D for 1,2,4-trichlorobenzene exceeded the 30% quality control limit on September 16, 2014 @ 11:55 on instrument 10AIRB. No action was taken in the affect ted sample IA-0 75-A-17. Toluene was only reported from this analysis.

Nondetected results were reported to the reporting limit.

Executive Summary

Laboratory Performance: Continuing calibration %Ds for 1,2,4-trichlorobenzene and naphthalene exceeded quality control limits. Toluene was detected in a laboratory method blank. Internal standard areas were outside quality control limits in several samples.

Other Factors Affecting Data Quality: Field duplicate imprecision was noted in field duplicate pairs SV-DUP1-A-17/ SV-136-A-17 and SV-DUP2-A-17/ SV-079-A-17.

The data for these analyses were reviewed with reference to USEPA National Functional Guidelines for Organic Data Validation (June 2008) 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
Data Validation Manager

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 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate

PROJ_NO: 06279	NSAMPLE	BCK-1-17			BCK-2-17			BCK-3-17			BCK-4-17		
SDG: 10280465	LAB_ID	10280465029			10280465030			10280465031			10280465032		
FRACTION: OV	SAMP_DATE	9/2/2014			9/2/2014			9/2/2014			9/2/2014		
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	U		1.5	U		1.5	U		1.5	U	
1,1,2-TRICHLOROETHANE		0.76	U		0.76	U		0.76	U		0.76	U	
1,1-DICHLOROETHANE		1.1	U		1.1	U		1.1	U		1.1	U	
1,1-DICHLOROETHENE		1.1	U		1.1	U		1.1	U		1.1	U	
1,2,3-TRIMETHYLBENZENE		0.75	J	P	1.4	U		1.4	U		1.4	U	
1,2,4-TRICHLOROBENZENE		105	UJ	C	2.1	U		2.1	U		1.6	J	P
1,2,4-TRIMETHYLBENZENE		1.4	U		1.4	U		1	J	P	1.4	U	
1,2-DICHLOROETHANE		0.57	U		0.71			0.57	U		0.57	U	
1,3,5-TRIMETHYLBENZENE		1.4	U		3.5	U		3.5	U		3.5	U	
BENZENE		0.9	U		2.4			0.48			0.84		
CARBON TETRACHLORIDE		0.53	J	P	0.89	U		0.89	U		0.89	U	
CHLORODIFLUOROMETHANE		1.6			6.3			2.7			3		
CHLOROFORM		0.69	U		0.69	U		0.69	U		0.69	U	
CIS-1,2-DICHLOROETHENE		1.1	U		1.1	U		1.1	U		1.1	U	
DICHLORODIFLUOROMETHANE		2.7			2			1.6			1.7		
ETHYLBENZENE		1.2	U		1.7			1.1	J	P	1.2		
M+P-XYLENES		1	J	P	3.1			1.8	J	P	2.3	J	P
METHYL TERT-BUTYL ETHER		1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE		4.9	U		1.8	J	P	0.61	J	P	0.86	J	P
NAPHTHALENE		3.7	UJ	C	3.7	U		3.7	U		1.2	J	P
O-XYLENE		1.2	U		1.5			1.1	J	P	1.3		
TETRACHLOROETHENE		0.96	U		0.96	U		0.96	U		0.96	U	
TOLUENE		2			33.6			3	U	A	11.5		
TRANS-1,2-DICHLOROETHENE		1.1	U		1.1	U		1.1	U		1.1	U	
TRICHLOROETHENE		11.9			7.9			1.1			0.76	U	
VINYL CHLORIDE		0.36	U		0.72	U		0.72	U		0.72	U	

PROJ_NO: 06279	NSAMPLE	IA-015-A-17			IA-018-A-17			IA-033-B-17			IA-033-B-17-RA		
SDG: 10280465	LAB_ID	10280465003			10280465001			10280465013			10280465013		
FRACTION: OV	SAMP_DATE	9/2/2014			9/2/2014			9/2/2014			9/2/2014		
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	U		1.7	U		1.5	U				
1,1,2-TRICHLOROETHANE		0.74	U		0.82	U		0.76	U				
1,1-DICHLOROETHANE		1.1	U		1.2	U		1.1	U				
1,1-DICHLOROETHENE		1.1	U		3.1			1.1	U				
1,2,3-TRIMETHYLBENZENE		1.3	U		1.8			1.3	J	P			
1,2,4-TRICHLOROBENZENE		2	U		2.2	U		2.1	UJ	C			
1,2,4-TRIMETHYLBENZENE		1.5			1.6			1.6					
1,2-DICHLOROETHANE		0.55	U		0.61	U		0.57	U				
1,3,5-TRIMETHYLBENZENE		3.3	U		2.1	J	P	2	J	P			
BENZENE		1.8			0.86			0.75					
CARBON TETRACHLORIDE		0.86	U		0.95	U		0.89	U				
CHLORODIFLUOROMETHANE		6.4			3.8			82.9					
CHLOROFORM		0.76			15			0.69	U				
CIS-1,2-DICHLOROETHENE		1.1	U		0.9	J	P	1.1	U				
DICHLORODIFLUOROMETHANE		1.8			2.4			2					
ETHYLBENZENE		143			25.1			2.1					
M+P-XYLENES		501			107						3		
METHYL TERT-BUTYL ETHER		0.98	U		1.1	U		1	U				
METHYLENE CHLORIDE		0.91	J	P	0.83	J	GP	2.6	J	P			
NAPHTHALENE		3.6	U		4	U		2.7	J	P			
O-XYLENE		195			39						0.95	J	P
TETRACHLOROETHENE		0.92	U		1	U		0.96	U				
TOLUENE		4030	J	N	373						33.8		
TRANS-1,2-DICHLOROETHENE		1.1	U		1.2	U		1.1	U				
TRICHLOROETHENE		0.74	U		5.5			1.2					
VINYL CHLORIDE		0.7	U		0.77	U		0.72	U				

PROJ_NO: 06279	NSAMPLE	IA-075-A-17			IA-075-A-17-RA			IA-076-A-17			IA-079-A-17		
SDG: 10280465	LAB_ID	10280465004			10280465004			10280465005			10280465006		
FRACTION: OV	SAMP_DATE	9/2/2014			9/2/2014			9/2/2014			9/2/2014		
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		1.6	U					1.6	U		1.5	U	
1,1,2-TRICHLOROETHANE		0.79	U					0.79	U		0.76	U	
1,1-DICHLOROETHANE		1.2	U					1.2	U		1.1	U	
1,1-DICHLOROETHENE		1.2	U					1.2	U		1.1	U	
1,2,3-TRIMETHYLBENZENE		1.4	U					1.4	U		1.4	U	
1,2,4-TRICHLOROBENZENE		2.2	U					109	UJ	C	105	UJ	C
1,2,4-TRIMETHYLBENZENE		1.4	U					1.4	U		1.4	U	
1,2-DICHLOROETHANE		0.59	U					0.59	U		0.57	U	
1,3,5-TRIMETHYLBENZENE		3.6	U					1.4	U		1.4	U	
BENZENE		0.47	U					0.93	U		0.9	U	
CARBON TETRACHLORIDE		0.92	U					0.92	U		0.46	J	P
CHLORODIFLUOROMETHANE		5.3						4.5			3		
CHLOROFORM		0.71	U					0.71	U		0.69	U	
CIS-1,2-DICHLOROETHENE		1.2	U					1.2	U		1.1	U	
DICHLORODIFLUOROMETHANE		2.8						2.7			2.4		
ETHYLBENZENE		1.5						1.7			5.3		
M+P-XYLENES		3.3						7			23		
METHYL TERT-BUTYL ETHER		1.1	U					1.1	U		1	U	
METHYLENE CHLORIDE		0.6	J	P				5.1	U		4.9	U	
NAPHTHALENE		3.8	U					3.8	UJ	C	3.7	UJ	C
O-XYLENE		1.6						2.7			8		
TETRACHLOROETHENE		0.99	U					0.99	U		0.96	U	
TOLUENE					15.4			60.6			166		
TRANS-1,2-DICHLOROETHENE		1.2	U					1.2	U		1.1	U	
TRICHLOROETHENE		0.79	U					2.4			2.4		
VINYL CHLORIDE		0.75	U					0.37	U		0.36	U	

PROJ_NO: 06279	NSAMPLE	IA-081-A-17			IA-093-A-17			IA-095-A-17			IA-117-A-17		
SDG: 10280465	LAB_ID	10280465007			10280465008			10280465009			10280465010		
FRACTION: OV	SAMP_DATE	9/2/2014			9/2/2014			9/2/2014			9/2/2014		
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		1.7	U		1.6	U		1.5	U		1.5	U	
1,1,2-TRICHLOROETHANE		0.85	U		0.79	U		0.74	U		0.76	U	
1,1-DICHLOROETHANE		1.3	U		1.2	U		1.1	U		1.1	U	
1,1-DICHLOROETHENE		1.3	U		1.3			1.1	U		1.1	U	
1,2,3-TRIMETHYLBENZENE		1.4	J	P	1.4	U		1.2	J	P	1.4	U	
1,2,4-TRICHLOROBENZENE		2.3	U		2.2	U		2	U		105	UJ	C
1,2,4-TRIMETHYLBENZENE		1.5	J	P	1.2	J	P	1.2	J	P	1.4	U	
1,2-DICHLOROETHANE		0.64	U		0.59	U		0.55	U		0.57	U	
1,3,5-TRIMETHYLBENZENE		1.9	J	P	1.8	J	P	3.3	U		1.4	U	
BENZENE		0.5	U		0.73			0.44	U		0.9	U	
CARBON TETRACHLORIDE		0.99	U		0.92	U		0.86	U		0.89	U	
CHLORODIFLUOROMETHANE		36			3.4			129			3.6		
CHLOROFORM		0.77	U		0.73			0.66	U		0.69	U	
CIS-1,2-DICHLOROETHENE		1.3	U		1.2	U		1.1	U		1.1	U	
DICHLORODIFLUOROMETHANE		1.9			2.2			1.9			2.7		
ETHYLBENZENE		2.8			16.2			1.2			5.4		
M+P-XYLENES		9.8			71.5			2.3	J	P	25.8		
METHYL TERT-BUTYL ETHER		1.1	U		1.1	U		0.98	U		1	U	
METHYLENE CHLORIDE		1	J	P	0.7	J	P	0.66	J	P	4.9	U	
NAPHTHALENE		1.5	J	P	1.5	J	P	3.6	U		3.7	UJ	C
O-XYLENE		3.5			26.4			1.2			8.7		
TETRACHLOROETHENE		1.1	U		1			0.92	U		0.96	U	
TOLUENE		74.3			214			19.2			109		
TRANS-1,2-DICHLOROETHENE		1.3	U		1.2	U		1.1	U		1.1	U	
TRICHLOROETHENE		0.85	U		9.2			0.74	U		11.2		
VINYL CHLORIDE		0.81	U		0.45	J	P	0.7	U		0.36	U	

PROJ_NO: 06279	NSAMPLE	IA-118-A-17			IA-121-B-17			IA-136-A-17			IA-138-A-17		
SDG: 10280465	LAB_ID	10280465011			10280465014			10280465012			10280465002		
FRACTION: OV	SAMP_DATE	9/2/2014			9/2/2014			9/2/2014			9/2/2014		
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	U		1.7	U		1.5	U		1.5	U	
1,1,2-TRICHLOROETHANE		0.74	U		0.82	U		0.76	U		0.74	U	
1,1-DICHLOROETHANE		1.1	U		1.2	U		1.1	U		0.62	J	P
1,1-DICHLOROETHENE		1.1	U		1.2	U		1.1	U		1.1	U	
1,2,3-TRIMETHYLBENZENE		1.3	U		1.5	U		1.4	U		1.3	U	
1,2,4-TRICHLOROBENZENE		2	U		112	UJ	C	105	UJ	C	101	UJ	C
1,2,4-TRIMETHYLBENZENE		1.6			1.5	U		1.4	U		1.3	U	
1,2-DICHLOROETHANE		0.55	U		0.61	U		0.57	U		0.55	U	
1,3,5-TRIMETHYLBENZENE		3.3	U		1.5	U		1.4	U		1.3	U	
BENZENE		0.73			0.97	U		0.9	U		0.87	U	
CARBON TETRACHLORIDE		0.86	U		0.95	U		0.89	U		0.86	U	
CHLORODIFLUOROMETHANE		10.6			3.6			3.3			1.1		
CHLOROFORM		0.66	U		0.74	U		0.69	U		0.66	U	
CIS-1,2-DICHLOROETHENE		1.1	U		1.2	U		1.1	U		1.1	U	
DICHLORODIFLUOROMETHANE		2.3			2.9			2.9			2.8		
ETHYLBENZENE		10.5			1.5			1	J	P	12.8		
M+P-XYLENES		41.6			5.4			4			59.8		
METHYL TERT-BUTYL ETHER		0.98	U		1.1	U		1	U		0.98	U	
METHYLENE CHLORIDE		4.7	U		0.67	J	P	4.9	U		4.7	U	
NAPHTHALENE		3.6	U		4	UJ	C	3.7	UJ	C	13.7	J	C
O-XYLENE		13.9			2.3			1.3			24.5		
TETRACHLOROETHENE		0.92	U		1	U		0.96	U		0.92	U	
TOLUENE		60			56.2			33.8			229		
TRANS-1,2-DICHLOROETHENE		1.1	U		1.2	U		1.1	U		1.1	U	
TRICHLOROETHENE		1.6			1.6	U		9.1			5.5		
VINYL CHLORIDE		0.7	U		0.39	U		0.36	U		0.35	U	

PROJ_NO: 06279	NSAMPLE	IA-140-B-17			IA-DUP1-A-17			IA-DUP2-A-17			SV-075-A-17		
SDG: 10280465	LAB_ID	10280465015			10280465016			10280465017			10280465028		
FRACTION: OV	SAMP_DATE	9/2/2014			9/2/2014			9/2/2014			9/2/2014		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF				IA-018-A-17			IA-015-A-17					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		1.7	U		1.7	U		1.5	U		1.9	U	
1,1,2-TRICHLOROETHANE		0.82	U		0.82	U		0.74	U		0.96	U	
1,1-DICHLOROETHANE		1.2	U		1.2	U		1.1	U		1.4	U	
1,1-DICHLOROETHENE		1.2	U		3.5			1.1	U		1.4	U	
1,2,3-TRIMETHYLBENZENE		1.5	U		1.4	J	P	1.2	J	P	16.2		
1,2,4-TRICHLOROBENZENE		112	UJ	C	2.2	J	P	2	U		131	UJ	C
1,2,4-TRIMETHYLBENZENE		1.5	U		1.3	J	P	1.5			51.2		
1,2-DICHLOROETHANE		0.61	U		0.61	U		0.55	U		0.71	U	
1,3,5-TRIMETHYLBENZENE		1.5	U		2.2	J	P	2	J	P	23.2		
BENZENE		0.97	U		1.1			2			1.1	U	
CARBON TETRACHLORIDE		0.95	U		0.95	U		0.86	U		1.1	U	
CHLORODIFLUOROMETHANE		4			4.5			8			9.6		
CHLOROFORM		0.74	U		14.8			0.76			0.86	U	
CIS-1,2-DICHLOROETHENE		1.2	U		0.85	J	P	1.1	U		1.4	U	
DICHLORODIFLUOROMETHANE		3			1.5	J	P	2.7			3		
ETHYLBENZENE		1.7			27			149			1.2	J	P
M+P-XYLENES		6.1			117			533			4.7		
METHYL TERT-BUTYL ETHER		1.1	U		1.1	U		0.98	U		1.3	U	
METHYLENE CHLORIDE		5.3	U		1.6	J	GP	4.7	U		6.1	U	
NAPHTHALENE		4	UJ	C	9.8			1.6	J	P	384	J	C
O-XYLENE		2.3			39.3			202			4.2		
TETRACHLOROETHENE		1	U		1	U		1.8			0.78	J	P
TOLUENE		69.5			425			4390	J	N	11		
TRANS-1,2-DICHLOROETHENE		1.2	U		1.2	U		1.1	U		1.4	U	
TRICHLOROETHENE		2.5			4.8			0.74	U		14.3		
VINYL CHLORIDE		0.39	U		0.77	U		0.7	U		0.45	U	

PROJ_NO: 06279	NSAMPLE	SV-076-A-17			SV-076-A-17-RA			SV-079-A-17			SV-081-A-17		
SDG: 10280465	LAB_ID	10280465024			10280465024			10280465022			10280465021		
FRACTION: OV	SAMP_DATE	9/2/2014			9/2/2014			9/2/2014			9/2/2014		
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		2	U					1.9	U		8.8		
1,1,2-TRICHLOROETHANE		0.99	U					0.92	U		1.1	U	
1,1-DICHLOROETHANE		1.5	U					1.4	U		1.6	U	
1,1-DICHLOROETHENE		1.5	U					1.4	U		1.6	U	
1,2,3-TRIMETHYLBENZENE		21.2						1.7	U		3560		
1,2,4-TRICHLOROBENZENE		136	UJ	C				127	UJ	C	146	UJ	C
1,2,4-TRIMETHYLBENZENE		41.5						1.7	U		241		
1,2-DICHLOROETHANE		0.74	U					0.69	U		0.8	U	
1,3,5-TRIMETHYLBENZENE		15.3						1.7	U		3490		
BENZENE		1.2	U					1.1	U		1.4		
CARBON TETRACHLORIDE		1.2	U					1.1	U		0.67	J	P
CHLORODIFLUOROMETHANE		6						2.6			23.9		
CHLOROFORM		0.89	U					0.83	U		0.96	U	
CIS-1,2-DICHLOROETHENE		1.5	U					11.3	J	G	0.96	J	P
DICHLORODIFLUOROMETHANE		4.6						3.3			3.5		
ETHYLBENZENE		3.9						28.9			4.2		
M+P-XYLENES		17.5						132			37.4		
METHYL TERT-BUTYL ETHER		1.3	U					1.2	U		1.4	U	
METHYLENE CHLORIDE		2.1	J	P				6.3	J	G	2	J	P
NAPHTHALENE		162	J	C				4.5	UJ	C	265	J	C
O-XYLENE		7.6						52			32.8		
TETRACHLOROETHENE		1.3						1.4			5		
TOLUENE		112						535			14.5		
TRANS-1,2-DICHLOROETHENE		1.5	U					2.3			1.6	U	
TRICHLOROETHENE					8.1			33.8	J	G	6.1		
VINYL CHLORIDE		0.47	U					0.44	U		0.5	U	

PROJ_NO: 06279	NSAMPLE	SV-095-A-17			SV-095-A-17-RA			SV-100-B-17			SV-100-B-17-RA		
SDG: 10280465	LAB_ID	10280465025			10280465025			10280465027			10280465027		
FRACTION: OV	SAMP_DATE	9/2/2014			9/2/2014			9/2/2014			9/2/2014		
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		1.9	U					2.8					
1,1,2-TRICHLOROETHANE		0.96	U					1	U				
1,1-DICHLOROETHANE		1.4	U					1.5	U				
1,1-DICHLOROETHENE		1.4	U					6.4					
1,2,3-TRIMETHYLBENZENE		8.9						5.3					
1,2,4-TRICHLOROBENZENE		131	UJ	C				141	UJ	C			
1,2,4-TRIMETHYLBENZENE		5.6						4.8					
1,2-DICHLOROETHANE		1.2						0.77	U				
1,3,5-TRIMETHYLBENZENE		6.3						1.9	U				
BENZENE		1.3						1.2	U				
CARBON TETRACHLORIDE		1.1	U					22.4					
CHLORODIFLUOROMETHANE		83.1						3.2					
CHLOROFORM		0.86	U					9.4					
CIS-1,2-DICHLOROETHENE		1.4	U					2					
DICHLORODIFLUOROMETHANE		3.2						4.4					
ETHYLBENZENE		1.8						0.86	J	P			
M+P-XYLENES		4.5						2.8	J	P			
METHYL TERT-BUTYL ETHER		1.3	U					1.4	U				
METHYLENE CHLORIDE		7.9						1.2	J	P			
NAPHTHALENE		115	J	C				5	UJ	C			
O-XYLENE		1.6						1.3	J	P			
TETRACHLOROETHENE		1.5						5.3					
TOLUENE		37.5						9.8					
TRANS-1,2-DICHLOROETHENE		1.4	U					1.5	U				
TRICHLOROETHENE					6.9						29.9		
VINYL CHLORIDE		0.45	U					0.49	U				

PROJ_NO: 06279	NSAMPLE	SV-101-B-17			SV-118-A-17			SV-136-A-17			SV-DUP1-A-17		
SDG: 10280465	LAB_ID	10280465026			10280465020			10280465023			10280465018		
FRACTION: OV	SAMP_DATE	9/2/2014			9/2/2014			9/2/2014			9/2/2014		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF										SV-136-A-17		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		167			43.8			1.7	J	P	2.8		
1,1,2-TRICHLOROETHANE		1	U		1	U		0.96	U		0.96	U	
1,1-DICHLOROETHANE		1.5	U		110	J	N	1.3	J	P	1.9		
1,1-DICHLOROETHENE		1.5	U		1220			0.95	J	P	1.2	J	P
1,2,3-TRIMETHYLBENZENE		6.6			14.3			4.8			7.1		
1,2,4-TRICHLOROBENZENE		141	UJ	C	141	UJ	C	131	UJ	C	131	UJ	C
1,2,4-TRIMETHYLBENZENE		9.9			30.9			8.6			14		
1,2-DICHLOROETHANE		0.77	U		0.77	U		0.38	J	P	0.71	U	
1,3,5-TRIMETHYLBENZENE		4.6			19.5			3			4.7		
BENZENE		1.2	U		2.4			3.7			5.4		
CARBON TETRACHLORIDE		3			1.2	U		0.63	J	P	1.1	U	
CHLORODIFLUOROMETHANE		5.1			8.6			9.5			12.7		
CHLOROFORM		0.93	U		34.6			208			231	J	NP
CIS-1,2-DICHLOROETHENE		1.5	U		365	J	N	19.3			27.8		
DICHLORODIFLUOROMETHANE		8.1			3.2			3.3			2.9		
ETHYLBENZENE		1.3	J	P	26.4			1.5	J	P	2.2		
M+P-XYLENES		4.4			167			6			6.7		
METHYL TERT-BUTYL ETHER		1.4	U		1.4	U		1.3	U		1.3	U	
METHYLENE CHLORIDE		4.3	J	P	17.2			24.7	J	G	1.4	J	GP
NAPHTHALENE		7.7	J	C	22.8	J	C	15.2	J	C	25.1	J	C
O-XYLENE		2.4			80.4			3.1			3.1		
TETRACHLOROETHENE		50.8			1.8			10.9			15.4		
TOLUENE		19.3			47.3			30.5			24		
TRANS-1,2-DICHLOROETHENE		1.5	U		19.8			10.4			16.4		
TRICHLOROETHENE		88.8			4980	J	N	19900	J	GN	42200	J	GN
VINYL CHLORIDE		0.49	U		4			0.45	U		0.45	U	

PROJ_NO: 06279	NSAMPLE	SV-DUP2-A-17		
SDG: 10280465	LAB_ID	10280465019		
FRACTION: OV	SAMP_DATE	9/2/2014		
MEDIA: AIR	QC_TYPE	NM		
	UNITS	UG/M3		
	PCT_SOLIDS			
	DUP_OF	SV-079-A-17		
PARAMETER		RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		1.9	U	
1,1,2-TRICHLOROETHANE		0.92	U	
1,1-DICHLOROETHANE		1.4	U	
1,1-DICHLOROETHENE		1.4	U	
1,2,3-TRIMETHYLBENZENE		1.7	U	
1,2,4-TRICHLOROBENZENE		127	UJ	C
1,2,4-TRIMETHYLBENZENE		1.7	U	
1,2-DICHLOROETHANE		0.69	U	
1,3,5-TRIMETHYLBENZENE		1.7	U	
BENZENE		1.1	U	
CARBON TETRACHLORIDE		0.56	J	P
CHLORODIFLUOROMETHANE		3.3		
CHLOROFORM		0.83	U	
CIS-1,2-DICHLOROETHENE		1.6	J	G
DICHLORODIFLUOROMETHANE		3.5		
ETHYLBENZENE		30.5		
M+P-XYLENES		146		
METHYL TERT-BUTYL ETHER		1.2	U	
METHYLENE CHLORIDE		2.6	J	GP
NAPHTHALENE		4.5	UJ	C
O-XYLENE		55.5		
TETRACHLOROETHENE		1	J	P
TOLUENE		729		
TRANS-1,2-DICHLOROETHENE		1.4	U	
TRICHLOROETHENE		12.9	J	G
VINYL CHLORIDE		0.44	U	

Appendix B

Results as Reported by the Laboratory

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: BCK-1-17 **Lab ID: 10280465029** Collected: 09/02/14 15:13 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/14/14 06:59	71-43-2	
Carbon tetrachloride	**0.53J**	ug/m3	0.89	1.39		09/14/14 06:59	56-23-5	
Chlorodifluoromethane	**1.6**	ug/m3	1.0	1.39		09/14/14 06:59	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/14/14 06:59	67-66-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.4	1.39		09/14/14 06:59	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/14/14 06:59	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/14/14 06:59	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 06:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 06:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 06:59	156-60-5	
Ethylbenzene	ND	ug/m3	1.2	1.39		09/14/14 06:59	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/14/14 06:59	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/14/14 06:59	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/14/14 06:59	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/14/14 06:59	127-18-4	
Toluene	**2.0**	ug/m3	1.1	1.39		09/14/14 06:59	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/14/14 06:59	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/14/14 06:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/14/14 06:59	79-00-5	
Trichloroethene	**11.9**	ug/m3	1.5	1.39		09/14/14 06:59	79-01-6	
1,2,3-Trimethylbenzene	**0.75J**	ug/m3	1.4	1.39		09/14/14 06:59	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 06:59	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 06:59	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/14/14 06:59	75-01-4	
m&p-Xylene	**1.0J**	ug/m3	2.4	1.39		09/14/14 06:59	179601-23-1	
o-Xylene	ND	ug/m3	1.2	1.39		09/14/14 06:59	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: BCK-2-17 **Lab ID: 10280465030** Collected: 09/02/14 15:11 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**2.4**	ug/m3	0.45	1.39		09/14/14 00:59	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/14/14 00:59	56-23-5	
Chlorodifluoromethane	**6.3**	ug/m3	1.0	1.39		09/14/14 00:59	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/14/14 00:59	67-66-3	
Dichlorodifluoromethane	**2.0**	ug/m3	1.4	1.39		09/14/14 00:59	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/14/14 00:59	75-34-3	
1,2-Dichloroethane	**0.71**	ug/m3	0.57	1.39		09/14/14 00:59	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 00:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 00:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 00:59	156-60-5	
Ethylbenzene	**1.7**	ug/m3	1.2	1.39		09/14/14 00:59	100-41-4	
Methylene Chloride	**1.8J**	ug/m3	4.9	1.39		09/14/14 00:59	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/14/14 00:59	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/14/14 00:59	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/14/14 00:59	127-18-4	
Toluene	**33.6**	ug/m3	1.1	1.39		09/14/14 00:59	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.1	1.39		09/14/14 00:59	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/14/14 00:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/14/14 00:59	79-00-5	
Trichloroethene	**7.9**	ug/m3	0.76	1.39		09/14/14 00:59	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 00:59	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 00:59	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.5	1.39		09/14/14 00:59	108-67-8	
Vinyl chloride	ND	ug/m3	0.72	1.39		09/14/14 00:59	75-01-4	
m&p-Xylene	**3.1**	ug/m3	2.4	1.39		09/14/14 00:59	179601-23-1	
o-Xylene	**1.5**	ug/m3	1.2	1.39		09/14/14 00:59	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: BCK-3-17 **Lab ID: 10280465031** Collected: 09/02/14 15:06 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.48**	ug/m3	0.45	1.39		09/14/14 00:12	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/14/14 00:12	56-23-5	
Chlorodifluoromethane	**2.7**	ug/m3	1.0	1.39		09/14/14 00:12	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/14/14 00:12	67-66-3	
Dichlorodifluoromethane	**1.6**	ug/m3	1.4	1.39		09/14/14 00:12	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/14/14 00:12	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/14/14 00:12	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 00:12	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 00:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 00:12	156-60-5	
Ethylbenzene	**1.1J**	ug/m3	1.2	1.39		09/14/14 00:12	100-41-4	
Methylene Chloride	**0.61J**	ug/m3	4.9	1.39		09/14/14 00:12	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/14/14 00:12	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/14/14 00:12	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/14/14 00:12	127-18-4	
Toluene	**3.0**	ug/m3	1.1	1.39		09/14/14 00:12	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.1	1.39		09/14/14 00:12	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/14/14 00:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/14/14 00:12	79-00-5	
Trichloroethene	**1.1**	ug/m3	0.76	1.39		09/14/14 00:12	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 00:12	526-73-8	
1,2,4-Trimethylbenzene	**1.0J**	ug/m3	1.4	1.39		09/14/14 00:12	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.5	1.39		09/14/14 00:12	108-67-8	
Vinyl chloride	ND	ug/m3	0.72	1.39		09/14/14 00:12	75-01-4	
m&p-Xylene	**1.8J**	ug/m3	2.4	1.39		09/14/14 00:12	179601-23-1	
o-Xylene	**1.1J**	ug/m3	1.2	1.39		09/14/14 00:12	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: BCK-4-17 **Lab ID: 10280465032** Collected: 09/02/14 15:03 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.84**	ug/m3	0.45	1.39		09/13/14 21:29	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/13/14 21:29	56-23-5	
Chlorodifluoromethane	**3.0**	ug/m3	1.0	1.39		09/13/14 21:29	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/13/14 21:29	67-66-3	
Dichlorodifluoromethane	**1.7**	ug/m3	1.4	1.39		09/13/14 21:29	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/13/14 21:29	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/13/14 21:29	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/13/14 21:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/13/14 21:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/13/14 21:29	156-60-5	
Ethylbenzene	**1.2**	ug/m3	1.2	1.39		09/13/14 21:29	100-41-4	
Methylene Chloride	**0.86J**	ug/m3	4.9	1.39		09/13/14 21:29	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/13/14 21:29	1634-04-4	
Naphthalene	**1.2J**	ug/m3	3.7	1.39		09/13/14 21:29	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/13/14 21:29	127-18-4	
Toluene	**11.5**	ug/m3	1.1	1.39		09/13/14 21:29	108-88-3	
1,2,4-Trichlorobenzene	**1.6J**	ug/m3	2.1	1.39		09/13/14 21:29	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/13/14 21:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/13/14 21:29	79-00-5	
Trichloroethene	ND	ug/m3	0.76	1.39		09/13/14 21:29	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/13/14 21:29	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/13/14 21:29	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.5	1.39		09/13/14 21:29	108-67-8	
Vinyl chloride	ND	ug/m3	0.72	1.39		09/13/14 21:29	75-01-4	
m&p-Xylene	**2.3J**	ug/m3	2.4	1.39		09/13/14 21:29	179601-23-1	
o-Xylene	**1.3**	ug/m3	1.2	1.39		09/13/14 21:29	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-015-A-17 **Lab ID: 10280465003** Collected: 09/02/14 15:38 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.8**	ug/m3	0.44	1.34		09/13/14 22:39	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/13/14 22:39	56-23-5	
Chlorodifluoromethane	**6.4**	ug/m3	0.96	1.34		09/13/14 22:39	75-45-6	
Chloroform	**0.76**	ug/m3	0.66	1.34		09/13/14 22:39	67-66-3	
Dichlorodifluoromethane	**1.8**	ug/m3	1.4	1.34		09/13/14 22:39	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/13/14 22:39	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/13/14 22:39	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 22:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 22:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 22:39	156-60-5	
Ethylbenzene	**143**	ug/m3	1.2	1.34		09/13/14 22:39	100-41-4	
Methylene Chloride	**0.91J**	ug/m3	4.7	1.34		09/13/14 22:39	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/13/14 22:39	1634-04-4	
Naphthalene	ND	ug/m3	3.6	1.34		09/13/14 22:39	91-20-3	
Tetrachloroethene	ND	ug/m3	0.92	1.34		09/13/14 22:39	127-18-4	
Toluene	**4030**	ug/m3	165	214.4		09/16/14 04:41	108-88-3	A3,IS
1,2,4-Trichlorobenzene	ND	ug/m3	2.0	1.34		09/13/14 22:39	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/13/14 22:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/13/14 22:39	79-00-5	
Trichloroethene	ND	ug/m3	0.74	1.34		09/13/14 22:39	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/13/14 22:39	526-73-8	
1,2,4-Trimethylbenzene	**1.5**	ug/m3	1.3	1.34		09/13/14 22:39	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.3	1.34		09/13/14 22:39	108-67-8	
Vinyl chloride	ND	ug/m3	0.70	1.34		09/13/14 22:39	75-01-4	
m&p-Xylene	**501**	ug/m3	377	214.4		09/16/14 04:41	179601-23-1	A3
o-Xylene	**195**	ug/m3	1.2	1.34		09/13/14 22:39	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-018-A-17 **Lab ID: 10280465001** Collected: 09/02/14 15:26 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.86**	ug/m3	0.48	1.49		09/14/14 01:22	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.95	1.49		09/14/14 01:22	56-23-5	
Chlorodifluoromethane	**3.8**	ug/m3	1.1	1.49		09/14/14 01:22	75-45-6	
Chloroform	**15.0**	ug/m3	0.74	1.49		09/14/14 01:22	67-66-3	
Dichlorodifluoromethane	**2.4**	ug/m3	1.5	1.49		09/14/14 01:22	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.49		09/14/14 01:22	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	1.49		09/14/14 01:22	107-06-2	
1,1-Dichloroethene	**3.1**	ug/m3	1.2	1.49		09/14/14 01:22	75-35-4	
cis-1,2-Dichloroethene	**0.90J**	ug/m3	1.2	1.49		09/14/14 01:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/14/14 01:22	156-60-5	
Ethylbenzene	**25.1**	ug/m3	1.3	1.49		09/14/14 01:22	100-41-4	
Methylene Chloride	**0.83J**	ug/m3	5.3	1.49		09/14/14 01:22	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.49		09/14/14 01:22	1634-04-4	
Naphthalene	ND	ug/m3	4.0	1.49		09/14/14 01:22	91-20-3	
Tetrachloroethene	ND	ug/m3	1.0	1.49		09/14/14 01:22	127-18-4	
Toluene	**373**	ug/m3	22.9	29.8		09/16/14 07:09	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.2	1.49		09/14/14 01:22	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.49		09/14/14 01:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.82	1.49		09/14/14 01:22	79-00-5	
Trichloroethene	**5.5**	ug/m3	0.82	1.49		09/14/14 01:22	79-01-6	
1,2,3-Trimethylbenzene	**1.8**	ug/m3	1.5	1.49		09/14/14 01:22	526-73-8	
1,2,4-Trimethylbenzene	**1.6**	ug/m3	1.5	1.49		09/14/14 01:22	95-63-6	
1,3,5-Trimethylbenzene	**2.1J**	ug/m3	3.7	1.49		09/14/14 01:22	108-67-8	
Vinyl chloride	ND	ug/m3	0.77	1.49		09/14/14 01:22	75-01-4	
m&p-Xylene	**107**	ug/m3	2.6	1.49		09/14/14 01:22	179601-23-1	
o-Xylene	**39.0**	ug/m3	1.3	1.49		09/14/14 01:22	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-033-B-17 **Lab ID: 10280465013** Collected: 09/02/14 16:34 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.75**	ug/m3	0.45	1.39		09/14/14 11:04	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/14/14 11:04	56-23-5	
Chlorodifluoromethane	**82.9**	ug/m3	1.0	1.39		09/14/14 11:04	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/14/14 11:04	67-66-3	
Dichlorodifluoromethane	**2.0**	ug/m3	1.4	1.39		09/14/14 11:04	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/14/14 11:04	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/14/14 11:04	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 11:04	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 11:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 11:04	156-60-5	
Ethylbenzene	**2.1**	ug/m3	1.2	1.39		09/14/14 11:04	100-41-4	
Methylene Chloride	**2.6J**	ug/m3	4.9	1.39		09/14/14 11:04	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/14/14 11:04	1634-04-4	
Naphthalene	**2.7J**	ug/m3	3.7	1.39		09/14/14 11:04	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/14/14 11:04	127-18-4	
Toluene	**33.8**	ug/m3	1.1	1.39		09/16/14 09:08	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.1	1.39		09/14/14 11:04	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/14/14 11:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/14/14 11:04	79-00-5	
Trichloroethene	**1.2**	ug/m3	0.76	1.39		09/14/14 11:04	79-01-6	
1,2,3-Trimethylbenzene	**1.3J**	ug/m3	1.4	1.39		09/14/14 11:04	526-73-8	
1,2,4-Trimethylbenzene	**1.6**	ug/m3	1.4	1.39		09/14/14 11:04	95-63-6	
1,3,5-Trimethylbenzene	**2.0J**	ug/m3	3.5	1.39		09/14/14 11:04	108-67-8	
Vinyl chloride	ND	ug/m3	0.72	1.39		09/14/14 11:04	75-01-4	
m&p-Xylene	**3.0**	ug/m3	2.4	1.39		09/16/14 09:08	179601-23-1	
o-Xylene	**0.95J**	ug/m3	1.2	1.39		09/16/14 09:08	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-075-A-17 **Lab ID: 10280465004** Collected: 09/02/14 16:22 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.47	1.44		09/13/14 23:03	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/13/14 23:03	56-23-5	
Chlorodifluoromethane	**5.3**	ug/m3	1.0	1.44		09/13/14 23:03	75-45-6	
Chloroform	ND	ug/m3	0.71	1.44		09/13/14 23:03	67-66-3	
Dichlorodifluoromethane	**2.8**	ug/m3	1.5	1.44		09/13/14 23:03	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/13/14 23:03	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/13/14 23:03	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/13/14 23:03	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/13/14 23:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/13/14 23:03	156-60-5	
Ethylbenzene	**1.5**	ug/m3	1.3	1.44		09/13/14 23:03	100-41-4	
Methylene Chloride	**0.60J**	ug/m3	5.1	1.44		09/13/14 23:03	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/13/14 23:03	1634-04-4	
Naphthalene	ND	ug/m3	3.8	1.44		09/13/14 23:03	91-20-3	
Tetrachloroethene	ND	ug/m3	0.99	1.44		09/13/14 23:03	127-18-4	
Toluene	**15.4**	ug/m3	1.1	1.44		09/16/14 13:49	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.2	1.44		09/13/14 23:03	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/13/14 23:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/13/14 23:03	79-00-5	
Trichloroethene	ND	ug/m3	0.79	1.44		09/13/14 23:03	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/13/14 23:03	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/13/14 23:03	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.6	1.44		09/13/14 23:03	108-67-8	
Vinyl chloride	ND	ug/m3	0.75	1.44		09/13/14 23:03	75-01-4	
m&p-Xylene	**3.3**	ug/m3	2.5	1.44		09/13/14 23:03	179601-23-1	
o-Xylene	**1.6**	ug/m3	1.3	1.44		09/13/14 23:03	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-076-A-17 **Lab ID: 10280465005** Collected: 09/02/14 16:15 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.93	1.44		09/14/14 09:05	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/14/14 09:05	56-23-5	
Chlorodifluoromethane	**4.5**	ug/m3	1.0	1.44		09/14/14 09:05	75-45-6	
Chloroform	ND	ug/m3	0.71	1.44		09/14/14 09:05	67-66-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.5	1.44		09/14/14 09:05	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/14/14 09:05	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/14/14 09:05	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/14/14 09:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/14/14 09:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/14/14 09:05	156-60-5	
Ethylbenzene	**1.7**	ug/m3	1.3	1.44		09/14/14 09:05	100-41-4	
Methylene Chloride	ND	ug/m3	5.1	1.44		09/14/14 09:05	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/14/14 09:05	1634-04-4	
Naphthalene	ND	ug/m3	3.8	1.44		09/14/14 09:05	91-20-3	
Tetrachloroethene	ND	ug/m3	0.99	1.44		09/14/14 09:05	127-18-4	
Toluene	**60.6**	ug/m3	1.1	1.44		09/14/14 09:05	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	109	1.44		09/14/14 09:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/14/14 09:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/14/14 09:05	79-00-5	
Trichloroethene	**2.4**	ug/m3	1.6	1.44		09/14/14 22:01	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/14/14 09:05	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/14/14 09:05	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/14/14 09:05	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/14/14 09:05	75-01-4	
m&p-Xylene	**7.0**	ug/m3	2.5	1.44		09/14/14 09:05	179601-23-1	
o-Xylene	**2.7**	ug/m3	1.3	1.44		09/14/14 09:05	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-079-A-17 **Lab ID: 10280465006** Collected: 09/02/14 15:50 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/13/14 21:47	71-43-2	
Carbon tetrachloride	**0.46J**	ug/m3	0.89	1.39		09/13/14 21:47	56-23-5	
Chlorodifluoromethane	**3.0**	ug/m3	1.0	1.39		09/13/14 21:47	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/13/14 21:47	67-66-3	
Dichlorodifluoromethane	**2.4**	ug/m3	1.4	1.39		09/13/14 21:47	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/13/14 21:47	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/13/14 21:47	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/13/14 21:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/13/14 21:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/13/14 21:47	156-60-5	
Ethylbenzene	**5.3**	ug/m3	1.2	1.39		09/13/14 21:47	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/13/14 21:47	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/13/14 21:47	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/13/14 21:47	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/13/14 21:47	127-18-4	
Toluene	**166**	ug/m3	10.7	13.9		09/14/14 22:47	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/13/14 21:47	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/13/14 21:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/13/14 21:47	79-00-5	
Trichloroethene	**2.4**	ug/m3	1.5	1.39		09/14/14 23:12	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/13/14 21:47	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/13/14 21:47	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/13/14 21:47	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/13/14 21:47	75-01-4	
m&p-Xylene	**23.0**	ug/m3	2.4	1.39		09/13/14 21:47	179601-23-1	
o-Xylene	**8.0**	ug/m3	1.2	1.39		09/13/14 21:47	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-081-A-17 **Lab ID: 10280465007** Collected: 09/02/14 16:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.50	1.55		09/14/14 11:27	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.99	1.55		09/14/14 11:27	56-23-5	
Chlorodifluoromethane	**36.0**	ug/m3	1.1	1.55		09/14/14 11:27	75-45-6	
Chloroform	ND	ug/m3	0.77	1.55		09/14/14 11:27	67-66-3	
Dichlorodifluoromethane	**1.9**	ug/m3	1.6	1.55		09/14/14 11:27	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.3	1.55		09/14/14 11:27	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.64	1.55		09/14/14 11:27	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.55		09/14/14 11:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	1.55		09/14/14 11:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.55		09/14/14 11:27	156-60-5	
Ethylbenzene	**2.8**	ug/m3	1.4	1.55		09/14/14 11:27	100-41-4	
Methylene Chloride	**1.0J**	ug/m3	5.5	1.55		09/14/14 11:27	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.55		09/14/14 11:27	1634-04-4	
Naphthalene	**1.5J**	ug/m3	4.1	1.55		09/14/14 11:27	91-20-3	SS
Tetrachloroethene	ND	ug/m3	1.1	1.55		09/14/14 11:27	127-18-4	
Toluene	**74.3**	ug/m3	1.2	1.55		09/14/14 11:27	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.3	1.55		09/14/14 11:27	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.55		09/14/14 11:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.85	1.55		09/14/14 11:27	79-00-5	
Trichloroethene	ND	ug/m3	0.85	1.55		09/14/14 11:27	79-01-6	
1,2,3-Trimethylbenzene	**1.4J**	ug/m3	1.5	1.55		09/14/14 11:27	526-73-8	
1,2,4-Trimethylbenzene	**1.5J**	ug/m3	1.5	1.55		09/14/14 11:27	95-63-6	
1,3,5-Trimethylbenzene	**1.9J**	ug/m3	3.9	1.55		09/14/14 11:27	108-67-8	
Vinyl chloride	ND	ug/m3	0.81	1.55		09/14/14 11:27	75-01-4	
m&p-Xylene	**9.8**	ug/m3	2.7	1.55		09/14/14 11:27	179601-23-1	
o-Xylene	**3.5**	ug/m3	1.4	1.55		09/14/14 11:27	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-093-A-17 **Lab ID: 10280465008** Collected: 09/02/14 15:32 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.73**	ug/m3	0.47	1.44		09/13/14 22:16	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/13/14 22:16	56-23-5	
Chlorodifluoromethane	**3.4**	ug/m3	1.0	1.44		09/13/14 22:16	75-45-6	
Chloroform	**0.73**	ug/m3	0.71	1.44		09/13/14 22:16	67-66-3	
Dichlorodifluoromethane	**2.2**	ug/m3	1.5	1.44		09/13/14 22:16	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/13/14 22:16	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/13/14 22:16	107-06-2	
1,1-Dichloroethene	**1.3**	ug/m3	1.2	1.44		09/13/14 22:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/13/14 22:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/13/14 22:16	156-60-5	
Ethylbenzene	**16.2**	ug/m3	1.3	1.44		09/13/14 22:16	100-41-4	
Methylene Chloride	**0.70J**	ug/m3	5.1	1.44		09/13/14 22:16	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/13/14 22:16	1634-04-4	
Naphthalene	**1.5J**	ug/m3	3.8	1.44		09/13/14 22:16	91-20-3	SS
Tetrachloroethene	**1.0**	ug/m3	0.99	1.44		09/13/14 22:16	127-18-4	
Toluene	**214**	ug/m3	22.2	28.8		09/16/14 04:18	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.2	1.44		09/13/14 22:16	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/13/14 22:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/13/14 22:16	79-00-5	
Trichloroethene	**9.2**	ug/m3	0.79	1.44		09/13/14 22:16	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/13/14 22:16	526-73-8	
1,2,4-Trimethylbenzene	**1.2J**	ug/m3	1.4	1.44		09/13/14 22:16	95-63-6	
1,3,5-Trimethylbenzene	**1.8J**	ug/m3	3.6	1.44		09/13/14 22:16	108-67-8	
Vinyl chloride	**0.45J**	ug/m3	0.75	1.44		09/13/14 22:16	75-01-4	
m&p-Xylene	**71.5**	ug/m3	2.5	1.44		09/13/14 22:16	179601-23-1	
o-Xylene	**26.4**	ug/m3	1.3	1.44		09/13/14 22:16	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-095-A-17 **Lab ID: 10280465009** Collected: 09/02/14 16:28 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.44	1.34		09/13/14 23:49	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/13/14 23:49	56-23-5	
Chlorodifluoromethane	**129**	ug/m3	0.96	1.34		09/16/14 09:33	75-45-6	
Chloroform	ND	ug/m3	0.66	1.34		09/13/14 23:49	67-66-3	
Dichlorodifluoromethane	**1.9**	ug/m3	1.4	1.34		09/13/14 23:49	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/13/14 23:49	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/13/14 23:49	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 23:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 23:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 23:49	156-60-5	
Ethylbenzene	**1.2**	ug/m3	1.2	1.34		09/13/14 23:49	100-41-4	
Methylene Chloride	**0.66J**	ug/m3	4.7	1.34		09/13/14 23:49	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/13/14 23:49	1634-04-4	
Naphthalene	ND	ug/m3	3.6	1.34		09/13/14 23:49	91-20-3	
Tetrachloroethene	ND	ug/m3	0.92	1.34		09/13/14 23:49	127-18-4	
Toluene	**19.2**	ug/m3	1.0	1.34		09/13/14 23:49	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.0	1.34		09/13/14 23:49	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/13/14 23:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/13/14 23:49	79-00-5	
Trichloroethene	ND	ug/m3	0.74	1.34		09/13/14 23:49	79-01-6	
1,2,3-Trimethylbenzene	**1.2J**	ug/m3	1.3	1.34		09/13/14 23:49	526-73-8	
1,2,4-Trimethylbenzene	**1.2J**	ug/m3	1.3	1.34		09/13/14 23:49	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.3	1.34		09/13/14 23:49	108-67-8	
Vinyl chloride	ND	ug/m3	0.70	1.34		09/13/14 23:49	75-01-4	
m&p-Xylene	**2.3J**	ug/m3	2.4	1.34		09/13/14 23:49	179601-23-1	
o-Xylene	**1.2**	ug/m3	1.2	1.34		09/13/14 23:49	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-117-A-17 **Lab ID: 10280465010** Collected: 09/02/14 15:49 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/14/14 07:48	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/14/14 07:48	56-23-5	
Chlorodifluoromethane	**3.6**	ug/m3	1.0	1.39		09/14/14 07:48	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/14/14 07:48	67-66-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.4	1.39		09/14/14 07:48	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/14/14 07:48	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/14/14 07:48	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 07:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 07:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 07:48	156-60-5	
Ethylbenzene	**5.4**	ug/m3	1.2	1.39		09/14/14 07:48	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/14/14 07:48	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/14/14 07:48	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/14/14 07:48	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/14/14 07:48	127-18-4	
Toluene	**109**	ug/m3	11.5	14.9		09/15/14 04:25	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/14/14 07:48	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/14/14 07:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/14/14 07:48	79-00-5	
Trichloroethene	**11.2**	ug/m3	1.5	1.39		09/14/14 07:48	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 07:48	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 07:48	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 07:48	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/14/14 07:48	75-01-4	
m&p-Xylene	**25.8**	ug/m3	2.4	1.39		09/14/14 07:48	179601-23-1	
o-Xylene	**8.7**	ug/m3	1.2	1.39		09/14/14 07:48	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-118-A-17 **Lab ID: 10280465011** Collected: 09/02/14 15:53 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.73**	ug/m3	0.44	1.34		09/13/14 23:26	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/13/14 23:26	56-23-5	
Chlorodifluoromethane	**10.6**	ug/m3	0.96	1.34		09/13/14 23:26	75-45-6	
Chloroform	ND	ug/m3	0.66	1.34		09/13/14 23:26	67-66-3	
Dichlorodifluoromethane	**2.3**	ug/m3	1.4	1.34		09/13/14 23:26	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/13/14 23:26	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/13/14 23:26	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 23:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 23:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 23:26	156-60-5	
Ethylbenzene	**10.5**	ug/m3	1.2	1.34		09/13/14 23:26	100-41-4	
Methylene Chloride	ND	ug/m3	4.7	1.34		09/13/14 23:26	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/13/14 23:26	1634-04-4	
Naphthalene	ND	ug/m3	3.6	1.34		09/13/14 23:26	91-20-3	
Tetrachloroethene	ND	ug/m3	0.92	1.34		09/13/14 23:26	127-18-4	
Toluene	**60.0**	ug/m3	5.2	6.8		09/16/14 03:34	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.0	1.34		09/13/14 23:26	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/13/14 23:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/13/14 23:26	79-00-5	
Trichloroethene	**1.6**	ug/m3	0.74	1.34		09/13/14 23:26	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/13/14 23:26	526-73-8	
1,2,4-Trimethylbenzene	**1.6**	ug/m3	1.3	1.34		09/13/14 23:26	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.3	1.34		09/13/14 23:26	108-67-8	
Vinyl chloride	ND	ug/m3	0.70	1.34		09/13/14 23:26	75-01-4	
m&p-Xylene	**41.6**	ug/m3	2.4	1.34		09/13/14 23:26	179601-23-1	
o-Xylene	**13.9**	ug/m3	1.2	1.34		09/13/14 23:26	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-121-B-17 **Lab ID: 10280465014** Collected: 09/02/14 16:38 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.97	1.49		09/12/14 00:39	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.95	1.49		09/12/14 00:39	56-23-5	
Chlorodifluoromethane	**3.6**	ug/m3	1.1	1.49		09/12/14 00:39	75-45-6	
Chloroform	ND	ug/m3	0.74	1.49		09/12/14 00:39	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.5	1.49		09/12/14 00:39	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.49		09/12/14 00:39	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	1.49		09/12/14 00:39	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		09/12/14 00:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/12/14 00:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/12/14 00:39	156-60-5	
Ethylbenzene	**1.5**	ug/m3	1.3	1.49		09/12/14 00:39	100-41-4	
Methylene Chloride	**0.67J**	ug/m3	5.3	1.49		09/12/14 00:39	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.49		09/12/14 00:39	1634-04-4	
Naphthalene	ND	ug/m3	4.0	1.49		09/12/14 00:39	91-20-3	
Tetrachloroethene	ND	ug/m3	1.0	1.49		09/12/14 00:39	127-18-4	
Toluene	**56.2**	ug/m3	1.1	1.49		09/12/14 00:39	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	112	1.49		09/12/14 00:39	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.49		09/12/14 00:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.82	1.49		09/12/14 00:39	79-00-5	
Trichloroethene	ND	ug/m3	1.6	1.49		09/12/14 00:39	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/12/14 00:39	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/12/14 00:39	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/12/14 00:39	108-67-8	
Vinyl chloride	ND	ug/m3	0.39	1.49		09/12/14 00:39	75-01-4	
m&p-Xylene	**5.4**	ug/m3	2.6	1.49		09/12/14 00:39	179601-23-1	
o-Xylene	**2.3**	ug/m3	1.3	1.49		09/12/14 00:39	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-136-A-17 **Lab ID: 10280465012** Collected: 09/02/14 16:10 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/14/14 07:24	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/14/14 07:24	56-23-5	
Chlorodifluoromethane	**3.3**	ug/m3	1.0	1.39		09/14/14 07:24	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/14/14 07:24	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.4	1.39		09/14/14 07:24	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/14/14 07:24	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/14/14 07:24	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 07:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 07:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/14/14 07:24	156-60-5	
Ethylbenzene	**1.0J**	ug/m3	1.2	1.39		09/14/14 07:24	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/14/14 07:24	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/14/14 07:24	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/14/14 07:24	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/14/14 07:24	127-18-4	
Toluene	**33.8**	ug/m3	1.1	1.39		09/14/14 07:24	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/14/14 07:24	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/14/14 07:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/14/14 07:24	79-00-5	
Trichloroethene	**9.1**	ug/m3	1.5	1.39		09/14/14 07:24	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 07:24	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 07:24	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/14/14 07:24	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/14/14 07:24	75-01-4	
m&p-Xylene	**4.0**	ug/m3	2.4	1.39		09/14/14 07:24	179601-23-1	
o-Xylene	**1.3**	ug/m3	1.2	1.39		09/14/14 07:24	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-138-A-17 **Lab ID: 10280465002** Collected: 09/02/14 15:30 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.87	1.34		09/11/14 23:50	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/11/14 23:50	56-23-5	
Chlorodifluoromethane	**1.1**	ug/m3	0.96	1.34		09/11/14 23:50	75-45-6	
Chloroform	ND	ug/m3	0.66	1.34		09/11/14 23:50	67-66-3	
Dichlorodifluoromethane	**2.8**	ug/m3	1.4	1.34		09/11/14 23:50	75-71-8	
1,1-Dichloroethane	**0.62J**	ug/m3	1.1	1.34		09/11/14 23:50	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/11/14 23:50	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/11/14 23:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/11/14 23:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/11/14 23:50	156-60-5	
Ethylbenzene	**12.8**	ug/m3	1.2	1.34		09/11/14 23:50	100-41-4	
Methylene Chloride	ND	ug/m3	4.7	1.34		09/11/14 23:50	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/11/14 23:50	1634-04-4	
Naphthalene	**13.7**	ug/m3	3.6	1.34		09/11/14 23:50	91-20-3	CH,SS
Tetrachloroethene	ND	ug/m3	0.92	1.34		09/11/14 23:50	127-18-4	
Toluene	**229**	ug/m3	10.3	13.4		09/14/14 17:11	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	101	1.34		09/11/14 23:50	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/11/14 23:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/11/14 23:50	79-00-5	
Trichloroethene	**5.5**	ug/m3	1.5	1.34		09/11/14 23:50	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/11/14 23:50	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/11/14 23:50	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/11/14 23:50	108-67-8	
Vinyl chloride	ND	ug/m3	0.35	1.34		09/11/14 23:50	75-01-4	
m&p-Xylene	**59.8**	ug/m3	2.4	1.34		09/11/14 23:50	179601-23-1	
o-Xylene	**24.5**	ug/m3	1.2	1.34		09/11/14 23:50	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-140-B-17 **Lab ID: 10280465015** Collected: 09/02/14 16:44 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.97	1.49		09/14/14 09:30	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.95	1.49		09/14/14 09:30	56-23-5	
Chlorodifluoromethane	**4.0**	ug/m3	1.1	1.49		09/14/14 09:30	75-45-6	
Chloroform	ND	ug/m3	0.74	1.49		09/14/14 09:30	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.5	1.49		09/14/14 09:30	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.49		09/14/14 09:30	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	1.49		09/14/14 09:30	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		09/14/14 09:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/14/14 09:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/14/14 09:30	156-60-5	
Ethylbenzene	**1.7**	ug/m3	1.3	1.49		09/14/14 09:30	100-41-4	
Methylene Chloride	ND	ug/m3	5.3	1.49		09/14/14 09:30	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.49		09/14/14 09:30	1634-04-4	
Naphthalene	ND	ug/m3	4.0	1.49		09/14/14 09:30	91-20-3	
Tetrachloroethene	ND	ug/m3	1.0	1.49		09/14/14 09:30	127-18-4	
Toluene	**69.5**	ug/m3	1.1	1.49		09/14/14 09:30	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	112	1.49		09/14/14 09:30	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.49		09/14/14 09:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.82	1.49		09/14/14 09:30	79-00-5	
Trichloroethene	**2.5**	ug/m3	1.6	1.49		09/14/14 22:25	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/14/14 09:30	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/14/14 09:30	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/14/14 09:30	108-67-8	
Vinyl chloride	ND	ug/m3	0.39	1.49		09/14/14 09:30	75-01-4	
m&p-Xylene	**6.1**	ug/m3	2.6	1.49		09/14/14 09:30	179601-23-1	
o-Xylene	**2.3**	ug/m3	1.3	1.49		09/14/14 09:30	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-DUP1-A-17 **Lab ID: 10280465016** Collected: 09/02/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.1**	ug/m3	0.48	1.49		09/14/14 10:17	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.95	1.49		09/14/14 10:17	56-23-5	
Chlorodifluoromethane	**4.5**	ug/m3	1.1	1.49		09/14/14 10:17	75-45-6	
Chloroform	**14.8**	ug/m3	0.74	1.49		09/14/14 10:17	67-66-3	
Dichlorodifluoromethane	**1.5J**	ug/m3	1.5	1.49		09/14/14 10:17	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.49		09/14/14 10:17	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	1.49		09/14/14 10:17	107-06-2	
1,1-Dichloroethene	**3.5**	ug/m3	1.2	1.49		09/14/14 10:17	75-35-4	
cis-1,2-Dichloroethene	**0.85J**	ug/m3	1.2	1.49		09/14/14 10:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/14/14 10:17	156-60-5	
Ethylbenzene	**27.0**	ug/m3	1.3	1.49		09/14/14 10:17	100-41-4	
Methylene Chloride	**1.6J**	ug/m3	5.3	1.49		09/14/14 10:17	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.49		09/14/14 10:17	1634-04-4	
Naphthalene	**9.8**	ug/m3	4.0	1.49		09/14/14 10:17	91-20-3	SS
Tetrachloroethene	ND	ug/m3	1.0	1.49		09/14/14 10:17	127-18-4	
Toluene	**425**	ug/m3	22.9	29.8		09/16/14 07:31	108-88-3	IS
1,2,4-Trichlorobenzene	**2.2J**	ug/m3	2.2	1.49		09/14/14 10:17	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.49		09/14/14 10:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.82	1.49		09/14/14 10:17	79-00-5	
Trichloroethene	**4.8**	ug/m3	0.82	1.49		09/14/14 10:17	79-01-6	
1,2,3-Trimethylbenzene	**1.4J**	ug/m3	1.5	1.49		09/14/14 10:17	526-73-8	
1,2,4-Trimethylbenzene	**1.3J**	ug/m3	1.5	1.49		09/14/14 10:17	95-63-6	
1,3,5-Trimethylbenzene	**2.2J**	ug/m3	3.7	1.49		09/14/14 10:17	108-67-8	
Vinyl chloride	ND	ug/m3	0.77	1.49		09/14/14 10:17	75-01-4	
m&p-Xylene	**117**	ug/m3	2.6	1.49		09/14/14 10:17	179601-23-1	
o-Xylene	**39.3**	ug/m3	1.3	1.49		09/14/14 10:17	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-DUP2-A-17 **Lab ID: 10280465017** Collected: 09/02/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**2.0**	ug/m3	0.44	1.34		09/14/14 10:41	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/14/14 10:41	56-23-5	
Chlorodifluoromethane	**8.0**	ug/m3	0.96	1.34		09/14/14 10:41	75-45-6	
Chloroform	**0.76**	ug/m3	0.66	1.34		09/14/14 10:41	67-66-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.4	1.34		09/14/14 10:41	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/14/14 10:41	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/14/14 10:41	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/14/14 10:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/14/14 10:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/14/14 10:41	156-60-5	
Ethylbenzene	**149**	ug/m3	1.2	1.34		09/14/14 10:41	100-41-4	
Methylene Chloride	ND	ug/m3	4.7	1.34		09/14/14 10:41	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/14/14 10:41	1634-04-4	
Naphthalene	**1.6J**	ug/m3	3.6	1.34		09/14/14 10:41	91-20-3	SS
Tetrachloroethene	**1.8**	ug/m3	0.92	1.34		09/14/14 10:41	127-18-4	
Toluene	**4390**	ug/m3	165	214.4		09/16/14 08:44	108-88-3	IS
1,2,4-Trichlorobenzene	ND	ug/m3	2.0	1.34		09/14/14 10:41	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/14/14 10:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/14/14 10:41	79-00-5	
Trichloroethene	ND	ug/m3	0.74	1.34		09/14/14 10:41	79-01-6	
1,2,3-Trimethylbenzene	**1.2J**	ug/m3	1.3	1.34		09/14/14 10:41	526-73-8	
1,2,4-Trimethylbenzene	**1.5**	ug/m3	1.3	1.34		09/14/14 10:41	95-63-6	
1,3,5-Trimethylbenzene	**2.0J**	ug/m3	3.3	1.34		09/14/14 10:41	108-67-8	
Vinyl chloride	ND	ug/m3	0.70	1.34		09/14/14 10:41	75-01-4	
m&p-Xylene	**533**	ug/m3	377	214.4		09/16/14 08:44	179601-23-1	
o-Xylene	**202**	ug/m3	189	214.4		09/16/14 08:44	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-075-A-17 **Lab ID: 10280465028** Collected: 09/02/14 09:30 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.74		09/14/14 08:13	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		09/14/14 08:13	56-23-5	
Chlorodifluoromethane	**9.6**	ug/m3	1.3	1.74		09/14/14 08:13	75-45-6	
Chloroform	ND	ug/m3	0.86	1.74		09/14/14 08:13	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.8	1.74		09/14/14 08:13	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.74		09/14/14 08:13	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		09/14/14 08:13	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		09/14/14 08:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/14/14 08:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/14/14 08:13	156-60-5	
Ethylbenzene	**1.2J**	ug/m3	1.5	1.74		09/14/14 08:13	100-41-4	
Methylene Chloride	ND	ug/m3	6.1	1.74		09/14/14 08:13	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/14/14 08:13	1634-04-4	
Naphthalene	**384**	ug/m3	46.3	17.4		09/15/14 02:50	91-20-3	CH,SS
Tetrachloroethene	**0.78J**	ug/m3	1.2	1.74		09/14/14 08:13	127-18-4	
Toluene	**11.0**	ug/m3	1.3	1.74		09/14/14 08:13	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/14/14 08:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.74		09/14/14 08:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/14/14 08:13	79-00-5	
Trichloroethene	**14.3**	ug/m3	1.9	1.74		09/14/14 08:13	79-01-6	
1,2,3-Trimethylbenzene	**16.2**	ug/m3	1.7	1.74		09/14/14 08:13	526-73-8	
1,2,4-Trimethylbenzene	**51.2**	ug/m3	1.7	1.74		09/14/14 08:13	95-63-6	
1,3,5-Trimethylbenzene	**23.2**	ug/m3	1.7	1.74		09/14/14 08:13	108-67-8	
Vinyl chloride	ND	ug/m3	0.45	1.74		09/14/14 08:13	75-01-4	
m&p-Xylene	**4.7**	ug/m3	3.1	1.74		09/14/14 08:13	179601-23-1	
o-Xylene	**4.2**	ug/m3	1.5	1.74		09/14/14 08:13	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-076-A-17 **Lab ID: 10280465024** Collected: 09/02/14 09:27 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.2	1.8		09/13/14 21:22	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.8		09/13/14 21:22	56-23-5	
Chlorodifluoromethane	**6.0**	ug/m3	1.3	1.8		09/13/14 21:22	75-45-6	
Chloroform	ND	ug/m3	0.89	1.8		09/13/14 21:22	67-66-3	
Dichlorodifluoromethane	**4.6**	ug/m3	1.8	1.8		09/13/14 21:22	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	1.8		09/13/14 21:22	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.74	1.8		09/13/14 21:22	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.8		09/13/14 21:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		09/13/14 21:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		09/13/14 21:22	156-60-5	
Ethylbenzene	**3.9**	ug/m3	1.6	1.8		09/13/14 21:22	100-41-4	
Methylene Chloride	**2.1J**	ug/m3	6.4	1.8		09/13/14 21:22	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.8		09/13/14 21:22	1634-04-4	
Naphthalene	**162**	ug/m3	4.8	1.8		09/13/14 21:22	91-20-3	CH,SS
Tetrachloroethene	**1.3**	ug/m3	1.2	1.8		09/13/14 21:22	127-18-4	
Toluene	**112**	ug/m3	1.4	1.8		09/13/14 21:22	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	136	1.8		09/13/14 21:22	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.0	1.8		09/13/14 21:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.99	1.8		09/13/14 21:22	79-00-5	
Trichloroethene	**8.1**	ug/m3	2.0	1.8		09/14/14 20:16	79-01-6	
1,2,3-Trimethylbenzene	**21.2**	ug/m3	1.8	1.8		09/13/14 21:22	526-73-8	
1,2,4-Trimethylbenzene	**41.5**	ug/m3	1.8	1.8		09/13/14 21:22	95-63-6	
1,3,5-Trimethylbenzene	**15.3**	ug/m3	1.8	1.8		09/13/14 21:22	108-67-8	
Vinyl chloride	ND	ug/m3	0.47	1.8		09/13/14 21:22	75-01-4	
m&p-Xylene	**17.5**	ug/m3	3.2	1.8		09/13/14 21:22	179601-23-1	
o-Xylene	**7.6**	ug/m3	1.6	1.8		09/13/14 21:22	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-079-A-17 **Lab ID: 10280465022** Collected: 09/02/14 10:05 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.68		09/14/14 08:40	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/14/14 08:40	56-23-5	
Chlorodifluoromethane	**2.6**	ug/m3	1.2	1.68		09/14/14 08:40	75-45-6	
Chloroform	ND	ug/m3	0.83	1.68		09/14/14 08:40	67-66-3	
Dichlorodifluoromethane	**3.3**	ug/m3	1.7	1.68		09/14/14 08:40	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		09/14/14 08:40	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/14/14 08:40	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		09/14/14 08:40	75-35-4	
cis-1,2-Dichloroethene	**11.3**	ug/m3	1.4	1.68		09/14/14 08:40	156-59-2	
trans-1,2-Dichloroethene	**2.3**	ug/m3	1.4	1.68		09/14/14 08:40	156-60-5	
Ethylbenzene	**28.9**	ug/m3	1.5	1.68		09/14/14 08:40	100-41-4	
Methylene Chloride	**6.3**	ug/m3	5.9	1.68		09/14/14 08:40	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/14/14 08:40	1634-04-4	
Naphthalene	ND	ug/m3	4.5	1.68		09/14/14 08:40	91-20-3	
Tetrachloroethene	**1.4**	ug/m3	1.2	1.68		09/14/14 08:40	127-18-4	
Toluene	**535**	ug/m3	25.9	33.6		09/15/14 04:02	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/14/14 08:40	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		09/14/14 08:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/14/14 08:40	79-00-5	
Trichloroethene	**33.8**	ug/m3	1.8	1.68		09/14/14 08:40	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/14/14 08:40	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/14/14 08:40	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/14/14 08:40	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		09/14/14 08:40	75-01-4	
m&p-Xylene	**132**	ug/m3	3.0	1.68		09/14/14 08:40	179601-23-1	
o-Xylene	**52.0**	ug/m3	1.5	1.68		09/14/14 08:40	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-081-A-17 **Lab ID: 10280465021** Collected: 09/02/14 10:11 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.4**	ug/m3	1.3	1.94		09/14/14 06:10	71-43-2	
Carbon tetrachloride	**0.67J**	ug/m3	1.2	1.94		09/14/14 06:10	56-23-5	
Chlorodifluoromethane	**23.9**	ug/m3	1.4	1.94		09/14/14 06:10	75-45-6	
Chloroform	ND	ug/m3	0.96	1.94		09/14/14 06:10	67-66-3	
Dichlorodifluoromethane	**3.5**	ug/m3	2.0	1.94		09/14/14 06:10	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.6	1.94		09/14/14 06:10	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.80	1.94		09/14/14 06:10	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.6	1.94		09/14/14 06:10	75-35-4	
cis-1,2-Dichloroethene	**0.96J**	ug/m3	1.6	1.94		09/14/14 06:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.6	1.94		09/14/14 06:10	156-60-5	
Ethylbenzene	**4.2**	ug/m3	1.7	1.94		09/14/14 06:10	100-41-4	
Methylene Chloride	**2.0J**	ug/m3	6.8	1.94		09/14/14 06:10	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.94		09/14/14 06:10	1634-04-4	
Naphthalene	**265**	ug/m3	5.2	1.94		09/14/14 06:10	91-20-3	CH,SS
Tetrachloroethene	**5.0**	ug/m3	1.3	1.94		09/14/14 06:10	127-18-4	
Toluene	**14.5**	ug/m3	1.5	1.94		09/14/14 06:10	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	146	1.94		09/14/14 06:10	120-82-1	
1,1,1-Trichloroethane	**8.8**	ug/m3	2.2	1.94		09/14/14 06:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.1	1.94		09/14/14 06:10	79-00-5	
Trichloroethene	**6.1**	ug/m3	2.1	1.94		09/15/14 00:02	79-01-6	
1,2,3-Trimethylbenzene	**3560**	ug/m3	96.9	97		09/14/14 23:34	526-73-8	
1,2,4-Trimethylbenzene	**241**	ug/m3	96.9	97		09/14/14 23:34	95-63-6	
1,3,5-Trimethylbenzene	**3490**	ug/m3	96.9	97		09/14/14 23:34	108-67-8	
Vinyl chloride	ND	ug/m3	0.50	1.94		09/14/14 06:10	75-01-4	
m&p-Xylene	**37.4**	ug/m3	3.4	1.94		09/14/14 06:10	179601-23-1	
o-Xylene	**32.8**	ug/m3	1.7	1.94		09/14/14 06:10	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-095-A-17 **Lab ID: 10280465025** Collected: 09/02/14 09:36 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.3**	ug/m3	1.1	1.74		09/13/14 20:57	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		09/13/14 20:57	56-23-5	
Chlorodifluoromethane	**83.1**	ug/m3	1.3	1.74		09/13/14 20:57	75-45-6	
Chloroform	ND	ug/m3	0.86	1.74		09/13/14 20:57	67-66-3	
Dichlorodifluoromethane	**3.2**	ug/m3	1.8	1.74		09/13/14 20:57	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.74		09/13/14 20:57	75-34-3	
1,2-Dichloroethane	**1.2**	ug/m3	0.71	1.74		09/13/14 20:57	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		09/13/14 20:57	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/13/14 20:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		09/13/14 20:57	156-60-5	
Ethylbenzene	**1.8**	ug/m3	1.5	1.74		09/13/14 20:57	100-41-4	
Methylene Chloride	**7.9**	ug/m3	6.1	1.74		09/13/14 20:57	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/13/14 20:57	1634-04-4	
Naphthalene	**115**	ug/m3	4.6	1.74		09/13/14 20:57	91-20-3	CH,SS
Tetrachloroethene	**1.5**	ug/m3	1.2	1.74		09/13/14 20:57	127-18-4	
Toluene	**37.5**	ug/m3	1.3	1.74		09/13/14 20:57	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/13/14 20:57	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.74		09/13/14 20:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/13/14 20:57	79-00-5	
Trichloroethene	**6.9**	ug/m3	1.9	1.74		09/14/14 20:42	79-01-6	
1,2,3-Trimethylbenzene	**8.9**	ug/m3	1.7	1.74		09/13/14 20:57	526-73-8	
1,2,4-Trimethylbenzene	**5.6**	ug/m3	1.7	1.74		09/13/14 20:57	95-63-6	
1,3,5-Trimethylbenzene	**6.3**	ug/m3	1.7	1.74		09/13/14 20:57	108-67-8	
Vinyl chloride	ND	ug/m3	0.45	1.74		09/13/14 20:57	75-01-4	
m&p-Xylene	**4.5**	ug/m3	3.1	1.74		09/13/14 20:57	179601-23-1	
o-Xylene	**1.6**	ug/m3	1.5	1.74		09/13/14 20:57	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-100-B-17 **Lab ID: 10280465027** Collected: 09/02/14 09:51 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.2	1.87		09/13/14 23:02	71-43-2	
Carbon tetrachloride	**22.4**	ug/m3	1.2	1.87		09/13/14 23:02	56-23-5	
Chlorodifluoromethane	**3.2**	ug/m3	1.3	1.87		09/13/14 23:02	75-45-6	
Chloroform	**9.4**	ug/m3	0.93	1.87		09/13/14 23:02	67-66-3	
Dichlorodifluoromethane	**4.4**	ug/m3	1.9	1.87		09/13/14 23:02	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	1.87		09/13/14 23:02	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.77	1.87		09/13/14 23:02	107-06-2	
1,1-Dichloroethene	**6.4**	ug/m3	1.5	1.87		09/13/14 23:02	75-35-4	
cis-1,2-Dichloroethene	**2.0**	ug/m3	1.5	1.87		09/13/14 23:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.87		09/13/14 23:02	156-60-5	
Ethylbenzene	**0.86J**	ug/m3	1.6	1.87		09/13/14 23:02	100-41-4	
Methylene Chloride	**1.2J**	ug/m3	6.6	1.87		09/13/14 23:02	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.87		09/13/14 23:02	1634-04-4	
Naphthalene	ND	ug/m3	5.0	1.87		09/13/14 23:02	91-20-3	
Tetrachloroethene	**5.3**	ug/m3	1.3	1.87		09/13/14 23:02	127-18-4	
Toluene	**9.8**	ug/m3	1.4	1.87		09/13/14 23:02	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	141	1.87		09/13/14 23:02	120-82-1	
1,1,1-Trichloroethane	**2.8**	ug/m3	2.1	1.87		09/13/14 23:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.0	1.87		09/13/14 23:02	79-00-5	
Trichloroethene	**29.9**	ug/m3	2.0	1.87		09/14/14 21:08	79-01-6	
1,2,3-Trimethylbenzene	**5.3**	ug/m3	1.9	1.87		09/13/14 23:02	526-73-8	
1,2,4-Trimethylbenzene	**4.8**	ug/m3	1.9	1.87		09/13/14 23:02	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.9	1.87		09/13/14 23:02	108-67-8	
Vinyl chloride	ND	ug/m3	0.49	1.87		09/13/14 23:02	75-01-4	
m&p-Xylene	**2.8J**	ug/m3	3.3	1.87		09/13/14 23:02	179601-23-1	
o-Xylene	**1.3J**	ug/m3	1.6	1.87		09/13/14 23:02	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-101-B-17 **Lab ID: 10280465026** Collected: 09/02/14 09:42 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.2	1.87		09/14/14 10:19	71-43-2	
Carbon tetrachloride	**3.0**	ug/m3	1.2	1.87		09/14/14 10:19	56-23-5	
Chlorodifluoromethane	**5.1**	ug/m3	1.3	1.87		09/14/14 10:19	75-45-6	
Chloroform	ND	ug/m3	0.93	1.87		09/14/14 10:19	67-66-3	
Dichlorodifluoromethane	**8.1**	ug/m3	1.9	1.87		09/14/14 10:19	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	1.87		09/14/14 10:19	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.77	1.87		09/14/14 10:19	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.87		09/14/14 10:19	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	1.87		09/14/14 10:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.87		09/14/14 10:19	156-60-5	
Ethylbenzene	**1.3J**	ug/m3	1.6	1.87		09/14/14 10:19	100-41-4	
Methylene Chloride	**4.3J**	ug/m3	6.6	1.87		09/14/14 10:19	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.87		09/14/14 10:19	1634-04-4	
Naphthalene	**7.7**	ug/m3	5.0	1.87		09/14/14 10:19	91-20-3	CH,SS
Tetrachloroethene	**50.8**	ug/m3	1.3	1.87		09/14/14 10:19	127-18-4	
Toluene	**19.3**	ug/m3	1.4	1.87		09/14/14 10:19	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	141	1.87		09/14/14 10:19	120-82-1	
1,1,1-Trichloroethane	**167**	ug/m3	2.1	1.87		09/14/14 10:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.0	1.87		09/14/14 10:19	79-00-5	
Trichloroethene	**88.8**	ug/m3	2.0	1.87		09/14/14 10:19	79-01-6	
1,2,3-Trimethylbenzene	**6.6**	ug/m3	1.9	1.87		09/14/14 10:19	526-73-8	
1,2,4-Trimethylbenzene	**9.9**	ug/m3	1.9	1.87		09/14/14 10:19	95-63-6	
1,3,5-Trimethylbenzene	**4.6**	ug/m3	1.9	1.87		09/14/14 10:19	108-67-8	
Vinyl chloride	ND	ug/m3	0.49	1.87		09/14/14 10:19	75-01-4	
m&p-Xylene	**4.4**	ug/m3	3.3	1.87		09/14/14 10:19	179601-23-1	
o-Xylene	**2.4**	ug/m3	1.6	1.87		09/14/14 10:19	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-118-A-17 **Lab ID: 10280465020** Collected: 09/02/14 10:08 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**2.4**	ug/m3	1.2	1.87		09/13/14 22:36	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.2	1.87		09/13/14 22:36	56-23-5	
Chlorodifluoromethane	**8.6**	ug/m3	1.3	1.87		09/13/14 22:36	75-45-6	
Chloroform	**34.6**	ug/m3	0.93	1.87		09/13/14 22:36	67-66-3	
Dichlorodifluoromethane	**3.2**	ug/m3	1.9	1.87		09/13/14 22:36	75-71-8	
1,1-Dichloroethane	**110**	ug/m3	1.5	1.87		09/13/14 22:36	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.77	1.87		09/13/14 22:36	107-06-2	
1,1-Dichloroethene	**1220**	ug/m3	75.7	93.5		09/15/14 15:15	75-35-4	IS
cis-1,2-Dichloroethene	**365**	ug/m3	75.7	93.5		09/15/14 15:15	156-59-2	IS
trans-1,2-Dichloroethene	**19.8**	ug/m3	1.5	1.87		09/13/14 22:36	156-60-5	
Ethylbenzene	**26.4**	ug/m3	1.6	1.87		09/13/14 22:36	100-41-4	
Methylene Chloride	**17.2**	ug/m3	6.6	1.87		09/13/14 22:36	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.4	1.87		09/13/14 22:36	1634-04-4	
Naphthalene	**22.8**	ug/m3	5.0	1.87		09/13/14 22:36	91-20-3	CH,SS
Tetrachloroethene	**1.8**	ug/m3	1.3	1.87		09/13/14 22:36	127-18-4	
Toluene	**47.3**	ug/m3	1.4	1.87		09/13/14 22:36	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	141	1.87		09/13/14 22:36	120-82-1	
1,1,1-Trichloroethane	**43.8**	ug/m3	2.1	1.87		09/13/14 22:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.0	1.87		09/13/14 22:36	79-00-5	
Trichloroethene	**4980**	ug/m3	102	93.5		09/15/14 15:15	79-01-6	IS
1,2,3-Trimethylbenzene	**14.3**	ug/m3	1.9	1.87		09/13/14 22:36	526-73-8	
1,2,4-Trimethylbenzene	**30.9**	ug/m3	1.9	1.87		09/13/14 22:36	95-63-6	
1,3,5-Trimethylbenzene	**19.5**	ug/m3	1.9	1.87		09/13/14 22:36	108-67-8	
Vinyl chloride	**4.0**	ug/m3	0.49	1.87		09/13/14 22:36	75-01-4	
m&p-Xylene	**167**	ug/m3	3.3	1.87		09/13/14 22:36	179601-23-1	
o-Xylene	**80.4**	ug/m3	1.6	1.87		09/13/14 22:36	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-136-A-17 **Lab ID: 10280465023** Collected: 09/02/14 09:13 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**3.7**	ug/m3	1.1	1.74		09/13/14 20:08	71-43-2	
Carbon tetrachloride	**0.63J**	ug/m3	1.1	1.74		09/13/14 20:08	56-23-5	
Chlorodifluoromethane	**9.5**	ug/m3	1.3	1.74		09/13/14 20:08	75-45-6	
Chloroform	**208**	ug/m3	0.86	1.74		09/13/14 20:08	67-66-3	
Dichlorodifluoromethane	**3.3**	ug/m3	1.8	1.74		09/13/14 20:08	75-71-8	
1,1-Dichloroethane	**1.3J**	ug/m3	1.4	1.74		09/13/14 20:08	75-34-3	
1,2-Dichloroethane	**0.38J**	ug/m3	0.71	1.74		09/13/14 20:08	107-06-2	
1,1-Dichloroethene	**0.95J**	ug/m3	1.4	1.74		09/13/14 20:08	75-35-4	
cis-1,2-Dichloroethene	**19.3**	ug/m3	1.4	1.74		09/13/14 20:08	156-59-2	
trans-1,2-Dichloroethene	**10.4**	ug/m3	1.4	1.74		09/13/14 20:08	156-60-5	
Ethylbenzene	**1.5J**	ug/m3	1.5	1.74		09/13/14 20:08	100-41-4	
Methylene Chloride	**24.7**	ug/m3	6.1	1.74		09/13/14 20:08	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/13/14 20:08	1634-04-4	
Naphthalene	**15.2**	ug/m3	4.6	1.74		09/13/14 20:08	91-20-3	CH,SS
Tetrachloroethene	**10.9**	ug/m3	1.2	1.74		09/13/14 20:08	127-18-4	
Toluene	**30.5**	ug/m3	1.3	1.74		09/13/14 20:08	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/13/14 20:08	120-82-1	
1,1,1-Trichloroethane	**1.7J**	ug/m3	1.9	1.74		09/13/14 20:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/13/14 20:08	79-00-5	
Trichloroethene	**19900**	ug/m3	608	556.8		09/15/14 15:59	79-01-6	A3,IS
1,2,3-Trimethylbenzene	**4.8**	ug/m3	1.7	1.74		09/13/14 20:08	526-73-8	
1,2,4-Trimethylbenzene	**8.6**	ug/m3	1.7	1.74		09/13/14 20:08	95-63-6	
1,3,5-Trimethylbenzene	**3.0**	ug/m3	1.7	1.74		09/13/14 20:08	108-67-8	
Vinyl chloride	ND	ug/m3	0.45	1.74		09/13/14 20:08	75-01-4	
m&p-Xylene	**6.0**	ug/m3	3.1	1.74		09/13/14 20:08	179601-23-1	
o-Xylene	**3.1**	ug/m3	1.5	1.74		09/13/14 20:08	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-DUP1-A-17 **Lab ID: 10280465018** Collected: 09/02/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**5.4**	ug/m3	1.1	1.74		09/13/14 20:33	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		09/13/14 20:33	56-23-5	
Chlorodifluoromethane	**12.7**	ug/m3	1.3	1.74		09/13/14 20:33	75-45-6	
Chloroform	**231J**	ug/m3	276	556.8		09/15/14 15:37	67-66-3	A3,IS
Dichlorodifluoromethane	**2.9**	ug/m3	1.8	1.74		09/13/14 20:33	75-71-8	
1,1-Dichloroethane	**1.9**	ug/m3	1.4	1.74		09/13/14 20:33	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		09/13/14 20:33	107-06-2	
1,1-Dichloroethene	**1.2J**	ug/m3	1.4	1.74		09/13/14 20:33	75-35-4	
cis-1,2-Dichloroethene	**27.8**	ug/m3	1.4	1.74		09/13/14 20:33	156-59-2	
trans-1,2-Dichloroethene	**16.4**	ug/m3	1.4	1.74		09/13/14 20:33	156-60-5	
Ethylbenzene	**2.2**	ug/m3	1.5	1.74		09/13/14 20:33	100-41-4	
Methylene Chloride	**1.4J**	ug/m3	6.1	1.74		09/13/14 20:33	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		09/13/14 20:33	1634-04-4	
Naphthalene	**25.1**	ug/m3	4.6	1.74		09/13/14 20:33	91-20-3	CH,SS
Tetrachloroethene	**15.4**	ug/m3	1.2	1.74		09/13/14 20:33	127-18-4	
Toluene	**24.0**	ug/m3	1.3	1.74		09/13/14 20:33	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	131	1.74		09/13/14 20:33	120-82-1	
1,1,1-Trichloroethane	**2.8**	ug/m3	1.9	1.74		09/13/14 20:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		09/13/14 20:33	79-00-5	
Trichloroethene	**42200**	ug/m3	608	556.8		09/15/14 15:37	79-01-6	A3,IS
1,2,3-Trimethylbenzene	**7.1**	ug/m3	1.7	1.74		09/13/14 20:33	526-73-8	
1,2,4-Trimethylbenzene	**14.0**	ug/m3	1.7	1.74		09/13/14 20:33	95-63-6	
1,3,5-Trimethylbenzene	**4.7**	ug/m3	1.7	1.74		09/13/14 20:33	108-67-8	
Vinyl chloride	ND	ug/m3	0.45	1.74		09/13/14 20:33	75-01-4	
m&p-Xylene	**6.7**	ug/m3	3.1	1.74		09/13/14 20:33	179601-23-1	
o-Xylene	**3.1**	ug/m3	1.5	1.74		09/13/14 20:33	95-47-6	

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(612)607-1700

ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: SV-DUP2-A-17 **Lab ID: 10280465019** Collected: 09/02/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**ND**	ug/m3	1.1	1.68		09/14/14 09:54	71-43-2	
Carbon tetrachloride	**0.56J**	ug/m3	1.1	1.68		09/14/14 09:54	56-23-5	
Chlorodifluoromethane	**3.3**	ug/m3	1.2	1.68		09/14/14 09:54	75-45-6	
Chloroform	**ND**	ug/m3	0.83	1.68		09/14/14 09:54	67-66-3	
Dichlorodifluoromethane	**3.5**	ug/m3	1.7	1.68		09/14/14 09:54	75-71-8	
1,1-Dichloroethane	**ND**	ug/m3	1.4	1.68		09/14/14 09:54	75-34-3	
1,2-Dichloroethane	**ND**	ug/m3	0.69	1.68		09/14/14 09:54	107-06-2	
1,1-Dichloroethene	**ND**	ug/m3	1.4	1.68		09/14/14 09:54	75-35-4	
cis-1,2-Dichloroethene	**1.6**	ug/m3	1.4	1.68		09/14/14 09:54	156-59-2	
trans-1,2-Dichloroethene	**ND**	ug/m3	1.4	1.68		09/14/14 09:54	156-60-5	
Ethylbenzene	**30.5**	ug/m3	1.5	1.68		09/14/14 09:54	100-41-4	
Methylene Chloride	**2.6J**	ug/m3	5.9	1.68		09/14/14 09:54	75-09-2	
Methyl-tert-butyl ether	**ND**	ug/m3	1.2	1.68		09/14/14 09:54	1634-04-4	
Naphthalene	**ND**	ug/m3	4.5	1.68		09/14/14 09:54	91-20-3	
Tetrachloroethene	**1.0J**	ug/m3	1.2	1.68		09/14/14 09:54	127-18-4	
Toluene	**729**	ug/m3	25.9	33.6		09/15/14 03:40	108-88-3	
1,2,4-Trichlorobenzene	**ND**	ug/m3	127	1.68		09/14/14 09:54	120-82-1	
1,1,1-Trichloroethane	**ND**	ug/m3	1.9	1.68		09/14/14 09:54	71-55-6	
1,1,2-Trichloroethane	**ND**	ug/m3	0.92	1.68		09/14/14 09:54	79-00-5	
Trichloroethene	**12.9**	ug/m3	1.8	1.68		09/14/14 09:54	79-01-6	
1,2,3-Trimethylbenzene	**ND**	ug/m3	1.7	1.68		09/14/14 09:54	526-73-8	
1,2,4-Trimethylbenzene	**ND**	ug/m3	1.7	1.68		09/14/14 09:54	95-63-6	
1,3,5-Trimethylbenzene	**ND**	ug/m3	1.7	1.68		09/14/14 09:54	108-67-8	
Vinyl chloride	**ND**	ug/m3	0.44	1.68		09/14/14 09:54	75-01-4	
m&p-Xylene	**146**	ug/m3	3.0	1.68		09/14/14 09:54	179601-23-1	
o-Xylene	**55.5**	ug/m3	1.5	1.68		09/14/14 09:54	95-47-6	

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Appendix C

Support Documentation

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PROJECT NARRATIVE

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: September 17, 2014

General Information:
32 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/21284

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- IA-138-A-17 (Lab ID: 10280465002)
  - Naphthalene
- LCS (Lab ID: 1786623)
  - 1,2,4-Trichlorobenzene
  - Naphthalene

QC Batch: AIR/21304

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- LCS (Lab ID: 1788456)
  - 1,2,4-Trichlorobenzene
  - Naphthalene
- SV-075-A-17 (Lab ID: 10280465028)
  - Naphthalene
- SV-076-A-17 (Lab ID: 10280465024)
  - Naphthalene
- SV-081-A-17 (Lab ID: 10280465021)
  - Naphthalene
- SV-095-A-17 (Lab ID: 10280465025)
  - Naphthalene
- SV-101-B-17 (Lab ID: 10280465026)
  - Naphthalene
- SV-118-A-17 (Lab ID: 10280465020)
  - Naphthalene
- SV-136-A-17 (Lab ID: 10280465023)
  - Naphthalene
- SV-DUP1-A-17 (Lab ID: 10280465018)
  - Naphthalene

QC Batch: AIR/21307

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- BCK-4-17 (Lab ID: 10280465032)
  - Naphthalene
- IA-033-B-17 (Lab ID: 10280465013)

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PROJECT NARRATIVE

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: September 17, 2014

QC Batch: AIR/21307

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- Naphthalene
- IA-081-A-17 (Lab ID: 10280465007)
  - Naphthalene
- IA-093-A-17 (Lab ID: 10280465008)
  - Naphthalene
- IA-DUP1-A-17 (Lab ID: 10280465016)
  - Naphthalene
- IA-DUP2-A-17 (Lab ID: 10280465017)
  - Naphthalene
- LCS (Lab ID: 1788482)
  - Naphthalene

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/21284

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- IA-138-A-17 (Lab ID: 10280465002)
  - Naphthalene
- LCS (Lab ID: 1786623)
  - 1,2,4-Trichlorobenzene
  - Naphthalene

QC Batch: AIR/21304

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 1788456)
  - 1,2,4-Trichlorobenzene
  - Naphthalene
- SV-075-A-17 (Lab ID: 10280465028)
  - Naphthalene
- SV-076-A-17 (Lab ID: 10280465024)
  - Naphthalene
- SV-081-A-17 (Lab ID: 10280465021)
  - Naphthalene
- SV-095-A-17 (Lab ID: 10280465025)
  - Naphthalene
- SV-101-B-17 (Lab ID: 10280465026)
  - Naphthalene
- SV-118-A-17 (Lab ID: 10280465020)
  - Naphthalene
- SV-136-A-17 (Lab ID: 10280465023)
  - Naphthalene
- SV-DUP1-A-17 (Lab ID: 10280465018)

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PROJECT NARRATIVE

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: September 17, 2014

QC Batch: AIR/21304

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- Naphthalene

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

QC Batch: AIR/21304

IS: The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value.

- SV-118-A-17 (Lab ID: 10280465020)
  - 1,1-Dichloroethene
  - Trichloroethene
  - cis-1,2-Dichloroethene
- SV-136-A-17 (Lab ID: 10280465023)
  - Trichloroethene
- SV-DUP1-A-17 (Lab ID: 10280465018)
  - Chloroform
  - Trichloroethene

QC Batch: AIR/21307

IS: The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value.

- IA-015-A-17 (Lab ID: 10280465003)
  - Toluene
- IA-DUP1-A-17 (Lab ID: 10280465016)
  - Toluene
- IA-DUP2-A-17 (Lab ID: 10280465017)
  - Toluene

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: AIR/21284

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- LCS (Lab ID: 1786623)
  - 1,2,4-Trichlorobenzene

QC Batch: AIR/21304

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- LCS (Lab ID: 1788456)
  - 1,2,4-Trichlorobenzene

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PROJECT NARRATIVE

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: September 17, 2014

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/21304

A3: The sample was analyzed by serial dilution.

- SV-136-A-17 (Lab ID: 10280465023)
  - Trichloroethene
- SV-DUP1-A-17 (Lab ID: 10280465018)
  - Chloroform
  - Trichloroethene

QC Batch: AIR/21307

A3: The sample was analyzed by serial dilution.

- IA-015-A-17 (Lab ID: 10280465003)
  - m&p-Xylene
  - Toluene

This data package has been reviewed for quality and completeness and is approved for release.

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QUALIFIERS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

A3	The sample was analyzed by serial dilution.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
IS	The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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SAMPLE SUMMARY

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10280465001	IA-018-A-17	Air	09/02/14 15:26	09/08/14 09:30
10280465002	IA-138-A-17	Air	09/02/14 15:30	09/08/14 09:30
10280465003	IA-015-A-17	Air	09/02/14 15:38	09/08/14 09:30
10280465004	IA-075-A-17	Air	09/02/14 16:22	09/08/14 09:30
10280465005	IA-076-A-17	Air	09/02/14 16:15	09/08/14 09:30
10280465006	IA-079-A-17	Air	09/02/14 15:50	09/08/14 09:30
10280465007	IA-081-A-17	Air	09/02/14 16:00	09/08/14 09:30
10280465008	IA-093-A-17	Air	09/02/14 15:32	09/08/14 09:30
10280465009	IA-095-A-17	Air	09/02/14 16:28	09/08/14 09:30
10280465010	IA-117-A-17	Air	09/02/14 15:49	09/08/14 09:30
10280465011	IA-118-A-17	Air	09/02/14 15:53	09/08/14 09:30
10280465012	IA-136-A-17	Air	09/02/14 16:10	09/08/14 09:30
10280465013	IA-033-B-17	Air	09/02/14 16:34	09/08/14 09:30
10280465014	IA-121-B-17	Air	09/02/14 16:38	09/08/14 09:30
10280465015	IA-140-B-17	Air	09/02/14 16:44	09/08/14 09:30
10280465016	IA-DUP1-A-17	Air	09/02/14 00:00	09/08/14 09:30
10280465017	IA-DUP2-A-17	Air	09/02/14 00:00	09/08/14 09:30
10280465018	SV-DUP1-A-17	Air	09/02/14 00:00	09/08/14 09:30
10280465019	SV-DUP2-A-17	Air	09/02/14 00:00	09/08/14 09:30
10280465020	SV-118-A-17	Air	09/02/14 10:08	09/08/14 09:30
10280465021	SV-081-A-17	Air	09/02/14 10:11	09/08/14 09:30
10280465022	SV-079-A-17	Air	09/02/14 10:05	09/08/14 09:30
10280465023	SV-136-A-17	Air	09/02/14 09:13	09/08/14 09:30
10280465024	SV-076-A-17	Air	09/02/14 09:27	09/08/14 09:30
10280465025	SV-095-A-17	Air	09/02/14 09:36	09/08/14 09:30
10280465026	SV-101-B-17	Air	09/02/14 09:42	09/08/14 09:30
10280465027	SV-100-B-17	Air	09/02/14 09:51	09/08/14 09:30
10280465028	SV-075-A-17	Air	09/02/14 09:30	09/08/14 09:30
10280465029	BCK-1-17	Air	09/02/14 15:13	09/08/14 09:30
10280465030	BCK-2-17	Air	09/02/14 15:11	09/08/14 09:30
10280465031	BCK-3-17	Air	09/02/14 15:06	09/08/14 09:30
10280465032	BCK-4-17	Air	09/02/14 15:03	09/08/14 09:30

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10280465

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

09771

Page: 1 of 3

Section A Required Client Information:
Company: TETRA TECH
Address: 20251 CENTURY BLVD, STE 200 GERMANTOWN, MD 20874
Email To: tony.apanavage@tetratech.com
Phone: 5012338230 Fax:
Requested Due Date/TAT: STANDARD

Section B Required Project Information:
Report To:
Copy To:
Purchase Order No.:
Project Name: MRC SV/IAQ
Project Number: 112IC06279

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST, Superfund, Emissions, Clean Air Act, Voluntary Clean Up, Dry Clean, RCRA, Other

Location of Sampling by State: MD

Reporting Units: ug/m³, mg/m³, PPBV, PPMV, Other

Report Level: II. III. IV. Other

Valid Media Codes: MEDIA / CODE — Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	Section D Required Client Information: AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START END/GRAB DATE	TIME	COMPOSITE - DATE	TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	1A-018-A-17	6LC		9/2/14	0726	9/2/14	1526	-30	-5	2160	0357							X			001
2	1A-138-A-17				0730		1530	-30	0	2137	0216							X			002
3	1A-015-A-17				0738		1538	-30	0	1251	0041							X			003
4	1A-075-A-17				0802		1622	-29	-1	2179	1057							X			004
5	1A-076-A-17				0815		1615	-30	-1	2331	0062							X			005
6	1A-079-A-17				0750		1550	-30	0	0843	0323							X			006
7	1A-081-A-17				0800		1600	-25	-1	2820	1034							X			007
8	1A-093-A-17				0732		1532	-30	-2	1639	0322							X			008
9	1A-095-A-17				0828		1628	-20	0	1062	1055							X			009
10	1A-117-A-17				0749		1549	-29	0	0576	0312							X			010
11	1A-118-A-17				0753		1553	-30	0	0632	0278							X			011
12	1A-136-A-17				0810		1610	-30	-2	0581	0286							X			012

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
TT	9/3/14	1200	Pace	9/8/14	0930

SAMPLE CONDITIONS

	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
AMB		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: TONY APANAVAGE
SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY): 9/2/14

ORIGINAL

10280465

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

09762

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: TETRA TECH	Report To:	Attention:
Address:	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: MRC SV/IAQ	Pace Project Manager/Sales Rep.
Requested Due Date/TAT:	Project Number:	Pace Profile #:

Program: UST, Superfund, Emissions, Clean Air Act, Voluntary Clean Up, Dry Clean, RCRA, Other____

Location of Sampling by State: MD

Reporting Units: ug/m³___ mg/m³___ PPBV___ PPMV___ Other___

Report Level: II.___ III.___ IV.___ Other____

'Section D Required Client Information

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED: COMPOSITE START END/GRAB DATE	TIME	COMPOSITE - DATE	TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	Method: PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	1A-033-B-17	6LC		9/2/14	0834	9/2/14	1634	-30	-2	0720	0214							X			013
2	1A-121-B-17				0838		1638	-30	-1	2101	1065							X			014
3	1A-140-B-17				0844		1644	-30	-5	2684	0249							X			015
4	1A-DUP1-A-17				—		—	—	—	1554	—							X			016
5	1A-DUP2-A-17				—		—	—	—	2805	—							X			017
6	SV-DUP1-A-17	1LC			—		—	—	—	2436	—							X			018
7	SV-DUP2-A-17				—		—	—	—	0916	—							X			019
8	SV-118-A-17				0908		1008	-30	-2	2413	0115							X			020
9	SV-081-A-17				0911		1011	-30	-4	2771	0606							X			021
10	SV-079-A-17				0905		1005	-30	0	2614	0048							X			022
11	SV-136-A-17				0813		0913	-30	-1	1774	0607							X			023
12	SV-076-A-17				0817		0927	-30	-3	0995	0054							X			024

Comments:

SV-079-A-17 POSSIBLE FAULTY SEAL ON FITTING OF SPLITTER - IMMEDIATE PRESSURE DROP - VERIFY VOLUME/SAMPLE IN CAN - POSSIBLE RESAMPLE CANDIDATE.

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
TT	9/3/14	1200	Pace	9/4/14	0930	Amb

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: TONY APANAVAGE

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 9/2/14

ORIGINAL

10280465

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

09772

Section A Required Client Information:
Company: TETRATECH
Address:
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:
Report To:
Copy To:
Purchase Order No.:
Project Name: MRCSV/IAQ
Project Number:

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST, Superfund, Emissions, Clean Air Act, Voluntary Clean Up, Dry Clean, RCRA, Other

Location of Sampling by State: MD

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level II.___ III.___ IV.___ Other_____

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	Section D Required Client Information: AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Composite Start End/Grab DATE	TIME	Composite - DATE	TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	SV-095-A-17	1LC		9/2/14	0827	9/2/14	0936	-29	-1	1796	0268							K			025
2	SV-101-B-17				0840		0942	-29	-4	1011	0043							K			026
3	SV-100-B-17				0851		0951	-20	-2	1131	0036							K			027
4	SV-075-A-17				0823		0930	-30	0	1775	0112							K			028
5	BCK-1-17	6LC		9/2/14	0713	9/2/14	1513	-30	0	2145	0328							K			029
6	BCK-2-17				0711		1511	-28	0	1277	0431							K			030
7	BCK-3-17				0706		1506	-30	0	2034	0026							K			031
8	BCK-4-17				0703		1503	-30	0	1612	0404							K			032
9																					
10																					
11																					
12																					

9/2/14

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
TB	9/3/14	1200	Pace	9/3/14	0930

SAMPLE CONDITIONS

	Received on Ice	Custody Sealed Cooler	Samples Intact
Amb	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
Temp in °C	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: TONY APANAVAGE
SIGNATURE of SAMPLER:
DATE Signed (MM/DD/YY): 9/2/14

ORIGINAL

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: tetra tech

Project #: **WO# : 10280465**

10280465

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: on other sheet

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No Seals Intact? ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other: Temp Blank rec: ☐ Yes ☑ No

Temp. (TO17 and TO13 samples only) (°C): — Corrected Temp (°C): — Thermom. Used: ☐ B88A912167504 ☐ B88A9132521491 ☐ 72337080 ☐ 80512447

Temp should be above freezing to 6°C Correction Factor: — Date & Initials of Person Examining Contents: 9/8/14

Type of Ice Received ☐ Blue ☐ Wet ☑ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: air can				11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
IA-018	2160 / 0357	IA-118	0632 / 0270	SV-081	2771 / 0606
IA-138	2137 / 0216	IA-136	0581 / 0286	SV-079	2614 / 0048
IA-015	1251 / 0041	IA-033	0720 / 0214	SV-136	1774 / 0607
IA-075	2179 / 1057	IA-121	2101 / 1065	SV-076	0995 / 0054
IA-076	2331 / 0062	IA-140	2684 / 0249	SV-095	1796 / 0268
IA-079	0843 / 0323	IA-Dup1	1554 / —	SV-101	1011 / 0043
IA-081	2820 / 1034	IA-Dup2	2805 / —	SV-100	1131 / 0056
IA-093	1639 / 0322	SV-Dup1	2436 / —	SV-075	1775 / 0112
IA-095	1062 / 1055	SV-Dup2	0916 / —	BLK-1	2145 / 0328
IA-117	0576 / 0312	SV-118	2413 / 0115	BLK-2	1277 / 0431

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Date: 9/8/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

HOLDTIME

SDG 10280465

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	IA-076-A-17	10280465005	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	BCK-1-17	10280465029	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	IA-121-B-17	10280465014	NM	09/02/2014	09/12/2014	09/12/2014	10	0	10
OV	UG/M3	IA-118-A-17	10280465011	NM	09/02/2014	09/16/2014	09/16/2014	14	0	14
OV	UG/M3	IA-118-A-17	10280465011	NM	09/02/2014	09/13/2014	09/13/2014	11	0	11
OV	UG/M3	IA-117-A-17	10280465010	NM	09/02/2014	09/15/2014	09/15/2014	13	0	13
OV	UG/M3	IA-117-A-17	10280465010	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	IA-095-A-17	10280465009	NM	09/02/2014	09/16/2014	09/16/2014	14	0	14
OV	UG/M3	IA-095-A-17	10280465009	NM	09/02/2014	09/13/2014	09/13/2014	11	0	11
OV	UG/M3	IA-093-A-17	10280465008	NM	09/02/2014	09/16/2014	09/16/2014	14	0	14
OV	UG/M3	IA-093-A-17	10280465008	NM	09/02/2014	09/13/2014	09/13/2014	11	0	11
OV	UG/M3	IA-081-A-17	10280465007	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	IA-138-A-17	10280465002	NM	09/02/2014	09/11/2014	09/11/2014	9	0	9
OV	UG/M3	IA-079-A-17	10280465006	NM	09/02/2014	09/13/2014	09/13/2014	11	0	11
OV	UG/M3	IA-138-A-17	10280465002	NM	09/02/2014	09/14/2014	09/14/2014	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	IA-075-A-17	10280465004	NM	09/02/2014	09/16/2014	09/16/2014	14	0	14
OV	UG/M3	IA-075-A-17	10280465004	NM	09/02/2014	09/13/2014	09/13/2014	11	0	11
OV	UG/M3	IA-033-B-17	10280465013	NM	09/02/2014	09/16/2014	09/16/2014	14	0	14
OV	UG/M3	IA-033-B-17	10280465013	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	IA-018-A-17	10280465001	NM	09/02/2014	09/16/2014	09/16/2014	14	0	14
OV	UG/M3	IA-018-A-17	10280465001	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	IA-015-A-17	10280465003	NM	09/02/2014	09/16/2014	09/16/2014	14	0	14
OV	UG/M3	IA-015-A-17	10280465003	NM	09/02/2014	09/13/2014	09/13/2014	11	0	11
OV	UG/M3	BCK-4-17	10280465032	NM	09/02/2014	09/13/2014	09/13/2014	11	0	11
OV	UG/M3	BCK-3-17	10280465031	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	BCK-2-17	10280465030	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	IA-079-A-17	10280465006	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	SV-081-A-17	10280465021	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	SV-DUP2-A-17	10280465019	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	SV-DUP1-A-17	10280465018	NM	09/02/2014	09/15/2014	09/15/2014	13	0	13
OV	UG/M3	SV-DUP1-A-17	10280465018	NM	09/02/2014	09/13/2014	09/13/2014	11	0	11
OV	UG/M3	SV-136-A-17	10280465023	NM	09/02/2014	09/15/2014	09/15/2014	13	0	13
OV	UG/M3	SV-136-A-17	10280465023	NM	09/02/2014	09/13/2014	09/13/2014	11	0	11

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	SV-118-A-17	10280465020	NM	09/02/2014	09/15/2014	09/15/2014	13	0	13
OV	UG/M3	SV-118-A-17	10280465020	NM	09/02/2014	09/13/2014	09/13/2014	11	0	11
OV	UG/M3	SV-101-B-17	10280465026	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	SV-100-B-17	10280465027	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	SV-100-B-17	10280465027	NM	09/02/2014	09/13/2014	09/13/2014	11	0	11
OV	UG/M3	SV-095-A-17	10280465025	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	IA-136-A-17	10280465012	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	SV-081-A-17	10280465021	NM	09/02/2014	09/15/2014	09/15/2014	13	0	13
OV	UG/M3	SV-DUP2-A-17	10280465019	NM	09/02/2014	09/15/2014	09/15/2014	13	0	13
OV	UG/M3	SV-079-A-17	10280465022	NM	09/02/2014	09/15/2014	09/15/2014	13	0	13
OV	UG/M3	SV-079-A-17	10280465022	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	SV-076-A-17	10280465024	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	SV-076-A-17	10280465024	NM	09/02/2014	09/13/2014	09/13/2014	11	0	11
OV	UG/M3	SV-075-A-17	10280465028	NM	09/02/2014	09/15/2014	09/15/2014	13	0	13
OV	UG/M3	SV-075-A-17	10280465028	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	IA-DUP2-A-17	10280465017	NM	09/02/2014	09/16/2014	09/16/2014	14	0	14
OV	UG/M3	IA-DUP2-A-17	10280465017	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	IA-DUP1-A-17	10280465016	NM	09/02/2014	09/16/2014	09/16/2014	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	IA-DUP1-A-17	10280465016	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	IA-140-B-17	10280465015	NM	09/02/2014	09/14/2014	09/14/2014	12	0	12
OV	UG/M3	SV-095-A-17	10280465025	NM	09/02/2014	09/13/2014	09/13/2014	11	0	11

Field Duplicate Precision

ANALYTE	SV-DUP1-A-17	SV-136-A-17	RPD	DIFFERENCE
1,1,1-TRICHLOROETHANE	2.8	1.7	48.89	1.1
1,1-DICHLOROETHANE	1.9	1.3	37.50	0.6
1,1-DICHLOROETHENE	1.2	0.95	23.26	0.25
1,2,3-TRIMETHYLBENZENE	7.1	4.8	38.66	2.3
1,2,4-TRIMETHYLBENZENE	14	8.6	47.79	5.4
1,2-DICHLOROETHANE	ND	0.38	200.00	0.33
1,3,5-TRIMETHYLBENZENE	4.7	3	44.16	1.7
BENZENE	5.4	3.7	37.36	1.7
CARBON TETRACHLORIDE	ND	0.63	200.00	0.47
CHLORODIFLUOROMETHANE	12.7	9.5	28.83	3.2
CHLOROFORM	231	208	10.48	23
CIS-1,2-DICHLOROETHENE	27.8	19.3	36.09	8.5
DICHLORODIFLUOROMETHANE	2.9	3.3	12.90	0.4
ETHYLBENZENE	2.2	1.5	37.84	0.7
M+P-XYLENES	6.7	6	11.02	0.7
METHYLENE CHLORIDE	1.4	24.7	178.54	23.3
NAPHTHALENE	25.1	15.2	49.13	9.9
O-XYLENE	3.1	3.1	0.00	0
TETRACHLOROETHENE	15.4	10.9	34.22	4.5
TOLUENE	24	30.5	23.85	6.5
TRANS-1,2-DICHLOROETHENE	16.4	10.4	44.78	6
TRICHLOROETHENE	42200	19900	71.82	22300

Field Duplicate Precision

ANALYTE	SV-DUP2-A-17	SV-079-A-17	RPD	DIFFERENCE
CARBON TETRACHLORIDE	0.56	ND	200.00	0.54
CHLORODIFLUOROMETHANE	3.3	2.6	23.73	0.7
CIS-1,2-DICHLOROETHENE	1.6	11.3	150.39	9.7
DICHLORODIFLUOROMETHANE	3.5	3.3	5.88	0.2
ETHYLBENZENE	30.5	28.9	5.39	1.6
M+P-XYLENES	146	132	10.07	14
METHYLENE CHLORIDE	2.6	6.3	83.15	3.7
O-XYLENE	55.5	52	6.51	3.5
TETRACHLOROETHENE	1	1.4	33.33	0.4
TOLUENE	729	535	30.70	194
TRANS-1,2-DICHLOROETHENE	ND	2.3	200.00	0.9
TRICHLOROETHENE	12.9	33.8	89.51	20.9

Field Duplicate Precision

ANALYTE	IA-DUP1-A-17	IA-018-A-17	RPD	DIFFERENCE
1,1-DICHLOROETHENE	3.5	3.1	12.12	0.4
1,2,4-TRICHLOROBENZENE	2.2	ND	200.00	0
1,2,3-TRIMETHYLBENZENE	1.4	1.8	25.00	0.4
1,2,4-TRIMETHYLBENZENE	1.3	1.6	20.69	0.3
1,3,5-TRIMETHYLBENZENE	2.2	2.1	4.65	0.1
BENZENE	1.1	0.86	24.49	0.24
CHLORODIFLUOROMETHANE	4.5	3.8	16.87	0.7
CHLOROFORM	14.8	15	1.34	0.2
CIS-1,2-DICHLOROETHENE	0.85	0.9	5.71	0.05
DICHLORODIFLUOROMETHANE	1.5	2.4	46.15	0.9
ETHYLBENZENE	27	25.1	7.29	1.9
M+P-XYLENES	117	107	8.93	10
METHYLENE CHLORIDE	1.6	0.83	63.37	0.77
NAPHTHALENE	9.8	ND	200.00	5.8
O-XYLENE	39.3	39	0.77	0.3
TOLUENE	425	373	13.03	52
TRICHLOROETHENE	4.8	5.5	13.59	0.7

Field Duplicate Precision

ANALYTE	IA-DUP2-A-17	IA-015-A-17	RPD	DIFFERENCE
1,2,3-TRIMETHYLBENZENE	1.2	ND	200.00	0.1
1,2,4-TRIMETHYLBENZENE	1.5	1.5	0.00	0
1,3,5-TRIMETHYLBENZENE	2	ND	200.00	1.3
BENZENE	2	1.8	10.53	0.2
CHLORODIFLUOROMETHANE	8	6.4	22.22	1.6
CHLOROFORM	0.76	0.76	0.00	0
DICHLORODIFLUOROMETHANE	2.7	1.8	40.00	0.9
ETHYLBENZENE	149	143	4.11	6
M+P-XYLENES	533	501	6.19	32
METHYLENE CHLORIDE	ND	0.91	200.00	3.79
NAPHTHALENE	1.6	ND	200.00	2
O-XYLENE	202	195	3.53	7
TETRACHLOROETHENE	1.8	ND	200.00	0.88
TOLUENE	4390	4030	8.55	360

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280465
Lab File ID: 25604BFB.D BFB Injection Date: 09/13/2014
Instrument ID: 10AIR7 BFB Injection Time: 14:01
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	16.86	
75	30.00 - 66.00% of mass 95	57.55	
96	5.00 - 9.00% of mass 95	6.58	
173	Less than 2.00% of mass 174	1.16	(0.98)
174	50.00 - 120.00% of mass 95	118.55	
175	4.00 - 9.00% of mass 174	7.36	(6.21)
176	93.00 - 101.00% of mass 174	114.19	(96.32)
177	5.00 - 9.00% of mass 176	7.79	(6.82)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CAL1	CAL1	25605.D	09/13/2014	14:23
2	CAL2	CAL2	25606.D	09/13/2014	14:44
3	CAL3	CAL3	25607.D	09/13/2014	15:05
4	CAL4	CAL4	25608.D	09/13/2014	15:27
5	CAL5	CAL5	25609.D	09/13/2014	15:48
6	CAL6	CAL6	25610.D	09/13/2014	16:11
7	CAL7	CAL7	25611.D	09/13/2014	16:35
8	ICV+ (LCS)	ICV+	25613.D	09/13/2014	17:18
9	LCS (LCS)	LCS	25614.D	09/13/2014	17:39
10	BCK-4-17	10280465032	25624.D	09/13/2014	21:29
11	IA-093-A-17	10280465008	25626.D	09/13/2014	22:16
12	IA-015-A-17	10280465003	25627.D	09/13/2014	22:39
13	IA-075-A-17	10280465004	25628.D	09/13/2014	23:03
14	IA-118-A-17	10280465011	25629.D	09/13/2014	23:26
15	IA-095-A-17	10280465009	25630.D	09/13/2014	23:49
16	BCK-3-17	10280465031	25631.D	09/14/2014	00:12
17	BCK-3-17(1782885DUP)	1789974-DUP	25632.D	09/14/2014	00:36
18	BCK-2-17	10280465030	25633.D	09/14/2014	00:59
19	IA-018-A-17	10280465001	25634.D	09/14/2014	01:22
20	IA-DUP1-A-17	10280465016	25636.D	09/14/2014	10:17
21	IA-DUP2-A-17	10280465017	25637.D	09/14/2014	10:41
22	IA-033-B-17	10280465013	25638.D	09/14/2014	11:04
23	IA-081-A-17	10280465007	25639.D	09/14/2014	11:27

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Method file : \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
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Calibration File Names:
Level 1: \\192.168.10.12\chem\10air7.i\091314.b\25605.D
Level 2: \\192.168.10.12\chem\10air7.i\091314.b\25606.D
Level 3: \\192.168.10.12\chem\10air7.i\091314.b\25607.D
Level 4: \\192.168.10.12\chem\10air7.i\091314.b\25608.D
Level 5: \\192.168.10.12\chem\10air7.i\091314.b\25609.D
Level 6: \\192.168.10.12\chem\10air7.i\091314.b\25610.D
Level 7: \\192.168.10.12\chem\10air7.i\091314.b\25611.D

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
1 Chlorodifluoromethane	0.37830	0.55706	0.48393	0.51715	0.49757	0.50210					
	0.48338						AVRG		0.48850		11.20608
2 Propylene	+++++	0.13104	0.11793	0.10643	0.13728	0.14258					
	0.14361						AVRG		0.12981		11.41892
3 Dichlorodifluoromethane	+++++	1.31841	1.39517	1.44496	1.35018	1.22375					
	0.99455						AVRG		1.28784		12.57601
4 Dichlorotetrafluoroethane	0.68422	1.04470	1.09349	1.09706	1.04107	1.03995					
	0.97991						AVRG		0.99720		14.38743

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
5 Chloromethane	+++++	0.32398	0.32449	0.34989	0.31393	0.30542					
	0.28595						AVRG		0.31728		6.75067
6 Vinyl chloride	652	2077	5687	13877	162840	340571					
	531932						QUAD	-0.00305	0.29188	0.00059	0.99996
7 1,3-Butadiene	349	972	3586	9448	101294	222811					
	332102						LINR	0.00812	5.39169		0.99898
8 Bromomethane	0.28318	0.34315	0.35555	0.36928	0.37141	0.38663					
	0.38014						AVRG		0.35562		9.87642
9 Chloroethane	+++++	0.11208	0.12633	0.12339	0.12300	0.12426					
	0.12484						AVRG		0.12232		4.21290
10 Ethanol	152	480	1612	3378	48839	103545					
	155175						LINR	0.00957	11.52688		0.99925
11 Vinyl Bromide	+++++	0.37204	0.35221	0.38845	0.40210	0.41817					
	0.41016						AVRG		0.39052		6.37338

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
12 Isopentane	0.18470	0.20890	0.26409	0.24484	0.22467	0.22793					
	0.21660						AVRG		0.22453		11.32971
13 Acrolein	+++++	261	1253	3402	37847	78196					
	124853						LINR	0.01778	14.57437		0.99988
14 Trichlorofluoromethane	+++++	1.83484	1.66311	1.68626	1.57883	1.51732					
	1.41309						AVRG		1.61557		9.06911
15 Acetone	+++++	+++++	21448	56548	296972	501954					
	765172						LINR	-0.14679	2.46671		0.99519
16 Isopropyl Alcohol	+++++	0.31355	0.32970	0.35519	0.38649	0.38959					
	0.35534						AVRG		0.35498		8.49538
17 Acrylonitrile	+++++	975	3736	8599	92437	204568					
	303563						LINR	0.00694	5.89448		0.99867
18 1,1-Dichloroethene	+++++	0.48332	0.51150	0.53685	0.50912	0.51592					
	0.48920						AVRG		0.50765		3.81003

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
19 Tert Butyl Alcohol (TBA)	+++++	0.56920	0.57410	0.62168	0.66056	0.65093					
	0.57112						AVRG		0.60793		6.90383
20 Freon 113	+++++	0.83540	0.83291	0.83772	0.80518	0.80178					
	0.76091						AVRG		0.81232		3.65482
21 Methylene chloride	0.23790	0.32348	0.37916	0.34545	0.33052	0.31891					
	0.30207						AVRG		0.31964		13.59728
22 Allyl Chloride	+++++	0.11197	0.10788	0.11942	0.14212	0.14678					
	0.13826						AVRG		0.12774		13.06258
23 Carbon Disulfide	0.67869	0.88386	0.92114	0.96312	0.98964	1.01415					
	0.99231						AVRG		0.92041		12.57209
24 trans-1,2-dichloroethene	+++++	0.30572	0.35830	0.37434	0.36822	0.38486					
	0.38145						AVRG		0.36215		8.07156
25 Methyl Tert Butyl Ether	+++++	0.88065	0.81935	0.89362	0.95667	0.98120					
	0.96752						AVRG		0.91650		6.84014

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
26 Vinyl Acetate	+++++	0.45763	0.47480	0.51198	0.61753	0.62859					
	0.60005						AVRG		0.54843		13.85269
27 1,1-Dichloroethane	0.38878	0.57191	0.60468	0.62840	0.61297	0.61398					
	0.58102						AVRG		0.57168		14.51959
29 Methyl Ethyl Ketone	114	651	3675	7673	78350	169917					
	265539						LINR	0.01333	6.83639		0.99970
30 n-Hexane	+++++	0.39934	0.41162	0.42233	0.38748	0.41347					
	0.39695						AVRG		0.40520		3.15910
31 Di-isopropyl Ether	0.48963	0.70586	0.71616	0.78033	0.73690	0.74099					
	0.71125						AVRG		0.69730		13.62003
32 Ethyl Acetate	+++++	0.53479	0.49442	0.51118	0.56521	0.56310					
	0.53617						AVRG		0.53415		5.23789
33 cis-1,2-Dichloroethene	+++++	0.30753	0.35445	0.35509	0.38814	0.39447					
	0.38756						AVRG		0.36454		9.03464

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
34 Ethyl Tert-Butyl Ether	+++++	0.73396	0.83189	0.80944	0.89811	0.90736					
	0.87753						AVRG		0.84305		7.78056
35 Chloroform	0.65515	0.97697	0.96118	1.00106	0.97680	0.96013					
	0.89931						AVRG		0.91866		13.10091
36 Tetrahydrofuran	272	1055	4707	11159	136330	281958					
	430536						LINR	0.00724	4.17947		0.99974
37 1,1,1-Trichloroethane	0.71745	1.16620	1.10918	1.15688	1.12203	1.11519					
	1.07608						AVRG		1.06614		14.69708
38 1,2-Dichloroethane	0.41093	0.64024	0.64876	0.69482	0.69274	0.68300					
	0.63758						AVRG		0.62972		15.80746
39 Benzene	2490	7412	23110	50591	558586	1193802					
	1783130						LINR	0.00197	1.00564		0.99920
40 Carbon tetrachloride	0.72971	1.10881	1.09686	1.13023	1.32494	1.28017					
	1.17769						AVRG		1.12120		17.23580

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
41 Cyclohexane	+++++	0.22285	0.26369	0.32140	0.35410	0.34511					
	0.31934						AVRG		0.30441		16.71655
42 Tert Amyl Methyl Ether	+++++	1.30497	1.01850	0.97239	0.92136	0.95352					
	0.96300						AVRG		1.02229		13.89194
44 2,2,4-Trimethylpentane	0.75462	0.96463	1.04442	1.06890	1.16894	1.19539					
	1.14882						AVRG		1.04939		14.55487
45 Heptane	735	2292	8139	17373	210563	429757					
	651713						LINR	0.00116	2.75879		0.99955
46 1,2-Dichloropropane	0.22544	0.29990	0.29893	0.31586	0.32015	0.33468					
	0.31753						AVRG		0.30179		11.87544
47 Trichloroethene	1006	4664	11628	25573	295537	638391					
	1001087						QUAD	-0.00508	0.53008	0.00771	0.99984
48 1,4-Dioxane	+++++	309	2859	8948	113503	241327					
	365744						LINR	0.01607	4.89736		0.99950

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
49 Bromodichloromethane	+++++	0.90613	0.92602	0.96053	1.05925	1.04666					
	1.00967						AVRG		0.98471		6.45835
50 Methylcyclohexane	244	1217	3879	10099	119978	257097					
	407212						LINR	0.02001	4.46291		0.99976
51 Methyl Isobutyl Ketone	622	2645	9313	24371	310368	664885					
	1008284						LINR	0.01291	1.78024		0.99955
52 cis-1,3-Dichloropropene	955	3592	11927	26112	322567	690958					
	1088920						LINR	0.01809	1.66738		0.99980
53 trans-1,3-Dichloropropene	614	2570	7866	19606	352546	787392					
	1225940						LINR	0.03155	1.47033		0.99940
55 1,1,2-Trichloroethane	0.41884	0.44810	0.42350	0.45052	0.49061	0.50851					
	0.49620						AVRG		0.46232		7.80905
56 Toluene	3364	10633	28814	61426	751157	1598435					
	2467098						LINR	0.01094	0.73246		0.99983

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
57 Methyl Butyl Ketone	+++++	1883	6912	15381	293073	642726	987650	LINR	0.03064	1.25392		0.99991
58 Dibromochloromethane	2411	7981	22245	48251	614759	1320009	2039447	LINR	0.01227	0.61233		0.99995
59 1,2-Dibromoethane	2296	6425	18221	37873	460973	1000495	1531523	LINR	0.00981	0.81420		0.99998
60 Tetrachloroethene	2231	8013	21428	44978	509622	1070377	1661924	LINR	0.00523	0.75382		0.99990
62 Chlorobenzene	+++++	1.44608	1.37076	1.37035	1.53984	1.53864	1.61940	AVRG		1.48085		6.85692
63 Ethyl Benzene	2740	8516	28711	69116	984266	2073286	3204456	LINR	0.01434	0.38891		0.99991
64 m&p-Xylene	1993	7201	24094	61498	801726	1774815	2712499	LINR	0.01796	0.45847		0.99992

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
65 Bromoform	2637	9097	23045	51727	736588	1624977	2504049	LINR	0.01920	0.49771		0.99987
66 Styrene	1164	3673	12191	32141	542885	1178106	1853790	LINR	0.02737	0.67411		0.99966
67 o-Xylene	2429	7405	27620	66592	839361	1836685	2777524	LINR	0.01256	0.44674		0.99994
68 1,1,2,2-Tetrachloroethane	2003	7178	19916	42387	501179	1078339	1676730	QUAD	-0.00742	1.28936	0.01797	0.99998
69 Isopropylbenzene	5042	14621	36122	87998	1086441	2344629	3581904	LINR	0.01043	0.34766		0.99998
70 N-Propylbenzene	3180	9421	31418	86661	1252951	2721301	4235908	LINR	0.02213	0.29458		0.99985
71 4-Ethyltoluene	2270	6960	28878	71094	1014406	2224135	3359606	LINR	0.01649	0.36863		0.99991

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
72 1,3,5-Trimethylbenzene	2363	8037	32143	75513	999787	2148837					
	3434732						LINR	0.02299	0.36624		0.99934
73 Tert-Butyl Benzene	1989	6465	24952	64163	888007	1907044					
	2975271						LINR	0.01964	0.41984		0.99985
74 1,2,4-Trimethylbenzene	1543	8028	30045	73515	964974	2044168					
	3129879						LINR	0.01175	0.39744		0.99996
75 1,3-Dichlorobenzene	2799	7599	19928	46391	634592	1409102					
	2213094						LINR	0.02341	0.56610		0.99955
76 Sec- Butylbenzene	2924	10094	39232	92762	1250569	2698426					
	4131956						LINR	0.01494	0.30104		0.99998
78 Benzyl Chloride	2868	7138	18519	39067	642396	1481892					
	2486750						QUAD	-0.01832	1.50674	0.16227	0.99992
79 1,4-Dichlorobenzene	3910	8920	25143	50937	646272	1439355					
	2156681						LINR	0.00998	0.57491		0.99981

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
80 p-Isopropyltoluene	2879	8801	28301	71501	979837	2162733					
	3547400						QUAD	-0.02404	2.36557	0.15832	0.99988
81 1,2,3-Trimethylbenzene	2620	9430	30662	68689	901371	2013082					
	3048438						LINR	0.01606	0.40720		0.99987
82 1,2-Dichlorobenzene	2559	6234	17042	40140	560414	1233904					
	1932210						LINR	0.02224	0.64770		0.99968
83 N-Butylbenzene	4466	12353	34651	75793	983220	2081134					
	3111584						LINR	0.00322	0.39783		0.99974
84 1,2,4-Trichlorobenzene	3087	4703	12747	24611	376574	802063					
	+++++						LINR	0.01169	1.01312		0.99980
85 Naphthalene	3396	6573	16720	31787	514248	1082910					
	+++++						LINR	0.01187	0.74862		0.99968
86 Hexachlorobutadiene	1.04519	1.18167	1.16666	1.15402	1.13889	1.08584					
	+++++						AVRG		1.12871		4.65488

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Method file : \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Last Edit : 15-Sep-2014 08:04 10air7.i

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
$ 28 Hexane-d14(S)	0.04788	0.04988	0.04877	0.04570	0.04318	0.04489					
	0.04617						AVRG		0.04664		5.01368
$ 54 Toluene-d8 (S)	0.96640	0.97239	0.98441	1.00160	0.98373	0.99941					
	0.97883						AVRG		0.98382		1.32450
$ 77 1,4-dichlorobenzene-d4 (S)	0.51156	0.52760	0.55494	0.56447	0.64463	0.82425					
	0.78921						AVRG		0.63095		20.22779

Report Date : 15-Sep-2014 08:05

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2014 14:23
End Cal Date : 13-SEP-2014 16:35
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Last Edit : 15-Sep-2014 08:04 10air7.i

Average %RSD Results.	
Calculated Average %RSD =	10.03995
Maximun Average %RSD =	30.00000
* Passed Average %RSD Test.	

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + m1*Rsp	Amount
Quad	Rsp = b + m1*Amt + m2*Amt^2	Amount

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280465
Lab File ID: 25701BFB.D BFB Injection Date: 09/14/2014
Instrument ID: 10AIR7 BFB Injection Time: 12:29
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	19.46	
75	30.00 - 66.00% of mass 95	59.65	
96	5.00 - 9.00% of mass 95	6.60	
173	Less than 2.00% of mass 174	1.29	(1.14)
174	50.00 - 120.00% of mass 95	113.12	
175	4.00 - 9.00% of mass 174	8.83	(7.81)
176	93.00 - 101.00% of mass 174	107.89	(95.38)
177	5.00 - 9.00% of mass 176	6.67	(6.18)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV	CCV	25702.D	09/14/2014	12:51
2	LCS (LCS)	LCS	25702LCS.D	09/14/2014	12:51
3	CERT	CERT	25704.D	09/14/2014	14:02
4	IA-138-A-17	10280465002	25711.D	09/14/2014	17:11

toluene only

Data File: \\192.168.10.12\chem\10air7.i\091414.b\25702.D
Report Date: 14-Sep-2014 13:21

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10air7.i
Lab File ID: 25702.D
Analysis Type: AIR
Lab Sample ID: CCV
Method: \\192.168.10.12\chem\10air7.i\091414.b\TO15_256-14.m

Injection Date: 14-SEP-2014 12:51
Init. Cal. Date(s): 13-SEP-2014 13-SEP-2014
Init. Cal. Times: 14:23 16:35
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
1 Chlorodifluoromethane	0.48850	0.56200	0.56200	0.010	15.04614	30.00000	Averaged	
2 Propylene	0.12981	0.15200	0.15200	0.010	17.09547	30.00000	Averaged	
3 Dichlorodifluoromethane	1.28784	1.49651	1.49651	0.010	16.20364	30.00000	Averaged	
4 Dichlorotetrafluoroethane	0.99720	1.14002	1.14002	0.010	14.32239	30.00000	Averaged	
5 Chloromethane	0.31728	0.35903	0.35903	0.010	13.16022	30.00000	Averaged	
6 Vinyl chloride	10.00000	10.80566	3.19450	0.010	8.05658	30.00000	Quadratic	
7 1,3-Butadiene	10.00000	10.98330	4.94556	0.010	9.83301	30.00000	Linear	
8 Bromomethane	0.35562	0.40191	0.40191	0.010	13.01662	30.00000	Averaged	
9 Chloroethane	0.12232	0.13393	0.13393	0.010	9.49759	30.00000	Averaged	
10 Ethanol	10.00000	12.40265	9.36615	0.005	24.02654	30.00000	Linear	
11 Vinyl Bromide	0.39052	0.43069	0.43069	0.010	10.28669	30.00000	Averaged	
12 Isopentane	0.22453	0.26327	0.26327	0.010	17.25130	30.00000	Averaged	
13 Acrolein	10.00000	11.30182	13.10167	0.010	13.01818	30.00000	Linear	
14 Trichlorofluoromethane	1.61557	1.76819	1.76819	0.010	9.44623	30.00000	Averaged	
15 Acetone	10.00000	13.64419	1.63228	0.010	36.44192	30.00000	Linear	<- NT
16 Isopropyl Alcohol	0.35498	0.44916	0.44916	0.010	26.53310	30.00000	Averaged	
17 Acrylonitrile	10.00000	10.88761	5.44867	0.010	8.87607	30.00000	Linear	
18 1,1-Dichloroethene	0.50765	0.58981	0.58981	0.010	16.18332	30.00000	Averaged	
19 Tert Butyl Alcohol (TBA)	0.60793	0.77679	0.77679	0.010	27.77480	30.00000	Averaged	
20 Freon 113	0.81232	0.89555	0.89555	0.010	10.24686	30.00000	Averaged	
21 Methylene chloride	0.31964	0.38128	0.38128	0.010	19.28336	30.00000	Averaged	
22 Allyl Chloride	0.12774	0.15457	0.15457	0.010	21.00449	30.00000	Averaged	
23 Carbon Disulfide	0.92041	1.08315	1.08315	0.010	17.68018	30.00000	Averaged	
24 trans-1,2-dichloroethene	0.36215	0.40778	0.40778	0.010	12.59974	30.00000	Averaged	
25 Methyl Tert Butyl Ether	0.91650	1.11226	1.11226	0.010	21.35916	30.00000	Averaged	
26 Vinyl Acetate	0.54843	0.71413	0.71413	0.010	30.21496	30.00000	Averaged	<-
27 1,1-Dichloroethane	0.57168	0.68411	0.68411	0.010	19.66686	30.00000	Averaged	
$ 28 Hexane-d14(S)	0.04664	0.04656	0.04656	0.010	-0.17415	30.00000	Averaged	
29 Methyl Ethyl Ketone	10.00000	10.70271	6.46808	0.010	7.02711	30.00000	Linear	
30 n-Hexane	0.40520	0.44193	0.44193	0.010	9.06534	30.00000	Averaged	
31 Di-isopropyl Ether	0.69730	0.84990	0.84990	0.010	21.88422	30.00000	Averaged	
32 Ethyl Acetate	0.53415	0.66086	0.66086	0.010	23.72319	30.00000	Averaged	
33 cis-1,2-Dichloroethene	0.36454	0.42685	0.42685	0.010	17.09421	30.00000	Averaged	
34 Ethyl Tert-Butyl Ether	0.84305	1.05913	1.05913	0.010	25.63146	30.00000	Averaged	
35 Chloroform	0.91866	1.09070	1.09070	0.010	18.72748	30.00000	Averaged	
36 Tetrahydrofuran	10.00000	11.46523	3.66849	0.010	14.65233	30.00000	Linear	
37 1,1,1-Trichloroethane	1.06614	1.27576	1.27576	0.010	19.66165	30.00000	Averaged	
38 1,2-Dichloroethane	0.62972	0.80823	0.80823	0.010	28.34718	30.00000	Averaged	
39 Benzene	10.00000	10.69143	0.94235	0.010	6.91427	30.00000	Linear	
40 Carbon tetrachloride .	1.12120	1.49780	1.49780	0.010	33.58851	30.00000	Averaged	<-
41 Cyclohexane	0.30441	0.39314	0.39314	0.010	29.14690	30.00000	Averaged	
42 Tert Amyl Methyl Ether	1.02229	1.04083	1.04083	0.010	1.81322	30.00000	Averaged	

Data File: \\192.168.10.12\chem\10air7.i\091414.b\25702.D
Report Date: 14-Sep-2014 13:21

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10air7.i
Lab File ID: 25702.D
Analysis Type: AIR
Lab Sample ID: CCV
Method: \\192.168.10.12\chem\10air7.i\091414.b\TO15_256-14.m

Injection Date: 14-SEP-2014 12:51
Init. Cal. Date(s): 13-SEP-2014 13-SEP-2014
Init. Cal. Times: 14:23 16:35
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
44 2,2,4-Trimethylpentane	1.04939	1.30046	1.30046	0.010	23.92491	30.00000	Averaged
45 Heptane	10.00000	11.57045	2.38690	0.010	15.70446	30.00000	Linear
46 1,2-Dichloropropane	0.30179	0.36561	0.36561	0.010	21.14893	30.00000	Averaged
47 Trichloroethene	10.00000	10.13409	1.85175	0.010	1.34095	30.00000	Quadratic
48 1,4-Dioxane	10.00000	10.93956	4.54347	0.010	9.39560	30.00000	Linear
49 Bromodichloromethane	0.98471	1.19740	1.19740	0.010	21.59901	30.00000	Averaged
50 Methylcyclohexane	10.00000	10.27531	4.42962	0.010	2.75306	30.00000	Linear
51 Methyl Isobutyl Ketone	10.00000	11.65351	1.54476	0.010	16.53515	30.00000	Linear
52 cis-1,3-Dichloropropene	10.00000	10.49556	1.61651	0.010	4.95556	30.00000	Linear
53 trans-1,3-Dichloropropene	10.00000	10.62193	1.42662	0.010	6.21931	30.00000	Linear
$ 54 Toluene-d8 (S)	0.98382	1.00005	1.00005	0.010	1.64883	30.00000	Averaged
55 1,1,2-Trichloroethane	0.46232	0.54226	0.54226	0.010	17.29084	30.00000	Averaged
56 Toluene	10.00000	10.75924	0.68777	0.010	7.59244	30.00000	Linear
57 Methyl Butyl Ketone	10.00000	11.91657	1.08002	0.010	19.16568	30.00000	Linear
58 Dibromochloromethane	10.00000	10.90574	0.56786	0.010	9.05741	30.00000	Linear
59 1,2-Dibromoethane	10.00000	10.77803	0.76237	0.010	7.78028	30.00000	Linear
60 Tetrachloroethene	10.00000	10.89200	0.69542	0.010	8.92001	30.00000	Linear
62 Chlorobenzene	1.48085	1.63546	1.63546	0.010	10.44090	30.00000	Averaged
63 Ethyl Benzene	10.00000	11.24497	0.35032	0.010	12.44974	30.00000	Linear
64 m&p-Xylene	10.00000	10.83839	0.43013	0.010	8.38391	30.00000	Linear
65 Bromoform	10.00000	10.97127	0.46173	0.010	9.71265	30.00000	Linear
66 Styrene	10.00000	10.89162	0.63488	0.010	8.91621	30.00000	Linear
67 o-Xylene	10.00000	11.57581	0.39016	0.010	15.75810	30.00000	Linear
68 1,1,2,2-Tetrachloroethane	10.00000	11.02262	0.69656	0.010	10.22622	30.00000	Quadratic
69 Isopropylbenzene	10.00000	11.19737	0.31340	0.010	11.97375	30.00000	Linear
70 N-Propylbenzene	10.00000	11.24130	0.26731	0.010	12.41296	30.00000	Linear
71 4-Ethyltoluene	10.00000	11.16388	0.33515	0.010	11.63880	30.00000	Linear
72 1,3,5-Trimethylbenzene	10.00000	10.90618	0.34304	0.010	9.06176	30.00000	Linear
73 Tert-Butyl Benzene	10.00000	11.26398	0.37935	0.010	12.63981	30.00000	Linear
74 1,2,4-Trimethylbenzene	10.00000	11.46383	0.35028	0.010	14.63831	30.00000	Linear
75 1,3-Dichlorobenzene	10.00000	10.73089	0.53931	0.010	7.30893	30.00000	Linear
76 Sec- Butylbenzene	10.00000	11.30845	0.26977	0.010	13.08454	30.00000	Linear
$ 77 1,4-dichlorobenzene-d4 (S)	0.63095	0.58267	0.58267	0.010	-7.65174	30.00000	Averaged
78 Benzyl Chloride	10.00000	11.71440	0.50777	0.010	17.14395	30.00000	Quadratic
79 1,4-Dichlorobenzene	10.00000	10.81522	0.53653	0.010	8.15223	30.00000	Linear
80 p-Isopropyltoluene	10.00000	11.44638	0.34589	0.010	14.46379	30.00000	Quadratic
81 1,2,3-Trimethylbenzene	10.00000	10.95936	0.37708	0.010	9.59363	30.00000	Linear
82 1,2-Dichlorobenzene	10.00000	11.09363	0.59579	0.010	10.93628	30.00000	Linear
83 N-Butylbenzene	10.00000	11.40045	0.34995	0.010	14.00450	30.00000	Linear
84 1,2,4-Trichlorobenzene	10.00000	10.58557	0.96776	0.010	5.85573	30.00000	Linear
85 Naphthalene	10.00000	10.72517	0.70581	0.010	7.25167	30.00000	Linear
86 Hexachlorobutadiene	1.12871	1.35630	1.35630	0.010	20.16319	30.00000	Averaged

Data File: \\192.168.10.12\chem\10air7.i\091414.b\25702.D
Report Date: 14-Sep-2014 13:21

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10air7.i Injection Date: 14-SEP-2014 12:51
Lab File ID: 25702.D Init. Cal. Date(s): 13-SEP-2014 13-SEP-2014
Analysis Type: AIR Init. Cal. Times: 14:23 16:35
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10air7.i\091414.b\TO15_256-14.m

Average %D / Drift Results.	
Calculated Average %D/Drift =	14.21991
Maximun Average %D/Drift =	30.00000
* Passed Average %D/Drift Test.	

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280465
Lab File ID: 23901BFB.D BFB Injection Date: 08/27/2014
Instrument ID: 10AIRB BFB Injection Time: 09:58
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	17.26	
75	30.00 - 66.00% of mass 95	53.99	
96	5.00 - 9.00% of mass 95	7.08	
173	Less than 2.00% of mass 174	0.28	(0.33)
174	50.00 - 120.00% of mass 95	84.66	
175	4.00 - 9.00% of mass 174	6.89	(8.14)
176	93.00 - 101.00% of mass 174	80.33	(94.88)
177	5.00 - 9.00% of mass 176	5.47	(6.81)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	ICAL5	ICAL5	23902.D	08/27/2014	10:19
2	ICAL6	ICAL6	23903.D	08/27/2014	10:42
3	ICAL7	ICAL7	23904.D	08/27/2014	11:09
4	ICAL1	ICAL1	23906.D	08/27/2014	11:52
5	ICAL2	ICAL2	23907.D	08/27/2014	12:14
6	ICAL3	ICAL3	23908.D	08/27/2014	12:35
7	ICAL4	ICAL4	23909.D	08/27/2014	12:57
8	ICV (LCS)	ICV	23910.D	08/27/2014	13:19
9	LCS (LCS)	LCS	23911LCS.D	08/27/2014	13:41
10	LCS (LCS)	LCS	23911.D	08/27/2014	13:41
11	CERT	CERT	23914.D	08/27/2014	14:53

Report Date : 28-Aug-2014 15:43

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Calibration File Names:
Level 1: \\192.168.10.12\chem\10airB.i\082714.b\23906.D
Level 2: \\192.168.10.12\chem\10airB.i\082714.b\23907.D
Level 3: \\192.168.10.12\chem\10airB.i\082714.b\23908.D
Level 4: \\192.168.10.12\chem\10airB.i\082714.b\23909.D
Level 5: \\192.168.10.12\chem\10airB.i\082714.b\23902.D
Level 6: \\192.168.10.12\chem\10airB.i\082714.b\23903.D
Level 7: \\192.168.10.12\chem\10airB.i\082714.b\23904.D

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
1 Propylene	0.01592	0.01395	0.01362	0.01490	0.01393	0.01419					
	0.01421						AVRG		0.01439		5.42173
2 Dichlorodifluoromethane	0.10035	0.10077	0.09846	0.10573	0.10999	0.10660					
	0.10384						AVRG		0.10368		3.92409
3 Chlorodifluoromethane	0.03930	0.04032	0.03954	0.03647	0.04054	0.03717					
	0.03295						AVRG		0.03804		7.15033
4 Dichlorotetrafluoroethane	0.14744	0.10191	0.09615	0.10071	0.10528	0.10538					
	0.10028						AVRG		0.10816		16.27645

Report Date : 28-Aug-2014 15:43

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
5 Chloromethane	0.02522	0.02955	0.02431	0.02155	0.01948	0.01777					
	0.01582						AVRG		0.02196		21.63461
6 Vinyl chloride	0.02723	0.02443	0.02392	0.02581	0.02792	0.02749					
	0.02802						AVRG		0.02640		6.41914
7 1,3-Butadiene	0.01971	0.01357	0.01789	0.01372	0.01753	0.01781					
	0.01743						AVRG		0.01681		13.63628
8 Bromomethane	0.02442	0.01936	0.02483	0.02659	0.02733	0.02531					
	0.02339						AVRG		0.02446		10.65587
9 Chloroethane	0.02195	0.01003	0.01347	0.01142	0.01437	0.01369					
	0.01398						AVRG		0.01413		26.79726
10 Isopentane	+++++	3247	5105	8627	87022	182560					
	282202						LINR	-0.01208	40.70659		0.99989
11 Vinyl Bromide	0.04404	0.02881	0.03029	0.02916	0.03363	0.03394					
	0.03350						AVRG		0.03334		15.59788

Report Date : 28-Aug-2014 15:43

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	30.0000 Level 7											
12 Trichlorofluoromethane	0.20326	0.14550	0.13292	0.12710	0.12814	0.12717						
	0.12179						AVRG		0.14084		20.24982	
13 Ethanol	+++++	748	1569	2822	15185	36394						
	63667						QUAD	0.00029	0.00346	0.00067	0.99960	
14 Acrolein	0.00781	0.00378	0.00570	0.00553	0.00687	0.00721						
	0.00773						AVRG		0.00638		22.84978	<-
15 Freon 113	0.10294	0.07733	0.07303	0.07060	0.07263	0.07172						
	0.07032						AVRG		0.07694		15.20492	
16 Acetone	8827	11511	20076	33204	195973	414591						
	642472						LINR	-0.04817	18.17711		0.99962	
17 Isopropyl Alcohol	0.05513	0.04051	0.03787	0.03697	0.02806	0.03491						
	0.03804						AVRG		0.03878		21.18116	
18 1,1-Dichloroethene	0.06142	0.04249	0.03771	0.04160	0.04663	0.04770						
	0.04628						AVRG		0.04626		16.29969	

Report Date : 28-Aug-2014 15:43

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
19 Carbon Disulfide	0.18461	0.12534	0.10543	0.09483	0.10617	0.10648					
	0.10463						AVRG		0.11821		25.92920
20 Allyl Chloride	0.18461	0.12534	0.10544	0.09483	0.10617	0.10648					
	0.10463						AVRG		0.11821		25.92866
21 Tert Butyl Alcohol	0.07541	0.04994	0.05361	0.05624	0.05468	0.06565					
	0.06938						AVRG		0.06070		15.61051
22 Methylene chloride	8358	8650	11020	13789	96745	192843					
	292044						LINR	-0.08334	40.08144		0.99973
23 Acrylonitrile	0.01551	0.01197	0.01459	0.01745	0.01827	0.01808					
	0.01837						AVRG		0.01632		14.78248
24 Methyl Tert Butyl Ether	0.11615	0.08748	0.08202	0.08310	0.10638	0.10910					
	0.10780						AVRG		0.09886		14.31629
25 trans-1,2-dichloroethene	0.04895	0.03623	0.03230	0.03194	0.03581	0.03642					
	0.03701						AVRG		0.03695		15.34387

Report Date : 28-Aug-2014 15:43

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
26 n-Hexane	12347	12179	14838	20041	144664	299174					
	462025						LINR	-0.06293	25.36805		0.99985
27 Vinyl Acetate	+++++	7419	15013	30972	380463	807422					
	1264213						LINR	0.01093	9.04614		0.99994
28 Di-isopropyl Ether	0.08033	0.06361	0.06243	0.06640	0.07932	0.08045					
	0.07988						AVRG		0.07320		11.69330
29 1,1-Dichloroethane	0.08087	0.06232	0.05300	0.05573	0.05699	0.05821					
	0.05644						AVRG		0.06051		15.55154
30 Ethyl Tert-Butyl Ether	0.08846	0.06673	0.07678	0.07653	0.09574	0.09981					
	0.10049						AVRG		0.08636		15.29414
31 Ethyl Acetate	0.14956	0.11818	0.10427	0.10002	0.10944	0.11307					
	0.11275						AVRG		0.11533		14.08451
32 Methyl Ethyl Ketone	0.01617	0.01669	0.01368	0.01354	0.01540	0.01630					
	0.01688						AVRG		0.01553		8.94610

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Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
33 cis-1,2-Dichloroethene	0.04645	0.03725	0.03323	0.03219	0.03625	0.03735					
	0.03715						AVRG		0.03712		12.41356
34 Tetrahydrofuran	0.04028	0.02925	0.02254	0.02385	0.02441	0.02561					
	0.02616						AVRG		0.02744		22.01802
35 Chloroform	5203	7220	15422	27395	300317	613164					
	939648						LINR	-0.01109	12.15880		0.99973
36 1,1,1-Trichloroethane	0.12572	0.10764	0.09094	0.09632	0.09982	0.09896					
	0.09597						AVRG		0.10219		11.29298
37 Cyclohexane	8912	9064	11622	17637	146886	298576					
	464584						LINR	-0.04237	25.04904		0.99996
38 Carbon tetrachloride	0.14037	0.11220	0.10447	0.10085	0.10967	0.11071					
	0.10656						AVRG		0.11212		11.64255
39 Benzene	13517	14818	23665	40100	372098	783703					
	1223810						QUAD	0.00198	0.10432	0.00059	0.99993

Report Date : 28-Aug-2014 15:43

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

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Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
40 1,2-Dichloroethane	0.07579	0.07071	0.05523	0.05970	0.05970	0.05855					
	0.05688						AVRG		0.06237		12.41092
41 Tert Amyl Methyl Ether	0.09368	0.08128	0.08627	0.08684	0.10765	0.11126					
	0.11107						AVRG		0.09687		13.26837
42 2,2,4-Trimethylpentane	43677	45479	57316	74808	480394	964739					
	1502730						LINR	-0.08066	7.86446		0.99997
43 Heptane	7170	7023	10470	17231	141622	305468					
	477533						LINR	-0.02275	24.30799		0.99966
45 Trichloroethene	3081	4317	9035	17530	198658	423845					
	655718						LINR	0.00186	17.44074		0.99986
46 Methylcyclohexane	+++++	0.03995	0.03021	0.02620	0.03023	0.03166					
	0.03155						AVRG		0.03163		14.32307
47 1,2-Dichloropropane	0.04867	0.02695	0.03074	0.03185	0.03399	0.03380					
	0.03358						AVRG		0.03422		19.95747

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Pace Analytical Services, Inc.

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Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
48 1,4-Dioxane	0.02356	0.02249	0.01900	0.02055	0.01638	0.02058	0.02206	AVRG		0.02066		11.65325
49 Bromodichloromethane	0.12121	0.09257	0.08780	0.08574	0.09015	0.09154	0.08935	AVRG		0.09405		12.95993
50 cis-1,3-Dichloropropene	0.06530	0.04561	0.04740	0.05289	0.05686	0.05896	0.05923	AVRG		0.05518		12.66882
51 Methyl Isobutyl Ketone	0.07283	0.05084	0.04615	0.05016	0.05632	0.05848	0.05943	AVRG		0.05632		15.51931
52 Toluene	11148	12592	22542	43287	459554	980423	1526843	LINR	-0.00220	7.52080		0.99988
53 trans-1,3-Dichloropropene	0.05499	0.04312	0.04740	0.05299	0.06112	0.06578	0.06550	AVRG		0.05584		15.71607
54 1,1,2-Trichloroethane	0.06295	0.05450	0.04264	0.04483	0.04563	0.04677	0.04645	AVRG		0.04911		14.52911

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Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
55 Tetrachloroethene	7136	8915	15390	26713	264444	549762						
	852716						LINR	-0.01498	11.91466		0.99997	
56 Methyl Butyl Ketone	0.05265	0.04314	0.03872	0.04299	0.06001	0.06421						
	0.06485						AVRG		0.05237		20.82553	
57 Dibromochloromethane	0.13322	0.10530	0.09472	0.10268	0.11081	0.10990						
	0.10842						AVRG		0.10929		10.87825	
58 1,2-Dibromoethane	0.07853	0.07546	0.07299	0.07408	0.08241	0.08399						
	0.08373						AVRG		0.07874		5.94350	
60 Chlorobenzene	25579	29593	40367	57351	395815	837980						
	1298356						LINR	-0.05222	7.95563		0.99983	
61 Ethyl Benzene	0.28960	0.20831	0.17412	0.17918	0.19507	0.20032						
	0.19828						AVRG		0.20641		18.70054	
62 m&p-Xylene	0.19402	0.14911	0.13648	0.13693	0.14824	0.15861						
	0.15745						AVRG		0.15441		12.65041	<-

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
63 o-Xylene	0.13099	0.11040	0.11671	0.13264	0.15370	0.16020						
	0.15825						AVRG		0.13755		14.66130	<-
64 Styrene	0.07380	0.07486	0.08448	0.08975	0.11206	0.12144						
	0.11993						AVRG		0.09662		21.48820	
65 Bromoform	0.08386	0.08045	0.09012	0.09191	0.09843	0.09931						
	0.09620						AVRG		0.09147		7.90597	
66 Isopropylbenzene	0.15953	0.14585	0.16951	0.17511	0.21864	0.22089						
	0.21604						AVRG		0.18651		16.79329	
67 1,1,2,2-Tetrachloroethane	0.11680	0.08722	0.09126	0.09309	0.09061	0.09132						
	0.09044						AVRG		0.09439		10.63375	
68 N-Propylbenzene	0.25242	0.21214	0.21472	0.21765	0.22856	0.23948						
	0.23543						AVRG		0.22863		6.47687	
69 4-Ethyltoluene	0.15845	0.13982	0.16173	0.17055	0.18377	0.19874						
	0.19558						AVRG		0.17266		12.36219	

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
70 1,3,5-Trimethylbenzene	0.16364	0.14714	0.15096	0.16642	0.17688	0.18702					
	0.18466						AVRG		0.16810		9.29601
71 Tert Butyl Benzene	0.17040	0.13099	0.14370	0.14188	0.17546	0.17900					
	0.17719						AVRG		0.15980		12.61550
72 1,2,4-Trimethylbenzene	0.19113	0.14242	0.14189	0.16338	0.16009	0.17476					
	0.17310						AVRG		0.16382		10.87492
73 Sec- Butylbenzene	0.22848	0.17942	0.19733	0.20946	0.23702	0.24303					
	0.23692						AVRG		0.21881		10.94268
74 p-isopropyltoluene	4393	9507	22602	49644	598046	1357600					
	2106840						LINR	0.01746	4.78529		0.99947
75 1,3-Dichlorobenzene	0.16383	0.12860	0.12972	0.13135	0.09503	0.11205					
	0.11024						AVRG		0.12440		17.56451
76 1,4-Dichlorobenzene	0.15776	0.12878	0.11869	0.12637	0.08728	0.10471					
	0.10489						AVRG		0.11835		19.07766

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
77 1,2,3-Trimethylbenzene	0.15011	0.11533	0.12181	0.14195	0.15478	0.16763					
	0.16535						AVRG		0.14528		13.98086
78 Benzyl Chloride	0.12058	0.12141	0.11694	0.11849	0.11281	0.12907					
	0.12902						AVRG		0.12119		4.98936
79 N-Butylbenzene	0.16475	0.11896	0.13522	0.15245	0.14093	0.15954					
	0.16009						AVRG		0.14742		11.19412
80 1,2-Dichlorobenzene	0.14685	0.11808	0.11724	0.12004	0.09109	0.10204					
	0.10110						AVRG		0.11378		15.95283
81 1,2,4-Trichlorobenzene	+++++	4446	11057	20176	52816	190362					
	319308						QUAD	0.00250	0.01452	0.00557	0.99031
82 Hexachlorobutadiene	0.07338	0.06277	0.06927	0.06498	0.03326	0.04062					
	0.04030						AVRG		0.05494		29.69683
83 Naphthalene	+++++	9160	21810	41034	187340	577361					
	930256						QUAD	0.00306	0.06020	0.01064	0.99395

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Average %RSD Results.	
Calculated Average %RSD =	14.55013
Maximun Average %RSD =	30.00000
* Passed Average %RSD Test.	

Curve	Formula	Units
Averaged	Amt = Rsp/ml	Response
Linear	Amt = b + m1*Rsp	Amount
Quad	Rsp = b + m1*Amt + m2*Amt^2	Amount

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280465
Lab File ID: 25401BFB.D BFB Injection Date: 09/11/2014
Instrument ID: 10AIRB BFB Injection Time: 08:33
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	17.10	
75	30.00 - 66.00% of mass 95	52.39	
96	5.00 - 9.00% of mass 95	6.94	
173	Less than 2.00% of mass 174	0.98	(1.16)
174	50.00 - 120.00% of mass 95	84.25	
175	4.00 - 9.00% of mass 174	6.74	(8.00)
176	93.00 - 101.00% of mass 174	80.15	(95.14)
177	5.00 - 9.00% of mass 176	5.61	(7.00)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV	CCV	25402.D	09/11/2014	08:57
2	LCS (LCS)	LCS	25402LCS.D	09/11/2014	08:57
3	LCS for HBN 317735 [AIR/	1786623	25402_21284.D	09/11/2014	08:57
4	BLANK for HBN 317735 [AI	1786622	25415_21284.D	09/11/2014	15:48
5	BLANK (BLK)	BLANK	25415.D	09/11/2014	15:48
6	IA-138-A-17	10280465002	25432.D	09/11/2014	23:50
7	IA-121-B-17	10280465014	25434.D	09/12/2014	00:39
8	IA-121-B-17(1782864DUP)	1787387-DUP	25435.D	09/12/2014	01:04

Data File: \\192.168.10.12\chem\10airB.i\091114.b\25402.D
Report Date: 11-Sep-2014 08:45

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 11-SEP-2014 08:57
Lab File ID: 25402.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
1 Propylene	0.01439	0.01461	0.01461	0.010	1.56354	30.00000	Averaged	
2 Dichlorodifluoromethane	0.10368	0.09697	0.09697	0.010	-6.47364	30.00000	Averaged	
3 Chlorodifluoromethane	0.03804	0.03739	0.03739	0.010	-1.72196	30.00000	Averaged	
4 Dichlorotetrafluoroethane	0.10816	0.09041	0.09041	0.010	-16.41603	30.00000	Averaged	
5 Chloromethane	0.02196	0.01784	0.01784	0.010	-18.74138	30.00000	Averaged	
6 Vinyl chloride	0.02640	0.02601	0.02601	0.010	-1.49037	30.00000	Averaged	
7 1,3-Butadiene	0.01681	0.01703	0.01703	0.010	1.32099	30.00000	Averaged	
8 Bromomethane	0.02446	0.02682	0.02682	0.010	9.62690	30.00000	Averaged	
9 Chloroethane	0.01413	0.01417	0.01417	0.010	0.29369	30.00000	Averaged	
10 Isopentane	10.00000	10.07426	39.92795	0.010	0.74259	30.00000	Linear	
11 Vinyl Bromide	0.03334	0.03157	0.03157	0.010	-5.30536	30.00000	Averaged	
12 Trichlorofluoromethane	0.14084	0.11170	0.11170	0.010	-20.69213	30.00000	Averaged	
13 Ethanol	10.00000	14.19790	153	0.010	41.97898	30.00000	Quadratic	<-
14 Acrolein	0.00638	0.00593	0.00593	0.010	-6.95885	30.00000	Averaged	<-
15 Freon 113	0.07694	0.06507	0.06507	0.010	-15.41961	30.00000	Averaged	
16 Acetone	10.00000	11.05676	15.75356	0.010	10.56765	30.00000	Linear	
17 Isopropyl Alcohol	0.03878	0.04156	0.04156	0.010	7.16646	30.00000	Averaged	
18 1,1-Dichloroethene	0.04626	0.04480	0.04480	0.010	-3.15581	30.00000	Averaged	
19 Carbon Disulfide	0.11821	0.10163	0.10163	0.010	-14.03207	30.00000	Averaged	
20 Allyl Chloride	0.11821	0.10163	0.10163	0.010	-14.03268	30.00000	Averaged	
21 Tert Butyl Alcohol	0.06070	0.07054	0.07054	0.010	16.20594	30.00000	Averaged	
22 Methylene chloride	10.00000	9.40557	39.14579	0.010	-5.94429	30.00000	Linear	
23 Acrylonitrile	0.01632	0.01846	0.01846	0.010	13.09812	30.00000	Averaged	
24 Methyl Tert Butyl Ether	0.09886	0.10494	0.10494	0.010	6.15416	30.00000	Averaged	
25 trans-1,2-dichloroethene	0.03695	0.03448	0.03448	0.010	-6.69522	30.00000	Averaged	
26 n-Hexane	10.00000	9.53465	24.95892	0.010	-4.65353	30.00000	Linear	
27 Vinyl Acetate	10.00000	10.07739	9.07509	0.010	0.77387	30.00000	Linear	
28 Di-isopropyl Ether	0.07320	0.08228	0.08228	0.010	12.40453	30.00000	Averaged	
29 1,1-Dichloroethane	0.06051	0.05533	0.05533	0.010	-8.55990	30.00000	Averaged	
30 Ethyl Tert-Butyl Ether	0.08636	0.09701	0.09701	0.010	12.33377	30.00000	Averaged	
31 Ethyl Acetate	0.11533	0.11657	0.11657	0.010	1.07399	30.00000	Averaged	
32 Methyl Ethyl Ketone	0.01553	0.01599	0.01599	0.010	2.96240	30.00000	Averaged	
33 cis-1,2-Dichloroethene	0.03712	0.03499	0.03499	0.010	-5.74753	30.00000	Averaged	
34 Tetrahydrofuran	0.02744	0.02618	0.02618	0.010	-4.61483	30.00000	Averaged	
35 Chloroform	10.00000	9.47922	12.67851	0.010	-5.20778	30.00000	Linear	
36 1,1,1-Trichloroethane	0.10219	0.08969	0.08969	0.010	-12.23684	30.00000	Averaged	
37 Cyclohexane	10.00000	10.65569	22.60866	0.010	6.55685	30.00000	Linear	
38 Carbon tetrachloride	0.11212	0.09527	0.09527	0.010	-15.03031	30.00000	Averaged	
39 Benzene	10.00000	9.89156	9.45777	0.300	-1.08436	30.00000	Quadratic	
40 1,2-Dichloroethane	0.06237	0.05570	0.05570	0.010	-10.68493	30.00000	Averaged	
41 Tert Amyl Methyl Ether	0.09687	0.10965	0.10965	0.010	13.19856	30.00000	Averaged	
42 2,2,4-Trimethylpentane	10.00000	10.55707	6.92069	0.010	5.57065	30.00000	Linear	
43 Heptane	10.00000	10.58564	22.48001	0.010	5.85640	30.00000	Linear	

Data File: \\192.168.10.12\chem\10airB.i\091114.b\25402.D
Report Date: 11-Sep-2014 08:45

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i
Lab File ID: 25402.D
Analysis Type: AIR
Lab Sample ID: CCV
Method: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m

Injection Date: 11-SEP-2014 08:57
Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Init. Cal. Times: 10:19 12:57
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
45 Trichloroethene	10.00000	9.51013	18.37507	0.010	-4.89874	30.00000	Linear	
46 Methylcyclohexane	0.03163	0.02980	0.02980	0.010	-5.79029	30.00000	Averaged	
47 1,2-Dichloropropane	0.03422	0.03379	0.03379	0.010	-1.26330	30.00000	Averaged	
48 1,4-Dioxane	0.02066	0.02490	0.02490	0.010	20.53939	30.00000	Averaged	
49 Bromodichloromethane	0.09405	0.08468	0.08468	0.010	-9.96398	30.00000	Averaged	
50 cis-1,3-Dichloropropene	0.05518	0.05843	0.05843	0.010	5.88364	30.00000	Averaged	
51 Methyl Isobutyl Ketone	0.05632	0.06144	0.06144	0.010	9.10049	30.00000	Averaged	
52 Toluene	10.00000	9.93803	7.55097	0.010	-0.61967	30.00000	Linear	
53 trans-1,3-Dichloropropene	0.05584	0.06450	0.06450	0.010	15.49745	30.00000	Averaged	
54 1,1,2-Trichloroethane	0.04911	0.04510	0.04510	0.010	-8.16218	30.00000	Averaged	
55 Tetrachloroethene	10.00000	9.13740	12.82914	0.010	-8.62596	30.00000	Linear	
56 Methyl Butyl Ketone	0.05237	0.06643	0.06643	0.010	26.85763	30.00000	Averaged	
57 Dibromochloromethane	0.10929	0.10019	0.10019	0.010	-8.33373	30.00000	Averaged	
58 1,2-Dibromoethane	0.07874	0.07888	0.07888	0.010	0.17671	30.00000	Averaged	
60 Chlorobenzene	10.00000	10.14652	7.45696	0.010	1.46524	30.00000	Linear	
61 Ethyl Benzene	0.20641	0.19668	0.19668	0.030	-4.71514	30.00000	Averaged	
62 m&p-Xylene	0.15441	0.15616	0.15616	0.300	1.13628	30.00000	Averaged	<-
63 o-Xylene	0.13755	0.15557	0.15557	0.300	13.09614	30.00000	Averaged	<-
64 Styrene	0.09662	0.11715	0.11715	0.010	21.25633	30.00000	Averaged	
65 Bromoform	0.09147	0.08501	0.08501	0.010	-7.06306	30.00000	Averaged	
66 Isopropylbenzene	0.18651	0.21112	0.21112	0.010	13.19813	30.00000	Averaged	
67 1,1,2,2-Tetrachloroethane	0.09439	0.08863	0.08863	0.010	-6.09857	30.00000	Averaged	
68 N-Propylbenzene	0.22863	0.24258	0.24258	0.010	6.10017	30.00000	Averaged	
69 4-Ethyltoluene	0.17266	0.19833	0.19833	0.010	14.86780	30.00000	Averaged	
70 1,3,5-Trimethylbenzene	0.16810	0.18428	0.18428	0.010	9.62434	30.00000	Averaged	
71 Tert Butyl Benzene	0.15980	0.16763	0.16763	0.010	4.89525	30.00000	Averaged	
72 1,2,4-Trimethylbenzene	0.16382	0.17720	0.17720	0.010	8.16450	30.00000	Averaged	
73 Sec- Butylbenzene	0.21881	0.23436	0.23436	0.010	7.10901	30.00000	Averaged	
74 p-isopropyltoluene	10.00000	10.51412	4.62815	0.010	5.14124	30.00000	Linear	
75 1,3-Dichlorobenzene	0.12440	0.12181	0.12181	0.010	-2.08438	30.00000	Averaged	
76 1,4-Dichlorobenzene	0.11835	0.11815	0.11815	0.010	-0.17209	30.00000	Averaged	
77 1,2,3-Trimethylbenzene	0.14528	0.16491	0.16491	0.010	13.51149	30.00000	Averaged	
78 Benzyl Chloride	0.12119	0.12990	0.12990	0.010	7.18871	30.00000	Averaged	
79 N-Butylbenzene	0.14742	0.17207	0.17207	0.010	16.72233	30.00000	Averaged	
80 1,2-Dichlorobenzene	0.11378	0.10607	0.10607	0.010	-6.77401	30.00000	Averaged	
81 1,2,4-Trichlorobenzene	10.00000	20.60886	17.83876	0.010	106	30.00000	Quadratic	<-
82 Hexachlorobutadiene	0.05494	0.04252	0.04252	0.010	-22.60526	30.00000	Averaged	
83 Naphthalene	10.00000	14.80738	8.65567	0.010	48.07379	30.00000	Quadratic	<-

Data File: \\192.168.10.12\chem\10airB.i\091114.b\25402.D
Report Date: 11-Sep-2014 08:45

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 11-SEP-2014 08:57
Lab File ID: 25402.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m

Average %D / Drift Results.	
Calculated Average %D/Drift =	10.45944
Maximun Average %D/Drift =	30.00000
* Passed Average %D/Drift Test.	

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

QC Batch: AIR/21284 | Analysis Method: TO-15
QC Batch Method: TO-15 | Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10280465002, 10280465014 IA-138-A-17, IA-121-B-17

METHOD BLANK: 1786622 | Matrix: Air
Associated Lab Samples: 10280465002, 10280465014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	09/11/14 15:48	
1,1,2-Trichloroethane	ug/m3	ND	0.55	09/11/14 15:48	
1,1-Dichloroethane	ug/m3	ND	0.82	09/11/14 15:48	
1,1-Dichloroethene	ug/m3	ND	0.81	09/11/14 15:48	
1,2,3-Trimethylbenzene	ug/m3	ND	1.0	09/11/14 15:48	
1,2,4-Trichlorobenzene	ug/m3	ND	75.4	09/11/14 15:48	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	09/11/14 15:48	
1,2-Dichloroethane	ug/m3	ND	0.41	09/11/14 15:48	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	09/11/14 15:48	
Benzene	ug/m3	ND	0.65	09/11/14 15:48	
Carbon tetrachloride	ug/m3	ND	0.64	09/11/14 15:48	
Chlorodifluoromethane	ug/m3	ND	0.72	09/11/14 15:48	
Chloroform	ug/m3	ND	0.50	09/11/14 15:48	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	09/11/14 15:48	
Dichlorodifluoromethane	ug/m3	ND	1.0	09/11/14 15:48	
Ethylbenzene	ug/m3	ND	0.88	09/11/14 15:48	
m&p-Xylene	ug/m3	ND	1.8	09/11/14 15:48	
Methyl-tert-butyl ether	ug/m3	ND	0.73	09/11/14 15:48	
Methylene Chloride	ug/m3	ND	3.5	09/11/14 15:48	
Naphthalene	ug/m3	ND	2.7	09/11/14 15:48	
o-Xylene	ug/m3	ND	0.88	09/11/14 15:48	
Tetrachloroethene	ug/m3	ND	0.69	09/11/14 15:48	
Toluene	ug/m3	0.48J	0.77	09/11/14 15:48	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	09/11/14 15:48	
Trichloroethene	ug/m3	ND	1.1	09/11/14 15:48	
Vinyl chloride	ug/m3	ND	0.26	09/11/14 15:48	

LABORATORY CONTROL SAMPLE: 1786623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	48.7	88	72-128	
1,1,2-Trichloroethane	ug/m3	55.5	50.9	92	72-130	
1,1-Dichloroethane	ug/m3	41.2	37.6	91	68-128	
1,1-Dichloroethene	ug/m3	40.3	39.0	97	68-130	
1,2,3-Trimethylbenzene	ug/m3	50	56.7	113	60-140	
1,2,4-Trichlorobenzene	ug/m3	75.5	155	206	30-150	CH,L3,SS
1,2,4-Trimethylbenzene	ug/m3	50	54.1	108	71-140	
1,2-Dichloroethane	ug/m3	41.2	36.7	89	71-132	
1,3,5-Trimethylbenzene	ug/m3	50	54.8	110	73-136	
Benzene	ug/m3	32.5	32.1	99	69-134	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

LABORATORY CONTROL SAMPLE: 1786623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/m3	64	54.3	85	66-134	
Chlorodifluoromethane	ug/m3	36	35.3	98	60-140	
Chloroform	ug/m3	49.7	47.0	95	72-127	
cis-1,2-Dichloroethene	ug/m3	40.3	38.0	94	71-135	
Dichlorodifluoromethane	ug/m3	50.3	47.0	93	69-125	
Ethylbenzene	ug/m3	44.2	42.1	95	73-139	
m&p-Xylene	ug/m3	44.2	44.6	101	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	38.9	106	72-132	
Methylene Chloride	ug/m3	35.3	33.2	94	64-134	
Naphthalene	ug/m3	53.3	78.9	148	61-150	CH,SS
o-Xylene	ug/m3	44.2	49.9	113	71-138	
Tetrachloroethene	ug/m3	69	63.0	91	69-136	
Toluene	ug/m3	38.3	38.1	99	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	37.6	93	70-131	
Trichloroethene	ug/m3	54.6	51.9	95	70-135	
Vinyl chloride	ug/m3	26	25.6	98	69-132	

SAMPLE DUPLICATE: 1787387

Parameter	Units	10280465014 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,3-Trimethylbenzene	ug/m3	ND	ND		25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
Benzene	ug/m3	ND	ND		25	
Carbon tetrachloride	ug/m3	ND	ND		25	
Chlorodifluoromethane	ug/m3	3.6	4.0	11	25	
Chloroform	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.9	2.4	16	25	
Ethylbenzene	ug/m3	1.5	1.3	14	25	
m&p-Xylene	ug/m3	5.4	5.1	4	25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	0.67J	0.63J		25	
Naphthalene	ug/m3	ND	ND		25	
o-Xylene	ug/m3	2.3	1.8	25	25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	56.2	52.4	7	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	

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REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

SAMPLE DUPLICATE: 1787387

Parameter	Units	10280465014 Result	Dup Result	RPD	Max RPD	Qualifiers
Vinyl chloride	ug/m3	ND	ND		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280465
Lab File ID: 25601BFB.D BFB Injection Date: 09/13/2014
Instrument ID: 10AIRB BFB Injection Time: 11:20
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	18.53	
75	30.00 - 66.00% of mass 95	56.37	
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	81.83	
175	4.00 - 9.00% of mass 174	6.40	(7.82)
176	93.00 - 101.00% of mass 174	78.26	(95.63)
177	5.00 - 9.00% of mass 176	5.36	(6.84)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV	CCV	25602C.D	09/13/2014	11:44
2	LCS for HBN 318070 [AIR/	1788456	25602_21304.D	09/13/2014	11:44
3	BLANK for HBN 318070 [AI	1788455	25607_21304.D	09/13/2014	15:47
4	SV-136-A-17	10280465023	25610.D	09/13/2014	20:08
5	SV-DUP1-A-17	10280465018	25611.D	09/13/2014	20:33
6	SV-095-A-17	10280465025	25612.D	09/13/2014	20:57
7	SV-076-A-17	10280465024	25613.D	09/13/2014	21:22
8	IA-079-A-17	10280465006	25614.D	09/13/2014	21:47
9	SV-118-A-17	10280465020	25616.D	09/13/2014	22:36
10	SV-100-B-17	10280465027	25617.D	09/13/2014	23:02
11	SV-081-A-17	10280465021	25618.D	09/14/2014	06:10
12	BCK-1-17	10280465029	25620.D	09/14/2014	06:59
13	IA-136-A-17	10280465012	25621.D	09/14/2014	07:24
14	IA-117-A-17	10280465010	25622.D	09/14/2014	07:48
15	SV-075-A-17	10280465028	25623.D	09/14/2014	08:13
16	SV-079-A-17	10280465022	25624.D	09/14/2014	08:40
17	IA-076-A-17	10280465005	25625.D	09/14/2014	09:05
18	IA-140-B-17	10280465015	25626.D	09/14/2014	09:30
19	SV-DUP2-A-17	10280465019	25627.D	09/14/2014	09:54
20	SV-101-B-17	10280465026	25628.D	09/14/2014	10:19

Data File: \\192.168.10.12\chem\10airB.i\091314.b\25602c.D
Report Date: 13-Sep-2014 12:55

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 13-SEP-2014 11:44
Lab File ID: 25602c.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
1 Propylene	0.01439	0.01231	0.01231	0.010	-14.42979	30.00000	Averaged	
2 Dichlorodifluoromethane	0.10368	0.10858	0.10858	0.010	4.73110	30.00000	Averaged	
3 Chlorodifluoromethane	0.03804	0.03852	0.03852	0.010	1.25310	30.00000	Averaged	
4 Dichlorotetrafluoroethane	0.10816	0.09624	0.09624	0.010	-11.02279	30.00000	Averaged	
5 Chloromethane	0.02196	0.01569	0.01569	0.010	-28.54028	30.00000	Averaged	
6 Vinyl chloride	0.02640	0.02440	0.02440	0.010	-7.58248	30.00000	Averaged	
7 1,3-Butadiene	0.01681	0.01376	0.01376	0.010	-18.11777	30.00000	Averaged	
8 Bromomethane	0.02446	0.02539	0.02539	0.010	3.77918	30.00000	Averaged	
9 Chloroethane	0.01413	0.01241	0.01241	0.010	-12.15693	30.00000	Averaged	
10 Isopentane	10.00000	8.30385	48.31871	0.010	-16.96150	30.00000	Linear	
11 Vinyl Bromide	0.03334	0.02950	0.02950	0.010	-11.51592	30.00000	Averaged	
12 Trichlorofluoromethane	0.14084	0.12735	0.12735	0.010	-9.57696	30.00000	Averaged	
13 Ethanol	10.00000	12.28766	180	0.010	22.87658	30.00000	Quadratic	
14 Acrolein	0.00638	0.00497	0.00497	0.010	-21.99962	30.00000	Averaged	<-
15 Freon 113	0.07694	0.06702	0.06702	0.010	-12.88496	30.00000	Averaged	
16 Acetone	10.00000	11.04367	15.77146	0.010	10.43665	30.00000	Linear	
17 Isopropyl Alcohol	0.03878	0.03644	0.03644	0.010	-6.03070	30.00000	Averaged	
18 1,1-Dichloroethene	0.04626	0.04596	0.04596	0.010	-0.65652	30.00000	Averaged	
19 Carbon Disulfide	0.11821	0.09509	0.09509	0.010	-19.55983	30.00000	Averaged	
20 Allyl Chloride	0.11821	0.09509	0.09509	0.010	-19.56041	30.00000	Averaged	
21 Tert Butyl Alcohol	0.06070	0.06568	0.06568	0.010	8.20481	30.00000	Averaged	
22 Methylene chloride	10.00000	8.74045	41.86535	0.010	-12.59553	30.00000	Linear	
23 Acrylonitrile	0.01632	0.01521	0.01521	0.010	-6.79051	30.00000	Averaged	
24 Methyl Tert Butyl Ether	0.09886	0.10225	0.10225	0.010	3.43243	30.00000	Averaged	
25 trans-1,2-dichloroethene	0.03695	0.03226	0.03226	0.010	-12.69581	30.00000	Averaged	
26 n-Hexane	10.00000	8.18911	28.76725	0.010	-18.10895	30.00000	Linear	
27 Vinyl Acetate	10.00000	9.36026	9.77859	0.010	-6.39742	30.00000	Linear	
28 Di-isopropyl Ether	0.07320	0.07100	0.07100	0.010	-3.00818	30.00000	Averaged	
29 1,1-Dichloroethane	0.06051	0.05384	0.05384	0.010	-11.01571	30.00000	Averaged	
30 Ethyl Tert-Butyl Ether	0.08636	0.08856	0.08856	0.010	2.54080	30.00000	Averaged	
31 Ethyl Acetate	0.11533	0.10532	0.10532	0.010	-8.67555	30.00000	Averaged	
32 Methyl Ethyl Ketone	0.01553	0.01503	0.01503	0.010	-3.22547	30.00000	Averaged	
33 cis-1,2-Dichloroethene	0.03712	0.03230	0.03230	0.010	-12.98492	30.00000	Averaged	
34 Tetrahydrofuran	0.02744	0.02258	0.02258	0.010	-17.70979	30.00000	Averaged	
35 Chloroform	10.00000	9.94367	12.09285	0.010	-0.56329	30.00000	Linear	
36 1,1,1-Trichloroethane	0.10219	0.09950	0.09950	0.010	-2.63593	30.00000	Averaged	
37 Cyclohexane	10.00000	8.99824	26.58582	0.010	-10.01760	30.00000	Linear	
38 Carbon tetrachloride	0.11212	0.11078	0.11078	0.010	-1.19743	30.00000	Averaged	
39 Benzene	10.00000	9.13906	10.22501	0.300	-8.60941	30.00000	Quadratic	
40 1,2-Dichloroethane	0.06237	0.06305	0.06305	0.010	1.08859	30.00000	Averaged	
41 Tert Amyl Methyl Ether	0.09687	0.10170	0.10170	0.010	4.99010	30.00000	Averaged	
42 2,2,4-Trimethylpentane	10.00000	9.27029	7.80442	0.010	-7.29705	30.00000	Linear	
43 Heptane	10.00000	8.97328	26.41943	0.010	-10.26717	30.00000	Linear	

Data File: \\192.168.10.12\chem\10airB.i\091314.b\25602c.D
Report Date: 13-Sep-2014 12:55

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i
Lab File ID: 25602c.D
Analysis Type: AIR
Lab Sample ID: CCV
Injection Date: 13-SEP-2014 11:44
Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Init. Cal. Times: 10:19 12:57
Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
45 Trichloroethene	10.00000	8.93269	19.56538	0.010	-10.67313	30.00000	Linear	
46 Methylcyclohexane	0.03163	0.02787	0.02787	0.010	-11.88615	30.00000	Averaged	
47 1,2-Dichloropropane	0.03422	0.03152	0.03152	0.010	-7.89474	30.00000	Averaged	
48 1,4-Dioxane	0.02066	0.02313	0.02313	0.010	11.94731	30.00000	Averaged	
49 Bromodichloromethane	0.09405	0.09277	0.09277	0.010	-1.35994	30.00000	Averaged	
50 cis-1,3-Dichloropropene	0.05518	0.05507	0.05507	0.010	-0.20319	30.00000	Averaged	
51 Methyl Isobutyl Ketone	0.05632	0.05450	0.05450	0.010	-3.22208	30.00000	Averaged	
52 Toluene	10.00000	9.32277	8.04813	0.010	-6.77231	30.00000	Linear	
53 trans-1,3-Dichloropropene	0.05584	0.06442	0.06442	0.010	15.35561	30.00000	Averaged	
54 1,1,2-Trichloroethane	0.04911	0.04184	0.04184	0.010	-14.79387	30.00000	Averaged	
55 Tetrachloroethene	10.00000	9.06663	12.92766	0.010	-9.33371	30.00000	Linear	
56 Methyl Butyl Ketone	0.05237	0.05948	0.05948	0.010	13.58551	30.00000	Averaged	
57 Dibromochloromethane	0.10929	0.10452	0.10452	0.010	-4.37066	30.00000	Averaged	
58 1,2-Dibromoethane	0.07874	0.07668	0.07668	0.010	-2.61389	30.00000	Averaged	
60 Chlorobenzene	10.00000	9.77261	7.72779	0.010	-2.27387	30.00000	Linear	
61 Ethyl Benzene	0.20641	0.19270	0.19270	0.030	-6.64206	30.00000	Averaged	
62 m&p-Xylene	0.15441	0.15036	0.15036	0.300	-2.61858	30.00000	Averaged	<-
63 o-Xylene	0.13755	0.14913	0.14913	0.300	8.41363	30.00000	Averaged	<-
64 Styrene	0.09662	0.11115	0.11115	0.010	15.04512	30.00000	Averaged	
65 Bromoform	0.09147	0.09008	0.09008	0.010	-1.51709	30.00000	Averaged	
66 Isopropylbenzene	0.18651	0.20762	0.20762	0.010	11.31929	30.00000	Averaged	
67 1,1,2,2-Tetrachloroethane	0.09439	0.08614	0.08614	0.010	-8.74286	30.00000	Averaged	
68 N-Propylbenzene	0.22863	0.23637	0.23637	0.010	3.38754	30.00000	Averaged	
69 4-Ethyltoluene	0.17266	0.20099	0.20099	0.010	16.40911	30.00000	Averaged	
70 1,3,5-Trimethylbenzene	0.16810	0.18463	0.18463	0.010	9.83157	30.00000	Averaged	
71 Tert Butyl Benzene	0.15980	0.16815	0.16815	0.010	5.22265	30.00000	Averaged	
72 1,2,4-Trimethylbenzene	0.16382	0.17888	0.17888	0.010	9.19214	30.00000	Averaged	
73 Sec- Butylbenzene	0.21881	0.22891	0.22891	0.010	4.61901	30.00000	Averaged	
74 p-isopropyltoluene	10.00000	10.60677	4.58705	0.010	6.06775	30.00000	Linear	
75 1,3-Dichlorobenzene	0.12440	0.12246	0.12246	0.010	-1.56583	30.00000	Averaged	
76 1,4-Dichlorobenzene	0.11835	0.12116	0.12116	0.010	2.36962	30.00000	Averaged	
77 1,2,3-Trimethylbenzene	0.14528	0.17108	0.17108	0.010	17.75575	30.00000	Averaged	
78 Benzyl Chloride	0.12119	0.13251	0.13251	0.010	9.34510	30.00000	Averaged	
79 N-Butylbenzene	0.14742	0.17823	0.17823	0.010	20.90105	30.00000	Averaged	
80 1,2-Dichlorobenzene	0.11378	0.10588	0.10588	0.010	-6.94153	30.00000	Averaged	
81 1,2,4-Trichlorobenzene	10.00000	19.81709	18.82295	0.010	98.17091	30.00000	Quadratic	<-
82 Hexachlorobutadiene	0.05494	0.04421	0.04421	0.010	-19.52154	30.00000	Averaged	
83 Naphthalene	10.00000	14.21554	9.07926	0.010	42.15545	30.00000	Quadratic	<-

Data File: \\192.168.10.12\chem\10airB.i\091314.b\25602c.D
Report Date: 13-Sep-2014 12:55

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 13-SEP-2014 11:44
Lab File ID: 25602c.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m

Average %D / Drift Results.	
Calculated Average %D/Drift =	10.76255
Maximun Average %D/Drift =	30.00000
* Passed Average %D/Drift Test.	

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

QC Batch: AIR/21304 — Analysis Method: TO-15
QC Batch Method: TO-15 — Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10280465005, 10280465006, 10280465010, 10280465012, 10280465015, 10280465018, 10280465019, 10280465020, 10280465021, 10280465022, 10280465023, 10280465024, 10280465025, 10280465026, 10280465027, 10280465028, 10280465029

METHOD BLANK: 1788455 — Matrix: Air
Associated Lab Samples: 10280465005, 10280465006, 10280465010, 10280465012, 10280465015, 10280465018, 10280465019, 10280465020, 10280465021, 10280465022, 10280465023, 10280465024, 10280465025, 10280465026, 10280465027, 10280465028, 10280465029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	09/13/14 15:47	
1,1,2-Trichloroethane	ug/m3	ND	0.55	09/13/14 15:47	
1,1-Dichloroethane	ug/m3	ND	0.82	09/13/14 15:47	
1,1-Dichloroethene	ug/m3	ND	0.81	09/13/14 15:47	
1,2,3-Trimethylbenzene	ug/m3	ND	1.0	09/13/14 15:47	
1,2,4-Trichlorobenzene	ug/m3	ND	75.4	09/13/14 15:47	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	09/13/14 15:47	
1,2-Dichloroethane	ug/m3	ND	0.41	09/13/14 15:47	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	09/13/14 15:47	
Benzene	ug/m3	ND	0.65	09/13/14 15:47	
Carbon tetrachloride	ug/m3	ND	0.64	09/13/14 15:47	
Chlorodifluoromethane	ug/m3	ND	0.72	09/13/14 15:47	
Chloroform	ug/m3	ND	0.50	09/13/14 15:47	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	09/13/14 15:47	
Dichlorodifluoromethane	ug/m3	ND	1.0	09/13/14 15:47	
Ethylbenzene	ug/m3	ND	0.88	09/13/14 15:47	
m&p-Xylene	ug/m3	ND	1.8	09/13/14 15:47	
Methyl-tert-butyl ether	ug/m3	ND	0.73	09/13/14 15:47	
Methylene Chloride	ug/m3	ND	3.5	09/13/14 15:47	
Naphthalene	ug/m3	ND	2.7	09/13/14 15:47	
o-Xylene	ug/m3	ND	0.88	09/13/14 15:47	
Tetrachloroethene	ug/m3	ND	0.69	09/13/14 15:47	
Toluene	ug/m3	ND	0.77	09/13/14 15:47	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	09/13/14 15:47	
Trichloroethene	ug/m3	ND	1.1	09/13/14 15:47	
Vinyl chloride	ug/m3	ND	0.26	09/13/14 15:47	

LABORATORY CONTROL SAMPLE: 1788456

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	54.0	97	72-128	
1,1,2-Trichloroethane	ug/m3	55.5	47.3	85	72-130	
1,1-Dichloroethane	ug/m3	41.2	36.6	89	68-128	
1,1-Dichloroethene	ug/m3	40.3	40.0	99	68-130	
1,2,3-Trimethylbenzene	ug/m3	50	58.8	118	60-140	
1,2,4-Trichlorobenzene	ug/m3	75.5	149	198	30-150	CH,L3,SS

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

LABORATORY CONTROL SAMPLE: 1788456

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/m3	50	54.6	109	71-140	
1,2-Dichloroethane	ug/m3	41.2	41.6	101	71-132	
1,3,5-Trimethylbenzene	ug/m3	50	54.9	110	73-136	
Benzene	ug/m3	32.5	29.7	91	69-134	
Carbon tetrachloride	ug/m3	64	63.2	99	66-134	
Chlorodifluoromethane	ug/m3	36	36.4	101	60-140	
Chloroform	ug/m3	49.7	49.4	99	72-127	
cis-1,2-Dichloroethene	ug/m3	40.3	35.1	87	71-135	
Dichlorodifluoromethane	ug/m3	50.3	52.6	105	69-125	
Ethylbenzene	ug/m3	44.2	41.2	93	73-139	
m&p-Xylene	ug/m3	44.2	43.0	97	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	37.9	103	72-132	
Methylene Chloride	ug/m3	35.3	30.9	87	64-134	
Naphthalene	ug/m3	53.3	75.8	142	61-150	CH,SS
o-Xylene	ug/m3	44.2	47.9	108	71-138	
Tetrachloroethene	ug/m3	69	62.5	91	69-136	
Toluene	ug/m3	38.3	35.7	93	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	35.2	87	70-131	
Trichloroethene	ug/m3	54.6	48.8	89	70-135	
Vinyl chloride	ug/m3	26	24.0	92	69-132	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280465
Lab File ID: 25701BFB.D BFB Injection Date: 09/14/2014
Instrument ID: 10AIRB BFB Injection Time: 11:34
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	17.66	
75	30.00 - 66.00% of mass 95	55.08	
96	5.00 - 9.00% of mass 95	6.89	
173	Less than 2.00% of mass 174	0.33	(0.39)
174	50.00 - 120.00% of mass 95	83.82	
175	4.00 - 9.00% of mass 174	6.50	(7.76)
176	93.00 - 101.00% of mass 174	80.30	(95.80)
177	5.00 - 9.00% of mass 176	5.62	(7.00)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	
1	CCV	CCV	25702C.D	09/14/2014	11:58	
2	LCS (LCS)	LCS	25704LCS.D	09/14/2014	13:54	
3	CCV	CCV	25704C.D	09/14/2014	13:54	
4	BLANK (BLK)	BLANK	25711.D	09/14/2014	18:10	
5	SV-076-A-17 - RA	10280465024	25712.D	09/14/2014	20:16	
6	SV-095-A-17 RA	10280465025	25713.D	09/14/2014	20:42	
7	SV-100-B-17 RA	10280465027	25714.D	09/14/2014	21:08	
8	SV-101-B-17	10280465026	25715.D	09/14/2014	21:36	— no Reported results
9	IA-076-A-17 - RA	10280465005	25716.D	09/14/2014	22:01	
10	IA-140-B-17 - RA	10280465015	25717.D	09/14/2014	22:25	
11	IA-079-A-17	10280465006	25718.D	09/14/2014	22:47	
12	IA-079-A-17	10280465006	25719.D	09/14/2014	23:12	— trichloroethene only
13	SV-081-A-17	10280465021	25720.D	09/14/2014	23:34	1,2,3-trimethyl
14	SV-081-A-17 trichloroethene	10280465021	25721.D	09/15/2014	00:02	1,2,4-trimethyl
15	SV-075-A-17 naphthalene	10280465028	25728.D	09/15/2014	02:50	1,3,5-trimethyl
16	SV-DUP2-A-17 toluene	10280465019	25730.D	09/15/2014	03:40	
17	SV-079-A-17 toluene	10280465022	25731.D	09/15/2014	04:02	
18	IA-117-A-17 toluene	10280465010	25732.D	09/15/2014	04:25	

Data File: \\192.168.10.12\chem\10airB.i\091414.b\25704c.D
Report Date: 14-Sep-2014 14:48

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i
Lab File ID: 25704c.D
Analysis Type: AIR
Lab Sample ID: CCV
Method: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m

Injection Date: 14-SEP-2014 13:54
Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Init. Cal. Times: 10:19 12:57
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Propylene	0.01439	0.01308	0.01308	0.010	-9.11781	30.00000	Averaged
2 Dichlorodifluoromethane	0.10368	0.10777	0.10777	0.010	3.94460	30.00000	Averaged
3 Chlorodifluoromethane	0.03804	0.04025	0.04025	0.010	5.81014	30.00000	Averaged
4 Dichlorotetrafluoroethane	0.10816	0.09307	0.09307	0.010	-13.95570	30.00000	Averaged
5 Chloromethane	0.02196	0.01654	0.01654	0.010	-24.67592	30.00000	Averaged
6 Vinyl chloride	0.02640	0.02505	0.02505	0.010	-5.12891	30.00000	Averaged
7 1,3-Butadiene	0.01681	0.01549	0.01549	0.010	-7.82030	30.00000	Averaged
8 Bromomethane	0.02446	0.02646	0.02646	0.010	8.18095	30.00000	Averaged
9 Chloroethane	0.01413	0.01275	0.01275	0.010	-9.73620	30.00000	Averaged
10 Isopentane	10.00000	8.79710	45.64617	0.010	-12.02898	30.00000	Linear
11 Vinyl Bromide	0.03334	0.03087	0.03087	0.010	-7.39907	30.00000	Averaged
12 Trichlorofluoromethane	0.14084	0.12865	0.12865	0.010	-8.65619	30.00000	Averaged
13 Ethanol	10.00000	11.29026	198	0.010	12.90257	30.00000	Quadratic
14 Acrolein	0.00638	0.00517	0.00517	0.010	-18.85739	30.00000	Averaged <-
15 Freon 113	0.07694	0.06951	0.06951	0.010	-9.65418	30.00000	Averaged
16 Acetone	10.00000	11.19418	15.56814	0.010	11.94184	30.00000	Linear
17 Isopropyl Alcohol	0.03878	0.04156	0.04156	0.010	7.17118	30.00000	Averaged
18 1,1-Dichloroethene	0.04626	0.04662	0.04662	0.010	0.76471	30.00000	Averaged
19 Carbon Disulfide	0.11821	0.10063	0.10063	0.010	-14.87643	30.00000	Averaged
20 Allyl Chloride	0.11821	0.10063	0.10063	0.010	-14.87705	30.00000	Averaged
21 Tert Butyl Alcohol	0.06070	0.06948	0.06948	0.010	14.46045	30.00000	Averaged
22 Methylene chloride	10.00000	9.09513	40.36977	0.010	-9.04868	30.00000	Linear
23 Acrylonitrile	0.01632	0.01679	0.01679	0.010	2.84911	30.00000	Averaged
24 Methyl Tert Butyl Ether	0.09886	0.10502	0.10502	0.010	6.23182	30.00000	Averaged
25 trans-1,2-dichloroethene	0.03695	0.03489	0.03489	0.010	-5.58073	30.00000	Averaged
26 n-Hexane	10.00000	8.57719	27.55461	0.010	-14.22809	30.00000	Linear
27 Vinyl Acetate	10.00000	9.91216	9.22805	0.010	-0.87835	30.00000	Linear
28 Di-isopropyl Ether	0.07320	0.07590	0.07590	0.010	3.69073	30.00000	Averaged
29 1,1-Dichloroethane	0.06051	0.05639	0.05639	0.010	-6.81284	30.00000	Averaged
30 Ethyl Tert-Butyl Ether	0.08636	0.09364	0.09364	0.010	8.43144	30.00000	Averaged
31 Ethyl Acetate	0.11533	0.10966	0.10966	0.010	-4.91894	30.00000	Averaged
32 Methyl Ethyl Ketone	0.01553	0.01631	0.01631	0.010	5.02437	30.00000	Averaged
33 cis-1,2-Dichloroethene	0.03712	0.03481	0.03481	0.010	-6.23118	30.00000	Averaged
34 Tetrahydrofuran	0.02744	0.02455	0.02455	0.010	-10.53931	30.00000	Averaged
35 Chloroform	10.00000	10.13835	11.86315	0.010	1.38352	30.00000	Linear
36 1,1,1-Trichloroethane	0.10219	0.10046	0.10046	0.010	-1.69300	30.00000	Averaged
37 Cyclohexane	10.00000	9.12319	26.23785	0.010	-8.76806	30.00000	Linear
38 Carbon tetrachloride	0.11212	0.11039	0.11039	0.010	-1.54227	30.00000	Averaged
39 Benzene	10.00000	9.47789	9.86476	0.300	-5.22113	30.00000	Quadratic
40 1,2-Dichloroethane	0.06237	0.06242	0.06242	0.010	0.08206	30.00000	Averaged
41 Tert Amyl Methyl Ether	0.09687	0.10521	0.10521	0.010	8.61250	30.00000	Averaged
42 2,2,4-Trimethylpentane	10.00000	9.56505	7.58263	0.010	-4.34947	30.00000	Linear
43 Heptane	10.00000	9.59625	24.74406	0.010	-4.03748	30.00000	Linear

Data File: \\192.168.10.12\chem\10airB.i\091414.b\25704c.D
Report Date: 14-Sep-2014 14:48

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 14-SEP-2014 13:54
Lab File ID: 25704c.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
45 Trichloroethene	10.00000	9.42426	18.54282	0.010	-5.75740	30.00000	Linear	
46 Methylcyclohexane	0.03163	0.02893	0.02893	0.010	-8.53363	30.00000	Averaged	
47 1,2-Dichloropropane	0.03422	0.03274	0.03274	0.010	-4.33566	30.00000	Averaged	
48 1,4-Dioxane	0.02066	0.02442	0.02442	0.010	18.19773	30.00000	Averaged	
49 Bromodichloromethane	0.09405	0.09245	0.09245	0.010	-1.70281	30.00000	Averaged	
50 cis-1,3-Dichloropropene	0.05518	0.05637	0.05637	0.010	2.15862	30.00000	Averaged	
51 Methyl Isobutyl Ketone	0.05632	0.05784	0.05784	0.010	2.70503	30.00000	Averaged	
52 Toluene	10.00000	9.52716	7.87587	0.010	-4.72837	30.00000	Linear	
53 trans-1,3-Dichloropropene	0.05584	0.06711	0.06711	0.010	20.18756	30.00000	Averaged	
54 1,1,2-Trichloroethane	0.04911	0.04346	0.04346	0.010	-11.50825	30.00000	Averaged	
55 Tetrachloroethene	10.00000	9.15493	12.80498	0.010	-8.45071	30.00000	Linear	
56 Methyl Butyl Ketone	0.05237	0.06129	0.06129	0.010	17.04166	30.00000	Averaged	
57 Dibromochloromethane	0.10929	0.10574	0.10574	0.010	-3.25383	30.00000	Averaged	
58 1,2-Dibromoethane	0.07874	0.08014	0.08014	0.010	1.78009	30.00000	Averaged	
60 Chlorobenzene	10.00000	9.78093	7.72155	0.010	-2.19067	30.00000	Linear	
61 Ethyl Benzene	0.20641	0.19584	0.19584	0.030	-5.12326	30.00000	Averaged	
62 m&p-Xylene	0.15441	0.15356	0.15356	0.300	-0.54837	30.00000	Averaged	<-
63 o-Xylene	0.13755	0.14987	0.14987	0.300	8.95620	30.00000	Averaged	<-
64 Styrene	0.09662	0.11537	0.11537	0.010	19.40847	30.00000	Averaged	
65 Bromoform	0.09147	0.09014	0.09014	0.010	-1.45469	30.00000	Averaged	
66 Isopropylbenzene	0.18651	0.21041	0.21041	0.010	12.81643	30.00000	Averaged	
67 1,1,2,2-Tetrachloroethane	0.09439	0.08914	0.08914	0.010	-5.56590	30.00000	Averaged	
68 N-Propylbenzene	0.22863	0.24182	0.24182	0.010	5.77005	30.00000	Averaged	
69 4-Ethyltoluene	0.17266	0.20145	0.20145	0.010	16.67430	30.00000	Averaged	
70 1,3,5-Trimethylbenzene	0.16810	0.18589	0.18589	0.010	10.57993	30.00000	Averaged	
71 Tert Butyl Benzene	0.15980	0.16885	0.16885	0.010	5.66401	30.00000	Averaged	
72 1,2,4-Trimethylbenzene	0.16382	0.17909	0.17909	0.010	9.31552	30.00000	Averaged	
73 Sec- Butylbenzene	0.21881	0.23192	0.23192	0.010	5.99328	30.00000	Averaged	
74 p-isopropyltoluene	10.00000	10.51311	4.62860	0.010	5.13111	30.00000	Linear	
75 1,3-Dichlorobenzene	0.12440	0.12380	0.12380	0.010	-0.48665	30.00000	Averaged	
76 1,4-Dichlorobenzene	0.11835	0.12148	0.12148	0.010	2.64221	30.00000	Averaged	
77 1,2,3-Trimethylbenzene	0.14528	0.17310	0.17310	0.010	19.14563	30.00000	Averaged	
78 Benzyl Chloride	0.12119	0.13319	0.13319	0.010	9.90161	30.00000	Averaged	
79 N-Butylbenzene	0.14742	0.17262	0.17262	0.010	17.09580	30.00000	Averaged	
80 1,2-Dichlorobenzene	0.11378	0.10853	0.10853	0.010	-4.61399	30.00000	Averaged	
81 1,2,4-Trichlorobenzene	10.00000	20.30130	18.21134	0.010	103	30.00000	Quadratic	<-
82 Hexachlorobutadiene	0.05494	0.04514	0.04514	0.010	-17.83433	30.00000	Averaged	
83 Naphthalene	10.00000	14.62293	8.78400	0.010	46.22929	30.00000	Quadratic	<-

Data File: \\192.168.10.12\chem\10airB.i\091414.b\25704c.D
Report Date: 14-Sep-2014 14:48

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 14-SEP-2014 13:54
Lab File ID: 25704c.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m

Average %D / Drift Results.
Calculated Average %D/Drift = 9.73595
Maximun Average %D/Drift = 30.00000
* Passed Average %D/Drift Test.

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280465
Lab File ID: 25801BFB.D BFB Injection Date: 09/15/2014
Instrument ID: 10AIRB BFB Injection Time: 09:54
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	18.59	
75	30.00 - 66.00% of mass 95	58.11	
96	5.00 - 9.00% of mass 95	6.66	
173	Less than 2.00% of mass 174	1.08	(1.32)
174	50.00 - 120.00% of mass 95	81.20	
175	4.00 - 9.00% of mass 174	6.18	(7.61)
176	93.00 - 101.00% of mass 174	76.96	(94.78)
177	5.00 - 9.00% of mass 176	5.07	(6.59)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV	CCV	25802.D	09/15/2014	10:18
2	LCS (LCS)	LCS	25803LCS.D	09/15/2014	11:11
3	CCV	CCV	25803.D	09/15/2014	11:11
4	BLANK (BLK)	BLANK	25805.D	09/15/2014	12:25
5	SV-118-A-17	10280465020	25811.D	09/15/2014	15:15
6	SV-DUP1-A-17	10280465018	25812.D	09/15/2014	15:37
7	SV-136-A-17	10280465023	25813.D	09/15/2014	15:59
8	IA-118-A-17	10280465011	25839_RW-TO	09/16/2014	03:34
9	IA-093-A-17	10280465008	25841.D	09/16/2014	04:18
10	IA-015-A-17	10280465003	25842.D	09/16/2014	04:41
11	IA-018-A-17	10280465001	25843.D	09/16/2014	07:09
12	IA-DUP1-A-17	10280465016	25844.D	09/16/2014	07:31
13	IA-DUP2-A-17	10280465017	25845.D	09/16/2014	08:44
14	IA-033-B-17	10280465013	25846.D	09/16/2014	09:08
15	IA-095-A-17	10280465009	25847.D	09/16/2014	09:33

Data File: \\192.168.10.12\chem\10airB.i\091514.b\25803.D
Report Date: 15-Sep-2014 10:41

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 15-SEP-2014 11:11
Lab File ID: 25803.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Propylene	0.01439	0.01155	0.01155	0.010	-19.72741	30.00000	Averaged
2 Dichlorodifluoromethane	0.10368	0.10865	0.10865	0.010	4.79911	30.00000	Averaged
3 Chlorodifluoromethane	0.03804	0.03847	0.03847	0.010	1.12495	30.00000	Averaged
4 Dichlorotetrafluoroethane	0.10816	0.09705	0.09705	0.010	-10.27737	30.00000	Averaged
5 Chloromethane	0.02196	0.01539	0.01539	0.010	-29.92598	30.00000	Averaged
6 Vinyl chloride	0.02640	0.02296	0.02296	0.010	-13.05073	30.00000	Averaged
7 1,3-Butadiene	0.01681	0.01309	0.01309	0.010	-22.10898	30.00000	Averaged
8 Bromomethane	0.02446	0.02402	0.02402	0.010	-1.80758	30.00000	Averaged
9 Chloroethane	0.01413	0.01250	0.01250	0.010	-11.54334	30.00000	Averaged
10 Isopentane	10.00000	7.87915	50.88386	0.010	-21.20849	30.00000	Linear
11 Vinyl Bromide	0.03334	0.02789	0.02789	0.010	-16.34562	30.00000	Averaged
12 Trichlorofluoromethane	0.14084	0.13262	0.13262	0.010	-5.83784	30.00000	Averaged
13 Ethanol	10.00000	11.27502	199	0.010	12.75025	30.00000	Quadratic
14 Acrolein	0.00638	0.00425	0.00425	0.010	-33.32925	30.00000	Averaged <-
15 Freon 113	0.07694	0.06470	0.06470	0.010	-15.90528	30.00000	Averaged
16 Acetone	10.00000	11.16772	15.60350	0.010	11.67725	30.00000	Linear
17 Isopropyl Alcohol	0.03878	0.03667	0.03667	0.010	-5.44114	30.00000	Averaged
18 1,1-Dichloroethene	0.04626	0.04581	0.04581	0.010	-0.97638	30.00000	Averaged
19 Carbon Disulfide	0.11821	0.09139	0.09139	0.010	-22.68877	30.00000	Averaged
20 Allyl Chloride	0.11821	0.09198	0.09198	0.010	-22.19133	30.00000	Averaged
21 Tert Butyl Alcohol	0.06070	0.06303	0.06303	0.010	3.83936	30.00000	Averaged
22 Methylene chloride	10.00000	8.99195	40.79373	0.010	-10.08054	30.00000	Linear
23 Acrylonitrile	0.01632	0.01475	0.01475	0.010	-9.61968	30.00000	Averaged
24 Methyl Tert Butyl Ether	0.09886	0.09774	0.09774	0.010	-1.13228	30.00000	Averaged
25 trans-1,2-dichloroethene	0.03695	0.03189	0.03189	0.010	-13.71150	30.00000	Averaged
26 n-Hexane	10.00000	7.32630	31.88716	0.010	-26.73702	30.00000	Linear
27 Vinyl Acetate	10.00000	9.13271	10.02517	0.010	-8.67287	30.00000	Linear
28 Di-isopropyl Ether	0.07320	0.06682	0.06682	0.010	-8.71899	30.00000	Averaged
29 1,1-Dichloroethane	0.06051	0.05367	0.05367	0.010	-11.29858	30.00000	Averaged
30 Ethyl Tert-Butyl Ether	0.08636	0.08460	0.08460	0.010	-2.03728	30.00000	Averaged
31 Ethyl Acetate	0.11533	0.10241	0.10241	0.010	-11.20307	30.00000	Averaged
32 Methyl Ethyl Ketone	0.01553	0.01469	0.01469	0.010	-5.39814	30.00000	Averaged
33 cis-1,2-Dichloroethene	0.03712	0.03139	0.03139	0.010	-15.45069	30.00000	Averaged
34 Tetrahydrofuran	0.02744	0.02138	0.02138	0.010	-22.08694	30.00000	Averaged
35 Chloroform	10.00000	10.04037	11.97765	0.010	0.40375	30.00000	Linear
36 1,1,1-Trichloroethane	0.10219	0.10086	0.10086	0.010	-1.30389	30.00000	Averaged
37 Cyclohexane	10.00000	7.88233	30.15760	0.010	-21.17671	30.00000	Linear
38 Carbon tetrachloride	0.11212	0.11261	0.11261	0.010	0.43422	30.00000	Averaged
39 Benzene	10.00000	8.70894	10.72182	0.300	-12.91056	30.00000	Quadratic
40 1,2-Dichloroethane	0.06237	0.06528	0.06528	0.010	4.67194	30.00000	Averaged
41 Tert Amyl Methyl Ether	0.09687	0.09767	0.09767	0.010	0.82915	30.00000	Averaged
42 2,2,4-Trimethylpentane	10.00000	8.50217	8.44841	0.010	-14.97830	30.00000	Linear
43 Heptane	10.00000	8.43684	28.05515	0.010	-15.63156	30.00000	Linear

Data File: \\192.168.10.12\chem\10airB.i\091514.b\25803.D
Report Date: 15-Sep-2014 10:41

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 15-SEP-2014 11:11
Lab File ID: 25803.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
45 Trichloroethene	10.00000	8.64217	20.22450	0.010	-13.57827	30.00000	Linear	
46 Methylcyclohexane	0.03163	0.02608	0.02608	0.010	-17.54745	30.00000	Averaged	
47 1,2-Dichloropropane	0.03422	0.03006	0.03006	0.010	-12.16082	30.00000	Averaged	
48 1,4-Dioxane	0.02066	0.02232	0.02232	0.010	8.01960	30.00000	Averaged	
49 Bromodichloromethane	0.09405	0.09053	0.09053	0.010	-3.73877	30.00000	Averaged	
50 cis-1,3-Dichloropropene	0.05518	0.05175	0.05175	0.010	-6.21206	30.00000	Averaged	
51 Methyl Isobutyl Ketone	0.05632	0.05181	0.05181	0.010	-7.99932	30.00000	Averaged	
52 Toluene	10.00000	8.61624	8.70639	0.010	-13.83759	30.00000	Linear	
53 trans-1,3-Dichloropropene	0.05584	0.06291	0.06291	0.010	12.65908	30.00000	Averaged	
54 1,1,2-Trichloroethane	0.04911	0.04118	0.04118	0.010	-16.14639	30.00000	Averaged	
55 Tetrachloroethene	10.00000	8.18996	14.28661	0.010	-18.10040	30.00000	Linear	
56 Methyl Butyl Ketone	0.05237	0.05655	0.05655	0.010	7.98738	30.00000	Averaged	
57 Dibromochloromethane	0.10929	0.10162	0.10162	0.010	-7.02275	30.00000	Averaged	
58 1,2-Dibromoethane	0.07874	0.07334	0.07334	0.010	-6.86542	30.00000	Averaged	
60 Chlorobenzene	10.00000	8.87050	8.47000	0.010	-11.29501	30.00000	Linear	
61 Ethyl Benzene	0.20641	0.17850	0.17850	0.030	-13.52544	30.00000	Averaged	
62 m&p-Xylene	0.15441	0.14281	0.14281	0.300	-7.50992	30.00000	Averaged	<-
63 o-Xylene	0.13755	0.14216	0.14216	0.300	3.34757	30.00000	Averaged	<-
64 Styrene	0.09662	0.10502	0.10502	0.010	8.69675	30.00000	Averaged	
65 Bromoform	0.09147	0.08545	0.08545	0.010	-6.58079	30.00000	Averaged	
66 Isopropylbenzene	0.18651	0.19312	0.19312	0.010	3.54797	30.00000	Averaged	
67 1,1,2,2-Tetrachloroethane	0.09439	0.08223	0.08223	0.010	-12.88198	30.00000	Averaged	
68 N-Propylbenzene	0.22863	0.22431	0.22431	0.010	-1.88856	30.00000	Averaged	
69 4-Ethyltoluene	0.17266	0.18817	0.18817	0.010	8.98125	30.00000	Averaged	
70 1,3,5-Trimethylbenzene	0.16810	0.17846	0.17846	0.010	6.16252	30.00000	Averaged	
71 Tert Butyl Benzene	0.15980	0.15752	0.15752	0.010	-1.42696	30.00000	Averaged	
72 1,2,4-Trimethylbenzene	0.16382	0.16967	0.16967	0.010	3.56686	30.00000	Averaged	
73 Sec- Butylbenzene	0.21881	0.21704	0.21704	0.010	-0.80907	30.00000	Averaged	
74 p-isopropyltoluene	10.00000	9.72624	5.00991	0.010	-2.73758	30.00000	Linear	
75 1,3-Dichlorobenzene	0.12440	0.11575	0.11575	0.010	-6.95360	30.00000	Averaged	
76 1,4-Dichlorobenzene	0.11835	0.11167	0.11167	0.010	-5.64358	30.00000	Averaged	
77 1,2,3-Trimethylbenzene	0.14528	0.15918	0.15918	0.010	9.56558	30.00000	Averaged	
78 Benzyl Chloride	0.12119	0.12183	0.12183	0.010	0.53097	30.00000	Averaged	
79 N-Butylbenzene	0.14742	0.16468	0.16468	0.010	11.70945	30.00000	Averaged	
80 1,2-Dichlorobenzene	0.11378	0.10044	0.10044	0.010	-11.72269	30.00000	Averaged	
81 1,2,4-Trichlorobenzene	10.00000	18.72479	20.32619	0.010	87.24786	30.00000	Quadratic	<-
82 Hexachlorobutadiene	0.05494	0.04272	0.04272	0.010	-22.23835	30.00000	Averaged	
83 Naphthalene	10.00000	12.84057	10.21386	0.010	28.40570	30.00000	Quadratic	

Data File: \\192.168.10.12\chem\10airB.i\091514.b\25803.D
Report Date: 15-Sep-2014 10:41

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 15-SEP-2014 11:11
Lab File ID: 25803.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m

Average %D / Drift Results.	
Calculated Average %D/Drift =	11.52957
Maximun Average %D/Drift =	30.00000
* Passed Average %D/Drift Test.	

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280465
Lab File ID: 25901BFB.D BFB Injection Date: 09/16/2014
Instrument ID: 10AIRB BFB Injection Time: 10:40
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	19.86	
75	30.00 - 66.00% of mass 95	59.72	
96	5.00 - 9.00% of mass 95	6.72	
173	Less than 2.00% of mass 174	1.04	(1.32)
174	50.00 - 120.00% of mass 95	78.72	
175	4.00 - 9.00% of mass 174	6.17	(7.84)
176	93.00 - 101.00% of mass 174	74.54	(94.69)
177	5.00 - 9.00% of mass 176	5.07	(6.80)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	LCS (LCS)	LCS	25903LCS.D	09/16/2014	11:55
2	CCV	CCV	25903.D	09/16/2014	11:55
3	BLANK (BLK)	BLANK	25905.D	09/16/2014	13:04
4	IA-075-A-17	10280465004	25906.D	09/16/2014	13:49

Data File: \\192.168.10.12\chem\10airB.i\091614.b\25903.D
Report Date: 16-Sep-2014 11:25

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i
Lab File ID: 25903.D
Analysis Type: AIR
Lab Sample ID: CCV
Method: \\192.168.10.12\chem\10airB.i\091614.b\TO15_239-14_Markes.m

Injection Date: 16-SEP-2014 11:55
Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Init. Cal. Times: 10:19 12:57
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
1 Propylene	0.01439	0.01104	0.01104	0.010	-23.30373	30.00000	Averaged	
2 Dichlorodifluoromethane	0.10368	0.10992	0.10992	0.010	6.01992	30.00000	Averaged	
3 Chlorodifluoromethane	0.03804	0.03944	0.03944	0.010	3.67027	30.00000	Averaged	
4 Dichlorotetrafluoroethane	0.10816	0.10798	0.10798	0.010	-0.16789	30.00000	Averaged	
5 Chloromethane	0.02196	0.01565	0.01565	0.010	-28.73818	30.00000	Averaged	
6 Vinyl chloride	0.02640	0.02288	0.02288	0.010	-13.34717	30.00000	Averaged	
7 1,3-Butadiene	0.01681	0.01352	0.01352	0.010	-19.53189	30.00000	Averaged	
8 Bromomethane	0.02446	0.02440	0.02440	0.010	-0.27541	30.00000	Averaged	
9 Chloroethane	0.01413	0.01202	0.01202	0.010	-14.89434	30.00000	Averaged	
10 Isopentane	10.00000	7.52883	53.21412	0.010	-24.71168	30.00000	Linear	
11 Vinyl Bromide	0.03334	0.02783	0.02783	0.010	-16.52688	30.00000	Averaged	
12 Trichlorofluoromethane	0.14084	0.13564	0.13564	0.010	-3.69180	30.00000	Averaged	
13 Ethanol	10.00000	11.11225	202	0.010	11.12248	30.00000	Quadratic	
14 Acrolein	0.00638	0.00431	0.00431	0.010	-32.34105	30.00000	Averaged	<-
15 Freon 113	0.07694	0.06465	0.06465	0.010	-15.96817	30.00000	Averaged	
16 Acetone	10.00000	11.23384	15.51544	0.010	12.33842	30.00000	Linear	
17 Isopropyl Alcohol	0.03878	0.03461	0.03461	0.010	-10.77257	30.00000	Averaged	
18 1,1-Dichloroethene	0.04626	0.04535	0.04535	0.010	-1.96974	30.00000	Averaged	
19 Carbon Disulfide	0.11821	0.09061	0.09061	0.010	-23.35363	30.00000	Averaged	
20 Allyl Chloride	0.11821	0.09061	0.09061	0.010	-23.35418	30.00000	Averaged	
21 Tert Butyl Alcohol	0.06070	0.06191	0.06191	0.010	1.99805	30.00000	Averaged	
22 Methylene chloride	10.00000	9.30043	39.55192	0.010	-6.99566	30.00000	Linear	
23 Acrylonitrile	0.01632	0.01418	0.01418	0.010	-13.09004	30.00000	Averaged	
24 Methyl Tert Butyl Ether	0.09886	0.09691	0.09691	0.010	-1.96863	30.00000	Averaged	
25 trans-1,2-dichloroethene	0.03695	0.03019	0.03019	0.010	-18.29022	30.00000	Averaged	
26 n-Hexane	10.00000	7.08584	32.88097	0.010	-29.14156	30.00000	Linear	
27 Vinyl Acetate	10.00000	9.27412	9.87049	0.010	-7.25880	30.00000	Linear	
28 Di-isopropyl Ether	0.07320	0.06579	0.06579	0.010	-10.13088	30.00000	Averaged	
29 1,1-Dichloroethane	0.06051	0.05305	0.05305	0.010	-12.32882	30.00000	Averaged	
30 Ethyl Tert-Butyl Ether	0.08636	0.08130	0.08130	0.010	-5.85857	30.00000	Averaged	
31 Ethyl Acetate	0.11533	0.09950	0.09950	0.010	-13.72630	30.00000	Averaged	
32 Methyl Ethyl Ketone	0.01553	0.01371	0.01371	0.010	-11.67303	30.00000	Averaged	
33 cis-1,2-Dichloroethene	0.03712	0.03034	0.03034	0.010	-18.28914	30.00000	Averaged	
34 Tetrahydrofuran	0.02744	0.02171	0.02171	0.010	-20.88460	30.00000	Averaged	
35 Chloroform	10.00000	10.06298	11.95104	0.010	0.62978	30.00000	Linear	
36 1,1,1-Trichloroethane	0.10219	0.10126	0.10126	0.010	-0.91046	30.00000	Averaged	
37 Cyclohexane	10.00000	8.07515	29.47341	0.010	-19.24854	30.00000	Linear	
38 Carbon tetrachloride	0.11212	0.11465	0.11465	0.010	2.25762	30.00000	Averaged	
39 Benzene	10.00000	8.46449	11.02620	0.300	-15.35510	30.00000	Quadratic	
40 1,2-Dichloroethane	0.06237	0.06515	0.06515	0.010	4.45926	30.00000	Averaged	
41 Tert Amyl Methyl Ether	0.09687	0.09441	0.09441	0.010	-2.53566	30.00000	Averaged	
42 2,2,4-Trimethylpentane	10.00000	8.60105	8.35962	0.010	-13.98953	30.00000	Linear	
43 Heptane	10.00000	8.48284	27.90701	0.010	-15.17163	30.00000	Linear	

Data File: \\192.168.10.12\chem\10airB.i\091614.b\25903.D
Report Date: 16-Sep-2014 11:25

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 16-SEP-2014 11:55
Lab File ID: 25903.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091614.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
45 Trichloroethene	10.00000	8.23445	21.22817	0.010	-17.65548	30.00000	Linear	
46 Methylcyclohexane	0.03163	0.02493	0.02493	0.010	-21.18969	30.00000	Averaged	
47 1,2-Dichloropropane	0.03422	0.02981	0.02981	0.010	-12.88754	30.00000	Averaged	
48 1,4-Dioxane	0.02066	0.02124	0.02124	0.010	2.83241	30.00000	Averaged	
49 Bromodichloromethane	0.09405	0.09106	0.09106	0.010	-3.18538	30.00000	Averaged	
50 cis-1,3-Dichloropropene	0.05518	0.05009	0.05009	0.010	-9.21562	30.00000	Averaged	
51 Methyl Isobutyl Ketone	0.05632	0.05115	0.05115	0.010	-9.16571	30.00000	Averaged	
52 Toluene	10.00000	8.30674	9.02992	0.010	-16.93258	30.00000	Linear	
53 trans-1,3-Dichloropropene	0.05584	0.06104	0.06104	0.010	9.30837	30.00000	Averaged	
54 1,1,2-Trichloroethane	0.04911	0.03963	0.03963	0.010	-19.30679	30.00000	Averaged	
55 Tetrachloroethene	10.00000	8.06119	14.51067	0.010	-19.38814	30.00000	Linear	
56 Methyl Butyl Ketone	0.05237	0.05470	0.05470	0.010	4.45742	30.00000	Averaged	
57 Dibromochloromethane	0.10929	0.09815	0.09815	0.010	-10.19702	30.00000	Averaged	
58 1,2-Dibromoethane	0.07874	0.07075	0.07075	0.010	-10.15098	30.00000	Averaged	
60 Chlorobenzene	10.00000	8.65178	8.67194	0.010	-13.48221	30.00000	Linear	
61 Ethyl Benzene	0.20641	0.17383	0.17383	0.030	-15.78464	30.00000	Averaged	
62 m&p-Xylene	0.15441	0.13774	0.13774	0.300	-10.79493	30.00000	Averaged	<-
63 o-Xylene	0.13755	0.13616	0.13616	0.300	-1.01591	30.00000	Averaged	<-
64 Styrene	0.09662	0.09932	0.09932	0.010	2.79682	30.00000	Averaged	
65 Bromoform	0.09147	0.08363	0.08363	0.010	-8.56718	30.00000	Averaged	
66 Isopropylbenzene	0.18651	0.18337	0.18337	0.010	-1.68466	30.00000	Averaged	
67 1,1,2,2-Tetrachloroethane	0.09439	0.08092	0.08092	0.010	-14.27474	30.00000	Averaged	
68 N-Propylbenzene	0.22863	0.21587	0.21587	0.010	-5.58162	30.00000	Averaged	
69 4-Ethyltoluene	0.17266	0.17971	0.17971	0.010	4.08484	30.00000	Averaged	
70 1,3,5-Trimethylbenzene	0.16810	0.17317	0.17317	0.010	3.01289	30.00000	Averaged	
71 Tert Butyl Benzene	0.15980	0.15124	0.15124	0.010	-5.35948	30.00000	Averaged	
72 1,2,4-Trimethylbenzene	0.16382	0.16779	0.16779	0.010	2.41909	30.00000	Averaged	
73 Sec- Butylbenzene	0.21881	0.21328	0.21328	0.010	-2.52432	30.00000	Averaged	
74 p-isopropyltoluene	10.00000	9.15058	5.33121	0.010	-8.49425	30.00000	Linear	
75 1,3-Dichlorobenzene	0.12440	0.11219	0.11219	0.010	-9.81863	30.00000	Averaged	
76 1,4-Dichlorobenzene	0.11835	0.10861	0.10861	0.010	-8.23069	30.00000	Averaged	
77 1,2,3-Trimethylbenzene	0.14528	0.15587	0.15587	0.010	7.28784	30.00000	Averaged	
78 Benzyl Chloride	0.12119	0.12169	0.12169	0.010	0.41155	30.00000	Averaged	
79 N-Butylbenzene	0.14742	0.16016	0.16016	0.010	8.64180	30.00000	Averaged	
80 1,2-Dichlorobenzene	0.11378	0.09432	0.09432	0.010	-17.10518	30.00000	Averaged	
81 1,2,4-Trichlorobenzene	10.00000	17.35874	22.48664	0.010	73.58735	30.00000	Quadratic	<-
82 Hexachlorobutadiene	0.05494	0.04049	0.04049	0.010	-26.30167	30.00000	Averaged	
83 Naphthalene	10.00000	12.13240	10.89781	0.010	21.32402	30.00000	Quadratic	

Data File: \\192.168.10.12\chem\10airB.i\091614.b\25903.D
Report Date: 16-Sep-2014 11:25

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 16-SEP-2014 11:55
Lab File ID: 25903.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091614.b\TO15_239-14_Markes.m

Average %D / Drift Results.	
Calculated Average %D/Drift =	11.98458
Maximun Average %D/Drift =	30.00000
* Passed Average %D/Drift Test.	

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

QC Batch: AIR/21307 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10280465001, 10280465003, 10280465004, 10280465007, 10280465008, 10280465009, 10280465011, 10280465013, 10280465016, 10280465017, 10280465030, 10280465031, 10280465032

METHOD BLANK: 1788481 Matrix: Air
Associated Lab Samples: 10280465001, 10280465003, 10280465004, 10280465007, 10280465008, 10280465009, 10280465011, 10280465013, 10280465016, 10280465017, 10280465030, 10280465031, 10280465032

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	09/13/14 18:24	
1,1,2-Trichloroethane	ug/m3	ND	0.55	09/13/14 18:24	
1,1-Dichloroethane	ug/m3	ND	0.82	09/13/14 18:24	
1,1-Dichloroethene	ug/m3	ND	0.81	09/13/14 18:24	
1,2,3-Trimethylbenzene	ug/m3	ND	1.0	09/13/14 18:24	
1,2,4-Trichlorobenzene	ug/m3	ND	1.5	09/13/14 18:24	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	09/13/14 18:24	
1,2-Dichloroethane	ug/m3	ND	0.41	09/13/14 18:24	
1,3,5-Trimethylbenzene	ug/m3	ND	2.5	09/13/14 18:24	
Benzene	ug/m3	ND	0.32	09/13/14 18:24	
Carbon tetrachloride	ug/m3	ND	0.64	09/13/14 18:24	
Chlorodifluoromethane	ug/m3	ND	0.72	09/13/14 18:24	
Chloroform	ug/m3	ND	0.50	09/13/14 18:24	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	09/13/14 18:24	
Dichlorodifluoromethane	ug/m3	ND	1.0	09/13/14 18:24	
Ethylbenzene	ug/m3	ND	0.88	09/13/14 18:24	
m&p-Xylene	ug/m3	ND	1.8	09/13/14 18:24	
Methyl-tert-butyl ether	ug/m3	ND	0.73	09/13/14 18:24	
Methylene Chloride	ug/m3	ND	3.5	09/13/14 18:24	
Naphthalene	ug/m3	ND	2.7	09/13/14 18:24	
o-Xylene	ug/m3	ND	0.88	09/13/14 18:24	
Tetrachloroethene	ug/m3	ND	0.69	09/13/14 18:24	
Toluene	ug/m3	0.51J	0.77	09/13/14 18:24	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	09/13/14 18:24	
Trichloroethene	ug/m3	ND	0.55	09/13/14 18:24	
Vinyl chloride	ug/m3	ND	0.52	09/13/14 18:24	

LABORATORY CONTROL SAMPLE: 1788482

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	60.9	110	72-128	
1,1,2-Trichloroethane	ug/m3	55.5	59.6	107	72-130	
1,1-Dichloroethane	ug/m3	41.2	45.0	109	68-128	
1,1-Dichloroethene	ug/m3	40.3	42.4	105	68-130	
1,2,3-Trimethylbenzene	ug/m3	50	48.8	98	60-140	
1,2,4-Trichlorobenzene	ug/m3	75.5	75.8	100	30-150	
1,2,4-Trimethylbenzene	ug/m3	50	49.5	99	71-140	
1,2-Dichloroethane	ug/m3	41.2	45.8	111	71-132	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

LABORATORY CONTROL SAMPLE: 1788482

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3,5-Trimethylbenzene	ug/m3	50	50.1	100	73-136	
Benzene	ug/m3	32.5	32.7	101	69-134	
Carbon tetrachloride	ug/m3	64	75.8	118	66-134	
Chlorodifluoromethane	ug/m3	36	37.2	104	60-140	
Chloroform	ug/m3	49.7	53.7	108	72-127	
cis-1,2-Dichloroethene	ug/m3	40.3	44.5	110	71-135	
Dichlorodifluoromethane	ug/m3	50.3	54.8	109	69-125	
Ethylbenzene	ug/m3	44.2	44.4	100	73-139	
m&p-Xylene	ug/m3	44.2	44.7	101	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	40.3	110	72-132	
Methylene Chloride	ug/m3	35.3	36.2	103	64-134	
Naphthalene	ug/m3	53.3	54.7	103	61-150	SS
o-Xylene	ug/m3	44.2	44.8	101	71-138	
Tetrachloroethene	ug/m3	69	69.3	100	69-136	
Toluene	ug/m3	38.3	38.2	100	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	43.7	108	70-131	
Trichloroethene	ug/m3	54.6	54.5	100	70-135	
Vinyl chloride	ug/m3	26	26.4	102	69-132	

SAMPLE DUPLICATE: 1789974

Parameter	Units	10280465031 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,3-Trimethylbenzene	ug/m3	ND	ND		25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	1.0J	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
Benzene	ug/m3	0.48	0.50	6	25	
Carbon tetrachloride	ug/m3	ND	ND		25	
Chlorodifluoromethane	ug/m3	2.7	2.6	3	25	
Chloroform	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	1.6	2.0	19	25	
Ethylbenzene	ug/m3	1.1J	1.1J		25	
m&p-Xylene	ug/m3	1.8J	1.7J		25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	0.61J	0.70J		25	
Naphthalene	ug/m3	ND	ND		25	
o-Xylene	ug/m3	1.1J	1.1J		25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	3.0	2.8	5	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

SAMPLE DUPLICATE: 1789974

Parameter	Units	10280465031 Result	Dup Result	RPD	Max RPD	Qualifiers
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	1.1	1.2	14	25	
Vinyl chloride	ug/m3	ND	ND		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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Data File: \\192.168.10.12\chem\10airB.i\091314.b\25620.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25620.D
Lab Smp Id: 10280465029
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

BCK-1-17

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2852308	-19.29
59 Chlorobenzene - d	3095570	1857342	4333798	2505687	-19.06

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10air7.i\091314.b\25633.D
Report Date: 16-Sep-2014 16:15

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 25633.D
Lab Smp Id: 10280465030
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Misc Info: 21307

BCK-Z-17

Calibration Date: 13-SEP-2014
Calibration Time: 15:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	569280	341568	796992	496760	-12.74
61 Chlorobenzene - d	382559	229535	535583	367298	-3.99

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.68	4.35	5.01	4.70	0.56
61 Chlorobenzene - d	7.50	7.17	7.83	7.54	0.61

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: \\192.168.10.12\chem\10air7.i\091314.b\25631.D
Report Date: 16-Sep-2014 16:23

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 25631.D
Lab Smp Id: 10280465031
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Misc Info: 21307

BCK-377

Calibration Date: 13-SEP-2014
Calibration Time: 15:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	569280	341568	796992	534189	-6.16
61 Chlorobenzene - d	382559	229535	535583	379480	-0.80

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.68	4.35	5.01	4.69	0.35
61 Chlorobenzene - d	7.50	7.17	7.83	7.52	0.26

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: \\192.168.10.12\chem\10air7.i\091314.b\25624.D
Report Date: 16-Sep-2014 16:26

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 25624.D
Lab Smp Id: 10280465032
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Misc Info: 21307

BCK-4-17

Calibration Date: 13-SEP-2014
Calibration Time: 15:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	569280	341568	796992	595579	4.62
61 Chlorobenzene - d	382559	229535	535583	415402	8.59

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.68	4.35	5.01	4.68	0.07
61 Chlorobenzene - d	7.50	7.17	7.83	7.51	0.09

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: \\192.168.10.12\chem\10air7.i\091314.b\25627.D
Report Date: 16-Sep-2014 14:09

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 25627.D
Lab Smp Id: 10280465003
Analysis Type: VOA IA-015A-17
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Misc Info: 21307

Calibration Date: 13-SEP-2014
Calibration Time: 15:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	569280	341568	796992	529992	-6.90
61 Chlorobenzene - d	382559	229535	535583	379172	-0.89

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.68	4.35	5.01	4.70	0.42
61 Chlorobenzene - d	7.50	7.17	7.83	7.60	1.39

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: \\192.168.10.12\chem\10airB.i\091514.b\25842.D
Report Date: 16-Sep-2014 09:17

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25842.D
Lab Smp Id: 10280465003 IA-010-A-TT
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m
Misc Info: 21307

Calibration Date: 15-SEP-2014
Calibration Time: 11:11

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

m&p xylene
toluene

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF	
44 1,4-Difluorobenze	3534196	2120518	4947874	2112701	-40.22	<-
59 Chlorobenzene - d	3095570	1857342	4333798	1878358	-39.32	

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10air7.i\091314.b\25634.D
Report Date: 16-Sep-2014 14:22

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 25634.D
Lab Smp Id: 10280465001 IA-018-A-17
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Misc Info: 21307

Calibration Date: 13-SEP-2014
Calibration Time: 15:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	569280	341568	796992	525357	-7.72
61 Chlorobenzene - d	382559	229535	535583	393218	2.79

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.68	4.35	5.01	4.71	0.70
61 Chlorobenzene - d	7.50	7.17	7.83	7.57	0.91

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: \\192.168.10.12\chem\10airB.i\091514.b\25843.D
Report Date: 16-Sep-2014 09:16

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25843.D
Lab Smp Id: 10280465001 IA-018-A17
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m
Misc Info: 21307

Calibration Date: 15-SEP-2014
Calibration Time: 11:11

Level: LOW
Sample Type: AIR

toluene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2252527	-36.26
59 Chlorobenzene - d	3095570	1857342	4333798	2003787	-35.27

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10air7.i\091314.b\25638.D
Report Date: 16-Sep-2014 16:18

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 25638.D
Lab Smp Id: 10280465013 IA-033-B-17
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Misc Info: 21307

Calibration Date: 13-SEP-2014
Calibration Time: 15:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	569280	341568	796992	451991	-20.60
61 Chlorobenzene - d	382559	229535	535583	316983	-17.14

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.68	4.35	5.01	4.69	0.21
61 Chlorobenzene - d	7.50	7.17	7.83	7.51	0.09

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: \\192.168.10.12\chem\10airB.i\091514.b\25846.D
Report Date: 16-Sep-2014 09:34

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25846.D
Lab Smp Id: 10280465013
Analysis Type: VOA JA-033-B-17
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m
Misc Info: 21307

Calibration Date: 15-SEP-2014
Calibration Time: 11:11

Level: LOW
Sample Type: AIR

toluene
m&p xylene
o-xylene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2144370	-39.33
59 Chlorobenzene - d	3095570	1857342	4333798	1924939	-37.82

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10air7.i\091314.b\25628.D
Report Date: 16-Sep-2014 14:10

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 25628.D
Lab Smp Id: 10280465004 IA-075-A17
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Misc Info: 21307

Calibration Date: 13-SEP-2014
Calibration Time: 15:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	569280	341568	796992	551056	-3.20
61 Chlorobenzene - d	382559	229535	535583	381671	-0.23

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.68	4.35	5.01	4.70	0.42
61 Chlorobenzene - d	7.50	7.17	7.83	7.52	0.26

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: \\192.168.10.12\chem\10airB.i\091614.b\25906.D
Report Date: 16-Sep-2014 13:23

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25906.D
Lab Smp Id: 10280465004
Analysis Type: VOA IA-015-A-17
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091614.b\TO15_239-14_Markes.m
Misc Info: 21307

Calibration Date: 16-SEP-2014
Calibration Time: 11:55

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

toluene

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2192489	-37.96
59 Chlorobenzene - d	3095570	1857342	4333798	2003885	-35.27

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	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: \\192.168.10.12\chem\10airB.i\091314.b\25625.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25625.D
Lab Smp Id: 10280465005
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

IA-076-A-17

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2835345	-19.77
59 Chlorobenzene - d	3095570	1857342	4333798	2543825	-17.82

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091414.b\25716.D
Report Date: 15-Sep-2014 12:08

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25716.D
Lab Smp Id: 10280465005
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m
Misc Info: 21304

IA-076-A-17

Calibration Date: 14-SEP-2014
Calibration Time: 13:54

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2573441	-27.18
59 Chlorobenzene - d	3095570	1857342	4333798	2274301	-26.53

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091314.b\25614.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25614.D
Lab Smp Id: 10280465006 IA-079-A-17
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2890842	-18.20
59 Chlorobenzene - d	3095570	1857342	4333798	2599547	-16.02

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091414.b\25718.D
Report Date: 15-Sep-2014 12:10

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25718.D
Lab Smp Id: 10280465006 IA-079-A-17
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 14-SEP-2014
Calibration Time: 13:54

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

trichloroethene
toluene

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2464652	-30.26
59 Chlorobenzene - d	3095570	1857342	4333798	2181253	-29.54

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10airB.i\091414.b\25719.D
Report Date: 15-Sep-2014 12:08

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25719.D
Lab Smp Id: 10280465006
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m
Misc Info: 21304

IA-079-A-17

Calibration Date: 14-SEP-2014
Calibration Time: 13:54

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2553476	-27.75
59 Chlorobenzene - d	3095570	1857342	4333798	2329388	-24.75

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10air7.i\091314.b\25639.D
Report Date: 16-Sep-2014 16:17

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 25639.D
Lab Smp Id: 10280465007
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Misc Info: 21307

IA-081-A-17

Calibration Date: 13-SEP-2014
Calibration Time: 15:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	569280	341568	796992	438986	-22.89
61 Chlorobenzene - d	382559	229535	535583	308732	-19.30

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.68	4.35	5.01	4.67	-0.21
61 Chlorobenzene - d	7.50	7.17	7.83	7.49	-0.09

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: \\192.168.10.12\chem\10air7.i\091314.b\25626.D
Report Date: 16-Sep-2014 14:04

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 25626.D
Lab Smp Id: 10280465008 IA-093-A-17
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Misc Info: 21307

Calibration Date: 13-SEP-2014
Calibration Time: 15:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	569280	341568	796992	542990	-4.62
61 Chlorobenzene - d	382559	229535	535583	378061	-1.18

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.68	4.35	5.01	4.69	0.21
61 Chlorobenzene - d	7.50	7.17	7.83	7.52	0.26

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: \\192.168.10.12\chem\10airB.i\091514.b\25841.D
Report Date: 16-Sep-2014 09:21

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25841.D
Lab Smp Id: 10280465008
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m
Misc Info: 21307

IA-093 A-17

Calibration Date: 15-SEP-2014
Calibration Time: 11:11

Level: LOW
Sample Type: AIR

toluene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2156554	-38.98
59 Chlorobenzene - d	3095570	1857342	4333798	1878219	-39.33

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.11
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10air7.i\091314.b\25630.D
Report Date: 16-Sep-2014 16:24

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 25630.D
Lab Smp Id: 10280465009
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Misc Info: 21307

IA-095-A-17

Calibration Date: 13-SEP-2014
Calibration Time: 15:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	569280	341568	796992	573168	0.68
61 Chlorobenzene - d	382559	229535	535583	389799	1.89

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.68	4.35	5.01	4.70	0.56
61 Chlorobenzene - d	7.50	7.17	7.83	7.53	0.35

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: \\192.168.10.12\chem\10airB.i\091514.b\25847.D
Report Date: 16-Sep-2014 16:38

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25847.D
Lab Smp Id: 10280465009
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m
Misc Info: 21307

IA-095-A-17

Calibration Date: 15-SEP-2014
Calibration Time: 11:11

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2283070	-35.40
59 Chlorobenzene - d	3095570	1857342	4333798	2033560	-34.31

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091314.b\25622.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25622.D
Lab Smp Id: 10280465010
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

IA-117-A-17

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2716969	-23.12
59 Chlorobenzene - d	3095570	1857342	4333798	2401120	-22.43

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091414.b\25732.D
Report Date: 15-Sep-2014 08:30

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25732.D
Lab Smp Id: 10280465010
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m
Misc Info: 21304

JA717-A17

Calibration Date: 14-SEP-2014
Calibration Time: 13:54

Level: LOW
Sample Type: AIR

toluene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2308664	-34.68
59 Chlorobenzene - d	3095570	1857342	4333798	2022634	-34.66

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.11
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10air7.i\091314.b\25629.D
Report Date: 16-Sep-2014 16:24

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 25629.D
Lab Smp Id: 10280465011
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Misc Info: 21307

IA-118-A-17

Calibration Date: 13-SEP-2014
Calibration Time: 15:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	569280	341568	796992	544515	-4.35
61 Chlorobenzene - d	382559	229535	535583	390386	2.05

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.68	4.35	5.01	4.78	2.17
61 Chlorobenzene - d	7.50	7.17	7.83	7.55	0.70

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: 25839_rw-tol+ace.d
Report Date: 16-Sep-2014 17:00

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25839_rw-tol+ace.d
Lab Smp Id: 10280465011
Analysis Type: VOA
Quant Type: ISTD IA-118-A-17
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m
Misc Info: 21307

Calibration Date: 15-SEP-2014
Calibration Time: 11:11

Level: LOW
Sample Type: AIR

toluene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2224793	-37.05
59 Chlorobenzene - d	3095570	1857342	4333798	1965980	-36.49

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10airB.i\091114.b\25434.D
Report Date: 12-Sep-2014 10:15

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25434.D
Lab Smp Id: 10280465014 IA-121-B-17
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 11-SEP-2014
Calibration Time: 08:57

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	3024389	-14.42
59 Chlorobenzene - d	3095570	1857342	4333798	2654274	-14.26

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091314.b\25621.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25621.D
Lab Smp Id: 10280465012 IA-136-A-17
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2788238	-21.11
59 Chlorobenzene - d	3095570	1857342	4333798	2459513	-20.55

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10air7.i\091414.b\25711.D
Report Date: 15-Sep-2014 10:17

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 25711.D
Lab Smp Id: 10280465002
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10air7.i\091414.b\TO15_256-14.m
Misc Info: 21284

IA-138-A-17

Calibration Date: 13-SEP-2014
Calibration Time: 15:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	569280	341568	796992	350527	-38.43
61 Chlorobenzene - d	382559	229535	535583	243740	-36.29

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.68	4.35	5.01	4.67	-0.28
61 Chlorobenzene - d	7.50	7.17	7.83	7.49	-0.09

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: \\192.168.10.12\chem\10airB.i\091114.b\25432.D
Report Date: 12-Sep-2014 09:59

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25432.D
Lab Smp Id: 10280465002 IA-138-A-17
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091114.b\TO15_239-14_Markes.m
Misc Info: 21284

Calibration Date: 11-SEP-2014
Calibration Time: 08:57

Level: LOW
Sample Type: AIR

toluene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	3175517	-10.15
59 Chlorobenzene - d	3095570	1857342	4333798	2798381	-9.60

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10airB.i\091314.b\25626.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25626.D
Lab Smp Id: 10280465015 IA-140-B-17
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2779126	-21.36
59 Chlorobenzene - d	3095570	1857342	4333798	2492856	-19.47

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091414.b\25717.D
Report Date: 15-Sep-2014 12:08

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25717.D
Lab Smp Id: 10280465015
Analysis Type: VOA
Quant Type: ISTD IA-140-13-17
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 14-SEP-2014
Calibration Time: 13:54

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2561991	-27.51
59 Chlorobenzene - d	3095570	1857342	4333798	2287744	-26.10

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10air7.i\091314.b\25636.D
Report Date: 16-Sep-2014 16:21

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 25636.D
Lab Smp Id: 10280465016
Analysis Type: VOA IA-DUP1-A-17
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Misc Info: 21307

Calibration Date: 13-SEP-2014
Calibration Time: 15:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	569280	341568	796992	598938	5.21
61 Chlorobenzene - d	382559	229535	535583	372754	-2.56

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.68	4.35	5.01	4.68	-0.00
61 Chlorobenzene - d	7.50	7.17	7.83	7.51	0.13

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: \\192.168.10.12\chem\10airB.i\091514.b\25844.D
Report Date: 16-Sep-2014 09:16

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25844.D
Lab Smp Id: 10280465016 IA-DUPI-A17
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m
Misc Info: 21307

Calibration Date: 15-SEP-2014
Calibration Time: 11:11

Level: LOW
Sample Type: AIR

toluene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF	
44 1,4-Difluorobenze	3534196	2120518	4947874	2037782	-42.34	<-
59 Chlorobenzene - d	3095570	1857342	4333798	1791959	-42.11	<-

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10air7.i\091314.b\25637.D
Report Date: 16-Sep-2014 16:19

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 25637.D
Lab Smp Id: 10280465017 IA-DUP2-A-17
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10air7.i\091314.b\TO15_256-14.m
Misc Info: 21307

Calibration Date: 13-SEP-2014
Calibration Time: 15:48

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	569280	341568	796992	453639	-20.31
61 Chlorobenzene - d	382559	229535	535583	332680	-13.04

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.68	4.35	5.01	4.68	0.14
61 Chlorobenzene - d	7.50	7.17	7.83	7.55	0.74

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: \\192.168.10.12\chem\10airB.i\091514.b\25845.D
Report Date: 16-Sep-2014 09:19

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25845.D
Lab Smp Id: 10280465017 IA-DUB-M1
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m
Misc Info: 21307

Calibration Date: 15-SEP-2014
Calibration Time: 11:11

Level: LOW
Sample Type: AIR

toluene
m&pxylenes
o-xylene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF	
44 1,4-Difluorobenze	3534196	2120518	4947874	2119968	-40.02	<-
59 Chlorobenzene - d	3095570	1857342	4333798	1878904	-39.30	

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.11
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10airB.i\091314.b\25623.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25623.D
Lab Smp Id: 10280465028
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

SV-075A-17

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2786246	-21.16
59 Chlorobenzene - d	3095570	1857342	4333798	2455043	-20.69

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091414.b\25728.D
Report Date: 15-Sep-2014 08:27

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25728.D
Lab Smp Id: 10280465028
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m
Misc Info: 21304

SV-075-A-17

Calibration Date: 14-SEP-2014
Calibration Time: 13:54

Level: LOW
Sample Type: AIR

naphthalene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2396524	-32.19
59 Chlorobenzene - d	3095570	1857342	4333798	2113812	-31.71

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10airB.i\091314.b\25613.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25613.D
Lab Smp Id: 10280465024
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

SV-076-A-17

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2658159	-24.79
59 Chlorobenzene - d	3095570	1857342	4333798	2374839	-23.28

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091414.b\25712.D
Report Date: 15-Sep-2014 12:08

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25712.D
Lab Smp Id: 10280465024
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m
Misc Info: 21304

SV-076-A-17

Calibration Date: 14-SEP-2014
Calibration Time: 13:54

Level: LOW
Sample Type: AIR

trichloroethene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2274367	-35.65
59 Chlorobenzene - d	3095570	1857342	4333798	2023496	-34.63

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091314.b\25624.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25624.D
Lab Smp Id: 10280465022
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

SV-079-A-17

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	3036485	-14.08
59 Chlorobenzene - d	3095570	1857342	4333798	2690119	-13.10

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091414.b\25731.D
Report Date: 15-Sep-2014 08:30

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25731.D
Lab Smp Id: 10280465022
Analysis Type: VOA
Quant Type: ISTD SV079-A-17
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 14-SEP-2014
Calibration Time: 13:54

Level: LOW
Sample Type: AIR

toluene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2443499	-30.86
59 Chlorobenzene - d	3095570	1857342	4333798	2155237	-30.38

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10airB.i\091314.b\25618.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25618.D
Lab Smp Id: 10280465021 SV-081-A-17
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2816743	-20.30
59 Chlorobenzene - d	3095570	1857342	4333798	2495569	-19.38

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091414.b\25720.D
Report Date: 15-Sep-2014 12:10

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25720.D
Lab Smp Id: 10280465021
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m
Misc Info: 21304

SV-081-A-17

Calibration Date: 14-SEP-2014
Calibration Time: 13:54

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2490363	-29.54
59 Chlorobenzene - d	3095570	1857342	4333798	2176336	-29.70

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10airB.i\091414.b\25721.D
Report Date: 15-Sep-2014 12:08

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25721.D
Lab Smp Id: 10280465021
Analysis Type: VOA
Quant Type: ISTD SV-081-A-17
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 14-SEP-2014
Calibration Time: 13:54

Level: LOW
Sample Type: AIR

trichloroethene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2426481	-31.34
59 Chlorobenzene - d	3095570	1857342	4333798	2212608	-28.52

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091314.b\25612.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25612.D
Lab Smp Id: 10280465025
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

SV-095-A-17

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2710829	-23.30
59 Chlorobenzene - d	3095570	1857342	4333798	2408095	-22.21

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091414.b\25713.D
Report Date: 15-Sep-2014 12:08

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25713.D
Lab Smp Id: 10280465025
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m
Misc Info: 21304

SV-095-A-17

Calibration Date: 14-SEP-2014
Calibration Time: 13:54

Level: LOW
Sample Type: AIR

trichloroethene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2352574	-33.43
59 Chlorobenzene - d	3095570	1857342	4333798	2107112	-31.93

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091314.b\25617.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25617.D
Lab Smp Id: 10280465027
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

SV-100-B-17

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2853721	-19.25
59 Chlorobenzene - d	3095570	1857342	4333798	2508073	-18.98

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091414.b\25714.D
Report Date: 15-Sep-2014 12:08

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25714.D
Lab Smp Id: 10280465027
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m
Misc Info: 21304

SV-100-B-17

Calibration Date: 14-SEP-2014
Calibration Time: 13:54

Level: LOW
Sample Type: AIR

trichloroethene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2454326	-30.55
59 Chlorobenzene - d	3095570	1857342	4333798	2210858	-28.58

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091314.b\25628.D
Report Date: 16-Sep-2014 13:07

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25628.D
Lab Smp Id: 10280465026 SV-101-B-17
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2915084	-17.52
59 Chlorobenzene - d	3095570	1857342	4333798	2570596	-16.96

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091414.b\25715.D
Report Date: 16-Sep-2014 13:06

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25715.D
Lab Smp Id: 10280465026
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 14-SEP-2014
Calibration Time: 13:54

Level: LOW
Sample Type: AIR

SV-101-B-17

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2494492	-29.42
59 Chlorobenzene - d	3095570	1857342	4333798	2211395	-28.56

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091314.b\25616.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25616.D
Lab Smp Id: 10280465020
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

SV-118 A-17

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2876727	-18.60
59 Chlorobenzene - d	3095570	1857342	4333798	2571773	-16.92

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091514.b\25811.D
Report Date: 16-Sep-2014 07:33

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25811.D
Lab Smp Id: 10280465020 SV-116-A-T1
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 15-SEP-2014
Calibration Time: 11:11

Level: LOW
Sample Type: AIR

1,1-dichloroethene
cis,1-2-dichloroethene
trichloroethene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF	
44 1,4-Difluorobenze	3534196	2120518	4947874	2030382	-42.55	<-
59 Chlorobenzene - d	3095570	1857342	4333798	1768562	-42.87	<-

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10airB.i\091314.b\25610.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25610.D
Lab Smp Id: 10280465023
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

SV-136-A-17

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2306122	-34.75
59 Chlorobenzene - d	3095570	1857342	4333798	2196360	-29.05

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091514.b\25813.D
Report Date: 16-Sep-2014 07:35

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25813.D
Lab Smp Id: 10280465023
Analysis Type: VOA SV-13C-A-17
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 15-SEP-2014
Calibration Time: 11:11

Level: LOW
Sample Type: AIR

trichloroethene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF	
44 1,4-Difluorobenze	3534196	2120518	4947874	1967140	-44.34	<-
59 Chlorobenzene - d	3095570	1857342	4333798	1731295	-44.07	<-

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091314.b\25611.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25611.D
Lab Smp Id: 10280465018 SV-DUP1-A-17
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2472235	-30.05
59 Chlorobenzene - d	3095570	1857342	4333798	2344739	-24.26

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091514.b\25812.D
Report Date: 16-Sep-2014 07:34

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25812.D
Lab Smp Id: 10280465018
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m
Misc Info: 21304

Calibration Date: 15-SEP-2014
Calibration Time: 11:11

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF	
44 1,4-Difluorobenze	3534196	2120518	4947874	2050487	-41.98	<-
59 Chlorobenzene - d	3095570	1857342	4333798	1817854	-41.28	<-

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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: \\192.168.10.12\chem\10airB.i\091314.b\25627.D
Report Date: 15-Sep-2014 12:40

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25627.D
Lab Smp Id: 10280465019
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airB.i\091314.b\TO15_239-14_Markes.m
Misc Info: 21304

SV-DUP2-A-17

Calibration Date: 13-SEP-2014
Calibration Time: 11:44

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2852327	-19.29
59 Chlorobenzene - d	3095570	1857342	4333798	2542087	-17.88

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091414.b\25730.D
Report Date: 15-Sep-2014 08:30

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 25730.D
Lab Smp Id: 10280465019
Analysis Type: VOA
Quant Type: ISTD
Operator: MJL
Method File: \\192.168.10.12\chem\10airB.i\091414.b\TO15_239-14_Markes.m
Misc Info: 21304

SV-DUP2-A-17

Calibration Date: 14-SEP-2014
Calibration Time: 13:54

Level: LOW
Sample Type: AIR

toluene

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	2469884	-30.11
59 Chlorobenzene - d	3095570	1857342	4333798	2182218	-29.51

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.76	-0.12
59 Chlorobenzene - d	10.08	9.75	10.41	10.07	-0.06

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 Middle River and Tilley Chemical		JOB NUMBER SDC 10280465	
SUBJECT Sample Calculation			
BASED ON		DRAWING NUMBER	
BY Adam Cognetti	CHECKED BY	APPROVED BY	DATE 10-13-14

Sample IA-015-A-17 ; m&p xylenes

$$\frac{15368}{1878358} * 214.4 * \frac{10\,ppbv}{0.1544} = 113.60\,ppbv$$

$$113.60\,ppbv * \frac{106.2\,g/mole}{24.45\,L/mole} = 493.4\,ug/m^3$$

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

Sample Calculation

ANALYTICAL RESULTS

Project: 112IC06279 MRC SV / IAQ
Pace Project No.: 10280465

Sample: IA-015-A-17 **Lab ID: 10280465003** Collected: 09/02/14 15:38 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.8**	ug/m3	0.44	1.34		09/13/14 22:39	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/13/14 22:39	56-23-5	
Chlorodifluoromethane	**6.4**	ug/m3	0.96	1.34		09/13/14 22:39	75-45-6	
Chloroform	**0.76**	ug/m3	0.66	1.34		09/13/14 22:39	67-66-3	
Dichlorodifluoromethane	**1.8**	ug/m3	1.4	1.34		09/13/14 22:39	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/13/14 22:39	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/13/14 22:39	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 22:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 22:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/13/14 22:39	156-60-5	
Ethylbenzene	**143**	ug/m3	1.2	1.34		09/13/14 22:39	100-41-4	
Methylene Chloride	**0.91J**	ug/m3	4.7	1.34		09/13/14 22:39	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/13/14 22:39	1634-04-4	
Naphthalene	ND	ug/m3	3.6	1.34		09/13/14 22:39	91-20-3	
Tetrachloroethene	ND	ug/m3	0.92	1.34		09/13/14 22:39	127-18-4	
Toluene	**4030**	ug/m3	165	214.4		09/16/14 04:41	108-88-3	A3,IS
1,2,4-Trichlorobenzene	ND	ug/m3	2.0	1.34		09/13/14 22:39	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/13/14 22:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/13/14 22:39	79-00-5	
Trichloroethene	ND	ug/m3	0.74	1.34		09/13/14 22:39	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/13/14 22:39	526-73-8	
1,2,4-Trimethylbenzene	**1.5**	ug/m3	1.3	1.34		09/13/14 22:39	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	3.3	1.34		09/13/14 22:39	108-67-8	
Vinyl chloride	ND	ug/m3	0.70	1.34		09/13/14 22:39	75-01-4	
m&p-Xylene	**501**	ug/m3	377	214.4		09/16/14 04:41	179601-23-1	A3
o-Xylene	**195**	ug/m3	1.2	1.34		09/13/14 22:39	95-47-6	

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Data File: \\192.168.10.12\chem\10airB.i\091514.b\25842.D
Report Date: 16-Sep-2014 09:17

Sample Calculation

Pace Analytical Services, Inc.

TO15 Analysis (UNIX)

Data file : \\192.168.10.12\chem\10airB.i\091514.b\25842.D
Lab Smp Id: 10280465003
Inj Date : 16-SEP-2014 04:41
Operator : MJL IA-015-A-17 Inst ID: 10airB.i
Smp Info :
Misc Info : 21307
Comment : Volatile Organic COMPOUNDS in Air
Method : \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m
Meth Date : 16-Sep-2014 09:14 mlytle Quant Type: ISTD
Cal Date : 27-AUG-2014 12:57 Cal File: 23909.D
Als bottle: 42
Dil Factor: 214.40000
Integrator: HP RTE Compound Sublist: DIL3.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * CpndVariable

Name	Value	Description
DF	214.400	Dilution Factor
Uf	1.000	ng unit correction factor
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
16 Acetone	43	4.279	4.279	(0.633)	16184	0.91078	195(M)
* 44 1,4-Difluorobenzene	114	6.759	6.766	(1.000)	2112701	10.0000	
52 Toluene	91	8.386	8.387	(1.241)	138494	4.90810	1050
* 59 Chlorobenzene - d5	117	10.078	10.078	(1.000)	1878358	10.0000	
62 m&p-Xylene	91	10.342	10.349	(1.026)	15368	0.52988	114
63 o-Xylene	91	10.852	10.858	(1.077)	4495	0.17397	37.3

QC Flag Legend

M - Compound response manually integrated.

Report Date : 28-Aug-2014 15:43

Sample Calculation

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
55 Tetrachloroethene	7136	8915	15390	26713	264444	549762					
	852716						LINR	-0.01498	11.91466		0.99997
56 Methyl Butyl Ketone	0.05265	0.04314	0.03872	0.04299	0.06001	0.06421					
	0.06485						AVRG		0.05237		20.82553
57 Dibromochloromethane	0.13322	0.10530	0.09472	0.10268	0.11081	0.10990					
	0.10842						AVRG		0.10929		10.87825
58 1,2-Dibromoethane	0.07853	0.07546	0.07299	0.07408	0.08241	0.08399					
	0.08373						AVRG		0.07874		5.94350
60 Chlorobenzene	25579	29593	40367	57351	395815	837980					
	1298356						LINR	-0.05222	7.95563		0.99983
61 Ethyl Benzene	0.28960	0.20831	0.17412	0.17918	0.19507	0.20032					
	0.19828						AVRG		0.20641		18.70054
62 m&p-Xylene	0.19402	0.14911	0.13648	0.13693	0.14824	0.15861					
	0.15745						AVRG		0.15441		12.65041 <-

TETRA TECH **INTERNAL CORRESPONDENCE**

TO:	**A. APANAVAGE**	**DATE:**	**OCTOBER 29, 2014**
FROM:	**MICHELLE L. ALLEN**	**COPIES:**	**DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER CENTER (MRC)
VAPOR POINT SAMPLING
SDG 10280474

SAMPLES: 28/Indoor Air/VOC

IA-001-C-17	IA-004-C-17	IA-005-C-17
IA-051-C-17	IA-065-C-17	IA-088-C-17
IA-102-C-17	IA-113-C-17	IA-115-C-17
IA-126-C-17	IA-128-C-17	IA-130-C-17
IA-133-C-17	IA-135-C-17	IA-141-C-17
IA-142-C-17	IA-143-C-17	IA-144-C-17
IA-145-C-17	IA-146-C-17	IA-147-C-17
IA-148-C-17	IA-149-C-17	IA-153-C-17
IA-155-C-17	IA-60-C-17	IA-DUP3-C-17
IA-DUP4-C-17		

2/Soil Vapor/VOC

SV-DUP3-C-17	SV-DUP4-C-17

Overview

The sample set for LMC - MRC, SDG 10280474 consisted of twenty-eight (28) indoor air environmental samples and two (2) soil vapor environmental samples. All thirty (30) samples were analyzed for select volatile organic compounds (VOC). Four field duplicate sample pairs were included in this SDG: IA-DUP3-C-17/IA-130-C-17, IA-DUP4-C-17/IA-153-C-17, SV-DUP3-C-17/SV-133-C-17 (SDG 10280459), and SV-DUP4-C-17/SV-130-C-17 (SDG 10280459).

The samples were collected by Tetra Tech, Inc. on September 3, 2014 and analyzed by TestAmerica, 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/sample preservation, GC/MS tuning, initial/continuing calibrations, laboratory method blank results, laboratory control sample results, laboratory duplicate results, internal standard areas, field duplicate precision, chromatographic resolution, compound identification, and detection limits. Areas of concern are listed below.

Major

No major issues were identified.

Minor

- The continuing calibration performed on instrument 10AIRB on 09/15/14 @ 11:11 had a Percent Drift (%Drift) greater than the 30% quality control limit for 1,2,4-trichlorobenzene. Samples IA-001-C-17, IA-004-C-17, IA-051-C-17, IA-088-C-17, IA-102-C-17, IA-113-C-17, IA-115-C-17, IA-133-C-17, IA-135-C-17, IA-142-C-17, IA-155-C-17, IA-DUP3-C-17, IA-005-C-17, IA-065-C-17, IA-143-C-17, IA-DUP4-C-17, SV-DUP3-C-17, and SV-DUP4-C-17 were affected. The non-detected results reported for this compound in the affected samples were qualified as estimated, (UJ).

- Methylene chloride was detected above the Reporting Limit (RL) in sample IA-130-C-17 but below the RL in the field duplicate sample, IA-DUP3-C-17. The difference between the detected results was greater than 2X the RL. The detected results for methylene chloride in this field duplicate pair was qualified as estimated, (J), due to field duplicate imprecision.

- The Relative Percent Differences (RPDs) for tetrachloroethene and trichloroethene exceeded the 50% quality control limit in the field duplicate pair SV-DUP3-C-17/SV-133-C-17 (SDG 10280459). The detected results for these compounds in this field duplicate pair were qualified as estimated, (J), due to field duplicate imprecision.

- The RPDs for 1,1,1-trichloroethane, 1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, and tetrachloroethene exceeded the 50% quality control limit in the field duplicate pair SV-DUP4-C-17/SV-130-C-17 (SDG 10280459). The detected results for these compounds in this field duplicate pair were qualified as estimated, (J), due to field duplicate imprecision.

- Detected results reported below the RL limit but above the Detection Limit (DL) were qualified as estimated, (J).

Notes

Sample IA-145-C-17 was listed on the sample Chain of Custodies (COCs) twice. The correct sample identification for the sample collected on 09/03/14 @ 1800 is IA-143-C-17 as per the project manager. The correct identification was used by the laboratory in this SDG.

The Laboratory Control Sample (LCS) had a Percent Recovery (%R) for 1,2,4-trichlorobenzene above the upper quality control limits associated with preparation batch #AIR/21320. No validation action was necessary in the affected samples because this compound was not detected.

The laboratory duplicate sample associated with analytical batch #AIR/21320 had a RPD greater than the 25% quality control criterion for trichloroethene. No action was taken in the samples associated with this analytical batch because the parent sample used for this quality control analysis was not in this SDG and was not a project sample.

All internal standard areas were within ±40% of the standard. The internal standard information was contained in the sample raw data.

Twenty-six VOC target compounds were reported for the TO-15 analysis of the samples.

The following samples were diluted due to concentrations of VOCs:

Sample	Compound	Dilution
IA-145-C-17	Chlorodifluoromethane	13.4X
IA-146-C-17	Chlorodifluoromethane	13.9X

Non-detected results were reported to the RL.

Executive Summary

Laboratory Performance: A continuing calibration %Drift for 1,2,4-trichlorobenzene exceeded 30%.

Other Factors Affecting Data Quality: Field duplicate imprecision was noted in three field duplicate pairs. Two samples required further dilution. Results below the RL were estimated.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Review" (June 2008) and EPA Method TO-15 analytical and reporting protocols. The text of this report has been formulated to address only those areas affecting data quality.

Tetra Tech, Inc.
Michelle L. Allen
Chemist/Data Validator

Tetra Tech, Inc.
Joseph A. Samchuck
Data Validation Manager

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 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate

PROJ_NO: 06279	NSAMPLE	IA-001-C-17			IA-004-C-17			IA-005-C-17			IA-051-C-17		
SDG: 10280474	LAB_ID	10280474016			10280474017			10280474018			10280474026		
FRACTION: OV	SAMP_DATE	9/3/2014			9/3/2014			9/3/2014			9/3/2014		
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		1.6	U		1.5	U		1.5	U		1.7	U	
1,1,2-TRICHLOROETHANE		0.79	U		0.74	U		0.76	U		0.85	U	
1,1-DICHLOROETHANE		1.2	U		1.1	U		1.1	U		1.3	U	
1,1-DICHLOROETHENE		1.2	U		1.1	U		1.1	U		1.3	U	
1,2,3-TRIMETHYLBENZENE		1.4	U		1.2	J	P	1.4	U		1.5	U	
1,2,4-TRICHLOROBENZENE		109	UJ	C	101	UJ	C	105	UJ	C	117	UJ	C
1,2,4-TRIMETHYLBENZENE		1.4	U		2.3			1.4	U		1.5	U	
1,2-DICHLOROETHANE		0.59	U		4.6			0.57	U		0.64	U	
1,3,5-TRIMETHYLBENZENE		1.4	U		1.3	J	P	1.4	U		1.5	U	
BENZENE		0.93	U		7.4			0.9	U		1	U	
CARBON TETRACHLORIDE		0.92	U		0.86	U		0.89	U		0.99	U	
CHLORODIFLUOROMETHANE		1.7			0.96	U		3.5			38.2		
CHLOROFORM		0.71	U		0.66	U		0.69	U		0.77	U	
CIS-1,2-DICHLOROETHENE		1.2	U		1.1	U		1.1	U		1.3	U	
DICHLORODIFLUOROMETHANE		3			2.9			2.9			3.5		
ETHYLBENZENE		1.3	U		3.4			1.2	U		1.4	U	
M+P-XYLENES		1.7	J	P	9.7			2	J	P	2.1	J	P
METHYL TERT-BUTYL ETHER		1.1	U		0.98	U		1	U		1.1	U	
METHYLENE CHLORIDE		5.1	U		6.6			1.4	J	P	5.5	U	
NAPHTHALENE		3.8	U		3.6	U		3.7	U		5		
O-XYLENE		0.73	J	P	3.7			0.79	J	P	0.84	J	P
TETRACHLOROETHENE		0.99	U		0.92	U		0.96	U		1.1	U	
TOLUENE		1.8			174			5.1			4.1		
TRANS-1,2-DICHLOROETHENE		1.2	U		1.1	U		1.1	U		1.3	U	
TRICHLOROETHENE		1.6	U		1.8			1.5	U		1.7	U	
VINYL CHLORIDE		0.37	U		0.35	U		0.36	U		0.4	U	

PROJ_NO: 06279	NSAMPLE	IA-065-C-17			IA-088-C-17			IA-102-C-17			IA-113-C-17		
SDG: 10280474	LAB_ID	10280474025			10280474021			10280474015			10280474023		
FRACTION: OV	SAMP_DATE	9/3/2014			9/3/2014			9/3/2014			9/3/2014		
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		1.6	U		1.6	U		1.4	U		1.5	U	
1,1,2-TRICHLOROETHANE		0.79	U		0.79	U		0.69	U		0.76	U	
1,1-DICHLOROETHANE		1.2	U		1.2	U		1	U		1.1	U	
1,1-DICHLOROETHENE		1.2	U		1.2	U		1	U		1.1	U	
1,2,3-TRIMETHYLBENZENE		1.4	U		1.4	U		1.3	U		1.4	U	
1,2,4-TRICHLOROBENZENE		109	UJ	C	109	UJ	C	95	UJ	C	105	UJ	C
1,2,4-TRIMETHYLBENZENE		1.4	U		0.84	J	P	1.3	U		1.4	U	
1,2-DICHLOROETHANE		0.59	U		0.59	U		0.52	U		0.57	U	
1,3,5-TRIMETHYLBENZENE		1.4	U		1.4	U		1.3	U		1.4	U	
BENZENE		0.93	U		0.93	U		0.82	U		0.9	U	
CARBON TETRACHLORIDE		0.92	U		0.92	U		0.81	U		0.89	U	
CHLORODIFLUOROMETHANE		13.7			7.5			3.5			8.1		
CHLOROFORM		0.71	U		0.71	U		0.62	U		0.69	U	
CIS-1,2-DICHLOROETHENE		1.2	U		1.2	U		1	U		1.1	U	
DICHLORODIFLUOROMETHANE		3			3.2			3.1			2.6		
ETHYLBENZENE		1.3	U		0.85	J	P	0.88	J	P	0.81	J	P
M+P-XYLENES		1.1	J	P	3.2			3.3			2.9		
METHYL TERT-BUTYL ETHER		1.1	U		1.1	U		0.92	U		1	U	
METHYLENE CHLORIDE		4.2	J	P	0.58	J	P	38.8	J	P	4.9	U	
NAPHTHALENE		6.1			5.8			3.4	U		1.2	J	P
O-XYLENE		1.3	U		1.1	J	P	1.1	J	P	1.2	J	P
TETRACHLOROETHENE		0.99	U		0.99	U		0.87	U		0.96	U	
TOLUENE		11.4			6			3.7			5.5		
TRANS-1,2-DICHLOROETHENE		1.2	U		1.2	U		1	U		1.1	U	
TRICHLOROETHENE		1.6	U		1.8			1.4	U		1.5	U	
VINYL CHLORIDE		0.37	U		0.37	U		0.33	U		0.36	U	

PROJ_NO: 06279	NSAMPLE	IA-115-C-17			IA-126-C-17			IA-128-C-17			IA-130-C-17		
SDG: 10280474	LAB_ID	10280474024			10280474002			10280474006			10280474011		
FRACTION: OV	SAMP_DATE	9/3/2014			9/3/2014			9/3/2014			9/3/2014		
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		1.6	U		1.6			1.5	J	P	1.4	U	
1,1,2-TRICHLOROETHANE		0.79	U		0.76	U		0.76	U		0.69	U	
1,1-DICHLOROETHANE		1.2	U		1.1	U		1.1	U		1	U	
1,1-DICHLOROETHENE		1.2	U		1.1	U		1.1	U		1	U	
1,2,3-TRIMETHYLBENZENE		1.4	U		1.7			3.5			1.5		
1,2,4-TRICHLOROBENZENE		109	UJ	C	5.2	U		5.2	U		4.8	U	
1,2,4-TRIMETHYLBENZENE		1.4	U		0.84	J	P	0.92	J	P	0.71	J	P
1,2-DICHLOROETHANE		0.59	U		0.57	U		0.57	U		0.52	U	
1,3,5-TRIMETHYLBENZENE		1.4	U		1.4	U		1.4	U		1.3	U	
BENZENE		0.93	U		0.39	J	P	0.51			0.44		
CARBON TETRACHLORIDE		0.92	U		0.5	J	P	0.46	J	P	0.81	U	
CHLORODIFLUOROMETHANE		7.6			9.1			136			5.5		
CHLOROFORM		0.71	U		0.71			0.37	J	P	0.62	U	
CIS-1,2-DICHLOROETHENE		1.2	U		1.1	U		1.1	U		1	U	
DICHLORODIFLUOROMETHANE		2.8			2.9			2.4			1.3		
ETHYLBENZENE		0.76	J	P	0.83	J	P	2.7			1.8		
M+P-XYLENES		2.7			2.7			9.2			7.5		
METHYL TERT-BUTYL ETHER		1.1	U		1	U		1	U		0.92	U	
METHYLENE CHLORIDE		5.1	U		2.5	J	P	4.9	U		28.6	J	G
NAPHTHALENE		3.8	U		5.3			5.1			3.1	J	P
O-XYLENE		1.1	J	P	1	J	P	3.1			2.7		
TETRACHLOROETHENE		0.99	U		4.8	U		4.8	U		4	J	P
TOLUENE		5.3			22.6			6.9			5.9		
TRANS-1,2-DICHLOROETHENE		1.2	U		1.1	U		1.1	U		1	U	
TRICHLOROETHENE		1.6	U		0.65	J	P	0.43	J	P	0.69	U	
VINYL CHLORIDE		0.37	U		0.36	U		0.36	U		0.33	U	

PROJ_NO: 06279	NSAMPLE	IA-133-C-17			IA-135-C-17			IA-141-C-17			IA-142-C-17		
SDG: 10280474	LAB_ID	10280474014			10280474020			10280474003			10280474022		
FRACTION: OV	SAMP_DATE	9/3/2014			9/3/2014			9/3/2014			9/3/2014		
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		1.6	U		1.7	U		0.53	J	P	1.5	U	
1,1,2-TRICHLOROETHANE		0.79	U		0.85	U		0.82	U		0.76	U	
1,1-DICHLOROETHANE		1.2	U		1.3	U		1.2	U		1.1	U	
1,1-DICHLOROETHENE		1.2	U		1.3	U		1.2	U		1.1	U	
1,2,3-TRIMETHYLBENZENE		1.4	U		1.5	U		1.6			1.4	U	
1,2,4-TRICHLOROBENZENE		109	UJ	C	117	UJ	C	5.6	U		105	UJ	C
1,2,4-TRIMETHYLBENZENE		1.4	U		1.5	U		1.5	U		1.4	U	
1,2-DICHLOROETHANE		0.59	U		0.64	U		0.61	U		0.57	U	
1,3,5-TRIMETHYLBENZENE		1.4	U		1.5	U		1.5	U		1.4	U	
BENZENE		0.93	U		1	U		0.46	J	P	0.9	U	
CARBON TETRACHLORIDE		0.92	U		0.99	U		0.5	J	P	0.89	U	
CHLORODIFLUOROMETHANE		19.3			8.7			71.2			8.1		
CHLOROFORM		0.71	U		0.77	U		0.74	U		0.69	U	
CIS-1,2-DICHLOROETHENE		1.2	U		1.3	U		1.2	U		1.1	U	
DICHLORODIFLUOROMETHANE		3.2			3.2			3			3		
ETHYLBENZENE		0.64	J	P	1	J	P	1.2	J	P	0.82	J	P
M+P-XYLENES		2.5	J	P	3.5			4.6			2.9		
METHYL TERT-BUTYL ETHER		1.1	U		1.1	U		1.1	U		1	U	
METHYLENE CHLORIDE		1.2	J	P	5.5	U		5.3	U		4.9	U	
NAPHTHALENE		0.9	J	P	1.1	J	P	3.9	J	P	1.2	J	P
O-XYLENE		1	J	P	1.2	J	P	2			0.97	J	P
TETRACHLOROETHENE		0.99	U		1.1	U		4	J	P	0.96	U	
TOLUENE		4.8			7.7			4.7			5.2		
TRANS-1,2-DICHLOROETHENE		1.2	U		1.3	U		1.2	U		1.1	U	
TRICHLOROETHENE		1.6	U		1.7	U		0.82	U		1.5	U	
VINYL CHLORIDE		0.37	U		0.4	U		0.39	U		0.36	U	

PROJ_NO: 06279	NSAMPLE	IA-143-C-17			IA-144-C-17			IA-145-C-17			IA-146-C-17		
SDG: 10280474	LAB_ID	10280474019			10280474008			10280474005			10280474004		
FRACTION: OV	SAMP_DATE	9/3/2014			9/3/2014			9/3/2014			9/3/2014		
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	U		1.6			1.2	J	P	1.3	J	P
1,1,2-TRICHLOROETHANE		0.76	U		0.76	U		0.74	U		0.76	U	
1,1-DICHLOROETHANE		1.1	U		1.1	U		1.1	U		1.1	U	
1,1-DICHLOROETHENE		1.1	U		1.1	U		1.1	U		1.1	U	
1,2,3-TRIMETHYLBENZENE		1.4	U		2.9			3			2.5		
1,2,4-TRICHLOROBENZENE		105	UJ	C	5.2	U		5.1	U		5.2	U	
1,2,4-TRIMETHYLBENZENE		1.4	U		0.93	J	P	0.81	J	P	0.84	J	P
1,2-DICHLOROETHANE		0.57	U		0.57	U		0.55	U		0.57	U	
1,3,5-TRIMETHYLBENZENE		1.4	U		1.4	U		1.3	U		1.4	U	
BENZENE		0.9	U		0.65			0.5			0.5		
CARBON TETRACHLORIDE		0.89	U		0.89	U		0.86	U		0.89	U	
CHLORODIFLUOROMETHANE		1.4			129			167			158		
CHLOROFORM		0.69	U		0.4	J	P	0.66	U		0.36	J	P
CIS-1,2-DICHLOROETHENE		1.1	U		1.1	U		1.1	U		1.1	U	
DICHLORODIFLUOROMETHANE		3.3			2			3.1			2.5		
ETHYLBENZENE		1.2	U		2.6			2.5			2.4		
M+P-XYLENES		1.3	J	P	9.1			9.2			8.9		
METHYL TERT-BUTYL ETHER		1	U		1	U		0.98	U		1	U	
METHYLENE CHLORIDE		4.9	U		4.9	U		4.7	U		4.9	U	
NAPHTHALENE		3.7	U		4.4			4.2			4.3		
O-XYLENE		1.2	U		3.1			3.2			3		
TETRACHLOROETHENE		0.96	U		4.8	U		4.6	U		4.8	U	
TOLUENE		1.3			10.5			6.8			6.8		
TRANS-1,2-DICHLOROETHENE		1.1	U		1.1	U		1.1	U		1.1	U	
TRICHLOROETHENE		1.5	U		0.76	U		0.74	U		0.76	U	
VINYL CHLORIDE		0.36	U		0.36	U		0.35	U		0.36	U	

PROJ_NO: 06279	NSAMPLE	IA-147-C-17			IA-148-C-17			IA-149-C-17			IA-153-C-17		
SDG: 10280474	LAB_ID	10280474009			10280474007			10280474001			10280474012		
FRACTION: OV	SAMP_DATE	9/3/2014			9/3/2014			9/3/2014			9/3/2014		
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		1.7			1.6			0.45	J	P	1.5	U	
1,1,2-TRICHLOROETHANE		0.79	U		0.74	U		0.79	U		0.74	U	
1,1-DICHLOROETHANE		1.2	U		1.1	U		1.2	U		1.1	U	
1,1-DICHLOROETHENE		1.2	U		1.1	U		1.2	U		1.1	U	
1,2,3-TRIMETHYLBENZENE		3.7			5.5			1.1	J	P	2.1		
1,2,4-TRICHLOROBENZENE		5.4	U		5.1	U		5.4	U		5.1	U	
1,2,4-TRIMETHYLBENZENE		1.9			1.1	J	P	1.4	U		1.3	U	
1,2-DICHLOROETHANE		0.59	U		0.55	U		0.59	U		0.55	U	
1,3,5-TRIMETHYLBENZENE		1.4	U		1.3	U		1.4	U		1.3	U	
BENZENE		0.62			0.56			0.83			0.62		
CARBON TETRACHLORIDE		0.48	J	P	0.47	J	P	0.52	J	P	0.86	U	
CHLORODIFLUOROMETHANE		127			152			6.7			8.5		
CHLOROFORM		0.4	J	P	0.36	J	P	0.46	J	P	0.66	U	
CIS-1,2-DICHLOROETHENE		1.2	U		1.1	U		1.2	U		1.1	U	
DICHLORODIFLUOROMETHANE		2.2			2.6			2			2.1		
ETHYLBENZENE		2.9			2.5			0.97	J	P	1.7		
M+P-XYLENES		10.4			9			3.1			6.2		
METHYL TERT-BUTYL ETHER		1.1	U		0.98	U		1.1	U		0.98	U	
METHYLENE CHLORIDE		5.1	U		4.7	U		128			3.9	J	P
NAPHTHALENE		5			5.9			3.8			4.1		
O-XYLENE		3.6			3			1	J	P	2.2		
TETRACHLOROETHENE		5	U		4.6	U		5	U		4.6	U	
TOLUENE		7.5			6.7			22.3			7.2		
TRANS-1,2-DICHLOROETHENE		1.2	U		1.1	U		1.2	U		1.1	U	
TRICHLOROETHENE		0.79	U		0.74	U		1.8			0.51	J	P
VINYL CHLORIDE		0.37	U		0.35	U		0.37	U		0.35	U	

PROJ_NO: 06279	NSAMPLE	IA-155-C-17			IA-60-C-17			IA-DUP3-C-17			IA-DUP4-C-17		
SDG: 10280474	LAB_ID	10280474013			10280474010			10280474028			10280474027		
FRACTION: OV	SAMP_DATE	9/3/2014			9/3/2014			9/3/2014			9/3/2014		
MEDIA: AIR	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/M3			UG/M3			UG/M3			UG/M3		
	PCT_SOLIDS												
	DUP_OF							IA-130-C-17			IA-153-C-17		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		1.5	U		1.5	U		0.89	J	P	1.6	U	
1,1,2-TRICHLOROETHANE		0.76	U		0.76	U		0.76	U		0.78	U	
1,1-DICHLOROETHANE		1.1	U		1.1	U		1.1	U		1.2	U	
1,1-DICHLOROETHENE		1.1	U		1.1	U		1.1	U		1.1	U	
1,2,3-TRIMETHYLBENZENE		1.4	U		1.9			1.4	U		1.4	U	
1,2,4-TRICHLOROBENZENE		105	UJ	C	5.2	U		105	UJ	C	106	UJ	C
1,2,4-TRIMETHYLBENZENE		1.4	U		1.4	U		0.75	J	P	1.4	U	
1,2-DICHLOROETHANE		0.57	U		0.57	U		0.57	U		0.58	U	
1,3,5-TRIMETHYLBENZENE		1.4	U		1.4	U		1.4	U		1.4	U	
BENZENE		0.9	U		0.42	J	P	0.9	U		0.92	U	
CARBON TETRACHLORIDE		0.89	U		0.5	J	P	0.89	U		0.9	U	
CHLORODIFLUOROMETHANE		17.8			59.9			6.3			7.7		
CHLOROFORM		0.69	U		0.69	U		0.69	U		0.7	U	
CIS-1,2-DICHLOROETHENE		1.1	U		1.1	U		1.1	U		1.1	U	
DICHLORODIFLUOROMETHANE		3.3			2.6			2.9			2.7		
ETHYLBENZENE		0.82	J	P	1.8			2.7			1.4		
M+P-XYLENES		3.1			6.8			11.8			5.7		
METHYL TERT-BUTYL ETHER		1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE		0.6	J	P	4.9	U		0.71	J	GP	5	U	
NAPHTHALENE		1.4	J	P	3.2	J	P	6.9			5		
O-XYLENE		1	J	P	2.4			3.9			2.2		
TETRACHLOROETHENE		0.96	U		4.8	U		0.96	U		0.97	U	
TOLUENE		4.8			6			7.9			6.6		
TRANS-1,2-DICHLOROETHENE		1.1	U		1.1	U		1.1	U		1.1	U	
TRICHLOROETHENE		1.5	U		0.76	U		1.5	U		1.5	U	
VINYL CHLORIDE		0.36	U		0.36	U		0.36	U		0.37	U	

PROJ_NO: 06279	NSAMPLE	SV-DUP3-C-17			SV-DUP4-C-17		
SDG: 10280474	LAB_ID	10280474029			10280474030		
FRACTION: OV	SAMP_DATE	9/3/2014			9/3/2014		
MEDIA: AIR	QC_TYPE	NM			NM		
	UNITS	UG/M3			UG/M3		
	PCT_SOLIDS						
	DUP_OF	SV-133-C-17			SV-130-C-17		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		1.9	U		2		G
1,1,2-TRICHLOROETHANE		0.92	U		0.92	U	
1,1-DICHLOROETHANE		1.4	U		1.4	U	
1,1-DICHLOROETHENE		1.4	U		1.4	U	
1,2,3-TRIMETHYLBENZENE		1.7	U		3.4	J	G
1,2,4-TRICHLOROBENZENE		127	UJ	C	127	UJ	C
1,2,4-TRIMETHYLBENZENE		1.7	U		4.1	J	G
1,2-DICHLOROETHANE		0.69	U		0.69	U	
1,3,5-TRIMETHYLBENZENE		1.7	U		4.6	J	G
BENZENE		1.1	U		1.1	U	
CARBON TETRACHLORIDE		1.1	U		1.1	U	
CHLORODIFLUOROMETHANE		9			3.3		
CHLOROFORM		0.83	U		0.83	U	
CIS-1,2-DICHLOROETHENE		1.4	U		1.4	U	
DICHLORODIFLUOROMETHANE		3.1			4.2		
ETHYLBENZENE		0.78	J	P	2.4		
M+P-XYLENES		2.4	J	P	6.9		
METHYL TERT-BUTYL ETHER		1.2	U		1.2	U	
METHYLENE CHLORIDE		5.9	U		2.6	J	P
NAPHTHALENE		3.3	J	P	26.9	J	G
O-XYLENE		0.89	J	P	3.2		
TETRACHLOROETHENE		3.3	J	G	2.4	J	G
TOLUENE		4.2			5.2		
TRANS-1,2-DICHLOROETHENE		1.4	U		1.4	U	
TRICHLOROETHENE		199	J	G	2.2		
VINYL CHLORIDE		0.44	U		0.44	U	

Appendix B

Results as Reported by the Laboratory

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-001-C-17 **Lab ID: 10280474016** Collected: 09/03/14 17:48 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.93	1.44		09/15/14 19:05	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/15/14 19:05	56-23-5	
Chlorodifluoromethane	**1.7**	ug/m3	1.0	1.44		09/15/14 19:05	75-45-6	
Chloroform	ND	ug/m3	0.71	1.44		09/15/14 19:05	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.5	1.44		09/15/14 19:05	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/15/14 19:05	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/15/14 19:05	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 19:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 19:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 19:05	156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.44		09/15/14 19:05	100-41-4	
Methylene Chloride	ND	ug/m3	5.1	1.44		09/15/14 19:05	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/15/14 19:05	1634-04-4	
Naphthalene	ND	ug/m3	3.8	1.44		09/15/14 19:05	91-20-3	
Tetrachloroethene	ND	ug/m3	0.99	1.44		09/15/14 19:05	127-18-4	
Toluene	**1.8**	ug/m3	1.1	1.44		09/15/14 19:05	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	109	1.44		09/15/14 19:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/15/14 19:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/15/14 19:05	79-00-5	
Trichloroethene	ND	ug/m3	1.6	1.44		09/15/14 19:05	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 19:05	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 19:05	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 19:05	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/15/14 19:05	75-01-4	
m&p-Xylene	**1.7J**	ug/m3	2.5	1.44		09/15/14 19:05	179601-23-1	
o-Xylene	**0.73J**	ug/m3	1.3	1.44		09/15/14 19:05	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-004-C-17 **Lab ID: 10280474017** Collected: 09/03/14 17:55 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**7.4**	ug/m3	0.87	1.34		09/15/14 21:59	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/15/14 21:59	56-23-5	
Chlorodifluoromethane	ND	ug/m3	0.96	1.34		09/15/14 21:59	75-45-6	
Chloroform	ND	ug/m3	0.66	1.34		09/15/14 21:59	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.4	1.34		09/15/14 21:59	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/15/14 21:59	75-34-3	
1,2-Dichloroethane	**4.6**	ug/m3	0.55	1.34		09/15/14 21:59	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/15/14 21:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/15/14 21:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/15/14 21:59	156-60-5	
Ethylbenzene	**3.4**	ug/m3	1.2	1.34		09/15/14 21:59	100-41-4	
Methylene Chloride	**6.6**	ug/m3	4.7	1.34		09/15/14 21:59	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/15/14 21:59	1634-04-4	
Naphthalene	ND	ug/m3	3.6	1.34		09/15/14 21:59	91-20-3	
Tetrachloroethene	ND	ug/m3	0.92	1.34		09/15/14 21:59	127-18-4	
Toluene	**174**	ug/m3	10.7	13.9		09/16/14 14:40	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	101	1.34		09/15/14 21:59	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/15/14 21:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/15/14 21:59	79-00-5	
Trichloroethene	**1.8**	ug/m3	1.5	1.34		09/15/14 21:59	79-01-6	
1,2,3-Trimethylbenzene	**1.2J**	ug/m3	1.3	1.34		09/15/14 21:59	526-73-8	
1,2,4-Trimethylbenzene	**2.3**	ug/m3	1.3	1.34		09/15/14 21:59	95-63-6	
1,3,5-Trimethylbenzene	**1.3J**	ug/m3	1.3	1.34		09/15/14 21:59	108-67-8	
Vinyl chloride	ND	ug/m3	0.35	1.34		09/15/14 21:59	75-01-4	
m&p-Xylene	**9.7**	ug/m3	2.4	1.34		09/15/14 21:59	179601-23-1	
o-Xylene	**3.7**	ug/m3	1.2	1.34		09/15/14 21:59	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-005-C-17 **Lab ID: 10280474018** Collected: 09/03/14 17:56 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/16/14 00:02	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/16/14 00:02	56-23-5	
Chlorodifluoromethane	**3.5**	ug/m3	1.0	1.39		09/16/14 00:02	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/16/14 00:02	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.4	1.39		09/16/14 00:02	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/16/14 00:02	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/16/14 00:02	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 00:02	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 00:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 00:02	156-60-5	
Ethylbenzene	ND	ug/m3	1.2	1.39		09/16/14 00:02	100-41-4	
Methylene Chloride	**1.4J**	ug/m3	4.9	1.39		09/16/14 00:02	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/16/14 00:02	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/16/14 00:02	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/16/14 00:02	127-18-4	
Toluene	**5.1**	ug/m3	1.1	1.39		09/16/14 00:02	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/16/14 00:02	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/16/14 00:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/16/14 00:02	79-00-5	
Trichloroethene	ND	ug/m3	1.5	1.39		09/16/14 00:02	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 00:02	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 00:02	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 00:02	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/16/14 00:02	75-01-4	
m&p-Xylene	**2.0J**	ug/m3	2.4	1.39		09/16/14 00:02	179601-23-1	
o-Xylene	**0.79J**	ug/m3	1.2	1.39		09/16/14 00:02	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-051-C-17 **Lab ID: 10280474026** Collected: 09/03/14 16:28 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.0	1.55		09/15/14 20:19	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.99	1.55		09/15/14 20:19	56-23-5	
Chlorodifluoromethane	**38.2**	ug/m3	1.1	1.55		09/15/14 20:19	75-45-6	
Chloroform	ND	ug/m3	0.77	1.55		09/15/14 20:19	67-66-3	
Dichlorodifluoromethane	**3.5**	ug/m3	1.6	1.55		09/15/14 20:19	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.3	1.55		09/15/14 20:19	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.64	1.55		09/15/14 20:19	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.55		09/15/14 20:19	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	1.55		09/15/14 20:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.55		09/15/14 20:19	156-60-5	
Ethylbenzene	ND	ug/m3	1.4	1.55		09/15/14 20:19	100-41-4	
Methylene Chloride	ND	ug/m3	5.5	1.55		09/15/14 20:19	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.55		09/15/14 20:19	1634-04-4	
Naphthalene	**5.0**	ug/m3	4.1	1.55		09/15/14 20:19	91-20-3	SS
Tetrachloroethene	ND	ug/m3	1.1	1.55		09/15/14 20:19	127-18-4	
Toluene	**4.1**	ug/m3	1.2	1.55		09/15/14 20:19	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	117	1.55		09/15/14 20:19	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.55		09/15/14 20:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.85	1.55		09/15/14 20:19	79-00-5	
Trichloroethene	ND	ug/m3	1.7	1.55		09/15/14 20:19	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.5	1.55		09/15/14 20:19	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.55		09/15/14 20:19	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.55		09/15/14 20:19	108-67-8	
Vinyl chloride	ND	ug/m3	0.40	1.55		09/15/14 20:19	75-01-4	
m&p-Xylene	**2.1J**	ug/m3	2.7	1.55		09/15/14 20:19	179601-23-1	
o-Xylene	**0.84J**	ug/m3	1.4	1.55		09/15/14 20:19	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-065-C-17 **Lab ID: 10280474025** Collected: 09/03/14 16:25 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.93	1.44		09/16/14 00:27	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/16/14 00:27	56-23-5	
Chlorodifluoromethane	**13.7**	ug/m3	1.0	1.44		09/16/14 00:27	75-45-6	
Chloroform	ND	ug/m3	0.71	1.44		09/16/14 00:27	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.5	1.44		09/16/14 00:27	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/16/14 00:27	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/16/14 00:27	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 00:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 00:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 00:27	156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.44		09/16/14 00:27	100-41-4	
Methylene Chloride	**4.2J**	ug/m3	5.1	1.44		09/16/14 00:27	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/16/14 00:27	1634-04-4	
Naphthalene	**6.1**	ug/m3	3.8	1.44		09/16/14 00:27	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.99	1.44		09/16/14 00:27	127-18-4	
Toluene	**11.4**	ug/m3	1.1	1.44		09/16/14 00:27	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	109	1.44		09/16/14 00:27	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/16/14 00:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/16/14 00:27	79-00-5	
Trichloroethene	ND	ug/m3	1.6	1.44		09/16/14 00:27	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/16/14 00:27	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/16/14 00:27	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/16/14 00:27	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/16/14 00:27	75-01-4	
m&p-Xylene	**1.1J**	ug/m3	2.5	1.44		09/16/14 00:27	179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.44		09/16/14 00:27	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-088-C-17 **Lab ID: 10280474021** Collected: 09/03/14 18:05 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.93	1.44		09/15/14 22:23	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/15/14 22:23	56-23-5	
Chlorodifluoromethane	**7.5**	ug/m3	1.0	1.44		09/15/14 22:23	75-45-6	
Chloroform	ND	ug/m3	0.71	1.44		09/15/14 22:23	67-66-3	
Dichlorodifluoromethane	**3.2**	ug/m3	1.5	1.44		09/15/14 22:23	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/15/14 22:23	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/15/14 22:23	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 22:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 22:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 22:23	156-60-5	
Ethylbenzene	**0.85J**	ug/m3	1.3	1.44		09/15/14 22:23	100-41-4	
Methylene Chloride	**0.58J**	ug/m3	5.1	1.44		09/15/14 22:23	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/15/14 22:23	1634-04-4	
Naphthalene	**5.8**	ug/m3	3.8	1.44		09/15/14 22:23	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.99	1.44		09/15/14 22:23	127-18-4	
Toluene	**6.0**	ug/m3	1.1	1.44		09/15/14 22:23	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	109	1.44		09/15/14 22:23	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/15/14 22:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/15/14 22:23	79-00-5	
Trichloroethene	**1.8**	ug/m3	1.6	1.44		09/15/14 22:23	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 22:23	526-73-8	
1,2,4-Trimethylbenzene	**0.84J**	ug/m3	1.4	1.44		09/15/14 22:23	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 22:23	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/15/14 22:23	75-01-4	
m&p-Xylene	**3.2**	ug/m3	2.5	1.44		09/15/14 22:23	179601-23-1	
o-Xylene	**1.1J**	ug/m3	1.3	1.44		09/15/14 22:23	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-102-C-17 **Lab ID: 10280474015** Collected: 09/03/14 17:44 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.82	1.26		09/15/14 20:45	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.81	1.26		09/15/14 20:45	56-23-5	
Chlorodifluoromethane	**3.5**	ug/m3	0.91	1.26		09/15/14 20:45	75-45-6	
Chloroform	ND	ug/m3	0.62	1.26		09/15/14 20:45	67-66-3	
Dichlorodifluoromethane	**3.1**	ug/m3	1.3	1.26		09/15/14 20:45	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.0	1.26		09/15/14 20:45	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.52	1.26		09/15/14 20:45	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.0	1.26		09/15/14 20:45	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.0	1.26		09/15/14 20:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.0	1.26		09/15/14 20:45	156-60-5	
Ethylbenzene	**0.88J**	ug/m3	1.1	1.26		09/15/14 20:45	100-41-4	
Methylene Chloride	**38.8J**	ug/m3	89.0	25.2		09/16/14 14:11	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.92	1.26		09/15/14 20:45	1634-04-4	
Naphthalene	ND	ug/m3	3.4	1.26		09/15/14 20:45	91-20-3	
Tetrachloroethene	ND	ug/m3	0.87	1.26		09/15/14 20:45	127-18-4	
Toluene	**3.7**	ug/m3	0.97	1.26		09/15/14 20:45	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	95.0	1.26		09/15/14 20:45	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.4	1.26		09/15/14 20:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.69	1.26		09/15/14 20:45	79-00-5	
Trichloroethene	ND	ug/m3	1.4	1.26		09/15/14 20:45	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.3	1.26		09/15/14 20:45	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.3	1.26		09/15/14 20:45	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	1.26		09/15/14 20:45	108-67-8	
Vinyl chloride	ND	ug/m3	0.33	1.26		09/15/14 20:45	75-01-4	
m&p-Xylene	**3.3**	ug/m3	2.2	1.26		09/15/14 20:45	179601-23-1	
o-Xylene	**1.1J**	ug/m3	1.1	1.26		09/15/14 20:45	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-113-C-17 **Lab ID: 10280474023** Collected: 09/03/14 18:08 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/15/14 23:13	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/15/14 23:13	56-23-5	
Chlorodifluoromethane	**8.1**	ug/m3	1.0	1.39		09/15/14 23:13	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/15/14 23:13	67-66-3	
Dichlorodifluoromethane	**2.6**	ug/m3	1.4	1.39		09/15/14 23:13	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/15/14 23:13	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/15/14 23:13	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 23:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 23:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 23:13	156-60-5	
Ethylbenzene	**0.81J**	ug/m3	1.2	1.39		09/15/14 23:13	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/15/14 23:13	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/15/14 23:13	1634-04-4	
Naphthalene	**1.2J**	ug/m3	3.7	1.39		09/15/14 23:13	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/15/14 23:13	127-18-4	
Toluene	**5.5**	ug/m3	1.1	1.39		09/15/14 23:13	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/15/14 23:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/15/14 23:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/15/14 23:13	79-00-5	
Trichloroethene	ND	ug/m3	1.5	1.39		09/15/14 23:13	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 23:13	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 23:13	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 23:13	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/15/14 23:13	75-01-4	
m&p-Xylene	**2.9**	ug/m3	2.4	1.39		09/15/14 23:13	179601-23-1	
o-Xylene	**1.2J**	ug/m3	1.2	1.39		09/15/14 23:13	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-115-C-17 **Lab ID: 10280474024** Collected: 09/03/14 18:11 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.93	1.44		09/15/14 19:55	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/15/14 19:55	56-23-5	
Chlorodifluoromethane	**7.6**	ug/m3	1.0	1.44		09/15/14 19:55	75-45-6	
Chloroform	ND	ug/m3	0.71	1.44		09/15/14 19:55	67-66-3	
Dichlorodifluoromethane	**2.8**	ug/m3	1.5	1.44		09/15/14 19:55	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/15/14 19:55	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/15/14 19:55	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 19:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 19:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 19:55	156-60-5	
Ethylbenzene	**0.76J**	ug/m3	1.3	1.44		09/15/14 19:55	100-41-4	
Methylene Chloride	ND	ug/m3	5.1	1.44		09/15/14 19:55	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/15/14 19:55	1634-04-4	
Naphthalene	ND	ug/m3	3.8	1.44		09/15/14 19:55	91-20-3	
Tetrachloroethene	ND	ug/m3	0.99	1.44		09/15/14 19:55	127-18-4	
Toluene	**5.3**	ug/m3	1.1	1.44		09/15/14 19:55	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	109	1.44		09/15/14 19:55	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/15/14 19:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/15/14 19:55	79-00-5	
Trichloroethene	ND	ug/m3	1.6	1.44		09/15/14 19:55	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 19:55	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 19:55	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 19:55	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/15/14 19:55	75-01-4	
m&p-Xylene	**2.7**	ug/m3	2.5	1.44		09/15/14 19:55	179601-23-1	
o-Xylene	**1.1J**	ug/m3	1.3	1.44		09/15/14 19:55	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-126-C-17 **Lab ID: 10280474002** Collected: 09/03/14 16:36 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.39J**	ug/m3	0.45	1.39		09/16/14 17:10	71-43-2	
Carbon tetrachloride	**0.50J**	ug/m3	0.89	1.39		09/16/14 17:10	56-23-5	
Chlorodifluoromethane	**9.1**	ug/m3	1.0	1.39		09/16/14 17:10	75-45-6	
Chloroform	**0.71**	ug/m3	0.69	1.39		09/16/14 17:10	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.4	1.39		09/16/14 17:10	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/16/14 17:10	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/16/14 17:10	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 17:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 17:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 17:10	156-60-5	
Ethylbenzene	**0.83J**	ug/m3	1.2	1.39		09/16/14 17:10	100-41-4	
Methylene Chloride	**2.5J**	ug/m3	4.9	1.39		09/16/14 17:10	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/16/14 17:10	1634-04-4	
Naphthalene	**5.3**	ug/m3	3.7	1.39		09/16/14 17:10	91-20-3	
Tetrachloroethene	ND	ug/m3	4.8	1.39		09/16/14 17:10	127-18-4	
Toluene	**22.6**	ug/m3	1.1	1.39		09/16/14 17:10	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.2	1.39		09/16/14 17:10	120-82-1	
1,1,1-Trichloroethane	**1.6**	ug/m3	1.5	1.39		09/16/14 17:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/16/14 17:10	79-00-5	
Trichloroethene	**0.65J**	ug/m3	0.76	1.39		09/16/14 17:10	79-01-6	
1,2,3-Trimethylbenzene	**1.7**	ug/m3	1.4	1.39		09/16/14 17:10	526-73-8	
1,2,4-Trimethylbenzene	**0.84J**	ug/m3	1.4	1.39		09/16/14 17:10	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 17:10	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/16/14 17:10	75-01-4	
m&p-Xylene	**2.7**	ug/m3	2.4	1.39		09/16/14 17:10	179601-23-1	
o-Xylene	**1.0J**	ug/m3	1.2	1.39		09/16/14 17:10	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-128-C-17 **Lab ID: 10280474006** Collected: 09/03/14 16:57 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.51**	ug/m3	0.45	1.39		09/16/14 18:55	71-43-2	
Carbon tetrachloride	**0.46J**	ug/m3	0.89	1.39		09/16/14 18:55	56-23-5	
Chlorodifluoromethane	**136**	ug/m3	1.0	1.39		09/16/14 18:55	75-45-6	
Chloroform	**0.37J**	ug/m3	0.69	1.39		09/16/14 18:55	67-66-3	
Dichlorodifluoromethane	**2.4**	ug/m3	1.4	1.39		09/16/14 18:55	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/16/14 18:55	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/16/14 18:55	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 18:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 18:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 18:55	156-60-5	
Ethylbenzene	**2.7**	ug/m3	1.2	1.39		09/16/14 18:55	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/16/14 18:55	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/16/14 18:55	1634-04-4	
Naphthalene	**5.1**	ug/m3	3.7	1.39		09/16/14 18:55	91-20-3	
Tetrachloroethene	ND	ug/m3	4.8	1.39		09/16/14 18:55	127-18-4	
Toluene	**6.9**	ug/m3	1.1	1.39		09/16/14 18:55	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.2	1.39		09/16/14 18:55	120-82-1	
1,1,1-Trichloroethane	**1.5J**	ug/m3	1.5	1.39		09/16/14 18:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/16/14 18:55	79-00-5	
Trichloroethene	**0.43J**	ug/m3	0.76	1.39		09/16/14 18:55	79-01-6	
1,2,3-Trimethylbenzene	**3.5**	ug/m3	1.4	1.39		09/16/14 18:55	526-73-8	
1,2,4-Trimethylbenzene	**0.92J**	ug/m3	1.4	1.39		09/16/14 18:55	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 18:55	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/16/14 18:55	75-01-4	
m&p-Xylene	**9.2**	ug/m3	2.4	1.39		09/16/14 18:55	179601-23-1	
o-Xylene	**3.1**	ug/m3	1.2	1.39		09/16/14 18:55	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-130-C-17 **Lab ID: 10280474011** Collected: 09/03/14 17:18 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.44**	ug/m3	0.41	1.26		09/16/14 21:11	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.81	1.26		09/16/14 21:11	56-23-5	
Chlorodifluoromethane	**5.5**	ug/m3	0.91	1.26		09/16/14 21:11	75-45-6	
Chloroform	ND	ug/m3	0.62	1.26		09/16/14 21:11	67-66-3	
Dichlorodifluoromethane	**1.3**	ug/m3	1.3	1.26		09/16/14 21:11	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.0	1.26		09/16/14 21:11	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.52	1.26		09/16/14 21:11	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.0	1.26		09/16/14 21:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.0	1.26		09/16/14 21:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.0	1.26		09/16/14 21:11	156-60-5	
Ethylbenzene	**1.8**	ug/m3	1.1	1.26		09/16/14 21:11	100-41-4	
Methylene Chloride	**28.6**	ug/m3	4.4	1.26		09/16/14 21:11	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.92	1.26		09/16/14 21:11	1634-04-4	
Naphthalene	**3.1J**	ug/m3	3.4	1.26		09/16/14 21:11	91-20-3	
Tetrachloroethene	**4.0J**	ug/m3	4.3	1.26		09/16/14 21:11	127-18-4	
Toluene	**5.9**	ug/m3	0.97	1.26		09/16/14 21:11	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	4.8	1.26		09/16/14 21:11	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.4	1.26		09/16/14 21:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.69	1.26		09/16/14 21:11	79-00-5	
Trichloroethene	ND	ug/m3	0.69	1.26		09/16/14 21:11	79-01-6	
1,2,3-Trimethylbenzene	**1.5**	ug/m3	1.3	1.26		09/16/14 21:11	526-73-8	
1,2,4-Trimethylbenzene	**0.71J**	ug/m3	1.3	1.26		09/16/14 21:11	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	1.26		09/16/14 21:11	108-67-8	
Vinyl chloride	ND	ug/m3	0.33	1.26		09/16/14 21:11	75-01-4	
m&p-Xylene	**7.5**	ug/m3	2.2	1.26		09/16/14 21:11	179601-23-1	
o-Xylene	**2.7**	ug/m3	1.1	1.26		09/16/14 21:11	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-133-C-17 **Lab ID: 10280474014** Collected: 09/03/14 17:39 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.93	1.44		09/15/14 21:09	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		09/15/14 21:09	56-23-5	
Chlorodifluoromethane	**19.3**	ug/m3	1.0	1.44		09/15/14 21:09	75-45-6	
Chloroform	ND	ug/m3	0.71	1.44		09/15/14 21:09	67-66-3	
Dichlorodifluoromethane	**3.2**	ug/m3	1.5	1.44		09/15/14 21:09	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/15/14 21:09	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/15/14 21:09	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 21:09	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 21:09	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/15/14 21:09	156-60-5	
Ethylbenzene	**0.64J**	ug/m3	1.3	1.44		09/15/14 21:09	100-41-4	
Methylene Chloride	**1.2J**	ug/m3	5.1	1.44		09/15/14 21:09	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/15/14 21:09	1634-04-4	
Naphthalene	**0.90J**	ug/m3	3.8	1.44		09/15/14 21:09	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.99	1.44		09/15/14 21:09	127-18-4	
Toluene	**4.8**	ug/m3	1.1	1.44		09/15/14 21:09	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	109	1.44		09/15/14 21:09	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/15/14 21:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/15/14 21:09	79-00-5	
Trichloroethene	ND	ug/m3	1.6	1.44		09/15/14 21:09	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 21:09	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 21:09	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/15/14 21:09	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/15/14 21:09	75-01-4	
m&p-Xylene	**2.5J**	ug/m3	2.5	1.44		09/15/14 21:09	179601-23-1	
o-Xylene	**1.0J**	ug/m3	1.3	1.44		09/15/14 21:09	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-135-C-17 **Lab ID: 10280474020** Collected: 09/03/14 18:03 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.0	1.55		09/15/14 22:48	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.99	1.55		09/15/14 22:48	56-23-5	
Chlorodifluoromethane	**8.7**	ug/m3	1.1	1.55		09/15/14 22:48	75-45-6	
Chloroform	ND	ug/m3	0.77	1.55		09/15/14 22:48	67-66-3	
Dichlorodifluoromethane	**3.2**	ug/m3	1.6	1.55		09/15/14 22:48	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.3	1.55		09/15/14 22:48	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.64	1.55		09/15/14 22:48	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.55		09/15/14 22:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	1.55		09/15/14 22:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.55		09/15/14 22:48	156-60-5	
Ethylbenzene	**1.0J**	ug/m3	1.4	1.55		09/15/14 22:48	100-41-4	
Methylene Chloride	ND	ug/m3	5.5	1.55		09/15/14 22:48	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.55		09/15/14 22:48	1634-04-4	
Naphthalene	**1.1J**	ug/m3	4.1	1.55		09/15/14 22:48	91-20-3	SS
Tetrachloroethene	ND	ug/m3	1.1	1.55		09/15/14 22:48	127-18-4	
Toluene	**7.7**	ug/m3	1.2	1.55		09/15/14 22:48	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	117	1.55		09/15/14 22:48	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.55		09/15/14 22:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.85	1.55		09/15/14 22:48	79-00-5	
Trichloroethene	ND	ug/m3	1.7	1.55		09/15/14 22:48	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.5	1.55		09/15/14 22:48	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.55		09/15/14 22:48	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.55		09/15/14 22:48	108-67-8	
Vinyl chloride	ND	ug/m3	0.40	1.55		09/15/14 22:48	75-01-4	
m&p-Xylene	**3.5**	ug/m3	2.7	1.55		09/15/14 22:48	179601-23-1	
o-Xylene	**1.2J**	ug/m3	1.4	1.55		09/15/14 22:48	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-141-C-17 **Lab ID: 10280474003** Collected: 09/03/14 16:38 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.46J**	ug/m3	0.48	1.49		09/16/14 17:36	71-43-2	
Carbon tetrachloride	**0.50J**	ug/m3	0.95	1.49		09/16/14 17:36	56-23-5	
Chlorodifluoromethane	**71.2**	ug/m3	1.1	1.49		09/16/14 17:36	75-45-6	
Chloroform	ND	ug/m3	0.74	1.49		09/16/14 17:36	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.5	1.49		09/16/14 17:36	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.49		09/16/14 17:36	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	1.49		09/16/14 17:36	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		09/16/14 17:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/16/14 17:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		09/16/14 17:36	156-60-5	
Ethylbenzene	**1.2J**	ug/m3	1.3	1.49		09/16/14 17:36	100-41-4	
Methylene Chloride	ND	ug/m3	5.3	1.49		09/16/14 17:36	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.49		09/16/14 17:36	1634-04-4	
Naphthalene	**3.9J**	ug/m3	4.0	1.49		09/16/14 17:36	91-20-3	
Tetrachloroethene	**4.0J**	ug/m3	5.1	1.49		09/16/14 17:36	127-18-4	
Toluene	**4.7**	ug/m3	1.1	1.49		09/16/14 17:36	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.6	1.49		09/16/14 17:36	120-82-1	
1,1,1-Trichloroethane	**0.53J**	ug/m3	1.7	1.49		09/16/14 17:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.82	1.49		09/16/14 17:36	79-00-5	
Trichloroethene	ND	ug/m3	0.82	1.49		09/16/14 17:36	79-01-6	
1,2,3-Trimethylbenzene	**1.6**	ug/m3	1.5	1.49		09/16/14 17:36	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/16/14 17:36	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.49		09/16/14 17:36	108-67-8	
Vinyl chloride	ND	ug/m3	0.39	1.49		09/16/14 17:36	75-01-4	
m&p-Xylene	**4.6**	ug/m3	2.6	1.49		09/16/14 17:36	179601-23-1	
o-Xylene	**2.0**	ug/m3	1.3	1.49		09/16/14 17:36	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-142-C-17 **Lab ID: 10280474022** Collected: 09/03/14 18:07 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/15/14 19:30	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/15/14 19:30	56-23-5	
Chlorodifluoromethane	**8.1**	ug/m3	1.0	1.39		09/15/14 19:30	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/15/14 19:30	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.4	1.39		09/15/14 19:30	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/15/14 19:30	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/15/14 19:30	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 19:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 19:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 19:30	156-60-5	
Ethylbenzene	**0.82J**	ug/m3	1.2	1.39		09/15/14 19:30	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/15/14 19:30	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/15/14 19:30	1634-04-4	
Naphthalene	**1.2J**	ug/m3	3.7	1.39		09/15/14 19:30	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/15/14 19:30	127-18-4	
Toluene	**5.2**	ug/m3	1.1	1.39		09/15/14 19:30	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/15/14 19:30	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/15/14 19:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/15/14 19:30	79-00-5	
Trichloroethene	ND	ug/m3	1.5	1.39		09/15/14 19:30	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 19:30	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 19:30	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 19:30	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/15/14 19:30	75-01-4	
m&p-Xylene	**2.9**	ug/m3	2.4	1.39		09/15/14 19:30	179601-23-1	
o-Xylene	**0.97J**	ug/m3	1.2	1.39		09/15/14 19:30	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-143-C-17 **Lab ID: 10280474019** Collected: 09/03/14 18:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/16/14 00:52	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/16/14 00:52	56-23-5	
Chlorodifluoromethane	**1.4**	ug/m3	1.0	1.39		09/16/14 00:52	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/16/14 00:52	67-66-3	
Dichlorodifluoromethane	**3.3**	ug/m3	1.4	1.39		09/16/14 00:52	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/16/14 00:52	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/16/14 00:52	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 00:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 00:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 00:52	156-60-5	
Ethylbenzene	ND	ug/m3	1.2	1.39		09/16/14 00:52	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/16/14 00:52	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/16/14 00:52	1634-04-4	
Naphthalene	ND	ug/m3	3.7	1.39		09/16/14 00:52	91-20-3	
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/16/14 00:52	127-18-4	
Toluene	**1.3**	ug/m3	1.1	1.39		09/16/14 00:52	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/16/14 00:52	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/16/14 00:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/16/14 00:52	79-00-5	
Trichloroethene	ND	ug/m3	1.5	1.39		09/16/14 00:52	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 00:52	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 00:52	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 00:52	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/16/14 00:52	75-01-4	
m&p-Xylene	**1.3J**	ug/m3	2.4	1.39		09/16/14 00:52	179601-23-1	
o-Xylene	ND	ug/m3	1.2	1.39		09/16/14 00:52	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-144-C-17 **Lab ID: 10280474008** Collected: 09/03/14 17:03 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.65**	ug/m3	0.45	1.39		09/16/14 19:48	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/16/14 19:48	56-23-5	
Chlorodifluoromethane	**129**	ug/m3	1.0	1.39		09/16/14 19:48	75-45-6	
Chloroform	**0.40J**	ug/m3	0.69	1.39		09/16/14 19:48	67-66-3	
Dichlorodifluoromethane	**2.0**	ug/m3	1.4	1.39		09/16/14 19:48	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/16/14 19:48	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/16/14 19:48	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 19:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 19:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 19:48	156-60-5	
Ethylbenzene	**2.6**	ug/m3	1.2	1.39		09/16/14 19:48	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/16/14 19:48	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/16/14 19:48	1634-04-4	
Naphthalene	**4.4**	ug/m3	3.7	1.39		09/16/14 19:48	91-20-3	
Tetrachloroethene	ND	ug/m3	4.8	1.39		09/16/14 19:48	127-18-4	
Toluene	**10.5**	ug/m3	1.1	1.39		09/16/14 19:48	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.2	1.39		09/16/14 19:48	120-82-1	
1,1,1-Trichloroethane	**1.6**	ug/m3	1.5	1.39		09/16/14 19:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/16/14 19:48	79-00-5	
Trichloroethene	ND	ug/m3	0.76	1.39		09/16/14 19:48	79-01-6	
1,2,3-Trimethylbenzene	**2.9**	ug/m3	1.4	1.39		09/16/14 19:48	526-73-8	
1,2,4-Trimethylbenzene	**0.93J**	ug/m3	1.4	1.39		09/16/14 19:48	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 19:48	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/16/14 19:48	75-01-4	
m&p-Xylene	**9.1**	ug/m3	2.4	1.39		09/16/14 19:48	179601-23-1	
o-Xylene	**3.1**	ug/m3	1.2	1.39		09/16/14 19:48	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-145-C-17 **Lab ID: 10280474005** Collected: 09/03/14 16:56 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.50**	ug/m3	0.44	1.34		09/16/14 18:29	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/16/14 18:29	56-23-5	
Chlorodifluoromethane	**167**	ug/m3	9.6	13.4		09/17/14 14:04	75-45-6	
Chloroform	ND	ug/m3	0.66	1.34		09/16/14 18:29	67-66-3	
Dichlorodifluoromethane	**3.1**	ug/m3	1.4	1.34		09/16/14 18:29	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/16/14 18:29	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/16/14 18:29	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 18:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 18:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 18:29	156-60-5	
Ethylbenzene	**2.5**	ug/m3	1.2	1.34		09/16/14 18:29	100-41-4	
Methylene Chloride	ND	ug/m3	4.7	1.34		09/16/14 18:29	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/16/14 18:29	1634-04-4	
Naphthalene	**4.2**	ug/m3	3.6	1.34		09/16/14 18:29	91-20-3	
Tetrachloroethene	ND	ug/m3	4.6	1.34		09/16/14 18:29	127-18-4	
Toluene	**6.8**	ug/m3	1.0	1.34		09/16/14 18:29	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.1	1.34		09/16/14 18:29	120-82-1	
1,1,1-Trichloroethane	**1.2J**	ug/m3	1.5	1.34		09/16/14 18:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/16/14 18:29	79-00-5	
Trichloroethene	ND	ug/m3	0.74	1.34		09/16/14 18:29	79-01-6	
1,2,3-Trimethylbenzene	**3.0**	ug/m3	1.3	1.34		09/16/14 18:29	526-73-8	
1,2,4-Trimethylbenzene	**0.81J**	ug/m3	1.3	1.34		09/16/14 18:29	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/16/14 18:29	108-67-8	
Vinyl chloride	ND	ug/m3	0.35	1.34		09/16/14 18:29	75-01-4	
m&p-Xylene	**9.2**	ug/m3	2.4	1.34		09/16/14 18:29	179601-23-1	
o-Xylene	**3.2**	ug/m3	1.2	1.34		09/16/14 18:29	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-146-C-17 **Lab ID: 10280474004** Collected: 09/03/14 16:45 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.50**	ug/m3	0.45	1.39		09/16/14 18:03	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/16/14 18:03	56-23-5	
Chlorodifluoromethane	**158**	ug/m3	10	13.9		09/17/14 13:42	75-45-6	
Chloroform	**0.36J**	ug/m3	0.69	1.39		09/16/14 18:03	67-66-3	
Dichlorodifluoromethane	**2.5**	ug/m3	1.4	1.39		09/16/14 18:03	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/16/14 18:03	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/16/14 18:03	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 18:03	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 18:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 18:03	156-60-5	
Ethylbenzene	**2.4**	ug/m3	1.2	1.39		09/16/14 18:03	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/16/14 18:03	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/16/14 18:03	1634-04-4	
Naphthalene	**4.3**	ug/m3	3.7	1.39		09/16/14 18:03	91-20-3	
Tetrachloroethene	ND	ug/m3	4.8	1.39		09/16/14 18:03	127-18-4	
Toluene	**6.8**	ug/m3	1.1	1.39		09/16/14 18:03	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.2	1.39		09/16/14 18:03	120-82-1	
1,1,1-Trichloroethane	**1.3J**	ug/m3	1.5	1.39		09/16/14 18:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/16/14 18:03	79-00-5	
Trichloroethene	ND	ug/m3	0.76	1.39		09/16/14 18:03	79-01-6	
1,2,3-Trimethylbenzene	**2.5**	ug/m3	1.4	1.39		09/16/14 18:03	526-73-8	
1,2,4-Trimethylbenzene	**0.84J**	ug/m3	1.4	1.39		09/16/14 18:03	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 18:03	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/16/14 18:03	75-01-4	
m&p-Xylene	**8.9**	ug/m3	2.4	1.39		09/16/14 18:03	179601-23-1	
o-Xylene	**3.0**	ug/m3	1.2	1.39		09/16/14 18:03	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-147-C-17 **Lab ID: 10280474009** Collected: 09/03/14 17:05 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.62**	ug/m3	0.47	1.44		09/16/14 20:16	71-43-2	
Carbon tetrachloride	**0.48J**	ug/m3	0.92	1.44		09/16/14 20:16	56-23-5	
Chlorodifluoromethane	**127**	ug/m3	1.0	1.44		09/16/14 20:16	75-45-6	
Chloroform	**0.40J**	ug/m3	0.71	1.44		09/16/14 20:16	67-66-3	
Dichlorodifluoromethane	**2.2**	ug/m3	1.5	1.44		09/16/14 20:16	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/16/14 20:16	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/16/14 20:16	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 20:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 20:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 20:16	156-60-5	
Ethylbenzene	**2.9**	ug/m3	1.3	1.44		09/16/14 20:16	100-41-4	
Methylene Chloride	ND	ug/m3	5.1	1.44		09/16/14 20:16	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/16/14 20:16	1634-04-4	
Naphthalene	**5.0**	ug/m3	3.8	1.44		09/16/14 20:16	91-20-3	
Tetrachloroethene	ND	ug/m3	5.0	1.44		09/16/14 20:16	127-18-4	
Toluene	**7.5**	ug/m3	1.1	1.44		09/16/14 20:16	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.4	1.44		09/16/14 20:16	120-82-1	
1,1,1-Trichloroethane	**1.7**	ug/m3	1.6	1.44		09/16/14 20:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/16/14 20:16	79-00-5	
Trichloroethene	ND	ug/m3	0.79	1.44		09/16/14 20:16	79-01-6	
1,2,3-Trimethylbenzene	**3.7**	ug/m3	1.4	1.44		09/16/14 20:16	526-73-8	
1,2,4-Trimethylbenzene	**1.9**	ug/m3	1.4	1.44		09/16/14 20:16	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/16/14 20:16	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/16/14 20:16	75-01-4	
m&p-Xylene	**10.4**	ug/m3	2.5	1.44		09/16/14 20:16	179601-23-1	
o-Xylene	**3.6**	ug/m3	1.3	1.44		09/16/14 20:16	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-148-C-17 **Lab ID: 10280474007** Collected: 09/03/14 17:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.56**	ug/m3	0.44	1.34		09/16/14 19:21	71-43-2	
Carbon tetrachloride	**0.47J**	ug/m3	0.86	1.34		09/16/14 19:21	56-23-5	
Chlorodifluoromethane	**152**	ug/m3	0.96	1.34		09/16/14 19:21	75-45-6	
Chloroform	**0.36J**	ug/m3	0.66	1.34		09/16/14 19:21	67-66-3	
Dichlorodifluoromethane	**2.6**	ug/m3	1.4	1.34		09/16/14 19:21	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/16/14 19:21	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/16/14 19:21	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 19:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 19:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 19:21	156-60-5	
Ethylbenzene	**2.5**	ug/m3	1.2	1.34		09/16/14 19:21	100-41-4	
Methylene Chloride	ND	ug/m3	4.7	1.34		09/16/14 19:21	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/16/14 19:21	1634-04-4	
Naphthalene	**5.9**	ug/m3	3.6	1.34		09/16/14 19:21	91-20-3	
Tetrachloroethene	ND	ug/m3	4.6	1.34		09/16/14 19:21	127-18-4	
Toluene	**6.7**	ug/m3	1.0	1.34		09/16/14 19:21	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.1	1.34		09/16/14 19:21	120-82-1	
1,1,1-Trichloroethane	**1.6**	ug/m3	1.5	1.34		09/16/14 19:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/16/14 19:21	79-00-5	
Trichloroethene	ND	ug/m3	0.74	1.34		09/16/14 19:21	79-01-6	
1,2,3-Trimethylbenzene	**5.5**	ug/m3	1.3	1.34		09/16/14 19:21	526-73-8	
1,2,4-Trimethylbenzene	**1.1J**	ug/m3	1.3	1.34		09/16/14 19:21	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/16/14 19:21	108-67-8	
Vinyl chloride	ND	ug/m3	0.35	1.34		09/16/14 19:21	75-01-4	
m&p-Xylene	**9.0**	ug/m3	2.4	1.34		09/16/14 19:21	179601-23-1	
o-Xylene	**3.0**	ug/m3	1.2	1.34		09/16/14 19:21	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-149-C-17 **Lab ID: 10280474001** Collected: 09/03/14 16:34 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.83**	ug/m3	0.47	1.44		09/16/14 16:43	71-43-2	
Carbon tetrachloride	**0.52J**	ug/m3	0.92	1.44		09/16/14 16:43	56-23-5	
Chlorodifluoromethane	**6.7**	ug/m3	1.0	1.44		09/16/14 16:43	75-45-6	
Chloroform	**0.46J**	ug/m3	0.71	1.44		09/16/14 16:43	67-66-3	
Dichlorodifluoromethane	**2.0**	ug/m3	1.5	1.44		09/16/14 16:43	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		09/16/14 16:43	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		09/16/14 16:43	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 16:43	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 16:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		09/16/14 16:43	156-60-5	
Ethylbenzene	**0.97J**	ug/m3	1.3	1.44		09/16/14 16:43	100-41-4	
Methylene Chloride	**128**	ug/m3	5.1	1.44		09/16/14 16:43	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		09/16/14 16:43	1634-04-4	
Naphthalene	**3.8**	ug/m3	3.8	1.44		09/16/14 16:43	91-20-3	
Tetrachloroethene	ND	ug/m3	5.0	1.44		09/16/14 16:43	127-18-4	
Toluene	**22.3**	ug/m3	1.1	1.44		09/16/14 16:43	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.4	1.44		09/16/14 16:43	120-82-1	
1,1,1-Trichloroethane	**0.45J**	ug/m3	1.6	1.44		09/16/14 16:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		09/16/14 16:43	79-00-5	
Trichloroethene	**1.8**	ug/m3	0.79	1.44		09/16/14 16:43	79-01-6	
1,2,3-Trimethylbenzene	**1.1J**	ug/m3	1.4	1.44		09/16/14 16:43	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/16/14 16:43	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/16/14 16:43	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/16/14 16:43	75-01-4	
m&p-Xylene	**3.1**	ug/m3	2.5	1.44		09/16/14 16:43	179601-23-1	
o-Xylene	**1.0J**	ug/m3	1.3	1.44		09/16/14 16:43	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-153-C-17 **Lab ID: 10280474012** Collected: 09/03/14 17:31 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.62**	ug/m3	0.44	1.34		09/16/14 21:38	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.86	1.34		09/16/14 21:38	56-23-5	
Chlorodifluoromethane	**8.5**	ug/m3	0.96	1.34		09/16/14 21:38	75-45-6	
Chloroform	ND	ug/m3	0.66	1.34		09/16/14 21:38	67-66-3	
Dichlorodifluoromethane	**2.1**	ug/m3	1.4	1.34		09/16/14 21:38	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.34		09/16/14 21:38	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	1.34		09/16/14 21:38	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 21:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 21:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		09/16/14 21:38	156-60-5	
Ethylbenzene	**1.7**	ug/m3	1.2	1.34		09/16/14 21:38	100-41-4	
Methylene Chloride	**3.9J**	ug/m3	4.7	1.34		09/16/14 21:38	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	0.98	1.34		09/16/14 21:38	1634-04-4	
Naphthalene	**4.1**	ug/m3	3.6	1.34		09/16/14 21:38	91-20-3	
Tetrachloroethene	ND	ug/m3	4.6	1.34		09/16/14 21:38	127-18-4	
Toluene	**7.2**	ug/m3	1.0	1.34		09/16/14 21:38	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.1	1.34		09/16/14 21:38	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		09/16/14 21:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	1.34		09/16/14 21:38	79-00-5	
Trichloroethene	**0.51J**	ug/m3	0.74	1.34		09/16/14 21:38	79-01-6	
1,2,3-Trimethylbenzene	**2.1**	ug/m3	1.3	1.34		09/16/14 21:38	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/16/14 21:38	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	1.34		09/16/14 21:38	108-67-8	
Vinyl chloride	ND	ug/m3	0.35	1.34		09/16/14 21:38	75-01-4	
m&p-Xylene	**6.2**	ug/m3	2.4	1.34		09/16/14 21:38	179601-23-1	
o-Xylene	**2.2**	ug/m3	1.2	1.34		09/16/14 21:38	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-155-C-17 **Lab ID: 10280474013** Collected: 09/03/14 17:35 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/15/14 21:34	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/15/14 21:34	56-23-5	
Chlorodifluoromethane	**17.8**	ug/m3	1.0	1.39		09/15/14 21:34	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/15/14 21:34	67-66-3	
Dichlorodifluoromethane	**3.3**	ug/m3	1.4	1.39		09/15/14 21:34	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/15/14 21:34	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/15/14 21:34	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 21:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 21:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 21:34	156-60-5	
Ethylbenzene	**0.82J**	ug/m3	1.2	1.39		09/15/14 21:34	100-41-4	
Methylene Chloride	**0.60J**	ug/m3	4.9	1.39		09/15/14 21:34	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/15/14 21:34	1634-04-4	
Naphthalene	**1.4J**	ug/m3	3.7	1.39		09/15/14 21:34	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/15/14 21:34	127-18-4	
Toluene	**4.8**	ug/m3	1.1	1.39		09/15/14 21:34	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/15/14 21:34	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/15/14 21:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/15/14 21:34	79-00-5	
Trichloroethene	ND	ug/m3	1.5	1.39		09/15/14 21:34	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 21:34	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 21:34	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 21:34	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/15/14 21:34	75-01-4	
m&p-Xylene	**3.1**	ug/m3	2.4	1.39		09/15/14 21:34	179601-23-1	
o-Xylene	**1.0J**	ug/m3	1.2	1.39		09/15/14 21:34	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-60-C-17 **Lab ID: 10280474010** Collected: 09/03/14 17:15 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.42J**	ug/m3	0.45	1.39		09/16/14 20:43	71-43-2	
Carbon tetrachloride	**0.50J**	ug/m3	0.89	1.39		09/16/14 20:43	56-23-5	
Chlorodifluoromethane	**59.9**	ug/m3	1.0	1.39		09/16/14 20:43	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/16/14 20:43	67-66-3	
Dichlorodifluoromethane	**2.6**	ug/m3	1.4	1.39		09/16/14 20:43	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/16/14 20:43	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/16/14 20:43	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 20:43	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 20:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/16/14 20:43	156-60-5	
Ethylbenzene	**1.8**	ug/m3	1.2	1.39		09/16/14 20:43	100-41-4	
Methylene Chloride	ND	ug/m3	4.9	1.39		09/16/14 20:43	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/16/14 20:43	1634-04-4	
Naphthalene	**3.2J**	ug/m3	3.7	1.39		09/16/14 20:43	91-20-3	
Tetrachloroethene	ND	ug/m3	4.8	1.39		09/16/14 20:43	127-18-4	
Toluene	**6.0**	ug/m3	1.1	1.39		09/16/14 20:43	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	5.2	1.39		09/16/14 20:43	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		09/16/14 20:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/16/14 20:43	79-00-5	
Trichloroethene	ND	ug/m3	0.76	1.39		09/16/14 20:43	79-01-6	
1,2,3-Trimethylbenzene	**1.9**	ug/m3	1.4	1.39		09/16/14 20:43	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 20:43	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/16/14 20:43	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/16/14 20:43	75-01-4	
m&p-Xylene	**6.8**	ug/m3	2.4	1.39		09/16/14 20:43	179601-23-1	
o-Xylene	**2.4**	ug/m3	1.2	1.39		09/16/14 20:43	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-DUP3-C-17 **Lab ID: 10280474028** Collected: 09/03/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.90	1.39		09/15/14 23:38	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.89	1.39		09/15/14 23:38	56-23-5	
Chlorodifluoromethane	**6.3**	ug/m3	1.0	1.39		09/15/14 23:38	75-45-6	
Chloroform	ND	ug/m3	0.69	1.39		09/15/14 23:38	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.4	1.39		09/15/14 23:38	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	1.39		09/15/14 23:38	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	1.39		09/15/14 23:38	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 23:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 23:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		09/15/14 23:38	156-60-5	
Ethylbenzene	**2.7**	ug/m3	1.2	1.39		09/15/14 23:38	100-41-4	
Methylene Chloride	**0.71J**	ug/m3	4.9	1.39		09/15/14 23:38	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.39		09/15/14 23:38	1634-04-4	
Naphthalene	**6.9**	ug/m3	3.7	1.39		09/15/14 23:38	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.96	1.39		09/15/14 23:38	127-18-4	
Toluene	**7.9**	ug/m3	1.1	1.39		09/15/14 23:38	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	105	1.39		09/15/14 23:38	120-82-1	
1,1,1-Trichloroethane	**0.89J**	ug/m3	1.5	1.39		09/15/14 23:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	1.39		09/15/14 23:38	79-00-5	
Trichloroethene	ND	ug/m3	1.5	1.39		09/15/14 23:38	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 23:38	526-73-8	
1,2,4-Trimethylbenzene	**0.75J**	ug/m3	1.4	1.39		09/15/14 23:38	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		09/15/14 23:38	108-67-8	
Vinyl chloride	ND	ug/m3	0.36	1.39		09/15/14 23:38	75-01-4	
m&p-Xylene	**11.8**	ug/m3	2.4	1.39		09/15/14 23:38	179601-23-1	
o-Xylene	**3.9**	ug/m3	1.2	1.39		09/15/14 23:38	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: IA-DUP4-C-17 **Lab ID: 10280474027** Collected: 09/03/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.92	1.41		09/16/14 01:16	71-43-2	
Carbon tetrachloride	ND	ug/m3	0.90	1.41		09/16/14 01:16	56-23-5	
Chlorodifluoromethane	**7.7**	ug/m3	1.0	1.41		09/16/14 01:16	75-45-6	
Chloroform	ND	ug/m3	0.70	1.41		09/16/14 01:16	67-66-3	
Dichlorodifluoromethane	**2.7**	ug/m3	1.4	1.41		09/16/14 01:16	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.41		09/16/14 01:16	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.58	1.41		09/16/14 01:16	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	1.41		09/16/14 01:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	1.41		09/16/14 01:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.41		09/16/14 01:16	156-60-5	
Ethylbenzene	**1.4**	ug/m3	1.2	1.41		09/16/14 01:16	100-41-4	
Methylene Chloride	ND	ug/m3	5.0	1.41		09/16/14 01:16	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.0	1.41		09/16/14 01:16	1634-04-4	
Naphthalene	**5.0**	ug/m3	3.8	1.41		09/16/14 01:16	91-20-3	SS
Tetrachloroethene	ND	ug/m3	0.97	1.41		09/16/14 01:16	127-18-4	
Toluene	**6.6**	ug/m3	1.1	1.41		09/16/14 01:16	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	106	1.41		09/16/14 01:16	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.41		09/16/14 01:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.78	1.41		09/16/14 01:16	79-00-5	
Trichloroethene	ND	ug/m3	1.5	1.41		09/16/14 01:16	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.4	1.41		09/16/14 01:16	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.41		09/16/14 01:16	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.41		09/16/14 01:16	108-67-8	
Vinyl chloride	ND	ug/m3	0.37	1.41		09/16/14 01:16	75-01-4	
m&p-Xylene	**5.7**	ug/m3	2.5	1.41		09/16/14 01:16	179601-23-1	
o-Xylene	**2.2**	ug/m3	1.2	1.41		09/16/14 01:16	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: SV-DUP3-C-17 **Lab ID: 10280474029** Collected: 09/03/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.68		09/16/14 02:06	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/16/14 02:06	56-23-5	
Chlorodifluoromethane	**9.0**	ug/m3	1.2	1.68		09/16/14 02:06	75-45-6	
Chloroform	ND	ug/m3	0.83	1.68		09/16/14 02:06	67-66-3	
Dichlorodifluoromethane	**3.1**	ug/m3	1.7	1.68		09/16/14 02:06	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		09/16/14 02:06	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/16/14 02:06	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		09/16/14 02:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/16/14 02:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/16/14 02:06	156-60-5	
Ethylbenzene	**0.78J**	ug/m3	1.5	1.68		09/16/14 02:06	100-41-4	
Methylene Chloride	ND	ug/m3	5.9	1.68		09/16/14 02:06	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/16/14 02:06	1634-04-4	
Naphthalene	**3.3J**	ug/m3	4.5	1.68		09/16/14 02:06	91-20-3	SS
Tetrachloroethene	**3.3**	ug/m3	1.2	1.68		09/16/14 02:06	127-18-4	
Toluene	**4.2**	ug/m3	1.3	1.68		09/16/14 02:06	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/16/14 02:06	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		09/16/14 02:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/16/14 02:06	79-00-5	
Trichloroethene	**199**	ug/m3	1.8	1.68		09/16/14 02:06	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/16/14 02:06	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/16/14 02:06	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/16/14 02:06	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		09/16/14 02:06	75-01-4	
m&p-Xylene	**2.4J**	ug/m3	3.0	1.68		09/16/14 02:06	179601-23-1	
o-Xylene	**0.89J**	ug/m3	1.5	1.68		09/16/14 02:06	95-47-6	

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ANALYTICAL RESULTS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Sample: SV-DUP4-C-17 **Lab ID: 10280474030** Collected: 09/03/14 00:00 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.68		09/16/14 01:41	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/16/14 01:41	56-23-5	
Chlorodifluoromethane	**3.3**	ug/m3	1.2	1.68		09/16/14 01:41	75-45-6	
Chloroform	ND	ug/m3	0.83	1.68		09/16/14 01:41	67-66-3	
Dichlorodifluoromethane	**4.2**	ug/m3	1.7	1.68		09/16/14 01:41	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		09/16/14 01:41	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/16/14 01:41	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		09/16/14 01:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/16/14 01:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/16/14 01:41	156-60-5	
Ethylbenzene	**2.4**	ug/m3	1.5	1.68		09/16/14 01:41	100-41-4	
Methylene Chloride	**2.6J**	ug/m3	5.9	1.68		09/16/14 01:41	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/16/14 01:41	1634-04-4	
Naphthalene	**26.9**	ug/m3	4.5	1.68		09/16/14 01:41	91-20-3	SS
Tetrachloroethene	**2.4**	ug/m3	1.2	1.68		09/16/14 01:41	127-18-4	
Toluene	**5.2**	ug/m3	1.3	1.68		09/16/14 01:41	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/16/14 01:41	120-82-1	
1,1,1-Trichloroethane	**2.0**	ug/m3	1.9	1.68		09/16/14 01:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/16/14 01:41	79-00-5	
Trichloroethene	**2.2**	ug/m3	1.8	1.68		09/16/14 01:41	79-01-6	
1,2,3-Trimethylbenzene	**3.4**	ug/m3	1.7	1.68		09/16/14 01:41	526-73-8	
1,2,4-Trimethylbenzene	**4.1**	ug/m3	1.7	1.68		09/16/14 01:41	95-63-6	
1,3,5-Trimethylbenzene	**4.6**	ug/m3	1.7	1.68		09/16/14 01:41	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		09/16/14 01:41	75-01-4	
m&p-Xylene	**6.9**	ug/m3	3.0	1.68		09/16/14 01:41	179601-23-1	
o-Xylene	**3.2**	ug/m3	1.5	1.68		09/16/14 01:41	95-47-6	

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Appendix C

Support Documentation

10280474

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

19146

Page: 1 of 3

Section A Required Client Information:

Company: Tetra Tech Inc.
Address: 20251 Century Blvd. Germantown MD 20874
Email To:
Phone: 301 528-3021 Fax: 528-3000
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Tony Aparavage
Copy To:
Purchase Order No.: SV / IAQ
Project Name: Mill vapor point sampling
Project Number: 112IC06279

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST / Superfund / Emissions / Clean Air Act / Voluntary Clean Up / Dry Clean / RCRA / Other

Location of Sampling by State: MD

Reporting Units: µg/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level II.___ III.___ IV.___ Other___

Valid Media Codes: MEDIA / CODE — Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	'Section D Required Client Information AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Start DATE (COMPOSITE START END/GRAB)	Start TIME	Stop DATE (COMPOSITE - END/GRAB)	Stop TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	IA-149-C-17	6LC		9-3-14	0834	9-3-14	1634	-35	-3	10711	FC1040							X			001
2	IA-126-C-17	↓		↓	0836	↓	1636	-29	-1	26711	FC1036							X			002
3	IA-141-C-17				0838		1638	-30	-2	08118	FC0237							X			003
4	IA-146-C-17				0841		1645	-30	-2	08339	FC0019							X			004
5	IA-145-C-17				0853		1656	-29	0	21400	FC1038							X			005
6	IA-128-C-17				0856		1657	-29	-1	10555	FC0257							X			006
7	IA-148-C-17				0900		1700	-30	-1	21338	FC1037							X			007
8	IA-144-C-17				0903		1703	-29.5	-2	20644	FC1063							X			008
9	IA-147-C-17				0905		1705	-28	-4	21117	FC0088							X			009
10	IA-60-C-17				0908		1715	-30	-1	53	FC1010							X			010
11	IA-130-C-17				0920		1718	-30	0	21183	FC0055							X			011
12	IA-153-C-17	↓		↓	0931	↓	1731	-26	-11	17162	FC0053							X			012

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	9-4-14	1000	[signature]	9814	0930

SAMPLE CONDITIONS: AMB

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Walt Payne

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM / DD / YY): 9-4-14

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

FC046Rev.01, 03Feb2010

10280474

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

19147

Page: 2 of 3

Section A Required Client Information:
Company: TETRA Tech INC
Address: 20251 Century Blvd Germantown MD, 20874
Email To:
Phone: 301 528-3021 Fax: 3000
Requested Due Date/TAT:

Section B Required Project Information:
Report To: Tony Aparavage
Copy To:
Purchase Order No.: SV/IAQ
Project Name: MGC Vapor Point Sampling
Project Number: 112IC06279

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST / Superfund / Emissions / Clean Air Act / Voluntary Clean Up / Dry Clean / RCRA / Other____

Location of Sampling by State: MD

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level II.___ III.___ IV.___ Other____

Section D Required Client Information

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Start DATE (COMPOSITE START END/GRAB)	Start TIME	Stop DATE (COMPOSITE -)	Stop TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	IA-155-C-17	6LC		9-3-14	0936	9-3-14	1735	-27	-1	854	FC 10321							X			013
2	IA-133-C-17				0939		1739	-29	-2	2043	FC 1060							X			014
3	IA-102-C-17				0942		1744	-28	0	1051	FC 1039							X			015
4	IA-001-C-17				0949		1748	-30	-2	2047	FC 1059							X			016
5	IA-004-C-17				0951		1755	-20	-2	570	FC 1033							X			017
6	IA-005-C-17				0956		1756	-28	0	54	FC 1031							X			018
7	IA-145-C-17 IA-143-C-17				1000		1800	-30	-1	2131	FC 0320							X			019
8	IA-135-C-17				1003		1803	-30	-4	822	FC 080280							X			020
9	IA-088-C-17				1005		1805	-20	-2	982	FC 0383							X			021
10	IA-142-C-17				1008		1807	-32	-1	2037	FC 0149							X			022
11	IA-113-C-17				1009		1808	-31	-2	0931	FC 0117							X			023
12	IA-115-C-17				1012		1811	-25	-2	273	FC 1064							X			024

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Walt Pa	9-4-14	1000	[illegible]	9/4/14	0930

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
[illegible]	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Walt Parum
SIGNATURE of SAMPLER: Walt
DATE Signed (MM / DD / YY)

ORIGINAL

10280474

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

09763

Section A Required Client Information:

Company: Tetra Tech Inc
Address: 20251 Century Blvd
Germantown, MD 20874
Email To:
Phone: 301 528 3421 Fax: 3000
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Tony Apanavage
Copy To:
Purchase Order No.: SV / IAQ
Project Name: Mill Vapor Point Sampling
Project Number: 112IC06279

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST, Superfund, Emissions, Clean Air Act, Voluntary Clean Up, Dry Clean, RCRA, Other

Location of Sampling by State: MD

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level II.___ III.___ IV.___ Other ___

Section D Required Client Information — AIR SAMPLE ID

Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED Start DATE	Start TIME	Stop DATE	Stop TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	IA-065-C-17	6LC		9-3-14	0825	9-3-14	1625	-30	-3	1651	FC0334							X			025
2	IA-051-C-17	↓		↓	0828	↓	1628	-30	-4	2666	FC0068							X			026
3	IA-Dup4-C-17				—		—	-26	-11	2344	FC0053							X			027
4	IA-Dup9-C-17	↓			—		—	-30	0	2183	FC0055							X			028
5	SV-Dup3-C-17	1LC			—		—	-30	0	2444	FC0091							X			029
6	SV-Dup4-C-17	↓			—		—	-27	0	1798	FC0327							X			030
7																					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	9-4-14	1000	[signature]	9/3/14	0930

SAMPLE CONDITIONS

	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Amb	Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Walt Pepa
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM / DD / YY): 9-4-14

ORIGINAL

FIELD DUPLICATE PRECISION
LMC - MRC & TILLEY CHEMICAL CO, INC.
SDG 10280474

SAMPLE	PARAMETER	RESULT (µg/m³)	DUPLICATE SAMPLE	PARAMETER	RESULT (µg/m³)	RPD (%)	DIFFERENCE	RL (µg/m³)
SV-130-C-17	1,1,1-TRICHLOROETHANE	4	**SV-DUP4-C-17**	1,1,1-TRICHLOROETHANE	2	66.67	2	
	1,2,3-TRIMETHYLBENZENE	8.2		1,2,3-TRIMETHYLBENZENE	3.4	82.76	4.8	
	1,2,4-TRIMETHYLBENZENE	8.2		1,2,4-TRIMETHYLBENZENE	4.1	66.67	4.1	
	1,3,5-TRIMETHYLBENZENE	11.3		1,3,5-TRIMETHYLBENZENE	4.6	84.28	6.7	
	CHLORODIFLUOROMETHANE	3.4		CHLORODIFLUOROMETHANE	3.3	2.99	0.1	
	DICHLORODIFLUOROMETHANE	3		DICHLORODIFLUOROMETHANE	4.2	33.33	1.2	
	ETHYLBENZENE	2.9		ETHYLBENZENE	2.4	18.87	0.5	
	M+P-XYLENES	6.4		M+P-XYLENES	6.9	7.52	0.5	
	METHYLENE CHLORIDE	U		METHYLENE CHLORIDE	2.6 J	NA	2.6	5.8
	NAPHTHALENE	12.6		NAPHTHALENE	26.9	72.41	14.3	
	O-XYLENE	2.8		O-XYLENE	3.2	13.33	0.4	
	TETRACHLOROETHENE	8.9		TETRACHLOROETHENE	2.4	115.04	6.5	
	TOLUENE	7		TOLUENE	5.2	29.51	1.8	
	TRICHLOROETHENE	3.3		TRICHLOROETHENE	2.2	40.00	1.1	

QC: RPD < 50%
or DIFFERENCE < 2X RL

U - NON-DETECT
NA - NOT APPLICABLE

FIELD DUPLICATE PRECISION
LMC - MRC & TILLEY CHEMICAL CO, INC.
SDG 10280474

SAMPLE	PARAMETER	RESULT (µg/m^3)	DUPLICATE SAMPLE	PARAMETER	RESULT (µg/m^3)	RPD (%)	DIFFERENCE	RL (µg/m^3)
SV-133-C-17	CHLORODIFLUOROMETHANE	12.7	**SV-DUP3-C-17**	CHLORODIFLUOROMETHANE	9	34.10	3.7	
	DICHLORODIFLUOROMETHANE	4.3		DICHLORODIFLUOROMETHANE	3.1	32.43	1.2	
	ETHYLBENZENE	1.2 J		ETHYLBENZENE	0.78 J	42.42	0.42	1.5
	M+P-XYLENES	4		M+P-XYLENES	2.4 J	50.00	1.6	3
	NAPHTHALENE	1.8 J		NAPHTHALENE	3.3 J	58.82	1.5	4.5
	O-XYLENE	1.5		O-XYLENE	0.89 J	51.05	0.61	1.5
	TETRACHLOROETHENE	1.4		TETRACHLOROETHENE	3.3	80.85	1.9	
	TOLUENE	5.1		TOLUENE	4.2	19.35	0.9	
	TRICHLOROETHENE	10.9		TRICHLOROETHENE	199	179.23	188.1	

QC: RPD < 50%
or DIFFERENCE < 2X RL

U - NON-DETECT
NA - NOT APPLICABLE

FIELD DUPLICATE PRECISION
LMC - MRC & TILLEY CHEMICAL CO, INC.
SDG 10280474

SAMPLE	PARAMETER	RESULT (µg/m³)	DUPLICATE SAMPLE	PARAMETER	RESULT (µg/m³)	RPD (%)	DIFFERENCE	RL (µg/m³)
IA-153-C-17	1,2,3-TRIMETHYLBENZENE	2.1	**IA-DUP4-C-17**	1,2,3-TRIMETHYLBENZENE	1.4 U	NA	0.7	1.4
	BENZENE	0.62		BENZENE	0.9 U	NA	0.28	0.9
	CHLORODIFLUOROMETHANE	8.5		CHLORODIFLUOROMETHANE	7.7	9.88	0.8	
	DICHLORODIFLUOROMETHANE	2.1		DICHLORODIFLUOROMETHANE	2.7	25.00	0.6	
	ETHYLBENZENE	1.7		ETHYLBENZENE	1.4	19.35	0.3	
	M+P-XYLENES	6.2		M+P-XYLENES	5.7	8.40	0.5	
	METHYLENE CHLORIDE	3.9 J		METHYLENE CHLORIDE	5 U	NA	1.1	5
	NAPHTHALENE	4.1		NAPHTHALENE	5	19.78	0.9	
	O-XYLENE	2.2		O-XYLENE	2.2	0.00	0	
	TOLUENE	7.2		TOLUENE	6.6	8.70	0.6	
	TRICHLOROETHENE	0.51 J		TRICHLOROETHENE	1.5 U	NA	0.99	1.5

QC: RPD < 50%
or DIFFERENCE < 2X RL

U - NON-DETECT
NA - NOT APPLICABLE

FIELD DUPLICATE PRECISION
LMC - MRC & TILLEY CHEMICAL CO, INC.
SDG 10280474

SAMPLE	PARAMETER	RESULT (µg/m^3)	DUPLICATE SAMPLE	PARAMETER	RESULT (µg/m^3)	RPD (%)	DIFFERENCE	RL (µg/m^3)
IA-130-C-17	1,1,1-TRICHLOROETHANE	1.4 U	**IA-DUP3-C-17**	1,1,1-TRICHLOROETHANE	0.89 J	NA	0.51	1.4
	1,2,3-TRIMETHYLBENZENE	1.5		1,2,3-TRIMETHYLBENZENE	1.4 U	NA	0.1	1.4
	1,2,4-TRIMETHYLBENZENE	0.71 J		1,2,4-TRIMETHYLBENZENE	0.75 J	5.48	0.04	1.4
	BENZENE	0.44		BENZENE	0.9 U	NA	0.46	0.9
	CHLORODIFLUOROMETHANE	5.5		CHLORODIFLUOROMETHANE	6.3	13.56	0.8	
	DICHLORODIFLUOROMETHANE	1.3		DICHLORODIFLUOROMETHANE	2.9	76.19	1.6	
	ETHYLBENZENE	1.8		ETHYLBENZENE	2.7	40.00	0.9	
	M+P-XYLENES	7.5		M+P-XYLENES	11.8	44.56	4.3	
	METHYLENE CHLORIDE	28.6		METHYLENE CHLORIDE	0.71 J	190.31	27.89	4.9
	NAPHTHALENE	3.1 J		NAPHTHALENE	6.9	76.00	3.8	3.7
	O-XYLENE	2.7		O-XYLENE	3.9	36.36	1.2	
	TETRACHLOROETHENE	4 J		TETRACHLOROETHENE	0.96 U	NA	3.04	0.96
	TOLUENE	5.9		TOLUENE	7.9	28.99	2	

QC: RPD < 50%
or DIFFERENCE < 2X RL

U - NON-DETECT
NA - NOT APPLICABLE

LMC - MIDDLE RIVER COMPLEX & TILLEY CHEMICAL CO, INC.
SDG 10280474

SAMPLE IDENTIFICATION	IA-149-C-17		
COMPOUND	METHYLENE CHLORIDE	MW=	84.933
		GAS CONSTANT =	24.45
COMPOUND AREA	837014		
INTERNAL STANDARD AMOUNT (ppbv)	10		
CALIBRATION VOLUME (ppbv)	1		
DILUTION FACTOR	1.44		
INTERNAL STANDARD AREA	1651156		
AVERAGE RRF	0.20132		
SAMPLE VOLUME (ppbv)	1		

36.2594 ppbv
125.96 $\mu g/m^3$

Data File: \\192.168.10.12\chem\10air0.i\091614.b\25916.D
Report Date: 17-Sep-2014 13:47

Pace Analytical Services, Inc.

TO15 Analysis (UNIX)

Data file : \\192.168.10.12\chem\10air0.i\091614.b\25916.D
Lab Smp Id: 10280474001
Inj Date : 16-SEP-2014 16:43 IA-149-C-17
Operator : DL1 Inst ID: 10air0.i
Smp Info :
Misc Info : 21321
Comment : Volatile Organic COMPOUNDS in Air
Method : \\192.168.10.12\chem\10air0.i\091614.b\TO15_259-14.m
Meth Date : 17-Sep-2014 11:03 dlee Quant Type: ISTD
Cal Date : 16-SEP-2014 13:58 Cal File: 25909.D
Als bottle: 16
Dil Factor: 1.44000
Integrator: HP RTE Compound Sublist: TTMD.sub
Target Version: 4.14
Processing Host: VIRTUALXP-77637

RRF = 0.20132

Concentration Formula: Amt * DF * Uf * CpndVariable

Name	Value	Description
DF	1.440	Dilution Factor
Uf	1.000	ng unit correction factor
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
	2 Dichlorodifluoromethane	85	1.583	1.589	(0.306)	41449	0.27475	0.396
	3 Chlorodifluoromethane	51	1.608	1.620	(0.311)	64489	1.29828	1.87
	6 Vinyl chloride	62	Compound Not Detected.					
	13 1,1-Dichloroethene	61	Compound Not Detected.					
	19 Methylene chloride	49	3.276	3.289	(0.633)	837014	25.1795	36.2
$	22 Hexane-d14(S)	66	3.382	3.394	(0.654)	116464	10.2789	10.3
	23 trans-1,2-dichloroethene	96	Compound Not Detected.					
	26 Methyl Tert Butyl Ether	73	Compound Not Detected.					
	29 1,1-Dichloroethane	63	Compound Not Detected.					
	32 cis-1,2-Dichloroethene	96	Compound Not Detected.					
	34 Chloroform	83	4.442	4.455	(0.859)	7295	0.06457	0.0930(a)
	35 Carbon tetrachloride	117	4.511	4.529	(0.872)	6070	0.05597	0.0806(a)
	38 1,1,1-Trichloroethane	97	4.560	4.573	(0.881)	5689	0.05603	0.0807(aQ)
	42 Benzene	78	4.790	4.802	(0.926)	26223	0.17681	0.255(aM)
	44 1,2-Dichloroethane	62	Compound Not Detected.					
	46 Trichloroethene	130	5.149	5.162	(0.995)	14904	0.22728	0.327(Q)
*	47 1,4-Difluorobenzene	114	5.174	5.180	(1.000)	1651156	10.0000	
$	52 Toluene-d8 (S)	98	5.993	6.005	(1.158)	2037479	10.4667	10.5
	53 Toluene	91	6.024	6.030	(1.164)	697859	4.04882	5.83
	54 Tetrachloroethene	166	Compound Not Detected.					
	57 1,1,2-Trichloroethane	97	Compound Not Detected.					
*	61 Chlorobenzene - d5	117	6.855	6.868	(1.000)	1571863	10.0000	
	63 Ethyl Benzene	91	6.880	6.886	(1.004)	33755	0.15244	0.220(aM)

Data File: \\192.168.10.12\chem\10air0.i\091614.b\25916.D
Report Date: 17-Sep-2014 13:47

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
64 m&p-Xylene	91	6.955	6.967	(1.014)	85166	0.48969	0.705(M)
65 o-Xylene	91	7.190	7.196	(1.049)	28417	0.16408	0.236(aM)
72 1,3,5-Trimethylbenzene	105	Compound Not Detected.					
74 1,2,4-Trimethylbenzene	105	Compound Not Detected.					
$ 78 1,4-dichlorobenzene-d4 (S)	150	8.226	8.239	(1.200)	876934	7.81502	7.82
80 1,2,3-Trimethylbenzene	105	8.263	8.257	(1.205)	22899	0.14825	0.213(aQM)
85 1,2,4-Trichlorobenzene	180	Compound Not Detected.					
86 Naphthalene	128	9.839	9.839	(1.435)	37094	0.49954	0.719(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10280474001	IA-149-C-17	Air	09/03/14 16:34	09/08/14 09:30
10280474002	IA-126-C-17	Air	09/03/14 16:36	09/08/14 09:30
10280474003	IA-141-C-17	Air	09/03/14 16:38	09/08/14 09:30
10280474004	IA-146-C-17	Air	09/03/14 16:45	09/08/14 09:30
10280474005	IA-145-C-17	Air	09/03/14 16:56	09/08/14 09:30
10280474006	IA-128-C-17	Air	09/03/14 16:57	09/08/14 09:30
10280474007	IA-148-C-17	Air	09/03/14 17:00	09/08/14 09:30
10280474008	IA-144-C-17	Air	09/03/14 17:03	09/08/14 09:30
10280474009	IA-147-C-17	Air	09/03/14 17:05	09/08/14 09:30
10280474010	IA-60-C-17	Air	09/03/14 17:15	09/08/14 09:30
10280474011	IA-130-C-17	Air	09/03/14 17:18	09/08/14 09:30
10280474012	IA-153-C-17	Air	09/03/14 17:31	09/08/14 09:30
10280474013	IA-155-C-17	Air	09/03/14 17:35	09/08/14 09:30
10280474014	IA-133-C-17	Air	09/03/14 17:39	09/08/14 09:30
10280474015	IA-102-C-17	Air	09/03/14 17:44	09/08/14 09:30
10280474016	IA-001-C-17	Air	09/03/14 17:48	09/08/14 09:30
10280474017	IA-004-C-17	Air	09/03/14 17:55	09/08/14 09:30
10280474018	IA-005-C-17	Air	09/03/14 17:56	09/08/14 09:30
10280474019	IA-143-C-17	Air	09/03/14 18:00	09/08/14 09:30
10280474020	IA-135-C-17	Air	09/03/14 18:03	09/08/14 09:30
10280474021	IA-088-C-17	Air	09/03/14 18:05	09/08/14 09:30
10280474022	IA-142-C-17	Air	09/03/14 18:07	09/08/14 09:30
10280474023	IA-113-C-17	Air	09/03/14 18:08	09/08/14 09:30
10280474024	IA-115-C-17	Air	09/03/14 18:11	09/08/14 09:30
10280474025	IA-065-C-17	Air	09/03/14 16:25	09/08/14 09:30
10280474026	IA-051-C-17	Air	09/03/14 16:28	09/08/14 09:30
10280474027	IA-DUP4-C-17	Air	09/03/14 00:00	09/08/14 09:30
10280474028	IA-DUP3-C-17	Air	09/03/14 00:00	09/08/14 09:30
10280474029	SV-DUP3-C-17	Air	09/03/14 00:00	09/08/14 09:30
10280474030	SV-DUP4-C-17	Air	09/03/14 00:00	09/08/14 09:30
10280474031	Unused Can#1157	Air		09/08/14 14:42

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Nathan Boberg - summa cans

From: "Apanavage, Tony" <Tony.Apanavage@tetratech.com>
To: "Nathan Boberg (Nathan.Boberg@pacelabs.com)" <Nathan.Boberg@pacelabs.com>
Date: 9/15/2014 8:15 AM
Subject: summa cans
CC: "Martin, Michael" <Michael.Martin@tetratech.com>, "Brenner, Samantha" <S...

Nathan,

I sent back the rest of the unused summa cans late last week so you should be getting them soon.

Also, I noticed on a COC that my field techs did that they listed one sample twice and in doing a QC of it I think they wrote 145 twice instead of 143.

See COC #19147 page 2 of 3

Line item #7 I believe should be IA-143-C-17 instead of IA-145-C-17 as it is listed on COC.

If you look at COC #19146 line #5 you can see 145-C is already listed there too.

Maybe this was cleared up when you looked at the tags and matched up the times and can/regulator numbers on the cans but can you take a look at this and verify that what I listed above is in fact the error?

Thank you.

Tony Apanavage

Anthony Apanavage, P.G. | Senior Project Manager
Direct: 301.528.3021 | Cell: 301.233.8230 | Fax: 301.528.3000
tony.apanavage@tetratech.com

Tetra Tech | Operations
20251 Century Boulevard, Suite 200, Germantown, MD 20874-7114 | www.tetratech.com

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Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: tetra tech

Project #: **WO#: 10280474**

10280474

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: on other sheet

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No Seals Intact? ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other: Temp Blank rec: ☐ Yes ☑ No

Temp. (TO17 and TO13 samples only) (°C): — Corrected Temp (°C): — Thermom. Used: ☐ B88A912167504 ☐ 72337080 ☐ B88A9132521491 ☐ 80512447

Temp should be above freezing to 6°C Correction Factor: — Date & Initials of Person Examining Contents: 9/8/14

Type of ice Received ☐ Blue ☐ Wet ☑ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: air can				11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
IA-149	1071 / 1040	IA-130	2183 / 0055	IA-688	0942 / 0383
IA-126	2671 / 1036	IA-153	1762 / 0053	IA-142	2037 / 0149
IA-141	0818 / 0237	IA-155	0854 / 1032	IA-113	0931 / 0117
IA-146	0839 / 0019	IA-133	2643 / 1060	IA-115	0273 / 1064
IA-145	2140 / 1038	IA-102	1051 / 1039	IA-065	1651 / 0334
IA-128	1055 / 0257	IA-001	2047 / 1059	IA-051	2666 / 0068
IA-148	2138 / 1037	IA-004	0570 / 1033	IA-Dup 4	2344 / 0053
IA-144	2064 / 1063	IA-005	0054 / 1031	IA-Dup 3	2183 / 0055
IA-147	2117 / 0038	IA-145	2031 / 0320	SV-Dup 3	2444 / 0091
IA-60	0053 / 1010	IA-135	0882 / 0280	SV-Dup 4	1798 / 0322
				unused	1157

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Date: 9/8/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical	Document Name: SCUR Exceptions Form	Document Revised: 16Apr2012 Page 1 of 1
	Document No.: F-MN-L-220-Rev.00	Issuing Authority: Pace Minnesota Quality Office

Workorder #: _____

Issue	Sample ID	Container Type/#
6146 1782 2744		
6146 1782 2940		
6146 1782 2906		
6146 1782 2939		
6146 1782 2847		
6146 1782 2870		
6146 1782 2836		
6146 1782 2814		
6146 1782 2880		
6146 1782 2766		
6146 1782 2928		
6146 1782 2825		
6146 1782 2891		
6146 1782 2788		
6146 1782 2803		
6146 1782 2777		
6146 1782 2858		
6146 1782 2755		
6146 1782 2869		
6146 1782 2917		
6146 1782 2799		

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PROJECT NARRATIVE

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: September 18, 2014

General Information:
30 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/21320

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- IA-051-C-17 (Lab ID: 10280474026)
  - Naphthalene
- IA-065-C-17 (Lab ID: 10280474025)
  - Naphthalene
- IA-088-C-17 (Lab ID: 10280474021)
  - Naphthalene
- IA-113-C-17 (Lab ID: 10280474023)
  - Naphthalene
- IA-133-C-17 (Lab ID: 10280474014)
  - Naphthalene
- IA-135-C-17 (Lab ID: 10280474020)
  - Naphthalene
- IA-142-C-17 (Lab ID: 10280474022)
  - Naphthalene
- IA-155-C-17 (Lab ID: 10280474013)
  - Naphthalene
- IA-DUP3-C-17 (Lab ID: 10280474028)
  - Naphthalene
- IA-DUP4-C-17 (Lab ID: 10280474027)
  - Naphthalene
- LCS (Lab ID: 1789533)
  - 1,2,4-Trichlorobenzene
  - Naphthalene
- SV-DUP3-C-17 (Lab ID: 10280474029)
  - Naphthalene
- SV-DUP4-C-17 (Lab ID: 10280474030)
  - Naphthalene

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/21320

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 1789533)

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PROJECT NARRATIVE

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: September 18, 2014

QC Batch: AIR/21320

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- 1,2,4-Trichlorobenzene

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

QC Batch: AIR/21320

IQ: The internal standard recoveries associated with this sample exceed the lower control limit. The reported results should be considered estimated values.

- DUP (Lab ID: 1790135)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: AIR/21320

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- LCS (Lab ID: 1789533)
  - 1,2,4-Trichlorobenzene

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: AIR/21320

R1: RPD value was outside control limits.

- DUP (Lab ID: 1790135)
  - Trichloroethene

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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QUALIFIERS

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 1790135

[1]	The internal standard recoveries associated with this sample exceed the lower control limit. The reported results should be considered estimated values.

ANALYTE QUALIFIERS

CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
R1	RPD value was outside control limits.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10280474001	IA-149-C-17	TO-15	AIR/21321		
10280474002	IA-126-C-17	TO-15	AIR/21321		
10280474003	IA-141-C-17	TO-15	AIR/21321		
10280474004	IA-146-C-17	TO-15	AIR/21321		
10280474005	IA-145-C-17	TO-15	AIR/21321		
10280474006	IA-128-C-17	TO-15	AIR/21321		
10280474007	IA-148-C-17	TO-15	AIR/21321		
10280474008	IA-144-C-17	TO-15	AIR/21321		
10280474009	IA-147-C-17	TO-15	AIR/21321		
10280474010	IA-60-C-17	TO-15	AIR/21321		
10280474011	IA-130-C-17	TO-15	AIR/21321		
10280474012	IA-153-C-17	TO-15	AIR/21321		
10280474013	IA-155-C-17	TO-15	AIR/21320		
10280474014	IA-133-C-17	TO-15	AIR/21320		
10280474015	IA-102-C-17	TO-15	AIR/21320		
10280474016	IA-001-C-17	TO-15	AIR/21320		
10280474017	IA-004-C-17	TO-15	AIR/21320		
10280474018	IA-005-C-17	TO-15	AIR/21320		
10280474019	IA-143-C-17	TO-15	AIR/21320		
10280474020	IA-135-C-17	TO-15	AIR/21320		
10280474021	IA-088-C-17	TO-15	AIR/21320		
10280474022	IA-142-C-17	TO-15	AIR/21320		
10280474023	IA-113-C-17	TO-15	AIR/21320		
10280474024	IA-115-C-17	TO-15	AIR/21320		
10280474025	IA-065-C-17	TO-15	AIR/21320		
10280474026	IA-051-C-17	TO-15	AIR/21320		
10280474027	IA-DUP4-C-17	TO-15	AIR/21320		
10280474028	IA-DUP3-C-17	TO-15	AIR/21320		
10280474029	SV-DUP3-C-17	TO-15	AIR/21320		
10280474030	SV-DUP4-C-17	TO-15	AIR/21320		

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QUALITY CONTROL DATA

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

QC Batch: AIR/21320 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10280474013, 10280474014, 10280474015, 10280474016, 10280474017, 10280474018, 10280474019, 10280474020, 10280474021, 10280474022, 10280474023, 10280474024, 10280474025, 10280474026, 10280474027, 10280474028, 10280474029, 10280474030

METHOD BLANK: 1789532 Matrix: Air
Associated Lab Samples: 10280474013, 10280474014, 10280474015, 10280474016, 10280474017, 10280474018, 10280474019, 10280474020, 10280474021, 10280474022, 10280474023, 10280474024, 10280474025, 10280474026, 10280474027, 10280474028, 10280474029, 10280474030

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	09/15/14 12:25	
1,1,2-Trichloroethane	ug/m3	ND	0.55	09/15/14 12:25	
1,1-Dichloroethane	ug/m3	ND	0.82	09/15/14 12:25	
1,1-Dichloroethene	ug/m3	ND	0.81	09/15/14 12:25	
1,2,3-Trimethylbenzene	ug/m3	ND	1.0	09/15/14 12:25	
1,2,4-Trichlorobenzene	ug/m3	ND	75.4	09/15/14 12:25	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	09/15/14 12:25	
1,2-Dichloroethane	ug/m3	ND	0.41	09/15/14 12:25	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	09/15/14 12:25	
Benzene	ug/m3	ND	0.65	09/15/14 12:25	
Carbon tetrachloride	ug/m3	ND	0.64	09/15/14 12:25	
Chlorodifluoromethane	ug/m3	ND	0.72	09/15/14 12:25	
Chloroform	ug/m3	ND	0.50	09/15/14 12:25	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	09/15/14 12:25	
Dichlorodifluoromethane	ug/m3	ND	1.0	09/15/14 12:25	
Ethylbenzene	ug/m3	ND	0.88	09/15/14 12:25	
m&p-Xylene	ug/m3	ND	1.8	09/15/14 12:25	
Methyl-tert-butyl ether	ug/m3	ND	0.73	09/15/14 12:25	
Methylene Chloride	ug/m3	ND	3.5	09/15/14 12:25	
Naphthalene	ug/m3	ND	2.7	09/15/14 12:25	
o-Xylene	ug/m3	ND	0.88	09/15/14 12:25	
Tetrachloroethene	ug/m3	ND	0.69	09/15/14 12:25	
Toluene	ug/m3	ND	0.77	09/15/14 12:25	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	09/15/14 12:25	
Trichloroethene	ug/m3	ND	1.1	09/15/14 12:25	
Vinyl chloride	ug/m3	ND	0.26	09/15/14 12:25	

LABORATORY CONTROL SAMPLE: 1789533

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	54.7	99	72-128	
1,1,2-Trichloroethane	ug/m3	55.5	46.5	84	72-130	
1,1-Dichloroethane	ug/m3	41.2	36.5	89	68-128	
1,1-Dichloroethene	ug/m3	40.3	39.9	99	68-130	
1,2,3-Trimethylbenzene	ug/m3	50	54.7	109	60-140	
1,2,4-Trichlorobenzene	ug/m3	75.5	141	187	30-150	CH,L3,SS

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

LABORATORY CONTROL SAMPLE: 1789533

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/m3	50	51.8	104	71-140	
1,2-Dichloroethane	ug/m3	41.2	43.1	105	71-132	
1,3,5-Trimethylbenzene	ug/m3	50	53.1	106	73-136	
Benzene	ug/m3	32.5	28.3	87	69-134	
Carbon tetrachloride	ug/m3	64	64.2	100	66-134	
Chlorodifluoromethane	ug/m3	36	36.4	101	60-140	
Chloroform	ug/m3	49.7	49.8	100	72-127	
cis-1,2-Dichloroethene	ug/m3	40.3	34.1	85	71-135	
Dichlorodifluoromethane	ug/m3	50.3	52.7	105	69-125	
Ethylbenzene	ug/m3	44.2	38.2	86	73-139	
m&p-Xylene	ug/m3	44.2	40.8	92	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	36.2	99	72-132	
Methylene Chloride	ug/m3	35.3	31.8	90	64-134	
Naphthalene	ug/m3	53.3	68.4	128	61-150	SS
o-Xylene	ug/m3	44.2	45.6	103	71-138	
Tetrachloroethene	ug/m3	69	56.5	82	69-136	
Toluene	ug/m3	38.3	33.0	86	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	34.8	86	70-131	
Trichloroethene	ug/m3	54.6	47.2	86	70-135	
Vinyl chloride	ug/m3	26	22.6	87	69-132	

SAMPLE DUPLICATE: 1790135

Parameter	Units	10280088005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,3-Trimethylbenzene	ug/m3	ND	ND		25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	1.9J		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
Benzene	ug/m3	ND	ND		25	
Carbon tetrachloride	ug/m3	ND	ND		25	
Chlorodifluoromethane	ug/m3	30.4	28.9	5	25	
Chloroform	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	ND	ND		25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	3.6J		25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	ND		25	
Naphthalene	ug/m3	ND	ND		25	
o-Xylene	ug/m3	ND	ND		25	

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QUALITY CONTROL DATA

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

SAMPLE DUPLICATE: 1790135

Parameter	Units	10280088005 Result	Dup Result	RPD	Max RPD	Qualifiers
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	3.0	2.5	15	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	5.1	3.5	37	25	R1
Vinyl chloride	ug/m3	ND	ND		25	

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QUALITY CONTROL DATA

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

QC Batch: AIR/21321 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10280474001, 10280474002, 10280474003, 10280474004, 10280474005, 10280474006, 10280474007, 10280474008, 10280474009, 10280474010, 10280474011, 10280474012

METHOD BLANK: 1789727 Matrix: Air
Associated Lab Samples: 10280474001, 10280474002, 10280474003, 10280474004, 10280474005, 10280474006, 10280474007, 10280474008, 10280474009, 10280474010, 10280474011, 10280474012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	09/16/14 16:16	
1,1,2-Trichloroethane	ug/m3	ND	0.55	09/16/14 16:16	
1,1-Dichloroethane	ug/m3	ND	0.82	09/16/14 16:16	
1,1-Dichloroethene	ug/m3	ND	0.81	09/16/14 16:16	
1,2,3-Trimethylbenzene	ug/m3	ND	1.0	09/16/14 16:16	
1,2,4-Trichlorobenzene	ug/m3	ND	3.8	09/16/14 16:16	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	09/16/14 16:16	
1,2-Dichloroethane	ug/m3	ND	0.41	09/16/14 16:16	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	09/16/14 16:16	
Benzene	ug/m3	ND	0.32	09/16/14 16:16	
Carbon tetrachloride	ug/m3	ND	0.64	09/16/14 16:16	
Chlorodifluoromethane	ug/m3	ND	0.72	09/16/14 16:16	
Chloroform	ug/m3	ND	0.50	09/16/14 16:16	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	09/16/14 16:16	
Dichlorodifluoromethane	ug/m3	ND	1.0	09/16/14 16:16	
Ethylbenzene	ug/m3	ND	0.88	09/16/14 16:16	
m&p-Xylene	ug/m3	ND	1.8	09/16/14 16:16	
Methyl-tert-butyl ether	ug/m3	ND	0.73	09/16/14 16:16	
Methylene Chloride	ug/m3	ND	3.5	09/16/14 16:16	
Naphthalene	ug/m3	ND	2.7	09/16/14 16:16	
o-Xylene	ug/m3	ND	0.88	09/16/14 16:16	
Tetrachloroethene	ug/m3	ND	3.4	09/16/14 16:16	
Toluene	ug/m3	ND	0.77	09/16/14 16:16	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	09/16/14 16:16	
Trichloroethene	ug/m3	ND	0.55	09/16/14 16:16	
Vinyl chloride	ug/m3	ND	0.26	09/16/14 16:16	

LABORATORY CONTROL SAMPLE: 1789728

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	60.8	110	72-128	
1,1,2-Trichloroethane	ug/m3	55.5	61.0	110	72-130	
1,1-Dichloroethane	ug/m3	41.2	47.4	115	68-128	
1,1-Dichloroethene	ug/m3	40.3	42.1	104	68-130	
1,2,3-Trimethylbenzene	ug/m3	50	54.6	109	60-140	
1,2,4-Trichlorobenzene	ug/m3	75.5	79.0	105	30-150	
1,2,4-Trimethylbenzene	ug/m3	50	59.2	118	71-140	
1,2-Dichloroethane	ug/m3	41.2	46.0	112	71-132	

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

LABORATORY CONTROL SAMPLE: 1789728

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3,5-Trimethylbenzene	ug/m3	50	60.0	120	73-136	
Benzene	ug/m3	32.5	33.7	104	69-134	
Carbon tetrachloride	ug/m3	64	76.1	119	66-134	
Chlorodifluoromethane	ug/m3	36	43.9	122	60-140	
Chloroform	ug/m3	49.7	53.7	108	72-127	
cis-1,2-Dichloroethene	ug/m3	40.3	45.5	113	71-135	
Dichlorodifluoromethane	ug/m3	50.3	51.5	102	69-125	
Ethylbenzene	ug/m3	44.2	43.5	99	73-139	
m&p-Xylene	ug/m3	44.2	47.8	108	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	39.0	106	72-132	
Methylene Chloride	ug/m3	35.3	36.6	103	64-134	
Naphthalene	ug/m3	53.3	55.0	103	61-150	
o-Xylene	ug/m3	44.2	48.9	111	71-138	
Tetrachloroethene	ug/m3	69	66.5	96	69-136	
Toluene	ug/m3	38.3	41.4	108	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	41.6	103	70-131	
Trichloroethene	ug/m3	54.6	63.4	116	70-135	
Vinyl chloride	ug/m3	26	30.2	116	69-132	

SAMPLE DUPLICATE: 1791566

Parameter	Units	10280464020 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,3-Trimethylbenzene	ug/m3	1.5	1.3	8	25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
Benzene	ug/m3	0.60	0.68	12	25	
Carbon tetrachloride	ug/m3	0.46J	0.48J		25	
Chlorodifluoromethane	ug/m3	1.7	1.7	5	25	
Chloroform	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.3	2.1	9	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	0.87J	0.91J		25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	ND		25	
Naphthalene	ug/m3	1.9J	ND		25	
o-Xylene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	2.2	2.2	.05	25	

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 112IC06279 MRC Vapor Point Sam
Pace Project No.: 10280474

SAMPLE DUPLICATE: 1791566

Parameter	Units	10280464020 Result	Dup Result	RPD	Max RPD	Qualifiers
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

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5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280474
Lab File ID: 25901BFB.D BFB Injection Date: 09/16/2014
Instrument ID: 10AIR0 BFB Injection Time: 10:55
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	10.85	
75	30.00 - 66.00% of mass 95	43.19	
96	5.00 - 9.00% of mass 95	6.56	
173	Less than 2.00% of mass 174	0.66	(0.62)
174	50.00 - 120.00% of mass 95	107.44	
175	4.00 - 9.00% of mass 174	8.02	(7.46)
176	93.00 - 101.00% of mass 174	105.41	(98.11)
177	5.00 - 9.00% of mass 176	6.61	(6.27)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CAL1	CAL1	25903.D	09/16/2014	11:38
2	CAL2	CAL2	25904.D	09/16/2014	11:59
3	CAL3	CAL3	25905.D	09/16/2014	12:22
4	CAL4	CAL4	25906.D	09/16/2014	12:45
5	CAL5	CAL5	25907.D	09/16/2014	13:08
6	CAL6	CAL6	25908.D	09/16/2014	13:32
7	CAL7	CAL7	25909.D	09/16/2014	13:58
8	ICV+ (LCS)	ICV+	25911.D	09/16/2014	14:42
9	LCS for HBN 318341 [AIR/	1789728	25912_21321.D	09/16/2014	15:05
10	BLANK for HBN 318341 [AI	1789727	25915_21321.D	09/16/2014	16:16
11	IA-149-C-17	10280474001	25916.D	09/16/2014	16:43
12	IA-126-C-17	10280474002	25917.D	09/16/2014	17:10
13	IA-141-C-17	10280474003	25918.D	09/16/2014	17:36
14	IA-146-C-17	10280474004	25919.D	09/16/2014	18:03
15	IA-145-C-17	10280474005	25920.D	09/16/2014	18:29
16	IA-128-C-17	10280474006	25921.D	09/16/2014	18:55
17	IA-148-C-17	10280474007	25922.D	09/16/2014	19:21
18	IA-144-C-17	10280474008	25923.D	09/16/2014	19:48
19	IA-147-C-17	10280474009	25924.D	09/16/2014	20:16
20	IA-60-C-17	10280474010	25925.D	09/16/2014	20:43
21	IA-130-C-17	10280474011	25926.D	09/16/2014	21:11
22	IA-153-C-17	10280474012	25927.D	09/16/2014	21:38
23	BCK-T-1-8(1782822DUP)	1791566-DUP	25932.D	09/16/2014	23:55

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INITIAL CALIBRATION DATA

Start Cal Date : 16-SEP-2014 11:38
End Cal Date : 16-SEP-2014 13:58
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air0.i\091614.b\TO15_259-14.m
Last Edit : 17-Sep-2014 09:46 dlee

Calibration File Names:
Level 1: \\192.168.10.12\chem\10air0.i\091614.b\25903.D
Level 2: \\192.168.10.12\chem\10air0.i\091614.b\25904.D
Level 3: \\192.168.10.12\chem\10air0.i\091614.b\25905.D
Level 4: \\192.168.10.12\chem\10air0.i\091614.b\25906.D
Level 5: \\192.168.10.12\chem\10air0.i\091614.b\25907.D
Level 6: \\192.168.10.12\chem\10air0.i\091614.b\25908.D
Level 7: \\192.168.10.12\chem\10air0.i\091614.b\25909.D

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
1 Propylene	0.11475	0.08078	0.08549	0.08511	0.09176	0.09780					
	0.09933						AVRG		0.09358		12.36609
2 Dichlorodifluoromethane	1.03975	0.88020	0.88001	0.95719	0.99681	0.88479					
	0.75684						AVRG		0.91366		10.22685
3 Chlorodifluoromethane	0.33813	0.27998	0.25827	0.29161	0.31385	0.31986					
	0.30416						AVRG		0.30084		8.86267
4 Dichlorotetrafluoroethane	0.97339	0.85540	0.85543	0.93099	0.91253	0.75950					
	0.63884						AVRG		0.84658		13.50641

Pace Analytical Services, Inc.

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
5 Chloromethane	3315	6081	12627	25027	315540	687613	1180635	LINR	0.01359	5.14100		0.99970
6 Vinyl chloride	0.37708	0.32985	0.31046	0.32814	0.36121	0.35150	0.31073	AVRG		0.33842		7.54543
7 1,3-Butadiene	2654	4865	11499	23563	288139	637922	1010454	LINR	-0.00134	5.87985		0.99875
8 Bromomethane	0.36470	0.31477	0.30723	0.32551	0.34378	0.32452	0.29213	AVRG		0.32466		7.36366
9 Isopentane	0.18526	0.16020	0.14774	0.14940	0.15435	0.16753	0.16732	AVRG		0.16169		8.07710
10 Chloroethane	0.17324	0.16309	0.14386	0.15779	0.16592	0.16502	0.14666	AVRG		0.15937		6.70752
11 Vinyl Bromide	0.34576	0.29022	0.29924	0.30155	0.32713	0.31732	0.28381	AVRG		0.30929		7.09144

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
12 Trichlorofluoromethane	0.92656	0.85755	0.81355	0.85948	0.92626	0.87149					
	0.76325						AVRG		0.85973		6.79483
13 1,1-Dichloroethene	0.48726	0.39358	0.41791	0.42230	0.44521	0.39520					
	0.32032						AVRG		0.41168		12.51810
14 Carbon Disulfide	1.21521	0.99891	0.98148	1.02947	0.95937	0.81409					
	0.67402						AVRG		0.95322		17.90028
15 Ethanol	+++++	+++++	0.06445	0.07118	0.05934	0.06872					
	0.07852						AVRG		0.06844		10.53079
16 Freon 113	0.63568	0.55603	0.53564	0.56636	0.58306	0.53717					
	0.48430						AVRG		0.55689		8.38802
17 Acrolein	0.07562	0.07164	0.07876	0.08215	0.08301	0.08326					
	0.08044						AVRG		0.07927		5.43627
18 Allyl Chloride	0.12936	0.11671	0.10875	0.12619	0.15327	0.13847					
	0.12488						AVRG		0.12823		11.30207

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
19 Methylene chloride	0.28060	0.20409	0.18249	0.18449	0.18835	0.18471					
	0.18454						AVRG		0.20132		17.74342
20 Isopropyl Alcohol	0.33945	0.24700	0.21323	0.20792	0.21998	0.24957					
	0.25456						AVRG		0.24739		18.08323
21 Acetone	8242	12818	25425	49408	424785	978400					
	1809099						QUAD	0.00556	0.21591	0.02707	0.99994
23 trans-1,2-dichloroethene	0.35159	0.30058	0.29538	0.29478	0.31495	0.28973					
	0.26826						AVRG		0.30218		8.55949
24 Vinyl Acetate	0.16447	0.14980	0.12955	0.12262	0.13796	0.16183					
	0.15771						AVRG		0.14628		11.24784
25 n-Hexane	0.42829	0.36073	0.35968	0.36855	0.40557	0.38557					
	0.32549						AVRG		0.37627		8.95105
26 Methyl Tert Butyl Ether	0.79047	0.72067	0.73861	0.75432	0.81949	0.73383					
	0.64818						AVRG		0.74365		7.32886

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
27 Tert Butyl Alcohol (TBA)	0.48961	0.41106	0.45178	0.47465	0.52779	0.53667					
	0.49656						AVRG		0.48402		8.97664
28 Di-isopropyl Ether	0.53626	0.44716	0.45087	0.44980	0.53784	0.56260					
	0.57320						AVRG		0.50825		11.15081
29 1,1-Dichloroethane	0.63303	0.50631	0.53801	0.52986	0.62437	0.60142					
	0.53412						AVRG		0.56673		9.06068
30 Acrylonitrile	2291	3987	9686	17838	259436	612401					
	1049273						LINR	0.02948	5.77076		0.99868
31 Ethyl Tert-Butyl Ether	0.81379	0.72137	0.70528	0.74332	0.90773	0.80414					
	0.67179						AVRG		0.76677		10.50006
32 cis-1,2-Dichloroethene	0.34763	0.27323	0.28442	0.29558	0.34862	0.32778					
	0.30440						AVRG		0.31166		9.66955
33 Cyclohexane	0.40978	0.31724	0.30552	0.33441	0.41105	0.39921					
	0.35534						AVRG		0.36179		12.39815

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INITIAL CALIBRATION DATA

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
34 Chloroform	0.75061	0.64830	0.62802	0.69202	0.76718	0.70067					
	0.60279						AVRG		0.68423		8.98948
35 Carbon tetrachloride	0.64049	0.55576	0.53578	0.61101	0.78194	0.76397					
	0.70894						AVRG		0.65684		14.84931
36 Ethyl Acetate	0.37732	0.32222	0.30519	0.34046	0.38068	0.40166					
	0.34758						AVRG		0.35359		9.75829
37 Tetrahydrofuran	2254	4585	10431	21823	289779	658370					
	1002381						LINR	-0.00270	5.85501		0.99657
38 1,1,1-Trichloroethane	0.67800	0.56253	0.56143	0.61766	0.68982	0.63650					
	0.55862						AVRG		0.61494		9.11164
39 Methyl Ethyl Ketone	0.15455	0.12744	0.13053	0.14140	0.15739	0.15283					
	0.13439						AVRG		0.14265		8.63706
40 2,2,4-Trimethylpentane	1.27430	1.13881	1.04007	1.14090	1.29499	1.17137					
	0.97166						AVRG		1.14744		10.12478

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air0.i\091614.b\TO15_259-14.m
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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
41 Heptane	3879	7232	16545	32742	433648	1003552					
	+++++						LINR	0.01809	3.60625		0.99825
42 Benzene	1.08964	0.95466	0.90970	0.94444	0.94884	0.78583					
	0.65457						AVRG		0.89824		15.52313
43 Tert Amyl Methyl Ether	0.80177	0.72781	0.72816	0.75161	0.94568	0.83656					
	0.71607						AVRG		0.78681		10.51922
44 1,2-Dichloroethane	0.37906	0.34188	0.34758	0.36200	0.43319	0.41233					
	0.35689						AVRG		0.37613		9.16644
45 Methylcyclohexane	0.20324	0.18202	0.18401	0.18037	0.21923	0.19800					
	0.18114						AVRG		0.19257		7.69737
46 Trichloroethene	0.39571	0.35541	0.35425	0.34777	0.45095	0.45093					
	0.42500						AVRG		0.39715		11.53190
48 1,2-Dichloropropane	0.40732	0.33596	0.32348	0.34380	0.40435	0.35289					
	0.28665						AVRG		0.35063		12.32010

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-SEP-2014 11:38
End Cal Date : 16-SEP-2014 13:58
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air0.i\091614.b\TO15_259-14.m
Last Edit : 17-Sep-2014 09:46 dlee

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
49 Bromodichloromethane	0.73270	0.64867	0.65699	0.69982	0.80752	0.68682					
	0.58040						AVRG		0.68756		10.37111
50 1,4-Dioxane	0.19049	0.16123	0.15645	0.17671	0.19267	0.19777					
	0.18167						AVRG		0.17957		8.82144
51 cis-1,3-Dichloropropene	0.50373	0.44194	0.43089	0.47741	0.59628	0.52778					
	0.43956						AVRG		0.48823		12.23137
53 Toluene	1.18642	1.06000	1.01501	1.07052	1.14036	0.99216					
	0.84270						AVRG		1.04388		10.68006
54 Tetrachloroethene	8587	13253	33276	63938	1301243	3180161					
	5090781						QUAD	-0.03113	0.97890	0.00658	0.99727
55 Methyl Isobutyl Ketone	0.32382	0.25560	0.26624	0.26465	0.36370	0.28270					
	+++++						AVRG		0.29279		14.46862
56 trans-1,3-Dichloropropene	0.47350	0.43407	0.44823	0.47481	0.52819	0.42736					
	0.35142						AVRG		0.44822		12.13362

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-SEP-2014 11:38
End Cal Date : 16-SEP-2014 13:58
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air0.i\091614.b\TO15_259-14.m
Last Edit : 17-Sep-2014 09:46 dlee

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
57 1,1,2-Trichloroethane	0.41856	0.36824	0.34962	0.35737	0.41532	0.37049					
	0.32518						AVRG		0.37211		9.15799
58 Dibromochloromethane	9988	17504	45313	88748	1418993	2880635					
	+++++						LINR	0.01350	1.06602		0.99982
59 1,2-Dibromoethane	0.67943	0.62378	0.58984	0.58500	0.74693	0.70486					
	0.61943						AVRG		0.64989		9.47221
60 Methyl Butyl Ketone	5673	7733	18690	38115	562727	1211303					
	2013750						LINR	0.01660	2.56836		0.99970
62 Chlorobenzene	0.94332	0.86549	0.80060	0.82631	0.96371	0.91187					
	0.80816						AVRG		0.87421		7.58157
63 Ethyl Benzene	1.84806	1.49550	1.42841	1.42357	1.42838	1.21333					
	1.02404						AVRG		1.40876		18.04412
64 m&p-Xylene	1.28076	1.12374	1.05748	1.11370	1.21971	1.05185					
	0.89787						AVRG		1.10644		11.21864

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-SEP-2014 11:38
End Cal Date : 16-SEP-2014 13:58
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air0.i\091614.b\TO15_259-14.m
Last Edit : 17-Sep-2014 09:46 dlee

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
65 o-Xylene	1.20093	1.14093	1.05046	1.09493	1.23750	1.08460					
	0.90339						AVRG		1.10182		9.95022
66 Styrene	0.68758	0.69079	0.65395	0.69508	0.85931	0.80406					
	0.70793						AVRG		0.72839		10.18397
67 Bromoform	8805	15439	37326	77442	1649577	3680731					
	5693775						LINR	0.01616	0.88732		0.99724
68 Isopropylbenzene	1.31867	1.34445	1.24215	1.23228	1.55070	1.41246					
	1.20271						AVRG		1.32906		9.17970
69 N-Propylbenzene	1.71621	1.70160	1.65843	1.63120	1.86122	1.59310					
	1.32432						AVRG		1.64087		9.97711
70 1,1,2,2-Tetrachloroethane	1.01406	0.86056	0.87891	0.87149	0.90232	0.73978					
	0.60552						AVRG		0.83895		15.55087
71 4-Ethyltoluene	1.22232	1.13059	1.15942	1.12900	1.43275	1.30695					
	1.11370						AVRG		1.21353		9.73737

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-SEP-2014 11:38
End Cal Date : 16-SEP-2014 13:58
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air0.i\091614.b\TO15_259-14.m
Last Edit : 17-Sep-2014 09:46 dlee

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
72 1,3,5-Trimethylbenzene	1.13795	1.02237	1.04233	1.00694	1.27859	1.16033					
	0.99998						AVRG		1.09264		9.49729
73 Tert-Butyl Benzene	13966	23467	57754	117787	1854094	3647171					
	+++++						LINR	0.00934	0.83879		0.99951
74 1,2,4-Trimethylbenzene	1.08332	0.97030	0.96516	0.96847	1.27184	1.13222					
	0.97336						AVRG		1.05210		11.18769
75 Sec- Butylbenzene	1.60362	1.41655	1.38101	1.42767	1.76138	1.57078					
	1.33683						AVRG		1.49969		10.07747
76 p-Isopropyltoluene	1.06186	0.97334	0.95426	1.00966	1.43141	1.39951					
	1.23546						AVRG		1.15221		17.56277
77 1,3-Dichlorobenzene	11023	17859	40038	86504	1480424	3106459					
	4792230						LINR	0.00118	1.05540		0.99718
79 1,4-Dichlorobenzene	0.81321	0.70182	0.69788	0.68284	1.03492	1.05624					
	0.93626						AVRG		0.84617		19.20586

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-SEP-2014 11:38
End Cal Date : 16-SEP-2014 13:58
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air0.i\091614.b\TO15_259-14.m
Last Edit : 17-Sep-2014 09:46 dlee

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
80 1,2,3-Trimethylbenzene	1.15199	0.97980	0.91809	0.92441	1.10089	0.97710					
	0.82644						AVRG		0.98268		11.35129
81 Benzyl Chloride	1681	2714	6876	15024	293522	608181					
	+++++						LINR	0.02203	5.04394		0.99967
82 N-Butylbenzene	1.86016	1.81156	1.74353	1.80459	2.09593	1.75532					
	1.40398						AVRG		1.78215		11.47985
83 1,2-Dichlorobenzene	9521	16679	39463	75322	1285103	2730450					
	4183392						LINR	0.00048	1.20734		0.99681
84 Hexachlorobutadiene	4535	7573	17584	38781	742261	2102259					
	3689426						QUAD	-0.01715	0.50736	0.07154	0.99716
85 1,2,4-Trichlorobenzene	4440	6671	16122	35290	619279	1481572					
	2649091						QUAD	-0.00820	0.39311	0.04004	0.99960
86 Naphthalene	8193	13790	34211	75167	1058034	2384125					
	3870614						LINR	0.01862	1.32778		0.99899

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-SEP-2014 11:38
End Cal Date : 16-SEP-2014 13:58
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air0.i\091614.b\TO15_259-14.m
Last Edit : 17-Sep-2014 09:46 dlee

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	30.0000 Level 7											
$ 22 Hexane-d14(S)	0.07253	0.07179	0.07091	0.07056	0.06728	0.06493						
	0.06236						AVRG		0.06862		5.61069	<-
$ 52 Toluene-d8 (S)	1.18622	1.14235	1.19488	1.24630	1.17473	1.14908						
	1.15909						AVRG		1.17895		2.99618	
$ 78 1,4-dichlorobenzene-d4 (S)	0.59410	0.59101	0.56562	0.57057	0.76660	0.92583						
	0.98341						AVRG		0.71387		25.07865	

Report Date: 17-Sep-2014 09:46

Pace Analytical Services, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: GAS
Lab Smp Id: ICV+
Level: LOW
Data Type: MS DATA
SpikeList File: ICV+.spk
Sublist File: all.sub
Method File: \\192.168.10.12\chem\10air0.i\091614.b\TO15_259-14.m
Misc Info:

Client SDG: 091614.b
Fraction: VOA

Operator: DL1
SampleType: LCS
Quant Type: ISTD

SPIKE	COMPOUND	CONC ADDED ppbv	CONC RECOVERED ppbv	% RECOVERED	LIMITS
1	Propylene	10.6	12.9	121.50	60-140
2	Dichlorodifluorome	9.60	9.88	102.95	60-140
3	Chlorodifluorometh	10.0	12.1	121.31	60-140
4	Dichlorotetrafluor	11.0	9.67	87.91	60-140
5	Chloromethane	10.8	13.2	122.58	60-140
6	Vinyl chloride	9.60	11.2	116.67	60-140
7	1,3-Butadiene	9.90	12.0	121.39	60-140
8	Bromomethane	7.20	8.02	111.34	60-140
9	Isopentane	10.0	12.2	121.71	60-140
10	Chloroethane	7.60	8.69	114.30	60-140
11	Vinyl Bromide	9.70	10.5	108.21	60-140
12	Trichlorofluoromet	9.90	10.1	101.75	60-140
13	1,1-Dichloroethene	11.5	13.3	115.39	60-140
14	Carbon Disulfide	10.0	6.56	65.61	60-140
15	Ethanol	7.90	11.6	146.39*	60-140
16	Freon 113	9.30	10.8	116.31	60-140
19	Methylene chloride	9.90	11.3	113.82	60-140
20	Isopropyl Alcohol	10.2	11.6	114.10	60-140
21	Acetone	9.40	10.0	106.96	60-140
23	trans-1,2-dichloro	10.2	10.4	102.01	60-140
24	Vinyl Acetate	10.3	11.4	110.77	60-140
25	n-Hexane	10.1	10.7	106.21	60-140
26	Methyl Tert Butyl	9.60	9.76	101.69	60-140
28	Di-isopropyl Ether	10.0	13.1	131.02	60-140
29	1,1-Dichloroethane	10.2	12.0	117.32	60-140
31	Ethyl Tert-Butyl E	10.0	12.1	121.00	60-140
32	cis-1,2-Dichloroet	10.1	11.4	113.22	60-140
33	Cyclohexane	10.5	12.7	120.76	60-140
34	Chloroform	10.9	11.1	101.72	60-140
35	Carbon tetrachlori	10.2	11.7	114.93	60-140
36	Ethyl Acetate	10.7	12.2	114.11	60-140
37	Tetrahydrofuran	10.8	11.9	110.30	60-140
38	1,1,1-Trichloroeth	9.90	10.6	107.33	60-140
39	Methyl Ethyl Keton	10.2	11.6	113.42	60-140
40	2,2,4-Trimethylpen	10.0	11.6	116.31	60-140
41	Heptane	11.3	12.0	106.23	60-140
42	Benzene	10.6	10.4	98.14	60-140
43	Tert Amyl Methyl E	10.0	11.8	117.60	60-140
44	1,2-Dichloroethane	11.0	12.2	111.36	60-140
45	Methylcyclohexane	10.0	11.4	113.55	60-140

SPIKE COMPOUND	CONC ADDED ppbv	CONC RECOVERED ppbv	% RECOVERED	LIMITS
46 Trichloroethene	9.50	11.9	125.14	60-140
48 1,2-Dichloropropan	10.1	11.3	112.12	60-140
49 Bromodichlorometha	9.80	11.0	111.83	60-140
50 1,4-Dioxane	9.70	11.1	114.13	60-140
51 cis-1,3-Dichloropr	11.6	12.9	110.90	60-140
53 Toluene	10.4	10.4	100.47	60-140
54 Tetrachloroethene	9.60	9.09	94.66	60-140
55 Methyl Isobutyl Ke	9.80	12.7	129.78	60-140
56 trans-1,3-Dichloro	9.90	10.2	103.55	60-140
57 1,1,2-Trichloroeth	9.60	10.1	105.05	60-140
58 Dibromochlorometha	9.30	9.55	102.67	60-140
59 1,2-Dibromoethane	9.60	11.1	115.67	60-140
60 Methyl Butyl Keton	9.70	10.8	111.51	60-140
62 Chlorobenzene	10.3	10.5	101.85	60-140
63 Ethyl Benzene	9.90	9.40	94.97	60-140
64 m&p-Xylene	20.2	17.9	88.74	60-140
65 o-Xylene	9.30	9.40	101.11	60-140
66 Styrene	11.6	13.1	112.86	60-140
67 Bromoform	9.80	9.80	100.03	60-140
68 Isopropylbenzene	9.30	11.4	122.82	60-140
69 N-Propylbenzene	8.90	10.4	116.52	60-140
70 1,1,2,2-Tetrachlor	9.30	9.99	107.41	60-140
71 4-Ethyltoluene	8.30	10.3	124.47	60-140
72 1,3,5-Trimethylben	9.60	11.0	114.84	60-140
73 Tert-Butyl Benzene	10.0	10.4	103.57	60-140
74 1,2,4-Trimethylben	9.00	10.5	117.07	60-140
75 Sec- Butylbenzene	9.40	11.0	116.70	60-140
76 p-Isopropyltoluene	10.0	12.7	126.66	60-140
77 1,3-Dichlorobenzen	10.0	10.0	100.29	60-140
79 1,4-Dichlorobenzen	9.70	11.4	117.90	60-140
80 1,2,3-Trimethylben	10.0	11.2	111.86	60-140
81 Benzyl Chloride	9.80	10.1	102.70	60-140
82 N-Butylbenzene	9.50	10.8	114.17	60-140
83 1,2-Dichlorobenzen	9.70	9.90	102.09	60-140
84 Hexachlorobutadien	9.10	8.32	91.39	60-140
85 1,2,4-Trichloroben	9.10	10.3	113.58	60-140
86 Naphthalene	9.30	10.4	111.84	60-140

SURROGATE COMPOUND	CONC ADDED ppbv	CONC RECOVERED ppbv	% RECOVERED	LIMITS
$ 22 Hexane-d14(S)	10.0	9.21	92.06	70-130
$ 52 Toluene-d8 (S)	10.0	9.67	96.74	70-130
$ 78 1,4-dichlorobenzen	10.0	10.7	106.86	70-130

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280474
Lab File ID: 26001_BFB.D BFB Injection Date: 09/17/2014
Instrument ID: 10AIR0 BFB Injection Time: 09:35
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	10.96	
75	30.00 - 66.00% of mass 95	43.18	
96	5.00 - 9.00% of mass 95	6.66	
173	Less than 2.00% of mass 174	0.66	(0.61)
174	50.00 - 120.00% of mass 95	108.68	
175	4.00 - 9.00% of mass 174	7.89	(7.26)
176	93.00 - 101.00% of mass 174	106.51	(98.00)
177	5.00 - 9.00% of mass 176	6.93	(6.51)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV	CCV	26002_CCV.D	09/17/2014	09:58
2	LCS (LCS)	LCS	26002_LCS.D	09/17/2014	09:58
3	BLANK (BLK)	BLANK	26009_BLANK.	09/17/2014	13:21
4	IA-146-C-17	10280474004	26010.D	09/17/2014	13:42
5	IA-145-C-17	10280474005	26011.D	09/17/2014	14:04

chlorodifluoromethane only

Data File: \\192.168.10.12\chem\10air0.i\091714.b\26002_ccv.D
Report Date: 17-Sep-2014 11:37

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10air0.i Injection Date: 17-SEP-2014 09:58
Lab File ID: 26002_ccv.D Init. Cal. Date(s): 16-SEP-2014 16-SEP-2014
Analysis Type: AIR Init. Cal. Times: 11:38 13:58
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10air0.i\091714.b\TO15_259-14.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Propylene	0.09358	0.10386	0.10386	0.010	10.98777	30.00000	Averaged
2 Dichlorodifluoromethane	0.91366	0.94565	0.94565	0.010	3.50144	30.00000	Averaged
3 Chlorodifluoromethane	0.30084	0.33761	0.33761	0.010	12.22389	30.00000	Averaged
4 Dichlorotetrafluoroethane	0.84658	0.86168	0.86168	0.010	1.78391	30.00000	Averaged
5 Chloromethane	10.00000	10.75975	4.83913	0.010	7.59750	30.00000	Linear
6 Vinyl chloride	0.33842	0.37948	0.37948	0.010	12.13164	30.00000	Averaged
7 1,3-Butadiene	10.00000	11.32580	5.18544	0.010	13.25801	30.00000	Linear
8 Bromomethane	0.32466	0.33779	0.33779	0.010	4.04252	30.00000	Averaged
9 Isopentane	0.16169	0.17274	0.17274	0.010	6.83710	30.00000	Averaged
10 Chloroethane	0.15937	0.16871	0.16871	0.010	5.86459	30.00000	Averaged
11 Vinyl Bromide	0.30929	0.32270	0.32270	0.010	4.33377	30.00000	Averaged
12 Trichlorofluoromethane	0.85973	0.87866	0.87866	0.010	2.20177	30.00000	Averaged
13 1,1-Dichloroethene	0.41168	0.42473	0.42473	0.010	3.16799	30.00000	Averaged
14 Carbon Disulfide	0.95322	0.90943	0.90943	0.010	-4.59426	30.00000	Averaged
15 Ethanol	0.06844	0.06399	0.06399	0.010	-6.50272	30.00000	Averaged
16 Freon 113	0.55689	0.56040	0.56040	0.010	0.62916	30.00000	Averaged
17 Acrolein	0.07927	0.08234	0.08234	0.010	3.88087	30.00000	Averaged
18 Allyl Chloride	0.12823	0.14623	0.14623	0.010	14.03194	30.00000	Averaged
19 Methylene chloride	0.20132	0.19270	0.19270	0.010	-4.28211	30.00000	Averaged
20 Isopropyl Alcohol	0.24739	0.24560	0.24560	0.010	-0.72240	30.00000	Averaged
21 Acetone	10.00000	10.33574	3.88146	0.010	3.35743	30.00000	Quadratic
$ 22 Hexane-d14(S)	0.06862	0.06378	0.06378	0.200	-7.04936	30.00000	Averaged <-
23 trans-1,2-dichloroethene	0.30218	0.30469	0.30469	0.010	0.82895	30.00000	Averaged
24 Vinyl Acetate	0.14628	0.14929	0.14929	0.010	2.06205	30.00000	Averaged
25 n-Hexane	0.37627	0.39465	0.39465	0.010	4.88554	30.00000	Averaged
26 Methyl Tert Butyl Ether	0.74365	0.77323	0.77323	0.300	3.97772	30.00000	Averaged
27 Tert Butyl Alcohol (TBA)	0.48402	0.52938	0.52938	0.100	9.37266	30.00000	Averaged
28 Di-isopropyl Ether	0.50825	0.58065	0.58065	0.010	14.24576	30.00000	Averaged
29 1,1-Dichloroethane	0.56673	0.62965	0.62965	0.010	11.10271	30.00000	Averaged
30 Acrylonitrile	10.00000	9.99971	5.94620	0.010	-0.00285	30.00000	Linear
31 Ethyl Tert-Butyl Ether	0.76677	0.88794	0.88794	0.010	15.80139	30.00000	Averaged
32 cis-1,2-Dichloroethene	0.31166	0.34147	0.34147	0.010	9.56492	30.00000	Averaged
33 Cyclohexane	0.36179	0.41194	0.41194	0.010	13.86117	30.00000	Averaged
34 Chloroform	0.68423	0.73709	0.73709	0.010	7.72570	30.00000	Averaged
35 Carbon tetrachloride	0.65684	0.75048	0.75048	0.010	14.25562	30.00000	Averaged
36 Ethyl Acetate	0.35359	0.40036	0.40036	0.010	13.22877	30.00000	Averaged
37 Tetrahydrofuran	10.00000	10.37437	5.62908	0.010	3.74369	30.00000	Linear
38 1,1,1-Trichloroethane	0.61494	0.67035	0.67035	0.010	9.01059	30.00000	Averaged
39 Methyl Ethyl Ketone	0.14265	0.16136	0.16136	0.010	13.11829	30.00000	Averaged
40 2,2,4-Trimethylpentane	1.14744	1.32066	1.32066	0.010	15.09629	30.00000	Averaged
41 Heptane	10.00000	10.30814	3.56096	0.010	3.08140	30.00000	Linear
42 Benzene	0.89824	0.92414	0.92414	0.300	2.88370	30.00000	Averaged

Data File: \\192.168.10.12\chem\10air0.i\091714.b\26002_ccv.D
Report Date: 17-Sep-2014 11:37

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10air0.i Injection Date: 17-SEP-2014 09:58
Lab File ID: 26002_ccv.D Init. Cal. Date(s): 16-SEP-2014 16-SEP-2014
Analysis Type: AIR Init. Cal. Times: 11:38 13:58
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10air0.i\091714.b\TO15_259-14.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
43 Tert Amyl Methyl Ether	0.78681	0.90555	0.90555	0.010	15.09205	30.00000	Averaged
44 1,2-Dichloroethane	0.37613	0.42436	0.42436	0.010	12.82262	30.00000	Averaged
45 Methylcyclohexane	0.19257	0.20998	0.20998	0.010	9.03819	30.00000	Averaged
46 Trichloroethene	0.39715	0.44898	0.44898	0.010	13.05241	30.00000	Averaged
48 1,2-Dichloropropane	0.35063	0.39654	0.39654	0.010	13.09331	30.00000	Averaged
49 Bromodichloromethane	0.68756	0.74841	0.74841	0.010	8.85049	30.00000	Averaged
50 1,4-Dioxane	0.17957	0.21124	0.21124	0.010	17.63723	30.00000	Averaged
51 cis-1,3-Dichloropropene	0.48823	0.56700	0.56700	0.010	16.13423	30.00000	Averaged
$ 52 Toluene-d8 (S)	1.17895	1.13688	1.13688	0.200	-3.56855	30.00000	Averaged
53 Toluene	1.04388	1.09123	1.09123	0.300	4.53606	30.00000	Averaged
54 Tetrachloroethene	10.00000	9.47764	1.10798	0.010	-5.22360	30.00000	Quadratic
55 Methyl Isobutyl Ketone	0.29279	0.35808	0.35808	0.010	22.30110	30.00000	Averaged
56 trans-1,3-Dichloropropene	0.44822	0.49076	0.49076	0.010	9.49017	30.00000	Averaged
57 1,1,2-Trichloroethane	0.37211	0.40116	0.40116	0.010	7.80785	30.00000	Averaged
58 Dibromochloromethane	10.00000	10.31166	1.04751	0.010	3.11659	30.00000	Linear
59 1,2-Dibromoethane	0.64989	0.76182	0.76182	0.010	17.22202	30.00000	Averaged
60 Methyl Butyl Ketone	10.00000	10.29830	2.53481	0.010	2.98296	30.00000	Linear
62 Chlorobenzene	0.87421	0.95807	0.95807	0.010	9.59331	30.00000	Averaged
63 Ethyl Benzene	1.40876	1.38666	1.38666	0.300	-1.56881	30.00000	Averaged
64 m&p-Xylene	1.10644	1.19553	1.19553	0.300	8.05187	30.00000	Averaged
65 o-Xylene	1.10182	1.22028	1.22028	0.300	10.75113	30.00000	Averaged
66 Styrene	0.72839	0.87114	0.87114	0.010	19.59837	30.00000	Averaged
67 Bromoform	10.00000	10.12642	0.89046	0.010	1.26420	30.00000	Linear
68 Isopropylbenzene	1.32906	1.56128	1.56128	0.010	17.47260	30.00000	Averaged
69 N-Propylbenzene	1.64087	1.82536	1.82536	0.010	11.24347	30.00000	Averaged
70 1,1,2,2-Tetrachloroethane	0.83895	0.87703	0.87703	0.010	4.53947	30.00000	Averaged
71 4-Ethyltoluene	1.21353	1.45327	1.45327	0.010	19.75508	30.00000	Averaged
72 1,3,5-Trimethylbenzene	1.09264	1.28116	1.28116	0.010	17.25355	30.00000	Averaged
73 Tert-Butyl Benzene	10.00000	10.60250	0.79815	0.010	6.02500	30.00000	Linear
74 1,2,4-Trimethylbenzene	1.05210	1.27565	1.27565	0.010	21.24890	30.00000	Averaged
75 Sec- Butylbenzene	1.49969	1.77512	1.77512	0.010	18.36574	30.00000	Averaged
76 p-Isopropyltoluene	1.15221	1.46882	1.46882	0.010	27.47839	30.00000	Averaged
77 1,3-Dichlorobenzene	10.00000	10.69491	0.98792	0.010	6.94912	30.00000	Linear
$ 78 1,4-dichlorobenzene-d4 (S)	0.71387	0.78267	0.78267	0.200	9.63733	30.00000	Averaged
79 1,4-Dichlorobenzene	0.84617	1.05989	1.05989	0.010	25.25812	30.00000	Averaged
80 1,2,3-Trimethylbenzene	0.98268	1.10758	1.10758	0.010	12.71041	30.00000	Averaged
81 Benzyl Chloride	10.00000	10.56899	4.87400	0.010	5.68989	30.00000	Linear
82 N-Butylbenzene	1.78215	2.09304	2.09304	0.010	17.44461	30.00000	Averaged
83 1,2-Dichlorobenzene	10.00000	10.75970	1.12260	0.010	7.59700	30.00000	Linear
84 Hexachlorobutadiene	10.00000	9.27269	1.94240	0.010	-7.27313	30.00000	Quadratic
85 1,2,4-Trichlorobenzene	10.00000	10.45659	2.23896	0.010	4.56590	30.00000	Quadratic
86 Naphthalene	10.00000	9.78623	1.38310	0.010	-2.13765	30.00000	Linear

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280474
Lab File ID: 23901BFB.D BFB Injection Date: 08/27/2014
Instrument ID: 10AIRB BFB Injection Time: 09:58
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	17.26	
75	30.00 - 66.00% of mass 95	53.99	
96	5.00 - 9.00% of mass 95	7.08	
173	Less than 2.00% of mass 174	0.28	(0.33)
174	50.00 - 120.00% of mass 95	84.66	
175	4.00 - 9.00% of mass 174	6.89	(8.14)
176	93.00 - 101.00% of mass 174	80.33	(94.88)
177	5.00 - 9.00% of mass 176	5.47	(6.81)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	ICAL5	ICAL5	23902.D	08/27/2014	10:19
2	ICAL6	ICAL6	23903.D	08/27/2014	10:42
3	ICAL7	ICAL7	23904.D	08/27/2014	11:09
4	ICAL1	ICAL1	23906.D	08/27/2014	11:52
5	ICAL2	ICAL2	23907.D	08/27/2014	12:14
6	ICAL3	ICAL3	23908.D	08/27/2014	12:35
7	ICAL4	ICAL4	23909.D	08/27/2014	12:57
8	ICV (LCS)	ICV	23910.D	08/27/2014	13:19
9	LCS (LCS)	LCS	23911LCS.D	08/27/2014	13:41
10	LCS (LCS)	LCS	23911.D	08/27/2014	13:41
11	CERT	CERT	23914.D	08/27/2014	14:53

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Calibration File Names:
Level 1: \\192.168.10.12\chem\10airB.i\082714.b\23906.D
Level 2: \\192.168.10.12\chem\10airB.i\082714.b\23907.D
Level 3: \\192.168.10.12\chem\10airB.i\082714.b\23908.D
Level 4: \\192.168.10.12\chem\10airB.i\082714.b\23909.D
Level 5: \\192.168.10.12\chem\10airB.i\082714.b\23902.D
Level 6: \\192.168.10.12\chem\10airB.i\082714.b\23903.D
Level 7: \\192.168.10.12\chem\10airB.i\082714.b\23904.D

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
1 Propylene	0.01592	0.01395	0.01362	0.01490	0.01393	0.01419					
	0.01421						AVRG		0.01439		5.42173
2 Dichlorodifluoromethane	0.10035	0.10077	0.09846	0.10573	0.10999	0.10660					
	0.10384						AVRG		0.10368		3.92409
3 Chlorodiflucromethane	0.03930	0.04032	0.03954	0.03647	0.04054	0.03717					
	0.03295						AVRG		0.03804		7.15033
4 Dichlorotetrafluoroethane	0.14744	0.10191	0.09615	0.10071	0.10528	0.10538					
	0.10028						AVRG		0.10816		16.27645

Pace Analytical Services, Inc.

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Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
5 Chloromethane	0.02522	0.02955	0.02431	0.02155	0.01948	0.01777					
	0.01582						AVRG		0.02196		21.63461
6 Vinyl chloride	0.02723	0.02443	0.02392	0.02581	0.02792	0.02749					
	0.02802						AVRG		0.02640		6.41914
7 1,3-Butadiene	0.01971	0.01357	0.01789	0.01372	0.01753	0.01781					
	0.01743						AVRG		0.01681		13.63628
8 Bromomethane	0.02442	0.01936	0.02483	0.02659	0.02733	0.02531					
	0.02339						AVRG		0.02446		10.65587
9 Chloroethane	0.02195	0.01003	0.01347	0.01142	0.01437	0.01369					
	0.01398						AVRG		0.01413		26.79726
10 Isopentane	+++++	3247	5105	8627	87022	182560					
	282202						LINR	-0.01208	40.70659		0.99989
11 Vinyl Bromide	0.04404	0.02881	0.03029	0.02916	0.03363	0.03394					
	0.03350						AVRG		0.03334		15.59788

Pace Analytical Services, Inc.

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Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	30.0000 Level 7											
12 Trichlorofluoromethane	0.20326	0.14550	0.13292	0.12710	0.12814	0.12717						
	0.12179						AVRG		0.14084		20.24982	
13 Ethanol	+++++	748	1569	2822	15185	36394						
	63667						QUAD	0.00029	0.00346	0.00067	0.99960	
14 Acrolein	0.00781	0.00378	0.00570	0.00553	0.00687	0.00721						
	0.00773						AVRG		0.00638		22.84978	<-
15 Freon 113	0.10294	0.07733	0.07303	0.07060	0.07263	0.07172						
	0.07032						AVRG		0.07694		15.20492	
16 Acetone	8827	11511	20076	33204	195973	414591						
	642472						LINR	-0.04817	18.17711		0.99962	
17 Isopropyl Alcohol	0.05513	0.04051	0.03787	0.03697	0.02806	0.03491						
	0.03804						AVRG		0.03878		21.18116	
18 1,1-Dichloroethene	0.06142	0.04249	0.03771	0.04160	0.04663	0.04770						
	0.04628						AVRG		0.04626		16.29969	

Pace Analytical Services, Inc.

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Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	ml	m2	%RSD or R^2
	30.0000 Level 7										
19 Carbon Disulfide	0.18461	0.12534	0.10543	0.09483	0.10617	0.10648					
	0.10463						AVRG		0.11821		25.92920
20 Allyl Chloride	0.18461	0.12534	0.10544	0.09483	0.10617	0.10648					
	0.10463						AVRG		0.11821		25.92866
21 Tert Butyl Alcohol	0.07541	0.04994	0.05361	0.05624	0.05468	0.06565					
	0.06938						AVRG		0.06070		15.61051
22 Methylene chloride	8358	8650	11020	13789	96745	192843					
	292044						LINR	-0.08334	40.08144		0.99973
23 Acrylonitrile	0.01551	0.01197	0.01459	0.01745	0.01827	0.01808					
	0.01837						AVRG		0.01632		14.78248
24 Methyl Tert Butyl Ether	0.11615	0.08748	0.08202	0.08310	0.10638	0.10910					
	0.10780						AVRG		0.09886		14.31629
25 trans-1,2-dichloroethene	0.04895	0.03623	0.03230	0.03194	0.03581	0.03642					
	0.03701						AVRG		0.03695		15.34387

Pace Analytical Services, Inc.

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Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
26 n-Hexane	12347	12179	14838	20041	144664	299174					
	462025						LINR	-0.06293	25.36805		0.99985
27 Vinyl Acetate	+++++	7419	15013	30972	380463	807422					
	1264213						LINR	0.01093	9.04614		0.99994
28 Di-isopropyl Ether	0.08033	0.06361	0.06243	0.06640	0.07932	0.08045					
	0.07988						AVRG		0.07320		11.69330
29 1,1-Dichloroethane	0.08087	0.06232	0.05300	0.05573	0.05699	0.05821					
	0.05644						AVRG		0.06051		15.55154
30 Ethyl Tert-Butyl Ether	0.08846	0.06673	0.07678	0.07653	0.09574	0.09981					
	0.10049						AVRG		0.08636		15.29414
31 Ethyl Acetate	0.14956	0.11818	0.10427	0.10002	0.10944	0.11307					
	0.11275						AVRG		0.11533		14.08451
32 Methyl Ethyl Ketone	0.01617	0.01669	0.01368	0.01354	0.01540	0.01630					
	0.01688						AVRG		0.01553		8.94610

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
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Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
33 cis-1,2-Dichloroethene	0.04645	0.03725	0.03323	0.03219	0.03625	0.03735					
	0.03715						AVRG		0.03712		12.41356
34 Tetrahydrofuran	0.04028	0.02925	0.02254	0.02385	0.02441	0.02561					
	0.02616						AVRG		0.02744		22.01802
35 Chloroform	5203	7220	15422	27395	300317	613164					
	939648						LINR	-0.01109	12.15880		0.99973
36 1,1,1-Trichloroethane	0.12572	0.10764	0.09094	0.09632	0.09982	0.09896					
	0.09597						AVRG		0.10219		11.29298
37 Cyclohexane	8912	9064	11622	17637	146886	298576					
	464584						LINR	-0.04237	25.04904		0.99996
38 Carbon tetrachloride	0.14037	0.11220	0.10447	0.10085	0.10967	0.11071					
	0.10656						AVRG		0.11212		11.64255
39 Benzene	13517	14818	23665	40100	372098	783703					
	1223810						QUAD	0.00198	0.10432	0.00059	0.99993

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Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
40 1,2-Dichloroethane	0.07579	0.07071	0.05523	0.05970	0.05970	0.05855					
	0.05688						AVRG		0.06237		12.41092
41 Tert Amyl Methyl Ether	0.09368	0.08128	0.08627	0.08684	0.10765	0.11126					
	0.11107						AVRG		0.09687		13.26837
42 2,2,4-Trimethylpentane	43677	45479	57316	74808	480394	964739					
	1502730						LINR	-0.08066	7.86446		0.99997
43 Heptane	7170	7023	10470	17231	141622	305468					
	477533						LINR	-0.02275	24.30799		0.99966
45 Trichloroethene	3081	4317	9035	17530	198658	423845					
	655718						LINR	0.00186	17.44074		0.99986
46 Methylcyclohexane	+++++	0.03995	0.03021	0.02620	0.03023	0.03166					
	0.03155						AVRG		0.03163		14.32307
47 1,2-Dichloropropane	0.04867	0.02695	0.03074	0.03185	0.03399	0.03380					
	0.03358						AVRG		0.03422		19.95747

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
48 1,4-Dioxane	0.02356	0.02249	0.01900	0.02055	0.01638	0.02058	0.02206	AVRG		0.02066		11.65325
49 Bromodichloromethane	0.12121	0.09257	0.08780	0.08574	0.09015	0.09154	0.08935	AVRG		0.09405		12.95993
50 cis-1,3-Dichloropropene	0.06530	0.04561	0.04740	0.05289	0.05686	0.05896	0.05923	AVRG		0.05518		12.66882
51 Methyl Isobutyl Ketone	0.07283	0.05084	0.04615	0.05016	0.05632	0.05848	0.05943	AVRG		0.05632		15.51931
52 Toluene	11148	12592	22542	43287	459554	980423	1526843	LINR	-0.00220	7.52080		0.99988
53 trans-1,3-Dichloropropene	0.05499	0.04312	0.04740	0.05299	0.06112	0.06578	0.06550	AVRG		0.05584		15.71607
54 1,1,2-Trichloroethane	0.06295	0.05450	0.04264	0.04483	0.04563	0.04677	0.04645	AVRG		0.04911		14.52911

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Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	30.0000 Level 7											
55 Tetrachloroethene	7136	8915	15390	26713	264444	549762						
	852716						LINR	-0.01498	11.91466		0.99997	
56 Methyl Butyl Ketone	0.05265	0.04314	0.03872	0.04299	0.06001	0.06421						
	0.06485						AVRG		0.05237		20.82553	
57 Dibromochloromethane	0.13322	0.10530	0.09472	0.10268	0.11081	0.10990						
	0.10842						AVRG		0.10929		10.87825	
58 1,2-Dibromoethane	0.07853	0.07546	0.07299	0.07408	0.08241	0.08399						
	0.08373						AVRG		0.07874		5.94350	
60 Chlorobenzene	25579	29593	40367	57351	395815	837980						
	1298356						LINR	-0.05222	7.95563		0.99983	
61 Ethyl Benzene	0.28960	0.20831	0.17412	0.17918	0.19507	0.20032						
	0.19828						AVRG		0.20641		18.70054	
62 m&p-Xylene	0.19402	0.14911	0.13648	0.13693	0.14824	0.15861						
	0.15745						AVRG		0.15441		12.65041	<-

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
63 o-Xylene	0.13099	0.11040	0.11671	0.13264	0.15370	0.16020						
	0.15825						AVRG		0.13755		14.66130	<-
64 Styrene	0.07380	0.07486	0.08448	0.08975	0.11206	0.12144						
	0.11993						AVRG		0.09662		21.48820	
65 Bromoform	0.08386	0.08045	0.09012	0.09191	0.09843	0.09931						
	0.09620						AVRG		0.09147		7.90597	
66 Isopropylbenzene	0.15953	0.14585	0.16951	0.17511	0.21864	0.22089						
	0.21604						AVRG		0.18651		16.79329	
67 1,1,2,2-Tetrachloroethane	0.11680	0.08722	0.09126	0.09309	0.09061	0.09132						
	0.09044						AVRG		0.09439		10.63375	
68 N-Propylbenzene	0.25242	0.21214	0.21472	0.21765	0.22856	0.23948						
	0.23543						AVRG		0.22863		6.47687	
69 4-Ethyltoluene	0.15845	0.13982	0.16173	0.17055	0.18377	0.19874						
	0.19558						AVRG		0.17266		12.36219	

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
70 1,3,5-Trimethylbenzene	0.16364	0.14714	0.15096	0.16642	0.17688	0.18702					
	0.18466						AVRG		0.16810		9.29601
71 Tert Butyl Benzene	0.17040	0.13099	0.14370	0.14188	0.17546	0.17900					
	0.17719						AVRG		0.15980		12.61550
72 1,2,4-Trimethylbenzene	0.19113	0.14242	0.14189	0.16338	0.16009	0.17476					
	0.17310						AVRG		0.16382		10.87492
73 Sec- Butylbenzene	0.22848	0.17942	0.19733	0.20946	0.23702	0.24303					
	0.23692						AVRG		0.21881		10.94268
74 p-isopropyltoluene	4393	9507	22602	49644	598046	1357600					
	2106840						LINR	0.01746	4.78529		0.99947
75 1,3-Dichlorobenzene	0.16383	0.12860	0.12972	0.13135	0.09503	0.11205					
	0.11024						AVRG		0.12440		17.56451
76 1,4-Dichlorobenzene	0.15776	0.12878	0.11869	0.12637	0.08728	0.10471					
	0.10489						AVRG		0.11835		19.07766

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
77 1,2,3-Trimethylbenzene	0.15011	0.11533	0.12181	0.14195	0.15478	0.16763					
	0.16535						AVRG		0.14528		13.98086
78 Benzyl Chloride	0.12058	0.12141	0.11694	0.11849	0.11281	0.12907					
	0.12902						AVRG		0.12119		4.98936
79 N-Butylbenzene	0.16475	0.11896	0.13522	0.15245	0.14093	0.15954					
	0.16009						AVRG		0.14742		11.19412
80 1,2-Dichlorobenzene	0.14685	0.11808	0.11724	0.12004	0.09109	0.10204					
	0.10110						AVRG		0.11378		15.95283
81 1,2,4-Trichlorobenzene	+++++	4446	11057	20176	52816	190362					
	319308						QUAD	0.00250	0.01452	0.00557	0.99031
82 Hexachlorobutadiene	0.07338	0.06277	0.06927	0.06498	0.03326	0.04062					
	0.04030						AVRG		0.05494		29.69683
83 Naphthalene	+++++	9160	21810	41034	187340	577361					
	930256						QUAD	0.00306	0.06020	0.01064	0.99395

Report Date: 27-Aug-2014 14:47

Pace Analytical Services, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: GAS
Lab Smp Id: ICV
Level: LOW
Data Type: MS DATA
SpikeList File: SSV+add.spk
Sublist File: all.sub
Method File: \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Misc Info:

Client SDG: 082714.b
Fraction: VOA

Operator: MJL
SampleType: LCS
Quant Type: ISTD

SPIKE	COMPOUND	CONC ADDED ppbv	CONC RECOVERED ppbv	% RECOVERED	LIMITS
1	Propylene	10.6	8.81	83.16	60-140
2	Dichlorodifluorome	9.60	9.85	102.63	60-140
3	Chlorodifluorometh	10.0	9.92	99.22	60-140
4	Dichlorotetrafluor	9.80	8.96	91.39	60-140
5	Chloromethane	11.0	8.59	78.11	60-140
6	Vinyl chloride	9.70	9.26	95.48	60-140
7	1,3-Butadiene	10.0	9.28	92.75	60-140
8	Bromomethane	7.20	8.18	113.69	60-140
9	Chloroethane	7.70	7.52	97.64	60-140
10	Isopentane	10.4	8.78	84.43	60-140
11	Vinyl Bromide	9.90	8.94	90.30	60-140
12	Trichlorofluoromet	9.70	8.57	88.38	60-140
13	Ethanol	8.30	11.4	137.88	60-140
14	Acrolein	9.60	11.3	117.52	60-140
15	Freon 113	9.40	9.35	99.49	60-140
16	Acetone	9.60	9.30	96.86	60-140
17	Isopropyl Alcohol	10.3	9.00	87.43	60-140
18	1,1-Dichloroethene	11.7	12.2	104.13	60-140
19	Carbon Disulfide	10.0	6.18	61.84	60-140
20	Allyl Chloride	10.1	6.18	61.22	60-140
21	Tert Butyl Alcohol	10.0	8.96	89.62	60-140
22	Methylene chloride	10.1	10.4	102.64	60-140
23	Acrylonitrile	9.70	9.42	97.13	60-140
24	Methyl Tert Butyl	9.80	9.37	95.62	60-140
25	trans-1,2-dichloro	10.4	9.84	94.67	60-140
26	n-Hexane	10.3	9.00	87.36	60-140
27	Vinyl Acetate	10.5	9.46	90.06	60-140
28	Di-isopropyl Ether	10.2	10.2	99.97	60-140
29	1,1-Dichloroethane	10.4	9.56	91.91	60-140
30	Ethyl Tert-Butyl E	10.2	10.4	101.58	60-140
31	Ethyl Acetate	10.8	8.96	82.98	60-140
32	Methyl Ethyl Keton	10.4	9.70	93.31	60-140
33	cis-1,2-Dichloroet	10.2	9.36	91.82	60-140
34	Tetrahydrofuran	11.1	9.15	82.43	60-140
35	Chloroform	11.0	10.4	94.76	60-140
36	1,1,1-Trichloroeth	10.0	9.47	94.71	60-140
37	Cyclohexane	10.7	9.83	91.88	60-140
38	Carbon tetrachlori	10.4	9.91	95.28	60-140
39	Benzene	10.8	10.1	93.45	60-140
40	1,2-Dichloroethane	11.1	10.1	91.40	60-140

SPIKE COMPOUND	CONC ADDED ppbv	CONC RECOVERED ppbv	% RECOVERED	LIMITS
41 Tert Amyl Methyl E	10.4	10.7	102.58	60-140
42 2,2,4-Trimethylpen	10.2	9.46	92.80	60-140
43 Heptane	11.5	10.6	92.34	60-140
45 Trichloroethene	9.70	9.79	100.92	60-140
46 Methylcyclohexane	9.90	9.19	92.84	60-140
47 1,2-Dichloropropan	10.3	9.05	87.90	60-140
48 1,4-Dioxane	9.90	9.80	99.01	60-140
49 Bromodichlorometha	9.80	9.93	101.31	60-140
50 cis-1,3-Dichloropr	11.9	11.5	96.89	60-140
51 Methyl Isobutyl Ke	10.0	9.99	99.89	60-140
52 Toluene	10.6	9.66	91.19	60-140
53 trans-1,3-Dichloro	10.1	10.9	107.74	60-140
54 1,1,2-Trichloroeth	9.80	8.78	89.61	60-140
55 Tetrachloroethene	9.80	9.11	92.94	60-140
56 Methyl Butyl Keton	10.0	11.0	109.56	60-140
57 Dibromochlorometha	9.60	9.26	96.47	60-140
58 1,2-Dibromoethane	9.80	9.94	101.42	60-140
60 Chlorobenzene	10.4	10.3	99.03	60-140
61 Ethyl Benzene	10.1	9.33	92.38	60-140
62 m&p-Xylene	20.3	20.9	103.07	60-140
63 o-Xylene	9.30	10.0	107.81	60-140
64 Styrene	11.6	14.5	124.96	60-140
65 Bromoform	10.0	11.1	111.46	60-140
66 Isopropylbenzene	9.50	11.7	123.24	60-140
67 1,1,2,2-Tetrachlor	9.30	10.1	109.02	60-140
68 N-Propylbenzene	9.00	10.6	118.35	60-140
69 4-Ethyltoluene	8.40	10.9	129.31	60-140
70 1,3,5-Trimethylben	9.60	11.5	119.67	60-140
71 Tert Butyl Benzene	10.2	12.3	120.70	60-140
72 1,2,4-Trimethylben	9.30	11.1	119.73	60-140
73 Sec- Butylbenzene	9.70	11.6	119.73	60-140
74 p-isopropyltoluene	9.90	12.2	122.76	60-140
75 1,3-Dichlorobenzen	10.1	11.1	110.11	60-140
76 1,4-Dichlorobenzen	9.90	11.4	115.47	60-140
77 1,2,3-Trimethylben	10.8	14.0	129.38	60-140
78 Benzyl Chloride	9.70	12.7	131.34	60-140
79 N-Butylbenzene	9.50	13.0	136.49	60-140
80 1,2-Dichlorobenzen	9.70	10.6	109.88	60-140
81 1,2,4-Trichloroben	8.90	24.3	273.29*	60-140
82 Hexachlorobutadien	8.50	10.2	120.65	60-140
83 Naphthalene	9.00	18.2	202.75*	60-140

no samples

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280474
Lab File ID: 25801BFB.D BFB Injection Date: 09/15/2014
Instrument ID: 10AIRB BFB Injection Time: 09:54
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	18.59	
75	30.00 - 66.00% of mass 95	58.11	
96	5.00 - 9.00% of mass 95	6.66	
173	Less than 2.00% of mass 174	1.08	(1.32)
174	50.00 - 120.00% of mass 95	81.20	
175	4.00 - 9.00% of mass 174	6.18	(7.61)
176	93.00 - 101.00% of mass 174	76.96	(94.78)
177	5.00 - 9.00% of mass 176	5.07	(6.59)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV	CCV	25802.D	09/15/2014	10:18
2	LCS for HBN 318311 [AIR/	1789533	25803_21320.D	09/15/2014	11:11
3	LCS (LCS)	LCS	25803LCS.D	09/15/2014	11:11
4	CCV	CCV	25803.D	09/15/2014	11:11
5	BLANK (BLK)	BLANK	25805.D	09/15/2014	12:25
6	BLANK for HBN 318311 [AI	1789532	25805_21320.D	09/15/2014	12:25
7	Elks Lodge(1780073DUP)	1790135-DUP	25815.D	09/15/2014	17:51
8	IA-001-C-17	10280474016	25818.D	09/15/2014	19:05
9	IA-142-C-17	10280474022	25819.D	09/15/2014	19:30
10	IA-115-C-17	10280474024	25820.D	09/15/2014	19:55
11	IA-051-C-17	10280474026	25821.D	09/15/2014	20:19
12	IA-102-C-17	10280474015	25822.D	09/15/2014	20:45
13	IA-133-C-17	10280474014	25823.D	09/15/2014	21:09
14	IA-155-C-17	10280474013	25824.D	09/15/2014	21:34
15	IA-004-C-17	10280474017	25825.D	09/15/2014	21:59
16	IA-088-C-17	10280474021	25826.D	09/15/2014	22:23
17	IA-135-C-17	10280474020	25827.D	09/15/2014	22:48
18	IA-113-C-17	10280474023	25828.D	09/15/2014	23:13
19	IA-DUP3-C-17	10280474028	25829.D	09/15/2014	23:38
20	IA-005-C-17	10280474018	25830.D	09/16/2014	00:02
21	IA-065-C-17	10280474025	25831.D	09/16/2014	00:27
22	IA-143-C-17	10280474019	25832.D	09/16/2014	00:52
23	IA-DUP4-C-17	10280474027	25833.D	09/16/2014	01:16
24	SV-DUP4-C-17	10280474030	25834.D	09/16/2014	01:41
25	SV-DUP3-C-17	10280474029	25835.D	09/16/2014	02:06

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 15-SEP-2014 11:11
Lab File ID: 25803.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Propylene	0.01439	0.01155	0.01155	0.010	-19.72741	30.00000	Averaged
2 Dichlorodifluoromethane	0.10368	0.10865	0.10865	0.010	4.79911	30.00000	Averaged
3 Chlorodifluoromethane	0.03804	0.03847	0.03847	0.010	1.12495	30.00000	Averaged
4 Dichlorotetrafluoroethane	0.10816	0.09705	0.09705	0.010	-10.27737	30.00000	Averaged
5 Chloromethane	0.02196	0.01539	0.01539	0.010	-29.92598	30.00000	Averaged
6 Vinyl chloride	0.02640	0.02296	0.02296	0.010	-13.05073	30.00000	Averaged
7 1,3-Butadiene	0.01681	0.01309	0.01309	0.010	-22.10898	30.00000	Averaged
8 Bromomethane	0.02446	0.02402	0.02402	0.010	-1.80758	30.00000	Averaged
9 Chloroethane	0.01413	0.01250	0.01250	0.010	-11.54334	30.00000	Averaged
10 Isopentane	10.00000	7.87915	50.88386	0.010	-21.20849	30.00000	Linear
11 Vinyl Bromide	0.03334	0.02789	0.02789	0.010	-16.34562	30.00000	Averaged
12 Trichlorofluoromethane	0.14084	0.13262	0.13262	0.010	-5.83784	30.00000	Averaged
13 Ethanol	10.00000	11.27502	199	0.010	12.75025	30.00000	Quadratic
14 Acrolein	0.00638	0.00425	0.00425	0.010	-33.32925	30.00000	Averaged <-
15 Freon 113	0.07694	0.06470	0.06470	0.010	-15.90528	30.00000	Averaged
16 Acetone	10.00000	11.16772	15.60350	0.010	11.67725	30.00000	Linear
17 Isopropyl Alcohol	0.03878	0.03667	0.03667	0.010	-5.44114	30.00000	Averaged
18 1,1-Dichloroethene	0.04626	0.04581	0.04581	0.010	-0.97638	30.00000	Averaged
19 Carbon Disulfide	0.11821	0.09139	0.09139	0.010	-22.68877	30.00000	Averaged
20 Allyl Chloride	0.11821	0.09198	0.09198	0.010	-22.19133	30.00000	Averaged
21 Tert Butyl Alcohol	0.06070	0.06303	0.06303	0.010	3.83936	30.00000	Averaged
22 Methylene chloride	10.00000	8.99195	40.79373	0.010	-10.08054	30.00000	Linear
23 Acrylonitrile	0.01632	0.01475	0.01475	0.010	-9.61968	30.00000	Averaged
24 Methyl Tert Butyl Ether	0.09886	0.09774	0.09774	0.010	-1.13228	30.00000	Averaged
25 trans-1,2-dichloroethene	0.03695	0.03189	0.03189	0.010	-13.71150	30.00000	Averaged
26 n-Hexane	10.00000	7.32630	31.88716	0.010	-26.73702	30.00000	Linear
27 Vinyl Acetate	10.00000	9.13271	10.02517	0.010	-8.67287	30.00000	Linear
28 Di-isopropyl Ether	0.07320	0.06682	0.06682	0.010	-8.71899	30.00000	Averaged
29 1,1-Dichloroethane	0.06051	0.05367	0.05367	0.010	-11.29858	30.00000	Averaged
30 Ethyl Tert-Butyl Ether	0.08636	0.08460	0.08460	0.010	-2.03728	30.00000	Averaged
31 Ethyl Acetate	0.11533	0.10241	0.10241	0.010	-11.20307	30.00000	Averaged
32 Methyl Ethyl Ketone	0.01553	0.01469	0.01469	0.010	-5.39814	30.00000	Averaged
33 cis-1,2-Dichloroethene	0.03712	0.03139	0.03139	0.010	-15.45069	30.00000	Averaged
34 Tetrahydrofuran	0.02744	0.02138	0.02138	0.010	-22.08694	30.00000	Averaged
35 Chloroform	10.00000	10.04037	11.97765	0.010	0.40375	30.00000	Linear
36 1,1,1-Trichloroethane	0.10219	0.10086	0.10086	0.010	-1.30389	30.00000	Averaged
37 Cyclohexane	10.00000	7.88233	30.15760	0.010	-21.17671	30.00000	Linear
38 Carbon tetrachloride	0.11212	0.11261	0.11261	0.010	0.43422	30.00000	Averaged
39 Benzene	10.00000	8.70894	10.72182	0.300	-12.91056	30.00000	Quadratic
40 1,2-Dichloroethane	0.06237	0.06528	0.06528	0.010	4.67194	30.00000	Averaged
41 Tert Amyl Methyl Ether	0.09687	0.09767	0.09767	0.010	0.82915	30.00000	Averaged
42 2,2,4-Trimethylpentane	10.00000	8.50217	8.44841	0.010	-14.97830	30.00000	Linear
43 Heptane	10.00000	8.43684	28.05515	0.010	-15.63156	30.00000	Linear

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 15-SEP-2014 11:11
Lab File ID: 25803.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091514.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
45 Trichloroethene	10.00000	8.64217	20.22450	0.010	-13.57827	30.00000	Linear
46 Methylcyclohexane	0.03163	0.02608	0.02608	0.010	-17.54745	30.00000	Averaged
47 1,2-Dichloropropane	0.03422	0.03006	0.03006	0.010	-12.16082	30.00000	Averaged
48 1,4-Dioxane	0.02066	0.02232	0.02232	0.010	8.01960	30.00000	Averaged
49 Bromodichloromethane	0.09405	0.09053	0.09053	0.010	-3.73877	30.00000	Averaged
50 cis-1,3-Dichloropropene	0.05518	0.05175	0.05175	0.010	-6.21206	30.00000	Averaged
51 Methyl Isobutyl Ketone	0.05632	0.05181	0.05181	0.010	-7.99932	30.00000	Averaged
52 Toluene	10.00000	8.61624	8.70639	0.010	-13.83759	30.00000	Linear
53 trans-1,3-Dichloropropene	0.05584	0.06291	0.06291	0.010	12.65908	30.00000	Averaged
54 1,1,2-Trichloroethane	0.04911	0.04118	0.04118	0.010	-16.14639	30.00000	Averaged
55 Tetrachloroethene	10.00000	8.18996	14.28661	0.010	-18.10040	30.00000	Linear
56 Methyl Butyl Ketone	0.05237	0.05655	0.05655	0.010	7.98738	30.00000	Averaged
57 Dibromochloromethane	0.10929	0.10162	0.10162	0.010	-7.02275	30.00000	Averaged
58 1,2-Dibromoethane	0.07874	0.07334	0.07334	0.010	-6.86542	30.00000	Averaged
60 Chlorobenzene	10.00000	8.87050	8.47000	0.010	-11.29501	30.00000	Linear
61 Ethyl Benzene	0.20641	0.17850	0.17850	0.030	-13.52544	30.00000	Averaged
62 m&p-Xylene	0.15441	0.14281	0.14281	0.300	-7.50992	30.00000	Averaged <-
63 o-Xylene	0.13755	0.14216	0.14216	0.300	3.34757	30.00000	Averaged <-
64 Styrene	0.09662	0.10502	0.10502	0.010	8.69675	30.00000	Averaged
65 Bromoform	0.09147	0.08545	0.08545	0.010	-6.58079	30.00000	Averaged
66 Isopropylbenzene	0.18651	0.19312	0.19312	0.010	3.54797	30.00000	Averaged
67 1,1,2,2-Tetrachloroethane	0.09439	0.08223	0.08223	0.010	-12.88198	30.00000	Averaged
68 N-Propylbenzene	0.22863	0.22431	0.22431	0.010	-1.88856	30.00000	Averaged
69 4-Ethyltoluene	0.17266	0.18817	0.18817	0.010	8.98125	30.00000	Averaged
70 1,3,5-Trimethylbenzene	0.16810	0.17846	0.17846	0.010	6.16252	30.00000	Averaged
71 Tert Butyl Benzene	0.15980	0.15752	0.15752	0.010	-1.42696	30.00000	Averaged
72 1,2,4-Trimethylbenzene	0.16382	0.16967	0.16967	0.010	3.56686	30.00000	Averaged
73 Sec- Butylbenzene	0.21881	0.21704	0.21704	0.010	-0.80907	30.00000	Averaged
74 p-isopropyltoluene	10.00000	9.72624	5.00991	0.010	-2.73758	30.00000	Linear
75 1,3-Dichlorobenzene	0.12440	0.11575	0.11575	0.010	-6.95360	30.00000	Averaged
76 1,4-Dichlorobenzene	0.11835	0.11167	0.11167	0.010	-5.64358	30.00000	Averaged
77 1,2,3-Trimethylbenzene	0.14528	0.15918	0.15918	0.010	9.56558	30.00000	Averaged
78 Benzyl Chloride	0.12119	0.12183	0.12183	0.010	0.53097	30.00000	Averaged
79 N-Butylbenzene	0.14742	0.16468	0.16468	0.010	11.70945	30.00000	Averaged
80 1,2-Dichlorobenzene	0.11378	0.10044	0.10044	0.010	-11.72269	30.00000	Averaged
81 1,2,4-Trichlorobenzene	10.00000	18.72479	20.32619	0.010	87.24786	30.00000	Quadratic <-
82 Hexachlorobutadiene	0.05494	0.04272	0.04272	0.010	-22.23835	30.00000	Averaged
83 Naphthalene	10.00000	12.84057	10.21386	0.010	28.40570	30.00000	Quadratic

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10280474
Lab File ID: 25901BFB.D BFB Injection Date: 09/16/2014
Instrument ID: 10AIRB BFB Injection Time: 10:40
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	19.86	
75	30.00 - 66.00% of mass 95	59.72	
96	5.00 - 9.00% of mass 95	6.72	
173	Less than 2.00% of mass 174	1.04	(1.32)
174	50.00 - 120.00% of mass 95	78.72	
175	4.00 - 9.00% of mass 174	6.17	(7.84)
176	93.00 - 101.00% of mass 174	74.54	(94.69)
177	5.00 - 9.00% of mass 176	5.07	(6.80)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	LCS (LCS)	LCS	25903LCS.D	09/16/2014	11:55
2	CCV	CCV	25903.D	09/16/2014	11:55
3	BLANK (BLK)	BLANK	25905.D	09/16/2014	13:04
4 *	IA-102-C-17	10280474015	25907.D	09/16/2014	14:11
5 *	IA-004-C-17	10280474017	25908.D	09/16/2014	14:40

* results not used

Report Date: 16-Sep-2014 11:25

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 16-SEP-2014 11:55
Lab File ID: 25903.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091614.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Propylene	0.01439	0.01104	0.01104	0.010	-23.30373	30.00000	Averaged
2 Dichlorodifluoromethane	0.10368	0.10992	0.10992	0.010	6.01992	30.00000	Averaged
3 Chlorodifluoromethane	0.03804	0.03944	0.03944	0.010	3.67027	30.00000	Averaged
4 Dichlorotetrafluoroethane	0.10816	0.10798	0.10798	0.010	-0.16789	30.00000	Averaged
5 Chloromethane	0.02196	0.01565	0.01565	0.010	-28.73818	30.00000	Averaged
6 Vinyl chloride	0.02640	0.02288	0.02288	0.010	-13.34717	30.00000	Averaged
7 1,3-Butadiene	0.01681	0.01352	0.01352	0.010	-19.53189	30.00000	Averaged
8 Bromomethane	0.02446	0.02440	0.02440	0.010	-0.27541	30.00000	Averaged
9 Chloroethane	0.01413	0.01202	0.01202	0.010	-14.89434	30.00000	Averaged
10 Isopentane	10.00000	7.52883	53.21412	0.010	-24.71168	30.00000	Linear
11 Vinyl Bromide	0.03334	0.02783	0.02783	0.010	-16.52688	30.00000	Averaged
12 Trichlorofluoromethane	0.14084	0.13564	0.13564	0.010	-3.69180	30.00000	Averaged
13 Ethanol	10.00000	11.11225	202	0.010	11.12248	30.00000	Quadratic
14 Acrolein	0.00638	0.00431	0.00431	0.010	-32.34105	30.00000	Averaged <-
15 Freon 113	0.07694	0.06465	0.06465	0.010	-15.96817	30.00000	Averaged
16 Acetone	10.00000	11.23384	15.51544	0.010	12.33842	30.00000	Linear
17 Isopropyl Alcohol	0.03878	0.03461	0.03461	0.010	-10.77257	30.00000	Averaged
18 1,1-Dichloroethene	0.04626	0.04535	0.04535	0.010	-1.96974	30.00000	Averaged
19 Carbon Disulfide	0.11821	0.09061	0.09061	0.010	-23.35363	30.00000	Averaged
20 Allyl Chloride	0.11821	0.09061	0.09061	0.010	-23.35418	30.00000	Averaged
21 Tert Butyl Alcohol	0.06070	0.06191	0.06191	0.010	1.99805	30.00000	Averaged
22 Methylene chloride	10.00000	9.30043	39.55192	0.010	-6.99566	30.00000	Linear
23 Acrylonitrile	0.01632	0.01418	0.01418	0.010	-13.09004	30.00000	Averaged
24 Methyl Tert Butyl Ether	0.09886	0.09691	0.09691	0.010	-1.96863	30.00000	Averaged
25 trans-1,2-dichloroethene	0.03695	0.03019	0.03019	0.010	-18.29022	30.00000	Averaged
26 n-Hexane	10.00000	7.08584	32.88097	0.010	-29.14156	30.00000	Linear
27 Vinyl Acetate	10.00000	9.27412	9.87049	0.010	-7.25880	30.00000	Linear
28 Di-isopropyl Ether	0.07320	0.06579	0.06579	0.010	-10.13088	30.00000	Averaged
29 1,1-Dichloroethane	0.06051	0.05305	0.05305	0.010	-12.32882	30.00000	Averaged
30 Ethyl Tert-Butyl Ether	0.08636	0.08130	0.08130	0.010	-5.85857	30.00000	Averaged
31 Ethyl Acetate	0.11533	0.09950	0.09950	0.010	-13.72630	30.00000	Averaged
32 Methyl Ethyl Ketone	0.01553	0.01371	0.01371	0.010	-11.67303	30.00000	Averaged
33 cis-1,2-Dichloroethene	0.03712	0.03034	0.03034	0.010	-18.28914	30.00000	Averaged
34 Tetrahydrofuran	0.02744	0.02171	0.02171	0.010	-20.88460	30.00000	Averaged
35 Chloroform	10.00000	10.06298	11.95104	0.010	0.62978	30.00000	Linear
36 1,1,1-Trichloroethane	0.10219	0.10126	0.10126	0.010	-0.91046	30.00000	Averaged
37 Cyclohexane	10.00000	8.07515	29.47341	0.010	-19.24854	30.00000	Linear
38 Carbon tetrachloride	0.11212	0.11465	0.11465	0.010	2.25762	30.00000	Averaged
39 Benzene	10.00000	8.46449	11.02620	0.300	-15.35510	30.00000	Quadratic
40 1,2-Dichloroethane	0.06237	0.06515	0.06515	0.010	4.45926	30.00000	Averaged
41 Tert Amyl Methyl Ether	0.09687	0.09441	0.09441	0.010	-2.53566	30.00000	Averaged
42 2,2,4-Trimethylpentane	10.00000	8.60105	8.35962	0.010	-13.98953	30.00000	Linear
43 Heptane	10.00000	8.48284	27.90701	0.010	-15.17163	30.00000	Linear

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 16-SEP-2014 11:55
Lab File ID: 25903.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091614.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
45 Trichloroethene	10.00000	8.23445	21.22817	0.010	-17.65548	30.00000	Linear
46 Methylcyclohexane	0.03163	0.02493	0.02493	0.010	-21.18969	30.00000	Averaged
47 1,2-Dichloropropane	0.03422	0.02981	0.02981	0.010	-12.88754	30.00000	Averaged
48 1,4-Dioxane	0.02066	0.02124	0.02124	0.010	2.83241	30.00000	Averaged
49 Bromodichloromethane	0.09405	0.09106	0.09106	0.010	-3.18538	30.00000	Averaged
50 cis-1,3-Dichloropropene	0.05518	0.05009	0.05009	0.010	-9.21562	30.00000	Averaged
51 Methyl Isobutyl Ketone	0.05632	0.05115	0.05115	0.010	-9.16571	30.00000	Averaged
52 Toluene	10.00000	8.30674	9.02992	0.010	-16.93258	30.00000	Linear
53 trans-1,3-Dichloropropene	0.05584	0.06104	0.06104	0.010	9.30837	30.00000	Averaged
54 1,1,2-Trichloroethane	0.04911	0.03963	0.03963	0.010	-19.30679	30.00000	Averaged
55 Tetrachloroethene	10.00000	8.06119	14.51067	0.010	-19.38814	30.00000	Linear
56 Methyl Butyl Ketone	0.05237	0.05470	0.05470	0.010	4.45742	30.00000	Averaged
57 Dibromochloromethane	0.10929	0.09815	0.09815	0.010	-10.19702	30.00000	Averaged
58 1,2-Dibromoethane	0.07874	0.07075	0.07075	0.010	-10.15098	30.00000	Averaged
60 Chlorobenzene	10.00000	8.65178	8.67194	0.010	-13.48221	30.00000	Linear
61 Ethyl Benzene	0.20641	0.17383	0.17383	0.030	-15.78464	30.00000	Averaged
62 m&p-Xylene	0.15441	0.13774	0.13774	0.300	-10.79493	30.00000	Averaged <-
63 o-Xylene	0.13755	0.13616	0.13616	0.300	-1.01591	30.00000	Averaged <-
64 Styrene	0.09662	0.09932	0.09932	0.010	2.79682	30.00000	Averaged
65 Bromoform	0.09147	0.08363	0.08363	0.010	-8.56718	30.00000	Averaged
66 Isopropylbenzene	0.18651	0.18337	0.18337	0.010	-1.68466	30.00000	Averaged
67 1,1,2,2-Tetrachloroethane	0.09439	0.08092	0.08092	0.010	-14.27474	30.00000	Averaged
68 N-Propylbenzene	0.22863	0.21587	0.21587	0.010	-5.58162	30.00000	Averaged
69 4-Ethyltoluene	0.17266	0.17971	0.17971	0.010	4.08484	30.00000	Averaged
70 1,3,5-Trimethylbenzene	0.16810	0.17317	0.17317	0.010	3.01289	30.00000	Averaged
71 Tert Butyl Benzene	0.15980	0.15124	0.15124	0.010	-5.35948	30.00000	Averaged
72 1,2,4-Trimethylbenzene	0.16382	0.16779	0.16779	0.010	2.41909	30.00000	Averaged
73 Sec- Butylbenzene	0.21881	0.21328	0.21328	0.010	-2.52432	30.00000	Averaged
74 p-isopropyltoluene	10.00000	9.15058	5.33121	0.010	-8.49425	30.00000	Linear
75 1,3-Dichlorobenzene	0.12440	0.11219	0.11219	0.010	-9.81863	30.00000	Averaged
76 1,4-Dichlorobenzene	0.11835	0.10861	0.10861	0.010	-8.23069	30.00000	Averaged
77 1,2,3-Trimethylbenzene	0.14528	0.15587	0.15587	0.010	7.28784	30.00000	Averaged
78 Benzyl Chloride	0.12119	0.12169	0.12169	0.010	0.41155	30.00000	Averaged
79 N-Butylbenzene	0.14742	0.16016	0.16016	0.010	8.64180	30.00000	Averaged
80 1,2-Dichlorobenzene	0.11378	0.09432	0.09432	0.010	-17.10518	30.00000	Averaged
81 1,2,4-Trichlorobenzene	10.00000	17.35874	22.48664	0.010	73.58735	30.00000	Quadratic <-
82 Hexachlorobutadiene	0.05494	0.04049	0.04049	0.010	-26.30167	30.00000	Averaged
83 Naphthalene	10.00000	12.13240	10.89781	0.010	21.32402	30.00000	Quadratic

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

FD SV - DUP3 - C - 17

ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-133-C-17 **Lab ID: 10280459009** Collected: 09/03/14 12:57 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.68		09/11/14 19:41	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/11/14 19:41	56-23-5	
Chlorodifluoromethane	**12.7**	ug/m3	1.2	1.68		09/11/14 19:41	75-45-6	
Chloroform	ND	ug/m3	0.83	1.68		09/11/14 19:41	67-66-3	
Dichlorodifluoromethane	**4.3**	ug/m3	1.7	1.68		09/11/14 19:41	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		09/11/14 19:41	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/11/14 19:41	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		09/11/14 19:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/11/14 19:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/11/14 19:41	156-60-5	
Ethylbenzene	**1.2J**	ug/m3	1.5	1.68		09/11/14 19:41	100-41-4	
Methylene Chloride	ND	ug/m3	5.9	1.68		09/11/14 19:41	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/11/14 19:41	1634-04-4	
Naphthalene	**1.8J**	ug/m3	4.5	1.68		09/11/14 19:41	91-20-3	CH,SS
Tetrachloroethene	**1.4**	ug/m3	1.2	1.68		09/11/14 19:41	127-18-4	
Toluene	**5.1**	ug/m3	1.3	1.68		09/11/14 19:41	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/11/14 19:41	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		09/11/14 19:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/11/14 19:41	79-00-5	
Trichloroethene	**10.9**	ug/m3	1.8	1.68		09/11/14 19:41	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/11/14 19:41	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/11/14 19:41	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/11/14 19:41	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		09/11/14 19:41	75-01-4	
m&p-Xylene	**4.0**	ug/m3	3.0	1.68		09/11/14 19:41	179601-23-1	
o-Xylene	**1.5**	ug/m3	1.5	1.68		09/11/14 19:41	95-47-6	

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10280459

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

09764

Page: 1 of 2

Section A Required Client Information:
Company: Tetra Tech Inc
Address: 20251 Century Blvd Germantown MD 20874
Email To:
Phone: 301-528-3021 Fax: 3000
Requested Due Date/TAT: Standard

Section B Required Project Information:
Report To: Tony Apanavage
Copy To:
Purchase Order No.:
Project Name: SV / IAQ
Project Number: 112IC06279

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST, Superfund, Emissions, Clean Air Act, Voluntary Clean Up, Dry Clean, RCRA, Other____

Location of Sampling by State: MD

Reporting Units: ug/m³___ mg/m³___ PPBV___ PPMV___ Other___

Report Level II.___ III.___ IV.___ Other____

Section D Required Client Information — AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)

Valid Media Codes: MEDIA / CODE — Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	Sample ID	MEDIA CODE	PID Reading (Client only)	COLLECTED Start DATE	Start TIME	Stop DATE	Stop TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C: Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	~~SV-065-C-17~~	1LC		9-3-14	~~1035~~	9-3-14															
2	SV-051-C-17				1035		1205	-30	0	2474	FC0080							X			001
3	SV-086-C-17				1042		1200	-30	-1	2646	FC1014							X			002
4	SV-141-C-17				1048		1207	-30	-2	1143	FC0354							X			003
5	SV-126-C-17				1053		1212	-31	0	1105	FC0089							X			004
6	SV-149-C-17				1056		1216	-30	0	0911	FC0407							X			005
7	SV-127-C-17				1102		1218	-30	-2.5	1318	FC0359							X			006
8	SV-060-C-17				1105		1220	-30	0	1017	FC0134							X			007
9	SV-153-C-17				1109		1222	-30	-1	1797	FC0002							X			008
10	SV-133-C-17				1112		1257	-30	0	2740	FC0091							X			009
11	SV-155-C-17				1117		1223	-30	0	1329	FC0356							X			010
12	SV-102-C-17				1122		1227	-29	0	1776	FC0387							X			011

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Walt Payne	9-4-14	1000	[illegible] Pace	9814	0930

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Walt Payne
SIGNATURE of SAMPLER: Walt Payne
DATE Signed (MM / DD / YY): 9-4-14

SAMPLE CONDITIONS

AMB	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

ORIGINAL

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

FD SV-DUP 4-C-17

ANALYTICAL RESULTS

Project: 112IC06279 SV / IAQ
Pace Project No.: 10280459

Sample: SV-130-C-17 **Lab ID: 10280459012** Collected: 09/03/14 12:30 Received: 09/08/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.64		09/11/14 20:55	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.0	1.64		09/11/14 20:55	56-23-5	
Chlorodifluoromethane	**3.4**	ug/m3	1.2	1.64		09/11/14 20:55	75-45-6	
Chloroform	ND	ug/m3	0.81	1.64		09/11/14 20:55	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.7	1.64		09/11/14 20:55	75-71-8	
1,1-Dichloroethane	ND	ug/m3	2.0	2.49		09/12/14 13:41	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.67	1.64		09/11/14 20:55	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.64		09/11/14 20:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	1.64		09/11/14 20:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.64		09/11/14 20:55	156-60-5	
Ethylbenzene	**2.9**	ug/m3	1.4	1.64		09/11/14 20:55	100-41-4	
Methylene Chloride	ND	ug/m3	5.8	1.64		09/11/14 20:55	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.64		09/11/14 20:55	1634-04-4	
Naphthalene	**12.6**	ug/m3	6.6	2.49		09/12/14 13:41	91-20-3	CH,SS
Tetrachloroethene	**8.9**	ug/m3	1.1	1.64		09/11/14 20:55	127-18-4	
Toluene	**7.0**	ug/m3	1.3	1.64		09/11/14 20:55	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	124	1.64		09/11/14 20:55	120-82-1	
1,1,1-Trichloroethane	**4.0**	ug/m3	1.8	1.64		09/11/14 20:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.90	1.64		09/11/14 20:55	79-00-5	
Trichloroethene	**3.3**	ug/m3	1.8	1.64		09/11/14 20:55	79-01-6	
1,2,3-Trimethylbenzene	**8.2**	ug/m3	1.6	1.64		09/11/14 20:55	526-73-8	
1,2,4-Trimethylbenzene	**8.2**	ug/m3	1.6	1.64		09/11/14 20:55	95-63-6	
1,3,5-Trimethylbenzene	**11.3**	ug/m3	1.6	1.64		09/11/14 20:55	108-67-8	
Vinyl chloride	ND	ug/m3	0.43	1.64		09/11/14 20:55	75-01-4	
m&p-Xylene	**6.4**	ug/m3	4.4	2.49		09/12/14 13:41	179601-23-1	
o-Xylene	**2.8**	ug/m3	2.2	2.49		09/12/14 13:41	95-47-6	

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10280459

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

09773

Section A Required Client Information:
Company: Tetra Tech
Address:
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:
Report To:
Copy To:
Purchase Order No.:
Project Name: MRC SV / IAQ
Project Number: 112IC06279

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST, Superfund, Emissions, Clean Air Act, Voluntary Clean Up, Dry Clean, RCRA, Other
Location of Sampling by State: MD
Reporting Units: ug/m³, mg/m³, PPBV, PPMV, Other
Report Level: II. III. IV. Other

Valid Media Codes: MEDIA / CODE — Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	Section D Required Client Information: AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Start (COMPOSITE START END/GRAB) DATE	Start TIME	Stop (COMPOSITE -) DATE	Stop TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	SV-130-C-17	1LC		9-3-14	1130	9-3-14	1230	-27	0	2195	FC 0327							X			012
2	SV-001-C-17				1137		1236	-30	0	2236	FC 0539							X			013
3	SV-004-C-17				1140		1240	-30	-4	1156	FC 0120							X			014
4	SV-143-C-17				1145		1245	-30	-4	922	FC 0081							X			015
5	SV-142-C-17				1148		1249	-29	-3	889	FC 0362							X			016
6	SV-088-C-17				1431		1531	-30	-4	2470	FC 0144							X			017
7	SV-113-C-17				1433		1533	-32	-4	1296	FC 0121							X			018
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Walt Pryor	9-4-14	1000	[illegible]	9/4/14	0930

SAMPLE CONDITIONS: Temp in °C; Received on Ice Y/N; Custody Sealed Cooler Y/N; Samples Intact Y/N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Walt Pryor
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY)

ORIGINAL

APPENDIX E—*REMEDIAL ACTION PROGRESS REPORT #22: APRIL 1 THROUGH SEPTEMBER 30, 2014, SUB-SLAB-DEPRESSURIZATION SYSTEMS, BUILDINGS A AND C, LOCKHEED MARTIN MIDDLE RIVER COMPLEX*

Remedial Action Progress Report #22
April 1 through September 30, 2014
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.

Revised January 8, 2015

Michael Martin, P.G.
Regional Manager

Peter Rich, P.E.
Project Manager

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ACRONYMS

$\mu g/m^3$	micrograms per cubic meter
ELAP	Environmental Laboratory Accreditation Program
GAC	granular activated-carbon
lbs/day	pounds per day
lbs/month	pounds per month
LCD	liquid crystal display
mA	milliamp
MDE	Maryland Department of the Environment
MRAS	Middle River Aircraft Systems
NELAP	National Environmental Laboratory Accreditation Program
OM&M	operation, maintenance, and monitoring
%	percent
PPZ	potassium permanganate zeolite
SCFM	standard cubic feet per minute
SSD	sub-slab depressurization
Tetra Tech	Tetra Tech, Inc.
TO-15	Toxic Organic Method -15
USDoD	United States Department of Defense
USEPA	United States Environmental Protection Agency
VMP	vapor monitoring point
VOC	volatile organic compounds
WC	water column

Section 1
Introduction

1.1 SITE LOCATION AND BACKGROUND INFORMATION

This report documents the monitoring activities completed from April 1, 2014 through September 30, 2014 [25th and 26th quarters of operation] for the sub-slab depressurization systems operating in the Building A plating shop, Building A basement, and the Building C basement of the Middle River Aircraft Systems facility. Middle River Aircraft Systems is within the Lockheed Martin Corporation Middle River Complex in Middle River, Maryland. The locations of the sub-slab depressurization systems are shown on Figure 1. These remedial systems control and remove volatile organic compounds in sub-slab air, thus preventing their migration into indoor air. The systems are operated in accordance with the operation, maintenance, and monitoring manuals for the Building A and Building C systems (Tetra Tech, Inc., 2014a; 2014b).

1.2 DESCRIPTION OF SUB-SLAB DEPRESSURIZATION SYSTEMS

1.2.1 Building A System

The sub-slab depressurization system in the Building A plating shop and basement consists of four horizontal soil-vapor-extraction laterals: on the first floor, North and South, and in the basement, Basement North, and Basement South (Figure 2). Sub-slab vapors are pulled through the extraction laterals using a single 10-horsepower regenerative blower, which is mounted on a skid along with a moisture separator, filters, and vacuum, pressure, temperature, and flow gauges (collectively referred to as the "blower skid"). Following extraction, the vapors enter the moisture separator where entrained condensate droplets are removed to reduce potential fouling of vapor lines and saturation of vapor-phase carbon. The extracted vapors are then filtered to remove volatiles using two 400-pound granular activated-carbon drums in-series before

discharge to the atmosphere via an exhaust stack that extends above the roof of the building (Figure 3).

1.2.2 Building C System

The sub-slab depressurization system in the Building C basement consists of two vertical soil vapor extraction wells (SSD-21-C and SSD-23-C) in the south basement area and nine vertical soil vapor extraction wells (SSD-26-C, SSD-27-C, SSD-28-C, SSD-29-C, SSD-30-C, SSD-31-C, SSD-32-C, SSD-33-C, and SSD-34-C) in the mid-basement area (Figure 4). Sub-slab vapors are pulled through the extraction wells using a single 7.5-horsepower regenerative blower; the blower is mounted on a skid along with a moisture separator (MS-1), filters, heat exchanger, and vacuum, pressure, temperature, and flow gauges (collectively referred to as the "blower skid"). Following extraction, the vapors enter a moisture separator (MS-1) where entrained condensate droplets are removed to reduce fouling in the vapor lines and saturation of the vapor-phase carbon. The extracted vapors are cooled as they are pushed through a heat exchanger; any remaining entrained condensate droplets are removed via a second moisture separator (MS-2) before the vapor enters the granular activated-carbon drums. The vapors are treated using two 400-pound granular activated-carbon drums and one 600-pound potassium permanganate zeolite drum (to remove residual vinyl chloride) in-series before being discharged to the atmosphere via an exhaust stack that extends above the roof of the building (Figure 5).

The Building C system is also equipped with one drain for each granular activated-carbon and potassium permanganate zeolite drum, five pipe sumps (PS-1 [near SSD-25-C and column N26], PS-2 [near SSD-30-C and column N26], PS-3 [near SSD-27-C and column O20], PS-4 [near SSD-32-C and column R19], and PS-5 [near SSD-29-C and column V12]), and one exhaust stack sump. The sumps are installed at low points to allow condensation drainage.

Sound generated by the blower and heat exchanger is controlled by a sound-deadening enclosure that surrounds the perimeter of the blower skid. This enclosure has overlapping sound-proof curtains supported on a wooden frame. The roof of the enclosure is plywood lined with one-inch-thick foam board. A vent on the side of the enclosure and a duct extending from the heat exchanger to the ceiling of the enclosure facilitate air flow and prevent the system from overheating.

Section 2
Site Activities

2.1 BIWEEKLY MONITORING

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. Visits during the 25th quarter of operation (April 1, 2014 through June 30, 2014) were conducted on:

- April 10, 2014
- April 24, 2014
- May 5, 2014
- May 23, 2014
- June 5, 2014
- June 19, 2014

Visits during the 26th quarter of operation (July 1 through September 30, 2014) were conducted on:

- July 3, 2014
- July 16, 2014
- July 30 , 2014
- August 11-12, 2014
- August 26, 2014 (Building C)
- September 12, 2014 (Building C)
- September 16, 2014 (Building A)
- September 25-26, 2014

Biweekly visits were conducted in accordance with the latest operation, maintenance, and monitoring (OM&M) manuals (Tetra Tech, Inc. [Tetra Tech], 2014a; 2014b), and included general system monitoring, vacuum influence monitoring, and any necessary adjustments to extraction laterals and wells. Biweekly visits were not made to the Building A system on August 26 and September 12, 2014 as the system was down due to a firewater pipe break beneath the plating shop floor; see details in Section 2.7.2. Biweekly system check forms are in Appendix A.

2.1.1 General System Monitoring

Gauge readings on the blower skid were checked, and the vacuum and velocity at each extraction lateral/well was measured. The condition of system components was also checked, and moisture separators/sumps were emptied as necessary. The following specific tasks were performed:

1. Recorded:
    a. vacuum at moisture separator (Building A only)
    b. vacuum at pre-air filter
    c. vacuum at post-air filter
    d. pressure at post-blower
    e. temperature at post-blower
    f. temperature at post-heat exchanger (Building C only)
    g. system flow
    h. time counter display (Building C only)
    i. vacuum from each extraction lateral/well
    j. velocity from each extraction lateral/well
    k. vacuum from each vapor monitoring point (VMP)
2. Checked the following for damage, leaks, and/or signs of heat stress:
    a. system components
    b. granular activated-carbon (GAC) drums
    c. potassium permanganate zeolite (PPZ) drum (Building C only)
    d. GAC and PPZ flex hoses and fittings
3. Checked the following for water/condensate, and drained as necessary:
    a. moisture separators
    b. pipe sumps (Building C only)
    c. exhaust stack sump (Building C only)
    d. GAC and PPZ drains (Building C only)
4. Confirmed that zip ties on the GAC drums and the cam locks on the PPZ drum (Building C only) were present and secure
5. Confirmed that the ambient air valve was closed
6. Noted any adjustments made to extraction laterals/wells
7. Checked that flow, pressure, and vacuum gauges fell to zero and that temperature gauges fell when systems were turned off

During this reporting period, 60 gallons of water were drained from the Building A moisture separator– 30 gallons on August 12, 2014 and 30 gallons on August 13, 2014. The source of this water was a (firewater) pipe break beneath the plating shop floor (see Section 2.7.2). The pipe

break is attributed to the age of the pipe; no construction activities or direct action prompted the break.

Approximately 0.14 gallons and 0.04 gallons of condensate were drained from the Building C exhaust stack sump on April 10 and April 24, 2014, respectively. No condensate had accumulated in the moisture separators (MS-1 and MS-2) and pipe sumps (PS-1 through PS-5), so they were not drained during this reporting period.

2.1.2 Vacuum Influence Monitoring

The objective of the SSD systems is to maintain a vacuum of at least 0.01 inches water column (WC) in targeted areas. The vacuum influence (differential versus indoor air) at permanent sub-slab VMPs was monitored using a dual port manometer (Fieldpiece Instruments, Inc. model SDMN5). The instrument was used to identify sub-slab air short-circuiting or other problems (indicated by a significant drop in vacuum in one or more of the permanent VMPs) in each system, and to determine each system's area of influence.

No short-circuiting was identified in the Building A SSD system during the reporting period. Vacuum influence at all VMPs in the Building A plating shop (SSD-1-A, SSD-11-A, SSD-12-A, SSD-13-A, SSD-2-A, SSD-16-A, 015-A, and SSD-3-A), and one of four VMPs (SSD-22-A) in the Building A basement (Figure 2) consistently exceeded the system objective (0.01 inches WC); vacuums ranged from 0.07 to 1.83 inches WC in the plating shop and from 0.09 to 0.73 inches WC in the basement. Vacuum influence at the three remaining basement VMPs (SSD-19-A, SSD-20-A, SSD-21-A) ranged from -0.51 (pressure) (at SSD-20-A) to 0.78 inches WC. (The "pressure" reading indicates pressure in the sub-slab is higher than pressure in indoor air.) Figure 6 shows induced vacuum in Building A over time.

Vacuum influence at five of seven VMPs in the Building C south basement area (001-C, SSD-2-C, SSD-24-C, SSD-3-C, and SSD-4-C), and at five of ten VMPs in the mid-basement area (135-C, 113-C, 133-C, 060-C, and 127-C) consistently exceeded the system objective (0.01 inches WC); vacuums ranged from 0.02 to 2.52 inches WC in the southern basement area, and from 0.28 to 16.57 inches WC in the mid-basement area. The vacuum influence at the two remaining VMPs (SSD-22-C and SSD-25-C) in the southern area, and at the five VMPs (088-C,

111-C, 141-C, 050-C, and 126-C) in the mid-basement area, ranged from 0.00 to 0.03 inches WC, and from −0.81 (pressure) (at 141-C) to 0.01 inches WC, respectively. (The "pressure" reading indicates pressure in the sub-slab is higher than pressure in indoor air.) Eleven new VMPs were installed in the mid-basement area of Building C in August 2014. Vacuum influence (0.02–7.14 inches WC) at nine of these 11 VMPs (159-C, 157-C, 156-C, 154-C, 155-C, 153-C, 150-C, 152-C, and 158-C) exceeded the objective (0.01 inches WC) during each biweekly site visit. The vacuum influence at the remaining two VMPs (151-C and 149-C was 0.00–0.01 inches WC. Figures 7 and 8 show induced vacuum in the Building C southern and mid-basement areas (respectively) over time.

Short-circuiting was identified near extraction well SSD-28-C in the mid-basement area of Building C during two (May 5 and May 23, 2014) biweekly system checks. The short-circuiting was indicated by the higher flow and lower vacuum measured at SSD-28-C, and a lower vacuum at VMP 060-C. During the quarterly system check on June 5, 2014, the field crew noticed that the concrete floor near SSD-28-C was cracked/deteriorated; the damaged area was approximately two- by three-feet in size. On June 20, 2014, dry ice was used to confirm that SSD-28-C was pulling ambient air through the damaged floor area. The facility patched that section of floor with concrete. Dry ice was subsequently used on July 30, 2014 to confirm that SSD-28-C was no longer pulling ambient air through the floor. During that testing, a floor crack approximately four feet south of the newly patched area pulled ambient air; this crack was sealed with caulk. These repairs did not produce the expected increase in flow at SSD-28-C or increase in vacuum at 060-C, but another area of short-circuiting has not been identified. Therefore, SSD-28-C was closed to approximately 20% to maintain a flow of approximately 42 standard cubic feet per minute (SCFM).

In general, the induced vacuum measurements indicate the systems are performing as designed. Extraction laterals in the Building A plating shop induce a vacuum influence over an approximate 5,600-square foot area that encompasses all VMPs having elevated volatile organic compound (VOC) concentrations before system startup. The extraction laterals in Building A basement induce a vacuum influence over an approximate 2,400-square foot area; three of four basement VMPs measure the induced vacuum (Figure 9). The extraction wells in the southern area of the Building C basement induce vacuum influence over an approximate 3,900-square foot

area; five of seven VMPs in this area show consistent influence (Figure 10). Extraction wells in the mid-basement area of Building C induce a vacuum influence over an approximate 30,400-square foot area, with 14 of 21 VMPs showing consistent influence (Figure 11). Vacuum influence at the northern end of the mid-basement area has not been indicated during monitoring, but VOC concentrations at VMP 126-C have decreased over 95% since the system was expanded in May 2013.

2.1.3 Adjustments to Extraction Laterals and Wells

No adjustments were made to the extraction laterals in the Building A plating shop and basement during this reporting period. However, extraction well SSD-21-C in Building C was opened an additional 10% on April 24, 2014 to increase vacuum influence at SSD-2-C. Additionally, extraction well SSD-28-C was closed to about 20% (open) on July 30, 2014, resulting in a decreased flow of 42 SCFM.

2.2 MONTHLY VAPOR SAMPLING

Monthly grab samples were collected from each SSD system; samples were collected at the influent, mid-GAC, and effluent positions of the treatment units. Samples were not collected from the Building A SSD system in August 2014 because a broken pipe beneath the plating shop floor triggered a high-water-level alarm that shut the system down on August 12, 2014. Samples were collected on the following days:

- April 10, 2014
- May 5, 2014
- June 5, 2014
- July 3, 2014
- August 13, 2014 (Building C only)
- September 12, 2014 (Building C) and September 16, 2014 (Building A)

Samples were collected directly from each sampling port using the following steps:

- a moisture filter was connected to a piece of Teflon tubing on one end and to the sampling port on the other end
- a clean, one-liter Summa® canister under vacuum was connected to the tubing, and the canister valve was opened for approximately one minute

Samples were labeled A-INFLUENT, A-MID-GAC, A-EFFLUENT, C-INFLUENT, C-MID-GAC, and C-EFFLUENT, and were shipped to Pace Analytical Services, Inc. (Pace Analytical) in Minneapolis, Minnesota. This laboratory is accredited through the National Environmental Laboratory Accreditation Program (NELAP) and United States Department of Defense (USDoD) Environmental Laboratory Accreditation Program (ELAP) for VOC analysis by United States Environmental Protection Agency (USEPA) Toxic Organic Method 15 (TO-15).

Laboratory results are summarized in Tables 1 through 6; and laboratory reports are in Appendix D. During this reporting period, total influent VOC concentrations in Building A ranged from 832 micrograms per cubic meter ($\mu g/m^3$) (May 2014) to 11,278 $\mu g/m^3$ (June 2014). Total influent VOC concentrations in Building C ranged from 270 $\mu g/m^3$ (September 2014) to 724 $\mu g/m^3$ (April 2014). Average influent concentrations in Building A were approximately 12% higher than the concentrations detected during the previous semi-annual reporting period (October 1, 2013 through March 31, 2014), while average influent concentrations in Building C were approximately 28% higher.

2.3 DIFFERENTIAL PRESSURE MONITORING

During the 25th quarter of operation (April 1 through June 30, 2014), quarterly 24-hour differential pressure monitoring was conducted on June 19-20, 2014 in the Building A plating shop and basement, and on June 18-19, 2014 in the Building C south basement area. Differential pressure-monitoring was not conducted in the Building C mid-basement area because no VMPs were within the target-range. Differential pressure-monitoring was not conducted during the 26th quarter of operation (July 1 through September 30, 2014) as it was discontinued per email correspondence on September 16, 2014 (CDM Smith, 2014). The 24-hour monitoring data for the past five years indicate vacuum influence is relatively constant over 24-hour cycles.

Monitoring was conducted to quantify differential pressure changes over daily cycles; up to three VMPs were selected in each area during each monitoring event. If more than three VMPs in a given area had vacuum readings in the target range, the monitoring locations were alternated. Pressure was measured using Dwyer MS-121 Magnesense® differential pressure transmitters with low range 4-20 milliamp (mA) outputs and liquid crystal displays (LCDs) that had a

vacuum range of 0.0 to 0.5-inch WC (accuracy to 0.005-inch WC). Data was recorded on Dwyer DW-USB programmable data-loggers at five-minute intervals. After 24 hours of continuous data collection the equipment was retrieved, and the data was downloaded and graphed for analysis. These graphs are in Appendix C.

No significant fluctuations of differential pressure occurred in Building A over the 24-hour monitoring period; pressure measured at SSD-1-A, SSD-12-A, and SSD-13-A varied by less than 0.060 inches WC. VMPs in the southern portion of the Building C basement (001-C, SSD-2-C, and SSD-24-C) showed abnormal fluctuations in differential pressure; pressures as high as 0.280 inches of WC were measured between hours 13 and 16 of the 24-hour monitoring period. These fluctuations have been attributed to a power outage, as they occurred in all VMPs.

2.4 QUARTERLY SYSTEM CHECKS

Quarterly system checks were completed on June 5, 2014 and September 26, 2014, and included the following tasks:

1. inspected the condition of the following:
    a. system components
    b. system piping
    c. pre-blower air filter and intake (ambient) air filter (replaced as necessary)
    d. GAC and PPZ drums
    e. GAC and PPZ drums sample ports
    f. VMP well lids, bolts, and sample tubing
2. checked that the Building A system shuts down, the control panel alarm light illuminates, and the auto-dialer activates upon alarms for:
    a. high water level
    b. high pressure
    c. high temperature
    d. low pressure
3. checked that the Building C system shuts down, the control panel alarm light illuminates, and the auto-dialer activates upon alarms for:
    a. high temperature – post-blower
    b. high temperature – post-heat exchanger
    c. high water level – MS-1

d. high water level – MS-2
e. high pressure
f. low vacuum

- checked vacuum relief valve for proper operation
- recorded amperage draw on blower
- checked that auto-dialer activates when power is turned off
- checked auto-dialer batteries (replaced as necessary)
- confirmed that a fire extinguisher is next to the system
- cleaned the system and area around the system

The fire extinguisher in Building A was missing during the June 5, 2014 quarterly system check. The fire extinguisher was replaced on June 19, 2014. No other issues were identified for the Building A system during the June 5, 2014 and September 26, 2014 quarterly system checks; the system is running within normal operating parameters.

As indicated in Section 2.1.2, the field team observed damage on the concrete floor near extraction well SSD-28-C in Building C during the June 5, 2014 quarterly system check. No issues were identified during the September 26, 2014 quarterly system checks; the Building C system is running within normal operating parameters. Quarterly system check sheets are in Appendix B.

2.5 SYSTEM MAINTENANCE

The following non-routine system maintenance was completed during this reporting period:

- Building A:
  - April 10, 2014: removed kinked portion of tubing at SSD-11-A (issue discovered April 10, 2014)
  - June 5, 2014: replaced suspected faulty relay in control panel that was causing the auto-dialer to call out a high-pressure alarm when no alarm existed (issue first suspected on March 17, 2014)
  - June 19, 2014: replaced missing fire extinguisher (issue discovered June 5, 2014)

- Building C:
  - May 5, 2014: replaced the six-volt rechargeable battery in the auto-dialer antenna (issue discovered May 2, 2014)

2.6 GAC AND PPZ CHANGE-OUTS

A GAC change-out was completed for the Building A system on May 23, 2014 and on September 26, 2014 for the Building C system. Change-outs were conducted by removing the lead GAC drum (spent unit) from the system, moving the lag GAC drum into the lead GAC position, and installing a new GAC drum in the lag GAC position. The PPZ drum associated with the Building C system was not changed out during this reporting period.

2.7 SYSTEM SHUTDOWNS

2.7.1 Operator-Controlled Shutdowns

Both systems were briefly turned off during each biweekly system check to: (1) confirm that flow, pressure, and vacuum gauges fall to zero (thereby indicating proper operation), and (2) check and drain (as necessary) condensate accumulation in the moisture separators and sumps. Both systems were also briefly turned off during the quarterly system checks to test proper operation of the fail-safe alarms. In addition, both systems were shut down for GAC change-outs: the Building A system was turned off on May 23, 2014 for approximately 45 minutes, and the Building C system was turned off on September 26, 2014 for approximately 30 minutes. Finally, the Building C system remained off from September 1, 2014 (following a high water level alarm at MS-1; see Section 2.7.2) until September 4, 2014 (for the semi-annual sub-slab vapor sampling).

2.7.2 Alarmed and Other Shutdowns

The following alarmed shutdowns of the Building A system occurred during this reporting period:

- August 12, 2014– high water level alarm: 30 gallons of water were drained from the moisture separator and the system was restarted. The moisture separator refilled with water within 20 minutes, triggering another high water level alarm. The system was shut down again, and another 30 gallons of water were drained from the moisture separator on August 13, 2014. The field crew determined that the source of the water was a broken pipe beneath the plating shop floor. The system remained off for approximately

839 hours (34 days), until the water line was repaired and the sub-slab soil dried. The system was restarted on September 15, 2014, but the blower fan would not turn on. A representative from S&S Technologies, Inc. (system installation subcontractor) was contacted to troubleshoot the blower fan, and the system was restarted on September 16, 2014.

The following alarmed shutdowns of the Building C system occurred during this reporting period:

- May 2, 2014: loss of power alarm — The system was down for approximately 10.6 hours; upon response to the alarm, the system was restarted.
- May 26, 2014: loss of power alarm — The system was down for approximately 3.9 hours; upon response to the alarm, the system was restarted.
- June 7, 2014: loss of power alarm — The system was down for approximately 9.5 hours during a scheduled power outage for Building C; upon response to the alarm, the system was restarted.
- June 14, 2014: loss of power alarm — The system was down for approximately 13.3 hours; upon response to the alarm, the system was restarted.
- July 2, 2014: high water level alarm at MS-1 — The system was down for approximately 3.5 hours; upon response to the alarm, no water was found in the moisture separator and the system was restarted.
- July 26, 2014: high water level alarm at MS-1 — The system was down for approximately 1.4 hours; upon response to the alarm, no water was found in the moisture separator and the system was restarted.
- August 12, 2014: high water level alarm at MS-1 — The system was down for approximately 14 hours; upon response to the alarm, no water was found in the moisture separator and the system was restarted.
- September 1, 2014: high water level alarm at MS-1 — The system was down for approximately 73.6 hours; the alarm was triggered close to a scheduled system shutdown for the semi-annual sub-slab vapor sampling; therefore, the system remained off until the semi-annual sub-slab vapor sampling was completed. No water was found in the moisture separator and the system was restarted.

The high water level alarms at MS-1 were suspected to be due to an intermittent relay problem; a new relay was ordered and will be replaced if a false alarm reoccurs (the alarm has not occurred since September 1, 2014).

2.7.3 System Uptime

During this reporting period, the Building A SSD system was off for approximately 839 hours (3,529 hours uptime) and the Building C system was off for approximately 130 hours (4,238 hours uptime); this is equivalent to an 81% and 97% uptime for each system, respectively. The downtime calculations do not include the brief periods the systems were turned off for biweekly and quarterly system checks.

2.8 REMEDIATION SUMMARY

2.8.1 Building A System

Continuous operation of the SSD system in the Building A plating shop began on March 31, 2008; the SSD system was expanded to include the basement area to the west on October 22, 2010. Extraction laterals were installed to maximize vacuum influence for a total flow of approximately 140 SCFM. In the plating shop, flow from the northern lateral has been kept slightly higher than that flow from the southern lateral because of the former's greater length. In the basement, flow from the southern lateral had been kept slightly higher than that of the northern lateral, again due to its greater length, but was adjusted to 100% open on March 29, 2012 to maximize flow.

Since system start-up on March 31, 2008, total influent VOCs have decreased from 94,310 $\mu g/m^3$ to 5,522 $\mu g/m^3$, a 94% reduction in influent concentrations. The two main chemicals of concern at Building A are 1,1,1-trichloroethane and trichloroethene (see Table 1). No changes in influent concentrations were apparent after the addition of the basement laterals in 2010. VOC trends for the Building A system are shown in Tables 1 through 3 and on Figure 12.

VOC mass removal rates for the Building A system during this reporting period ranged from 0.011 pounds per day (lbs/day) to 0.157 lbs/day (based on influent concentrations). The total VOC mass removed from Building A during this reporting period was approximately 14.7 pounds; total removal since system start-up (March 2008) is approximately 123 pounds. VOC mass removal rates in Building A are far lower than the levels requiring Maryland Department of Environment (MDE) permitting (20 lbs/day for VOCs).

2.8.2 Building C System

Continuous operation of the SSD system in the Building C south basement area began on March 31, 2008; the system was expanded in the mid-basement area of the building in May 2013. Extraction wells were set at locations that maximize vacuum influence (based on pilot tests), at a total flow of approximately 170 SCFM. SSD-23-C (in the southern basement area) was shut off after the expansion to promote higher flow rates from the new mid-basement-area extraction wells. Vacuum influence in the southern basement has been maintained with only SSD-21-C operating, and flow rates and vacuum influence have been increasing at the mid-basement points since expansion startup. On November 7, 2013, SSD-27-C and SSD-32-C were closed to approximately 15% and 30%, respectively, to promote higher flow rates at the other extraction wells in the mid-basement area.

From system start-up on March 31, 2008 to April 8, 2013, and before the system expansion, total influent VOCs decreased from 31,170 $\mu g/m^3$ to 117 $\mu g/m^3$, a 99.6% reduction in influent concentrations. Two chemicals of concern, trichloroethene and cis-1,2-dichloroethene, comprised approximately 44-50%, and 29-38% of total influent VOCs, respectively. Following startup of the expansion in May 2013, influent VOCs increased to 3,100 $\mu g/m^3$. They have since decreased to approximately 270 $\mu g/m^3$, a 91% reduction in influent concentrations (as compared to the March 31, 2008 startup). Trichloroethene was the chemical of concern with the highest concentrations (see Table 4) during this reporting period. VOC trends for the Building C system are shown in Tables 4 through 6 and on Figure 13.

VOC mass removal rates in Building C ranged from 0.127 pounds per month (lbs/month) to 0.317 lbs/month during this reporting period. The total VOC mass removed in Building C during this reporting period was approximately 1.28 pounds; total removal since system startup in March 2008 is 9.31 pounds. The VOC mass removal for Building C is far lower than levels requiring MDE permitting (20 lbs/day for VOCs, 20 pounds per year for vinyl chloride).

Section 3
Conclusions and Recommendations

3.1 SYSTEM PERFORMANCE

Induced vacuum levels over time indicate the sub-slab depressurization systems are performing as designed except for some concern in the northern portion of the Building C basement. Extraction laterals in the Building A plating shop induce a vacuum influence over an approximate 5,600-square foot area which encompasses all vapor monitoring points with elevated volatile organic compound concentrations before system startup. The extraction laterals in the Building A basement induce a vacuum influence over an approximate 2,400-square foot area which encompasses three of four vapor monitoring points installed to measure the system-induced vacuum in the basement (Figure 9). The extraction wells in the Building C south basement area induce a vacuum influence over an approximate 3,900-square foot area, with five of seven vapor monitoring points showing influence (Figure 10). The extraction wells in the Building C mid-basement area induce a vacuum influence over an approximate 30,400-square foot area, with 14 of 21 vapor monitoring points showing influence (Figure 11).

The sub-slab depressurization systems have removed volatile organic compound mass, and have treated emissions with granular activated-carbon (both buildings) and potassium permanganate zeolite (Building C only). Twenty-three 200-pound and six 400-pound granular activated-carbon drums have been used in Building A during the lifespan of system operation. Seventeen 200-pound and two 400-pound granular activated-carbon drums have been used in Building C; the 600-pound potassium permanganate zeolite drum has not been changed out since its installation in April 2013. These counts do not include the two granular activated-carbon drums currently attached to each system, or the potassium permanganate zeolite drum currently attached to the Building C system. The Building A system has used approximately 57 pounds of granular activated-carbon per pound of volatiles removed, and the Building C system has used

approximately 451 pounds of granular activated-carbon per pound of volatiles removed. Note that granular activated-carbon removal efficiency is reduced as vapor concentrations decrease. Although influent volatile organic compound concentrations for both systems have decreased significantly since system startup on March 31, 2008, fluctuations have occurred over time (see Figures 12 and 13).

3.2 CONTINUED MONITORING

The Building A and Building C systems will continue to operate in the next quarter (27th quarter, from October 1, 2014 to December 31, 2014) to maintain the vapor migration barrier. Operation, maintenance, and monitoring activities conducted during the next quarter will include biweekly monitoring, monthly vapor sampling, quarterly system checks, and system maintenance. Granular activated-carbon change-outs will occur when the sample collected at the mid-point of the granular activated-carbon drum reaches 50% of the influent reading, or as determined based on change-out history and trends. Potassium permanganate zeolite change-outs are not anticipated for the next quarter. The next remedial action progress report will be completed in January 2015.

Section 4
References

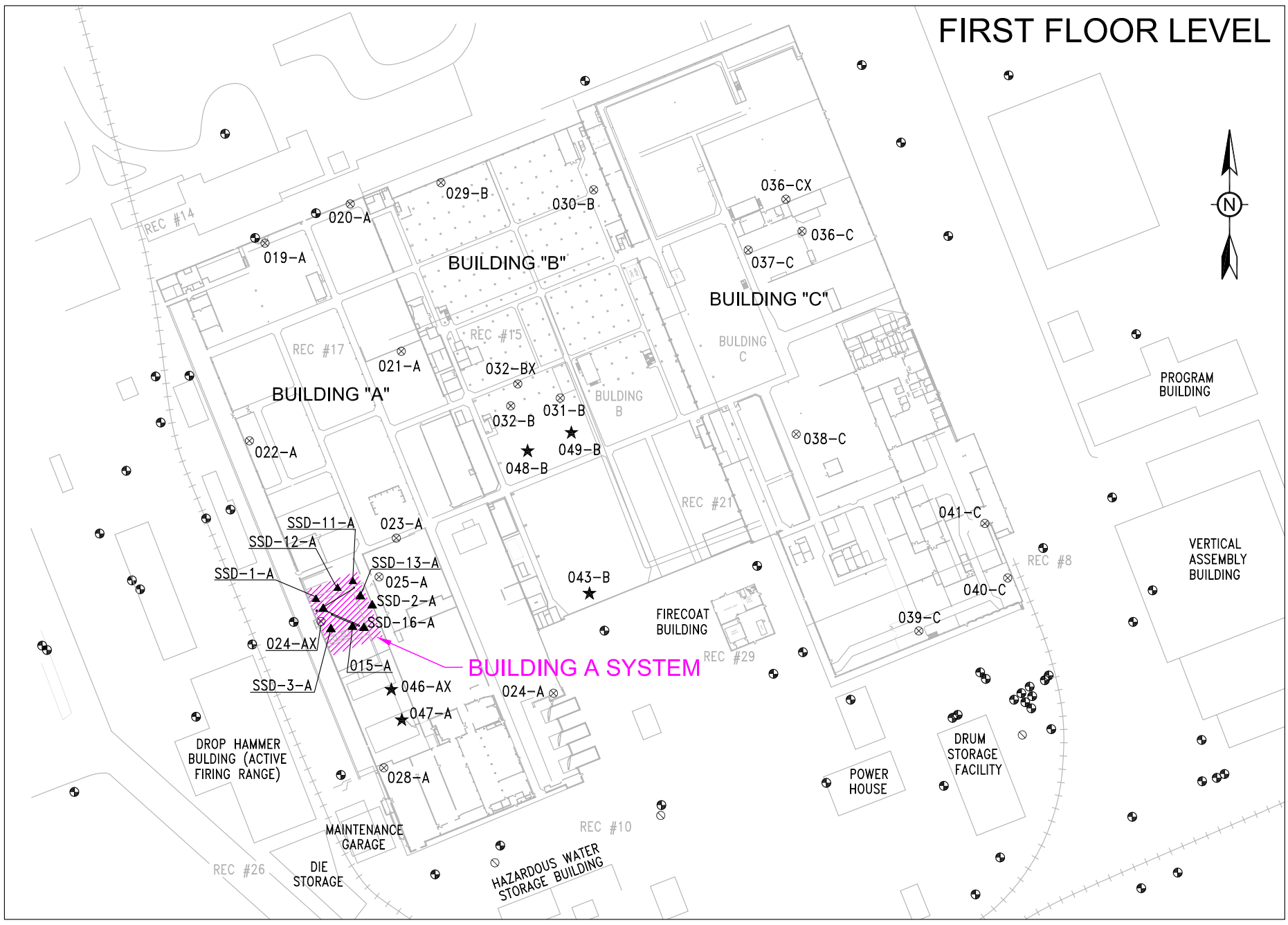
1. CDM Smith, 2014. Email communication between M. Bogosh (CDM Smith) and S. Brenner (Tetra Tech) regarding revised operation and maintenance manuals for the sub slab depressurization systems at Buildings A and C, Middle River Complex, Middle river, Maryland. September 16, 2014.

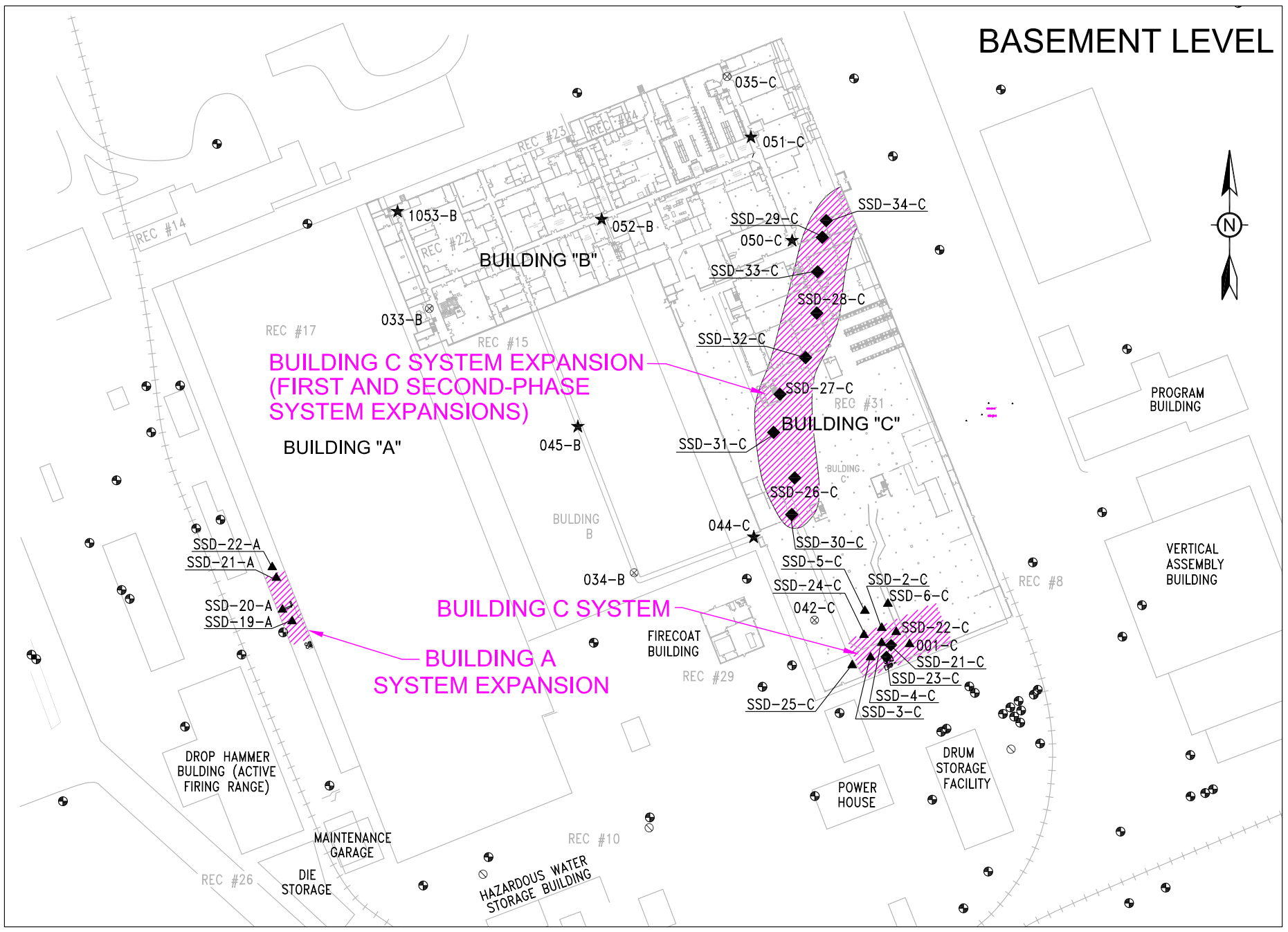
2. Tetra Tech, Inc. (Tetra Tech), 2014a. *Operation And Maintenance Manual: Sub Slab Depressurization System—Building A, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland*. August.

3. Tetra Tech, Inc. (Tetra Tech), 2014b. *Operation and Maintenance Manual: Sub Slab Depressurization System—Building C, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland*. August.

FIGURES

P:\ACAD\0507-599-MRIV\0507599016A.DWG





LEEND

- GROUNDWATER MONITORING WELL
- SUBSLAB VAPOR MONITORING WELL
- TARGET OF OPPORTUNITY
- INDOOR AIR SAMPLE
- ABANDONED WELL BORING
- SUBSLAB VAPOR EXTRACTION WELL

SSD SUBSLAB DEPRESSURIZATION

GENERAL AREA OF SSD SYSTEM

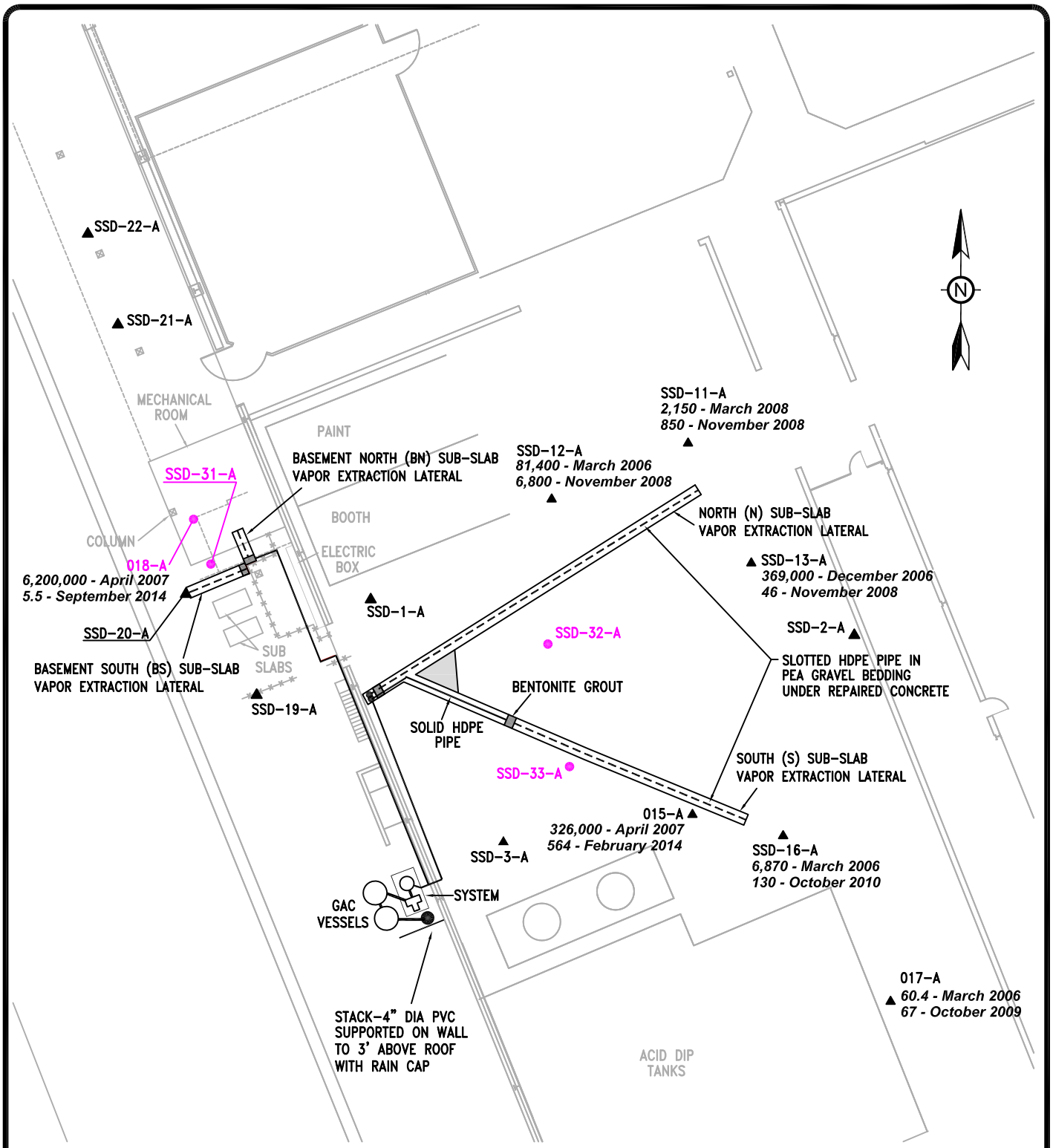
0 200 400

SCALE IN FEET

TITLE:	SSD SYSTEM LOCATIONS
LOCATION:	Middle River, Maryland

TETRA TECH

APPROVED	PR	FIGURE
DRAFTED	CP	1
PROJECT#	117-0507599	
DATE	9-19-14	



LEGEND

- GROUNDWATER MONITORING WELL
- SUB-SLAB VAPOR MONITORING POINT
- SUB-SLAB VAPOR EXTRACTION POINT (USED IN PILOT TEST ONLY)
- 326,000 — HIGHEST TCE CONCENTRATION ($\mu g/mg^3$) PRE-SSD SYSTEM AND MOST RECENT CONCENTRATION POST-SSD SYSTEM OPERATION
- SUB-SLAB VAPOR EXTRACTION TRENCH

TITLE: **BUILDING A SSD SYSTEM LAYOUT**

LOCATION: **Middle River, Maryland**

TETRA TECH

APPROVED	PR	FIGURE
DRAFTED	CP	2
PROJECT#	117-0507599	
DATE	10-2-14	

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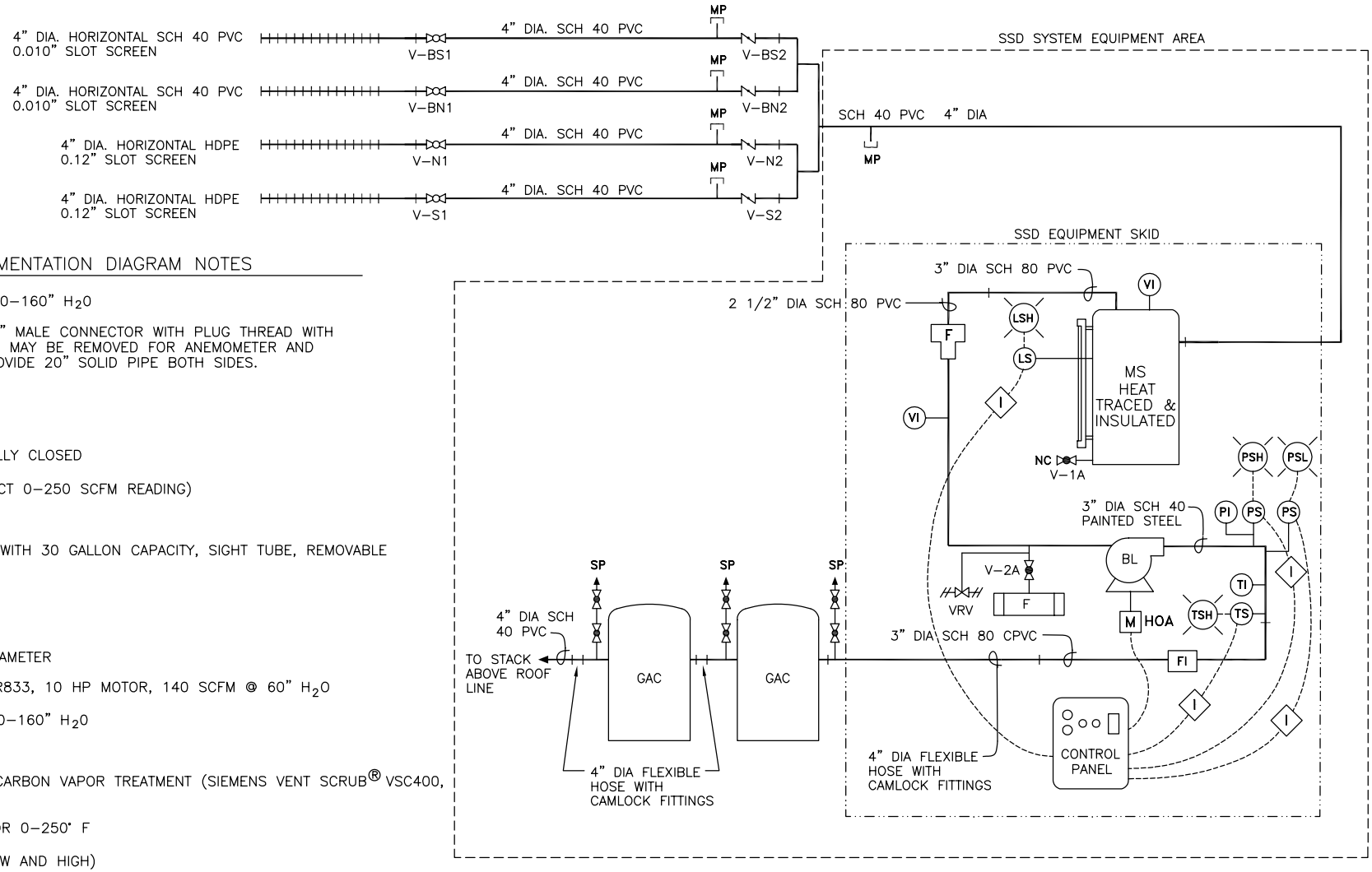

PROCESS AND INSTRUMENTATION DIAGRAM NOTES

VI	VACUUM INDICATOR – 0–160" H_2O
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	AMETEK®, 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® VSC400, VOCARB® 48C)
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
SSD	SUB–SLAB DEPRESSUIZATION

TITLE: **BUILDING A SSD SYSTEM PROCESS AND INSTRUMENTATION DIAGRAM**

LOCATION: **Middle River, Maryland**

TETRA TECH

APPROVED	PR	FIGURE
DRAFTED	CP	3
PROJECT#	117–0507599	
DATE	9–8–14	

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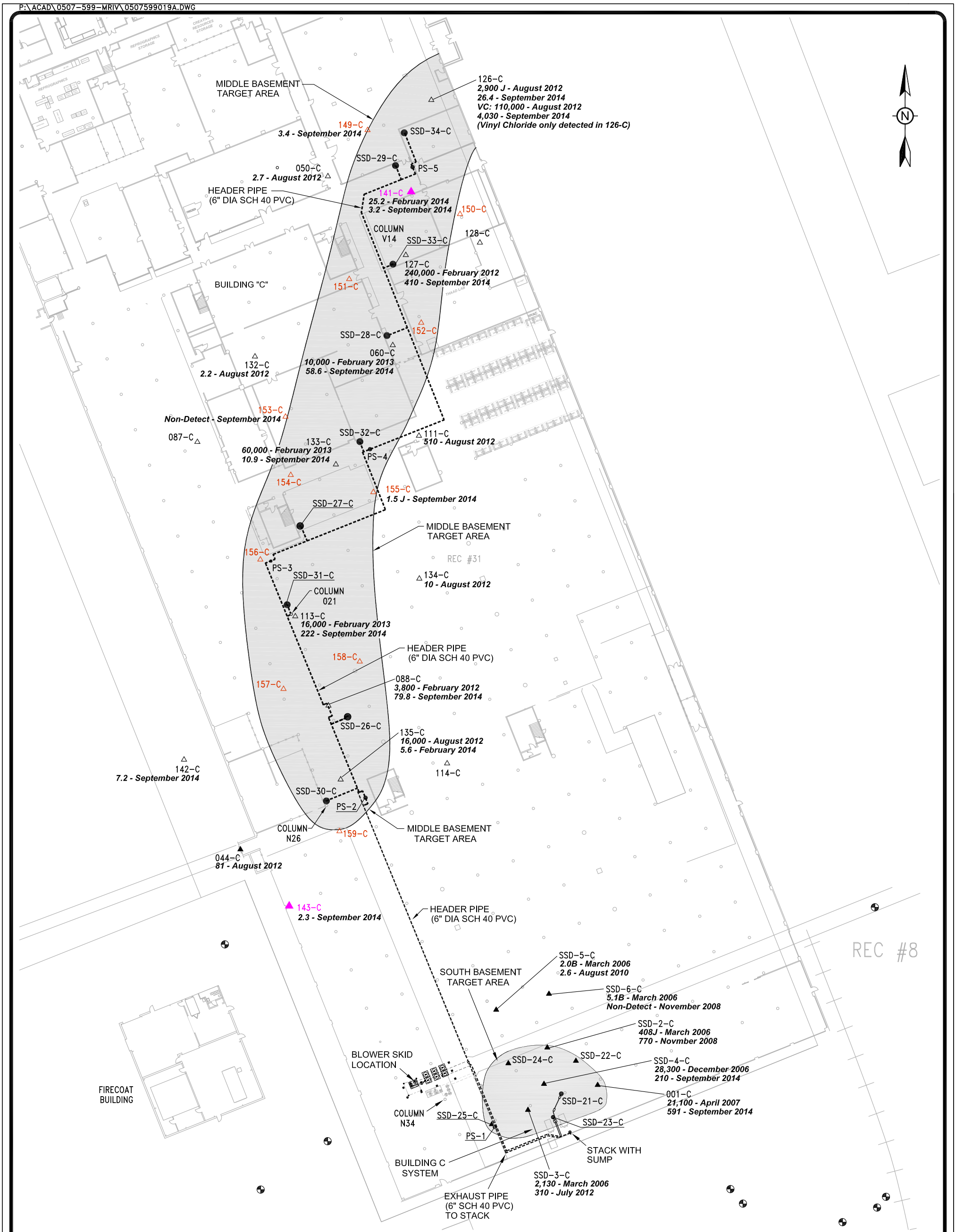

LEGEND

- GROUNDWATER MONITORING WELL
- SUB-SLAB VAPOR MONITORING POINT
- SUB-SLAB VAPOR MONITORING POINT INSTALLED JANUARY 2010
- SUB-SLAB VAPOR MONITORING POINT INSTALLED FEBRUARY 2013
- SUB-SLAB VAPOR MONITORING POINT INSTALLED AUGUST 2014
- SUB-SLAB VAPOR EXTRACTION WELLS
- SUMP

21,100	HIGHEST TCE CONCENTRATION ($\mu g/m^3$) PRE-SSD SYSTEM AND MOST RECENT TCE CONCENTRATION POST-SSD SYSTEM OPERATION
----	HEADER PIPE (2", 3" OR 6" DIA. SCH 40)
SSD	SUB-SLAB DEPRESSURIZATION
J	ESTIMATED CONCENTRATION
B	DETECTED IN LAB BLANK
VC	VINYL CHLORIDE

TITLE: **BUILDING C SSD SYSTEM LAYOUT**

LOCATION: **Middle River, Maryland**

TETRA TECH

APPROVED	PR	FIGURE
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PROJECT#	117-0507599	
DATE	10-28-14	

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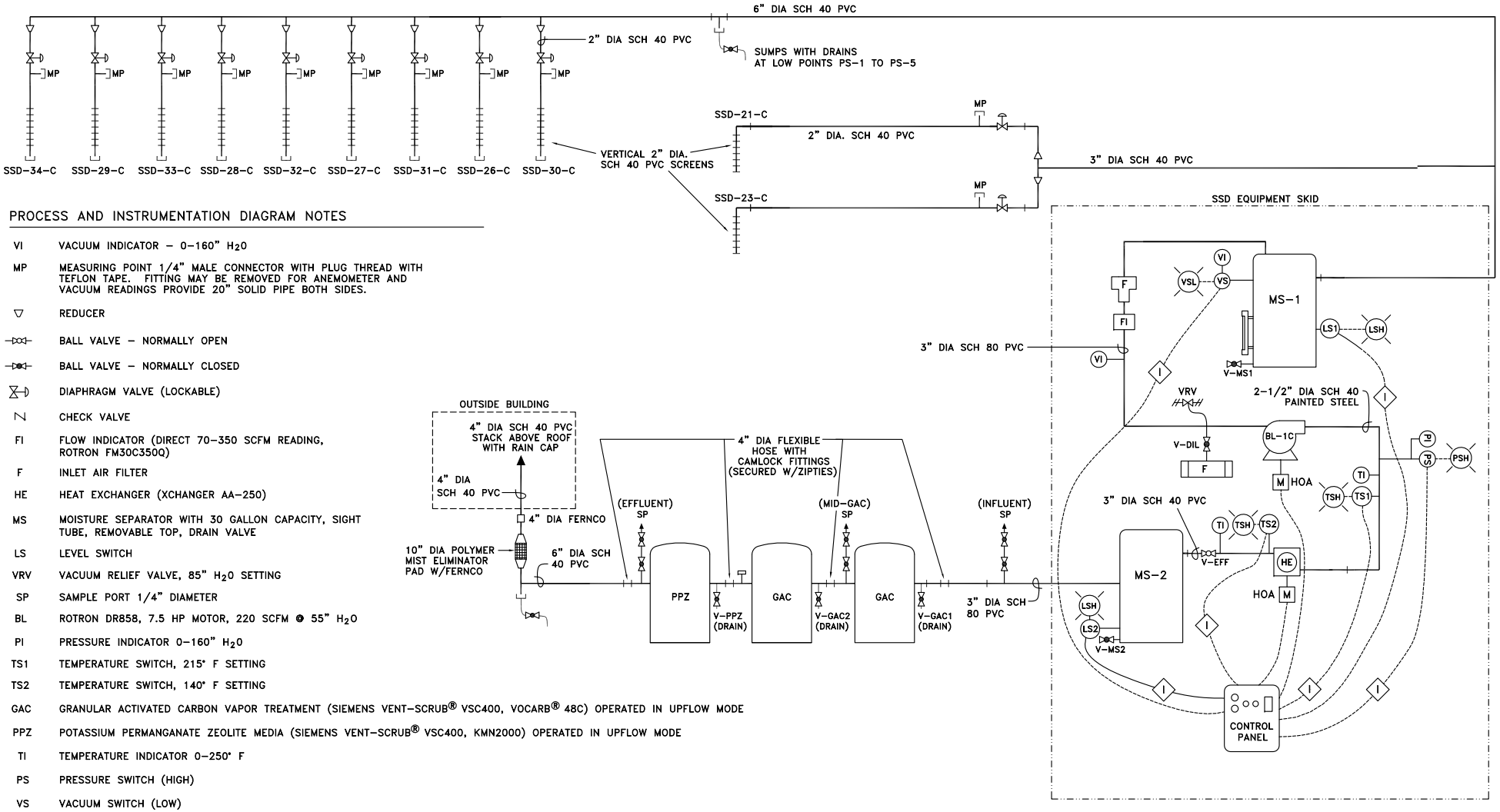


PROCESS AND INSTRUMENTATION DIAGRAM NOTES

VI	VACUUM INDICATOR – 0–160" H_2O
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.
▽	REDUCER
—⋈—	BALL VALVE – NORMALLY OPEN
—⋈—	BALL VALVE – NORMALLY CLOSED
⋈	DIAPHRAGM VALVE (LOCKABLE)
⋈	CHECK VALVE
FI	FLOW INDICATOR (DIRECT 70–350 SCFM READING, ROTRON FM30C350Q)
F	INLET AIR FILTER
HE	HEAT EXCHANGER (XCHANGER AA-250)
MS	MOISTURE SEPARATOR WITH 30 GALLON CAPACITY, SIGHT TUBE, REMOVABLE TOP, DRAIN VALVE
LS	LEVEL SWITCH
VRV	VACUUM RELIEF VALVE, 85" H_2O SETTING
SP	SAMPLE PORT 1/4" DIAMETER
BL	ROTRON DR858, 7.5 HP MOTOR, 220 SCFM @ 55" H_2O
PI	PRESSURE INDICATOR 0–160" H_2O
TS1	TEMPERATURE SWITCH, 215° F SETTING
TS2	TEMPERATURE SWITCH, 140° F SETTING
GAC	GRANULAR ACTIVATED CARBON VAPOR TREATMENT (SIEMENS VENT-SCRUB® VSC400, VOCARB® 48C) OPERATED IN UPFLOW MODE
PPZ	POTASSIUM PERMANGANATE ZEOLITE MEDIA (SIEMENS VENT-SCRUB® VSC400, KMN2000) OPERATED IN UPFLOW MODE
TI	TEMPERATURE INDICATOR 0–250° F
PS	PRESSURE SWITCH (HIGH)
VS	VACUUM SWITCH (LOW)
V-MS1	PROCESS VALVE LABELS
HOA	PANEL MOUNTED HAND/OFF/AUTO SWITCH
◇ I	INTERLOCK BLOWER SHUTDOWN
○	LOCALLY MOUNTED INSTRUMENT
⊗	PANEL ALARM LIGHT
H	HIGH
L	LOW
M	MOTOR
T	TAP PLUG
SSD	SUB-SLAB DEPRESSURIZATION

TITLE:

BUILDING C SSD SYSTEM PROCESS AND INSTRUMENTATION DIAGRAM

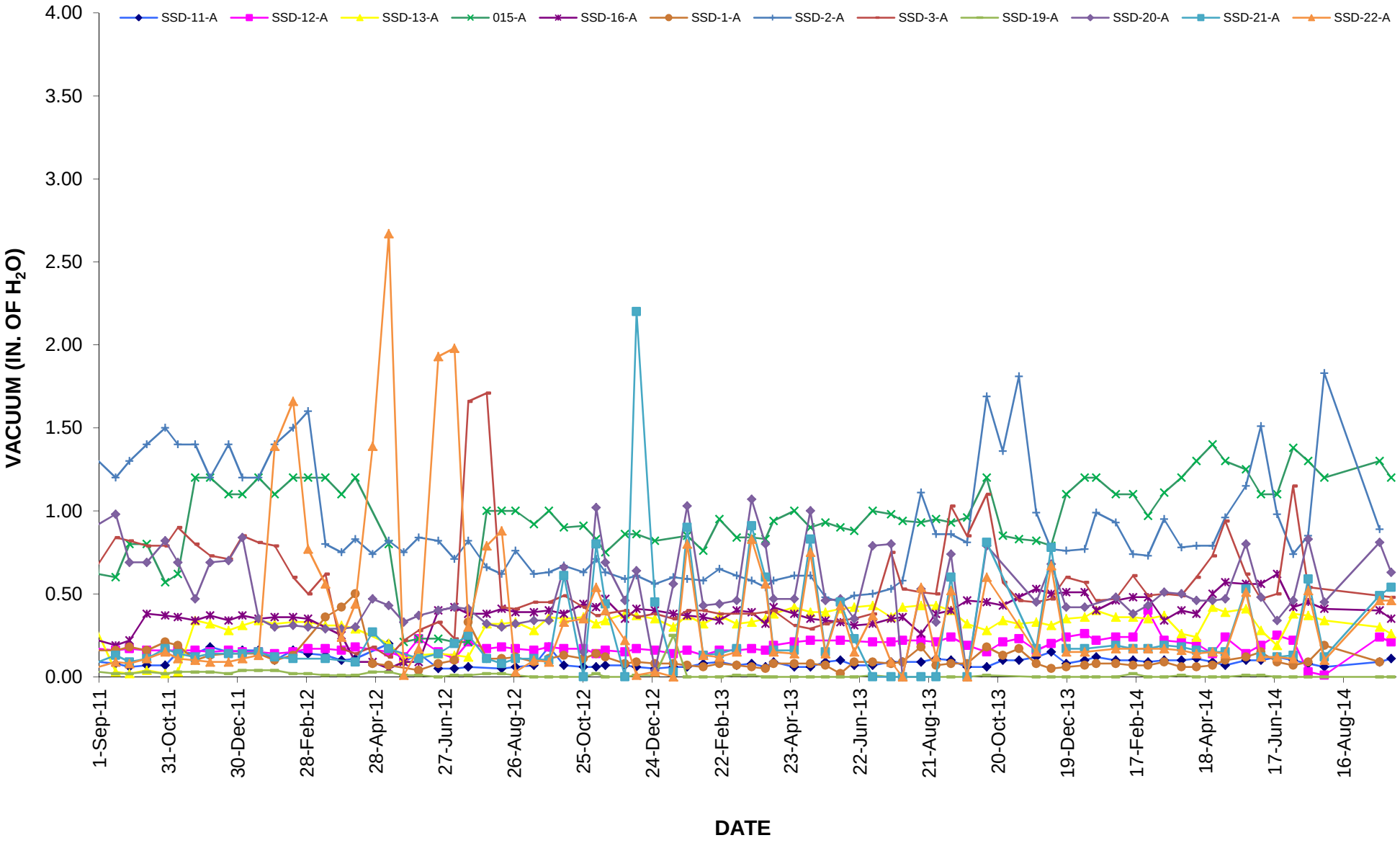
LOCATION:

Middle River, Maryland

TETRA TECH

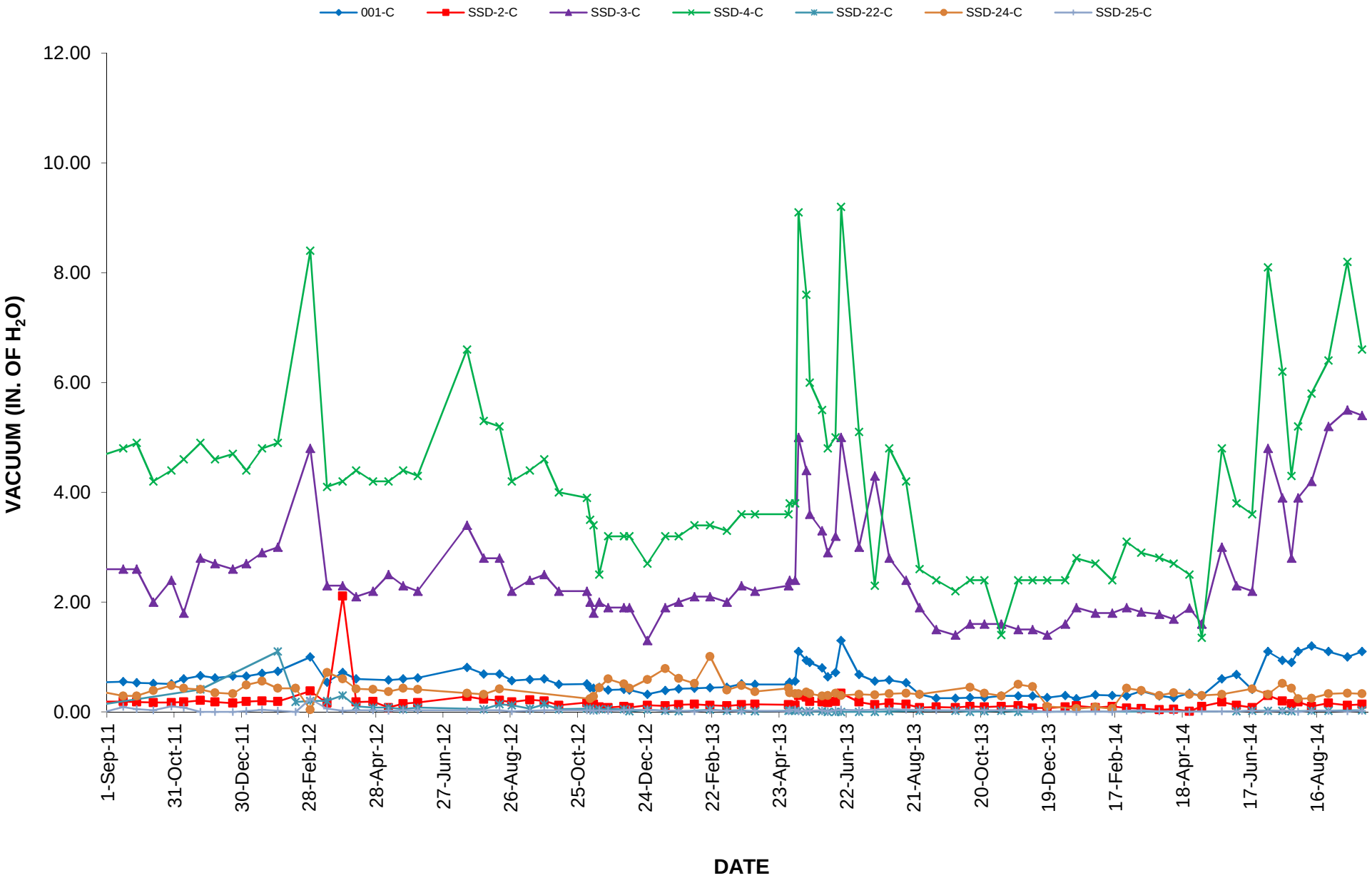
APPROVED	PR	FIGURE
DRAFTED	CP	5
PROJECT#	117-0507533	
DATE	9-8-14	

FIGURE 6
INDUCED VACUUM
SEPTEMBER 2011 TO SEPTEMBER 2014
BUILDING A SSD SYSTEM



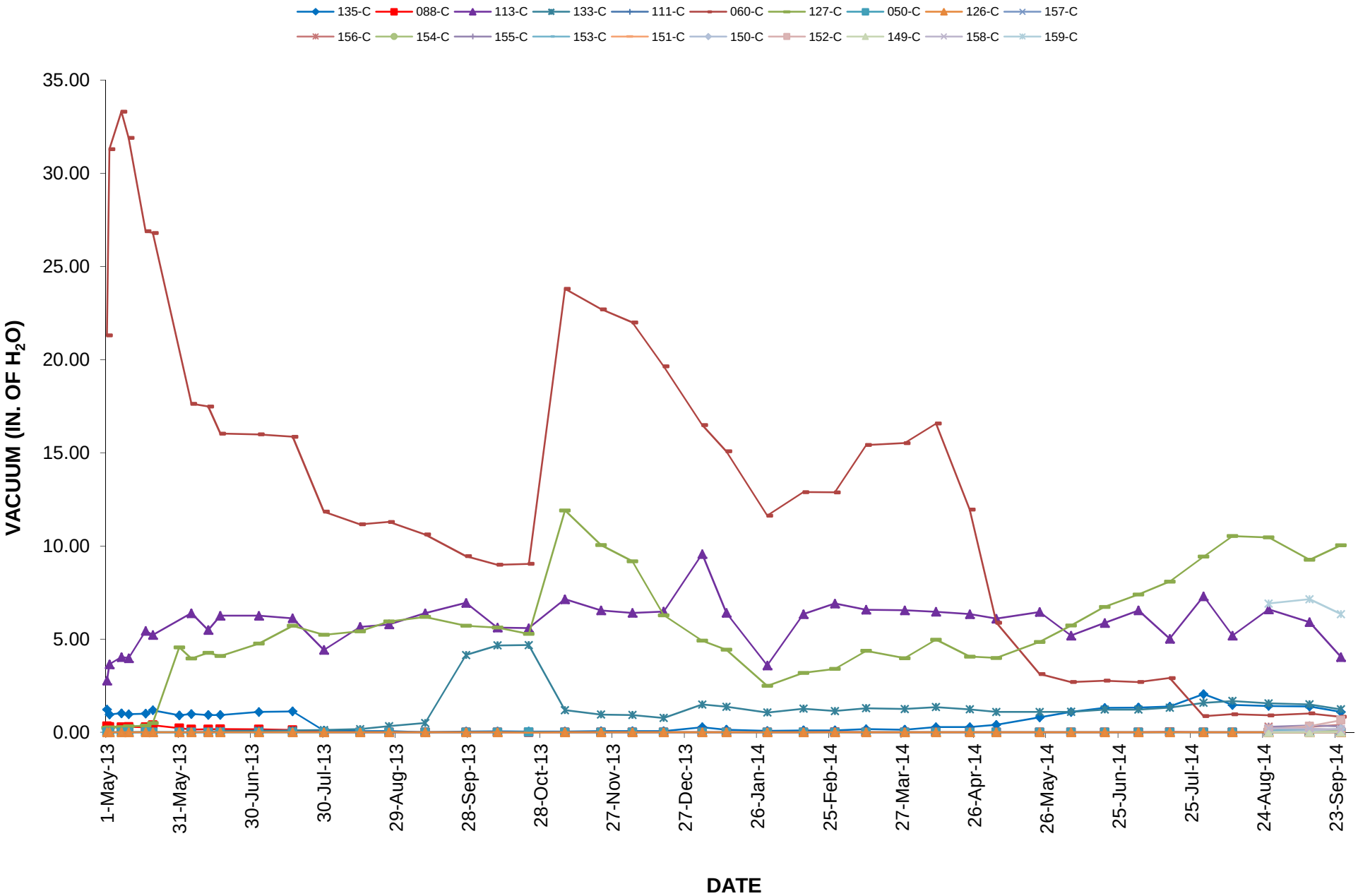
All vacuum readings are instantaneous readings collected during the bi-weekly system checks.
Only the past three years of vacuum data are depicted above.

FIGURE 7
INDUCED VACUUM
SEPTEMBER 2011 TO SEPTEMBER 2014
BUILDING C SSD SYSTEM - SOUTH-BASEMENT AREA

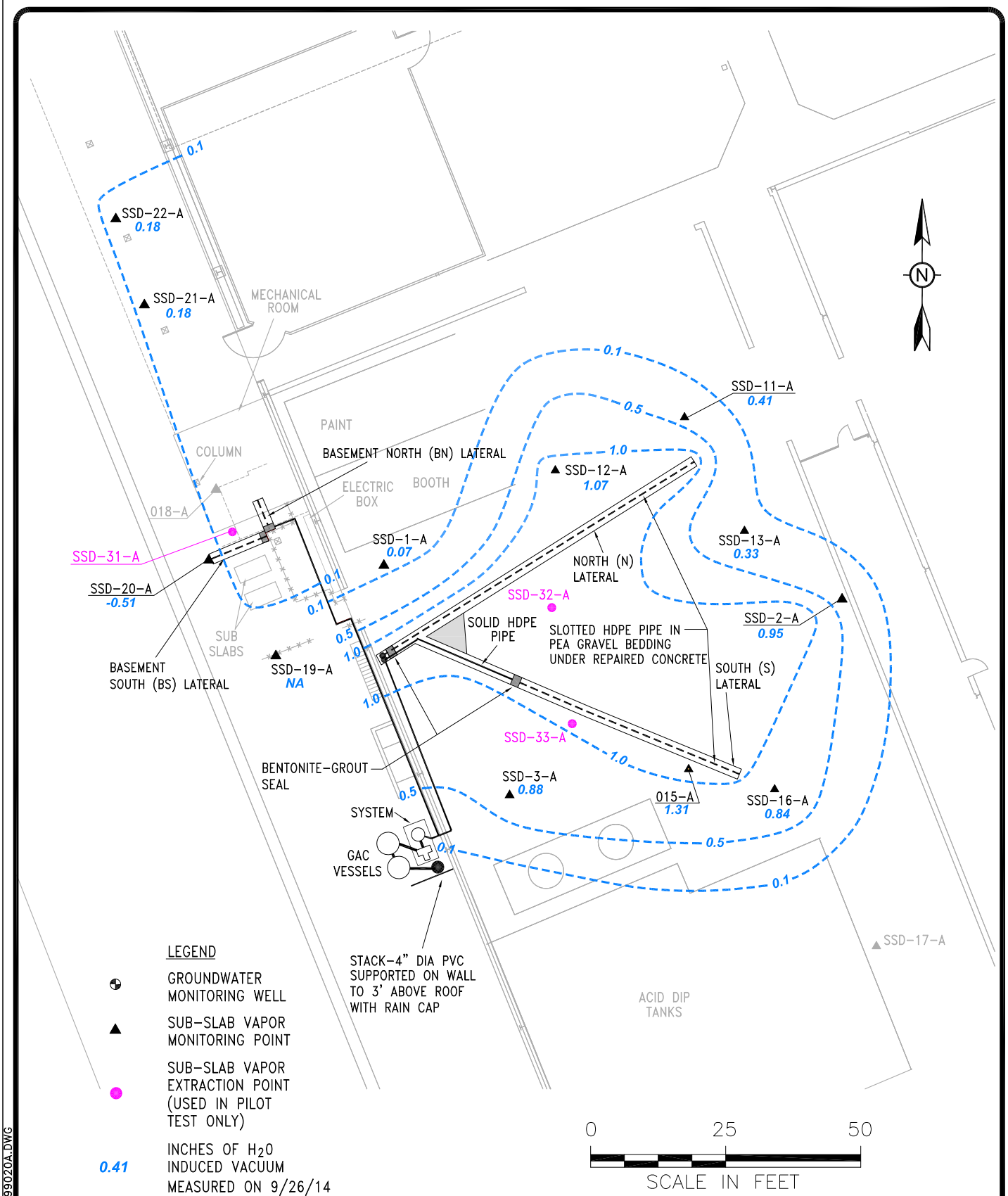


All vacuum readings are instantaneous readings collected during the bi-weekly system checks.
Only the past three years of vacuum data are depicted above.

FIGURE 8
INDUCED VACUUM
BUILDING C SSD SYSTEM - MID-BASEMENT AREA



All vacuum readings are instantaneous readings collected during the bi-weekly system checks.
Sub-slab vapor monitoring points routinely monitored beginning May 1, 2013 following second-phase system expansion in the middle basement area of Building C.



LEGEND

- GROUNDWATER MONITORING WELL
- SUB-SLAB VAPOR MONITORING POINT
- SUB-SLAB VAPOR EXTRACTION POINT (USED IN PILOT TEST ONLY)
- 0.41 — INCHES OF H_2O INDUCED VACUUM MEASURED ON 9/26/14
- EQUAL VACUUM INFLUENCE
- INFERRED EQUAL VACUUM INFLUENCE
- VAPOR EXTRACTION TRENCH
- SSD — SUB-SLAB DPRESSURIZATION
- GAC — GRANULAR ACTIVATED CARBON

TITLE: **INFLUENCE OF SSD LATERALS BUILDING A PLATING SHOP & BASEMENT**

LOCATION: **Middle River, Maryland**

TETRA TECH

APPROVED	PR	FIGURE
DRAFTED	CP	9
PROJECT#	117-0507599	
DATE	10-9-14	

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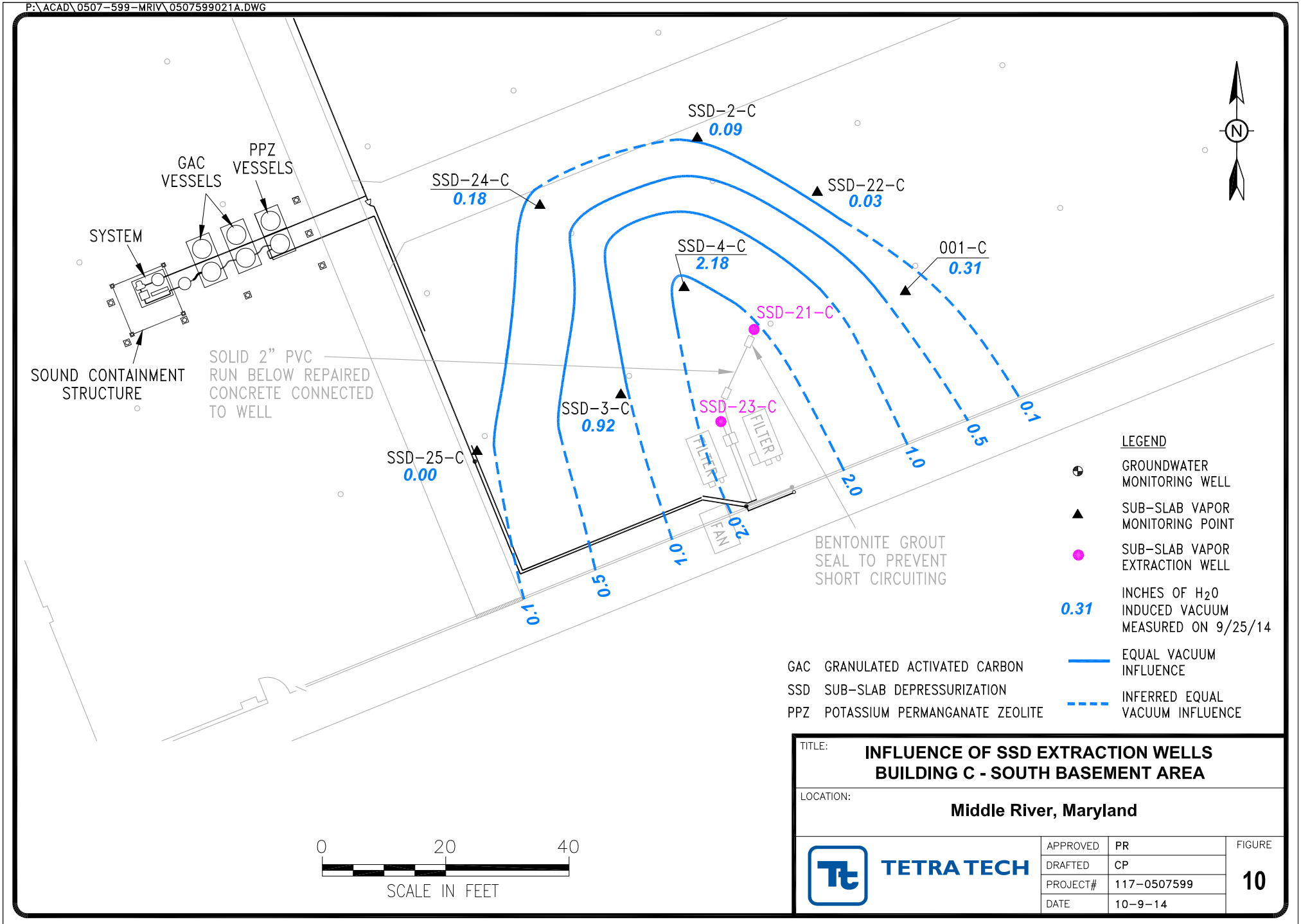

TITLE: **INFLUENCE OF SSD EXTRACTION WELLS BUILDING C - SOUTH BASEMENT AREA**

LOCATION: **Middle River, Maryland**

TETRA TECH

APPROVED	PR	FIGURE
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PROJECT#	117-0507599	
DATE	10-9-14	

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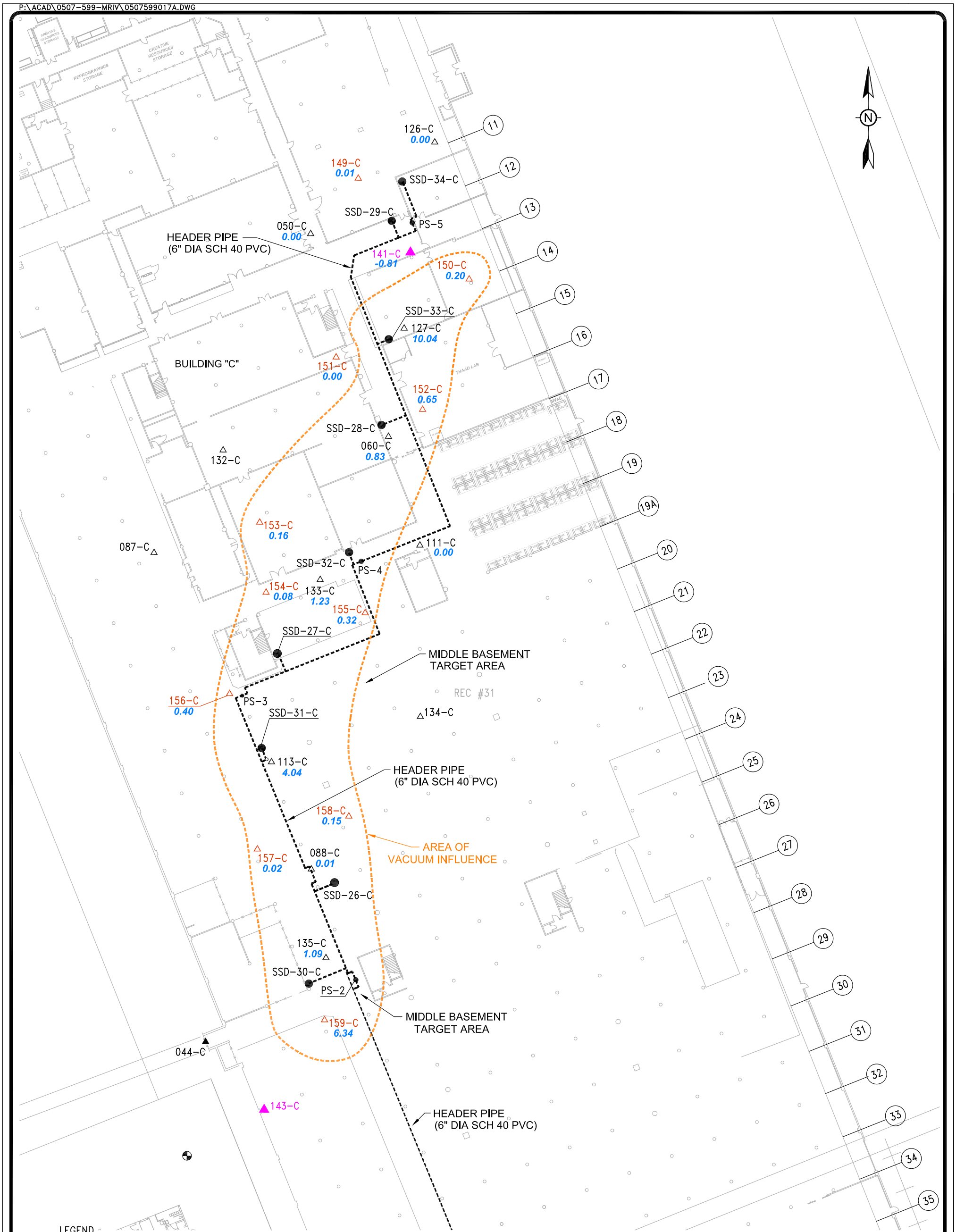


LEGEND

- GROUNDWATER MONITORING WELL
- SUB-SLAB VAPOR MONITORING POINT
- SUB-SLAB VAPOR MONITORING POINT INSTALLED JANUARY 2010
- SUB-SLAB VAPOR MONITORING POINT INSTALLED FEBRUARY 2013
- SUB-SLAB VAPOR MONITORING POINT INSTALLED AUGUST 2014
- SUB-SLAB VAPOR EXTRACTION WELLS
- SUMP

- AREA OF VACUUM INFLUENCE
- HEADER PIPE (2", 3" OR 6" DIA. SCH 40)
- SSD SUB-SLAB DEPRESSURIZATION
- 6.34 INCHES OF H_2O INDUCED VACUUM MEASURED ON 9/25/14

0 50 100
SCALE IN FEET

TITLE: **INFLUENCE OF SSD EXTRACTION WELLS BUILDING C MID-BASEMENT AREA**

LOCATION: **Middle River, Maryland**

TETRA TECH

APPROVED	PR	FIGURE
DRAFTED	CP	11
PROJECT#	117-0507599	
DATE	10-28-14	

FIGURE 12
BUILDING A SSD SYSTEM
INFLUENT VOC CONCENTRATIONS

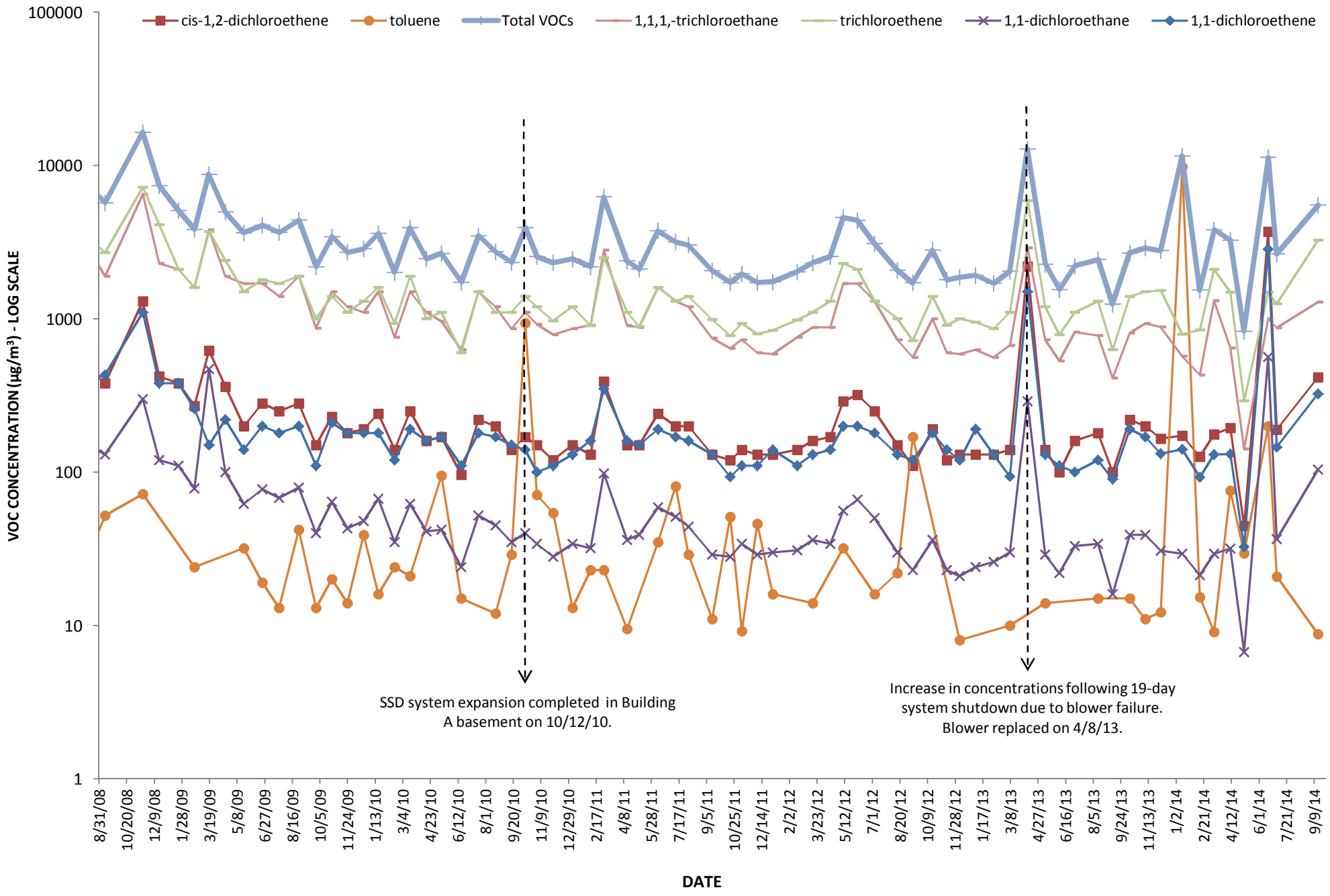
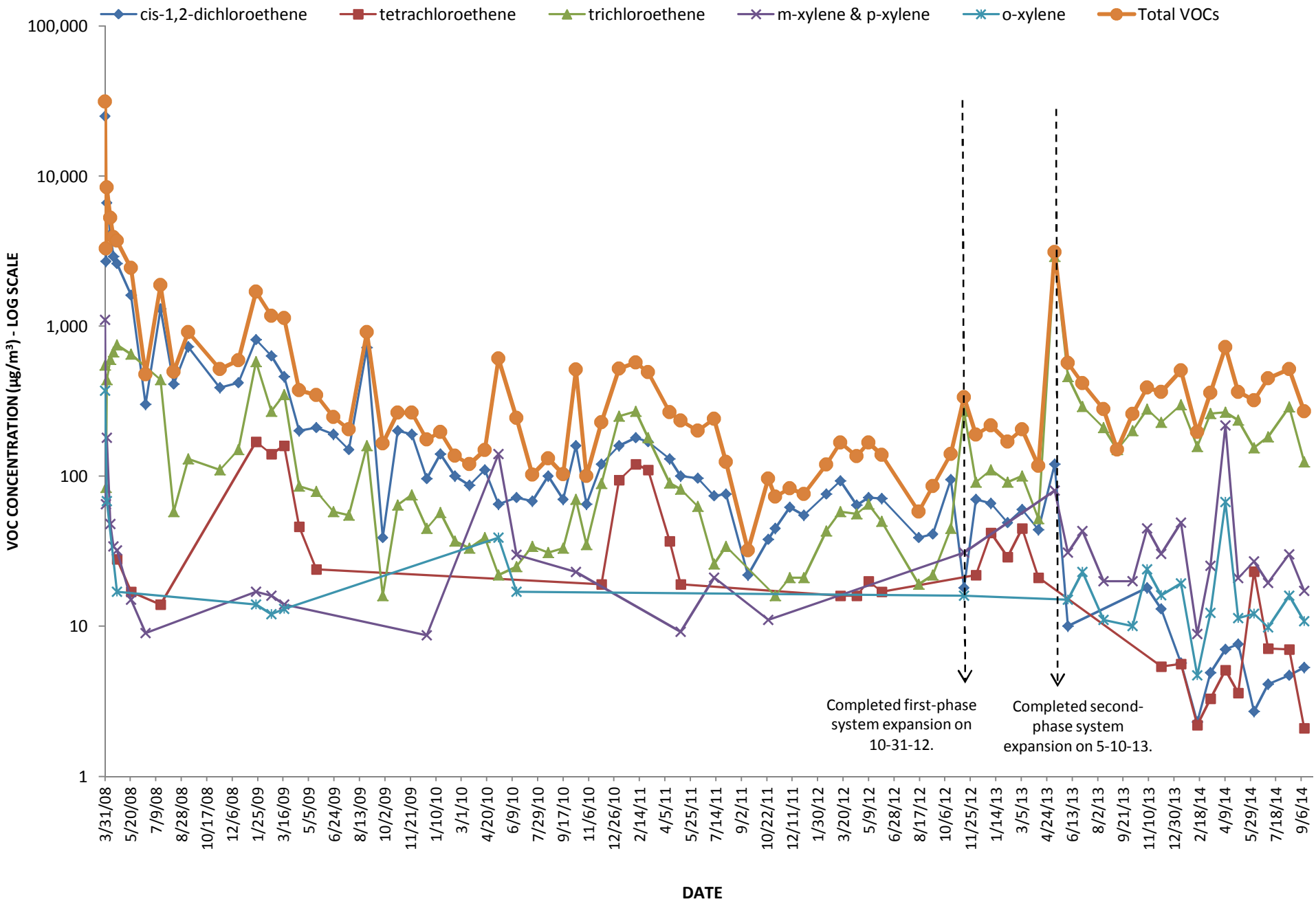


FIGURE 13
BUILDING C SSD SYSTEM
INFLUENT VOC CONCENTRATIONS



TABLES

TABLE 1

Building A Influent Concentrations (µg/m^3)

LABORATORY DATA SUMMARY

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	FLOW (scfm)	benzene	carbon tetrachloride	chlorodifluoromethane	chloroform	dichlorodifluoromethane	1,1-dichloroethane	1,2-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	naphthalene	tetrachloroethene	toluene	1,1,1,-trichloroethane	trichloroethene	trichlorofluoromethane	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs	Mass (lbs/day)	Mass (lbs removed in period)
3/31/2008	NA	ND	ND	N/A	ND	ND	2,100	ND	7,900	8,300	ND	300	ND	ND	ND	330	30,000	44,000	ND	ND	ND	ND	ND	1,100	280	94,310	1.190	3.570
4/2/2008	140	ND	ND	N/A	ND	ND	660	ND	4,500	3,800	ND	ND	ND	ND	ND	ND	16,000	34,000	ND	ND	ND	ND	ND	ND	ND	58,960	0.740	1.480
4/4/2008	140	ND	ND	N/A	ND	ND	460	ND	3,300	2,300	ND	ND	ND	ND	ND	ND	13,000	30,000	ND	ND	ND	ND	ND	ND	ND	49,060	0.620	4.340
4/11/2008	140	ND	ND	N/A	ND	ND	280	ND	1,500	1,100	ND	ND	ND	ND	ND	120	9,100	14,000	ND	ND	ND	ND	ND	ND	ND	26,100	0.330	1.980
4/17/2008	112	ND	ND	N/A	ND	ND	480	ND	2,200	2,000	ND	ND	ND	ND	ND	120	11,000	18,000	ND	ND	ND	ND	ND	110	ND	33,910	0.340	2.380
4/24/2008	84	ND	ND	N/A	ND	ND	260	ND	1,200	930	ND	ND	ND	ND	ND	86	6,500	8,600	ND	ND	ND	ND	ND	ND	ND	17,576	0.130	3.510
5/21/2008	84	ND	ND	N/A	ND	ND	320	ND	950	1,000	ND	ND	ND	ND	ND	ND	6,000	5,500	ND	ND	ND	ND	ND	ND	ND	13,770	0.100	3.100
6/19/2008	70	180	ND	N/A	ND	ND	180	ND	760	720	ND	ND	ND	ND	ND	ND	4,800	7,100	ND	ND	ND	ND	ND	ND	ND	13,740	0.090	2.700
7/18/2008	84	ND	ND	N/A	ND	ND	110	ND	430	350	ND	ND	ND	ND	ND	ND	3,200	3,700	ND	ND	ND	ND	ND	ND	ND	7,790	0.060	1.860
8/12/2008	56	ND	ND	N/A	ND	ND	150	ND	400	470	ND	ND	ND	ND	ND	28	2,900	3,400	ND	ND	ND	ND	ND	ND	ND	7,348	0.040	1.240
9/11/2008	80	ND	ND	N/A	ND	ND	130	ND	430	380	ND	ND	17	ND	70	52	1,900	2,700	32	ND	ND	ND	ND	ND	ND	5,711	0.040	2.440
11/18/2008	84	ND	ND	N/A	ND	ND	300	ND	1,100	1,300	ND	ND	ND	ND	ND	72	6,500	7,200	ND	ND	ND	ND	ND	ND	ND	16,472	0.105	3.142
12/18/2008	84	ND	ND	N/A	ND	ND	120	ND	380	420	ND	ND	ND	ND	ND	ND	2,300	4,100	ND	ND	ND	ND	ND	53	ND	7,373	0.056	1.724
1/22/2009	84	ND	ND	N/A	ND	ND	110	ND	380	380	ND	ND	ND	ND	ND	ND	2,100	2,100	ND	ND	ND	ND	ND	ND	ND	5,070	0.038	1.185
2/20/2009	84	ND	ND	N/A	ND	ND	78	ND	260	270	ND	ND	ND	ND	ND	24	1,600	1,600	ND	ND	ND	ND	ND	ND	ND	3,832	0.029	0.809
3/18/2009	28	ND	ND	N/A	ND	ND	470	ND	150	620	ND	ND	ND	ND	ND	ND	3,800	3,700	ND	ND	ND	ND	ND	ND	ND	8,740	0.063	1.946
4/17/2009	56	ND	ND	N/A	ND	ND	100	ND	220	360	ND	ND	ND	ND	ND	ND	1,900	2,400	ND	ND	ND	ND	ND	ND	ND	4,980	0.056	1.677
5/20/2009	NA	ND	ND	N/A	ND	ND	62	ND	140	200	ND	ND	ND	ND	ND	32	1,700	1,500	ND	ND	ND	ND	ND	ND	ND	3,634	0.041	1.264
6/23/2009	134	ND	ND	N/A	ND	ND	77	ND	200	280	ND	ND	ND	ND	ND	19	1,700	1,800	ND	ND	ND	ND	ND	ND	ND	4,076	0.049	1.471
7/23/2009	129	ND	ND	N/A	ND	ND	68	ND	180	250	ND	ND	27	ND	ND	13	1,400	1,700	14	ND	ND	ND	ND	ND	ND	3,652	0.044	1.352
8/28/2009	NA	ND	ND	N/A	ND	ND	79	ND	200	280	ND	ND	ND	ND	ND	42	1,900	1,900	ND	ND	ND	ND	ND	ND	ND	4,401	0.051	1.568
9/28/2009	125	ND	ND	N/A	ND	ND	40	ND	110	150	ND	ND	ND	ND	ND	13	870	1,000	ND	ND	ND	ND	ND	ND	ND	2,183	0.025	0.735
10/27/2009	NA	ND	ND	N/A	ND	ND	64	ND	210	230	ND	ND	ND	ND	ND	20	1,500	1,400	ND	ND	ND	ND	ND	9.7	ND	3,434	0.026	0.803
11/24/2009	130	ND	ND	N/A	ND	ND	43	ND	180	180	ND	ND	ND	ND	ND	14	1,200	1,100	ND	ND	ND	ND	ND	ND	ND	2,717	0.032	0.960
12/23/2009	132	ND	ND	N/A	ND	ND	48	ND	180	190	ND	ND	ND	ND	ND	39	1,100	1,300	ND	ND	ND	ND	ND	ND	ND	2,857	0.035	1.074
1/19/2010	130	ND	ND	N/A	ND	ND	67	ND	180	240	ND	ND	ND	ND	ND	16	1,500	1,600	ND	ND	ND	ND	ND	ND	ND	3,603	0.042	1.304
2/17/2010	130	ND	ND	N/A	ND	ND	35	ND	120	140	ND	ND	ND	ND	ND	24	760	930	ND	ND	ND	ND	ND	ND	ND	2,009	0.023	0.657
3/17/2010	120	ND	ND	N/A	ND	ND	62	ND	190	250	ND	ND	ND	ND	ND	21	1,500	1,900	ND	ND	ND	ND	ND	ND	ND	3,923	0.042	1.302
4/16/2010	120	ND	ND	N/A	ND	ND	41	ND	160	160	ND	ND	ND	ND	ND	ND	1,100	1,000	ND	ND	ND	ND	ND	ND	ND	2,461	0.027	0.796
5/13/2010	119	ND	ND	N/A	ND	ND	42	ND	170	170	ND	19	ND	ND	ND	95	960	1,100	ND	ND	18	ND	ND	75	23	2,672	0.029	0.886
6/18/2010	110	ND	ND	N/A	ND	ND	24	ND	110	96	ND	12	ND	ND	ND	15	630	600	12	ND	130	28	ND	50	26	1,733	0.017	0.514
7/19/2010	110	ND	ND	N/A	ND	ND	52	ND	180	220	ND	ND	ND	ND	ND	ND	1,500	1,500	ND	ND	24	ND	ND	ND	ND	3,476	0.034	1.066
8/19/2010	110	ND	ND	N/A	ND	ND	45	ND	170	200	ND	ND	ND	ND	ND	12	1,200	1,100	16	ND	ND	ND	ND	ND	ND	2,743	0.027	0.841
9/17/2010	108	ND	ND	N/A	ND	ND	35	ND	150	140	ND	ND	ND	ND	ND	29	860	1,100	20	ND	ND	ND	ND	ND	ND	2,334	0.023	0.680
10/12/2010	100	ND	ND	N/A	ND	ND	40	ND	140	170	ND	ND	ND	ND	ND	940	1,100	1,400	20	ND	ND	ND	ND	89	33	3,932	0.035	1.060
11/2/2010	138	ND	ND	N/A	ND	ND	34	ND	100	150	ND	ND	ND	ND	ND	71	920	1,200	53	ND	ND	ND	ND	14	ND	2,542	0.032	0.946
12/1/2010	138	ND	ND	N/A	ND	ND	28	ND	110	120	ND	42	ND	ND	ND	54	790	970	13	ND	ND	ND	ND	170	31	2,328	0.029	0.866
1/5/2011	133	ND	ND	N/A	ND	ND	34	ND	130	150	ND	14	ND	ND	ND	13	860	1,200	ND	ND	ND	ND	ND	47	10	2,458	0.029	0.882
2/7/2011	130	ND	ND	N/A	ND	ND	32	ND	160	130	ND	ND	ND	ND	ND	23	910	900	ND	ND	ND	ND	ND	29	ND	2,184	0.026	0.766
3/3/2011	130	ND	ND	N/A	ND	ND	98	ND	350	390	ND	19	ND	ND	ND	23	2,800	2,500	ND	ND	ND	ND	ND	61	ND	6,241	0.073	2.188
4/14/2011	125	ND	ND	N/A	ND	ND	36	ND	160	150	ND	ND	30	ND	ND	10	900	1,100	ND	ND	ND	ND	ND	ND	ND	2,386	0.027	0.804
5/6/2011	130	ND	ND	N/A	ND	ND	39	ND	150	150	ND	ND	ND	ND	ND	ND	880	890	ND	ND	ND	ND	ND	ND	ND	2,109	0.025	0.764
6/9/2011	150	ND	ND	N/A	ND	ND	59	ND	190	240	ND	ND	ND	ND	ND	35	1,600	1,600	20	ND	ND	ND	ND	ND	ND	3,744	0.050	1.515
7/11/2011	128	ND	ND	N/A	ND	ND	51	ND	170	200	ND	ND	40	ND	ND	81	1,300	1,300	ND	ND	ND	ND	ND	26	ND	3,168	0.036	1.094
8/3/2011	160	ND	ND	N/A	ND	ND	44	ND	160	200	ND	ND	ND	ND	ND	29	1,200	1,400	ND	ND	ND	ND	ND	ND	ND	3,033	0.044	1.309
9/15/2011	160	12	ND	N/A	ND	ND	29	ND	130	130	ND	ND	ND	ND	ND	11	750	990	12	ND	ND	ND	ND	ND	ND	2,064	0.030	0.891
10/18/2011	160	8.3	ND	N/A	ND	ND	28	ND	93	120	ND	ND	ND	ND	ND	51	640	780	ND	ND	ND	ND	ND	ND	ND	1,720	0.025	0.767
11/8/2011	165	10	ND	N/A	ND	ND	34	ND	110	140	ND	ND	ND	ND	ND	9.2	730	930	ND	ND	ND	ND	ND	ND	ND	1,963	0.029	0.874
12/6/2011	160	7.3	ND	N/A	ND	ND	29	ND	110	130	ND	ND	ND	ND	ND	46	600	800	ND	ND	ND	ND	ND	ND	ND	1,722	0.025	0.768

TABLE 1

Building A Influent Concentrations (µg/m^3)

LABORATORY DATA SUMMARY

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	FLOW (scfm)	benzene	carbon tetrachloride	chlorodifluoromethane	chloroform	dichlorodifluoromethane	1,1-dichloroethane	1,2-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	naphthalene	tetrachloroethene	toluene	1,1,1,-trichloroethane	trichloroethene	trichlorofluoromethane	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs	Mass (lbs/day)	Mass (lbs removed in period)
1/3/2012	165	ND	ND	N/A	ND	ND	30	ND	140	130	ND	ND	ND	ND	ND	16	590	840	ND	ND	ND	ND	ND	ND	ND	1,746	0.026	0.803
2/16/2012	160	ND	ND	N/A	ND	ND	31	ND	110	140	ND	ND	ND	ND	ND	ND	760	980	ND	ND	ND	ND	ND	ND	ND	2,021	0.029	0.843
3/15/2012	160	ND	ND	N/A	ND	ND	36	ND	130	160	ND	ND	ND	ND	ND	14	880	1,100	ND	ND	ND	ND	ND	ND	ND	2,320	0.033	1.034
4/16/2012	158	ND	ND	N/A	ND	ND	34	ND	140	170	ND	ND	ND	ND	ND	ND	880	1,300	ND	ND	ND	ND	ND	20	ND	2,544	0.036	1.084
5/9/2012	159	ND	ND	N/A	ND	ND	56	ND	200	290	ND	ND	ND	ND	ND	32	1,700	2,300	ND	ND	ND	ND	ND	ND	ND	4,578	0.065	2.029
6/4/2012	159	ND	ND	N/A	ND	ND	66	ND	200	320	ND	ND	ND	ND	ND	ND	1,700	2,100	ND	ND	ND	ND	ND	ND	ND	4,386	0.063	1.881
7/5/2012	162	ND	ND	N/A	ND	ND	50	ND	180	250	ND	ND	ND	ND	ND	16	1,300	1,300	ND	ND	ND	ND	ND	ND	ND	3,096	0.045	1.398
8/15/2012	164	ND	ND	N/A	ND	ND	30	ND	130	150	ND	ND	ND	ND	ND	22	730	1,000	17	ND	ND	ND	ND	ND	ND	2,079	0.031	0.950
9/12/2012	165	ND	ND	N/A	ND	ND	23	ND	120	110	ND	ND	ND	ND	ND	170	560	720	ND	ND	ND	ND	ND	11	ND	1,714	0.025	0.763
10/18/2012	160	ND	ND	N/A	ND	ND	36	ND	180	190	ND	ND	ND	ND	ND	ND	1,000	1,400	ND	ND	ND	ND	ND	ND	ND	2,806	0.040	1.251
11/13/2012	161	ND	ND	N/A	ND	ND	23	ND	140	120	ND	ND	ND	ND	ND	ND	600	910	ND	ND	ND	ND	ND	ND	ND	1,793	0.026	0.779
12/6/2012	160	ND	ND	N/A	ND	ND	21	ND	120	130	ND	ND	ND	ND	ND	8	590	1,000	ND	ND	ND	ND	ND	ND	ND	1,869	0.027	0.833
1/4/2013	160	ND	ND	N/A	ND	ND	24	ND	190	130	ND	ND	ND	ND	ND	ND	630	950	ND	ND	ND	ND	ND	ND	ND	1,924	0.028	0.858
2/6/2013	160	ND	ND	N/A	ND	ND	26	ND	130	130	ND	ND	ND	ND	ND	ND	560	860	ND	ND	ND	ND	ND	ND	ND	1,706	0.025	0.687
3/7/2013	160	ND	ND	N/A	ND	ND	30	ND	94	140	ND	ND	ND	ND	ND	10	670	1,100	ND	ND	ND	ND	ND	ND	ND	2,044	0.029	0.911
4/8/2013	150	ND	ND	N/A	ND	ND	290	ND	1,500	2,200	ND	ND	ND	ND	ND	ND	2,900	5,900	ND	ND	ND	ND	ND	ND	ND	12,790	0.172	5.174
5/10/2013	150	ND	ND	N/A	ND	11	29	ND	130	140	ND	ND	ND	ND	ND	14	730	1,200	17	ND	ND	ND	ND	ND	ND	2,271	0.031	0.949
6/5/2013	155	ND	ND	N/A	ND	ND	22	ND	110	100	ND	ND	ND	ND	ND	ND	530	790	ND	ND	ND	ND	ND	ND	ND	1,552	0.022	0.649
7/3/2013	159	ND	ND	N/A	ND	ND	33	ND	100	160	ND	ND	ND	ND	ND	ND	820	1,100	ND	ND	ND	ND	ND	ND	ND	2,213	0.032	0.981
8/14/2013	160	ND	ND	N/A	ND	ND	34	ND	120	180	ND	ND	ND	ND	ND	15	780	1,300	ND	ND	ND	ND	ND	ND	ND	2,429	0.035	1.083
9/9/2013	160	ND	ND	N/A	ND	ND	16	ND	90	100	ND	ND	ND	ND	ND	ND	410	630	ND	ND	ND	ND	ND	ND	ND	1,246	0.018	0.538
10/10/2013	160	ND	ND	N/A	ND	ND	39	ND	190	220	ND	ND	ND	ND	ND	15	810	1,400	16	ND	ND	ND	ND	ND	ND	2,690	0.039	1.199
11/7/2013	160	ND	ND	N/A	ND	ND	39	ND	170	200	ND	ND	ND	ND	ND	11	930	1,500	41	ND	ND	ND	ND	ND	ND	2,891	0.042	1.247
12/5/2013	160	0.94	ND	ND	21.2	ND	30.7	ND	132	165	2.5	ND	4.4	ND	ND	12.2	883	1,530	N/A	ND	ND	ND	ND	ND	ND	2,782	0.040	1.240
1/13/2014	160	ND	ND	6.5	11.6	2.2	29.3	ND	141	173	ND	1.8	3.3	4.9	ND	9,820	570	795	N/A	ND	1.9	ND	ND	4.3	1.7	11,567	0.166	5.157
2/14/2014	153	ND	ND	2.4	7.4	ND	21.2	ND	92.7	126	ND	ND	2.1	ND	ND	15.3	429	843	N/A	ND	ND	ND	ND	ND	ND	1,539	0.021	0.593
3/12/2014	160	ND	ND	2.4	ND	2.0	29.3	36.4	130	176	ND	ND	ND	ND	3.6	9.1	1,310	2,100	N/A	ND	ND	ND	ND	3.0	ND	3,802	0.055	1.695
4/10/2014	160	81.7	ND	ND	ND	ND	31.8	ND	131	194	ND	120	ND	ND	ND	75.7	646	1,490	N/A	ND	ND	ND	ND	387	109	3,266	0.047	1.361
5/5/2014	150	4.8	ND	8.8	3.9	4.1	6.7	ND	32.6	44.7	ND	6.5	202	2.3 J	1.2	29.5	142	292	N/A	2.8	11.5	3.0	ND	24.3	9.3	832	0.011	0.280
6/18/2014	155	1,040	ND	30.3	136	ND	565	ND	2,840	3,710	51.7	ND	138	34.9 J	ND	199	1,000 J	1,490	N/A	ND	17.6 J	ND	ND	25.6 J	ND	11,278	0.157	6.907
7/3/2014	158	45.1	ND	ND	8.4 J	ND	36.5	81.2	145	189	ND	ND	ND	ND	ND	20.8 J	871	1,250	N/A	ND	ND	ND	ND	ND	ND	2,647	0.038	0.563
9/16/2014	150	51.1	1.1	1.0 J	54.0	4.7	104	ND	323	416	8.1	ND	0.67 J	ND	2.3	8.8	1,290	3,250	N/A	ND	2.3	0.83 J	1.5	1.5 J	1.1 J	5,522	0.074	5.578

ND - non-detect (below detection limit)

N/A - not applicable (samples not analyzed for compound)

J - estimated

Completed system expansion in Building A basement on October 22, 2010.

Increase in concentrations following 19-day system shutdown due to blower failure. Blower was replaced on 4/8/13.

Samples not collected in May 2014 and August 2014 as system was shut down due to firewater line break.

Samples analyzed from 4/2/08 to 11/7/13 analyzed by TestAmerica, Inc. of Knoxville, TN.

Samples analyzed from 12/5/13 to present analyzed by Pace Analytical Services, Inc. of Minneapolis, MN.

TABLE 2

Building A Mid-GAC Concentrations (µg/m^3)

LABORATORY DATA SUMMARY

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	benzene	chlorodifluoromethane	chloroform	dichlorodifluoromethane	1,1-dichloroethane	1,2-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	naphthalene	tetrachloroethene	toluene	1,1,1,-trichloroethane	trichloroethene	trichlorofluoromethane	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs (ug/m3)	Mass (lbs/day)
4/2/2008	6.9	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.9	0.000
4/24/2008	ND	N/A	ND	ND	240	ND	2,200	810	ND	ND	ND	ND	ND	ND	2,100	ND	ND	ND	ND	ND	ND	ND	5,350	0.040
5/21/2008	ND	N/A	ND	ND	100	ND	740	280	ND	ND	ND	ND	ND	ND	410	11	ND	ND	ND	ND	ND	ND	1,541	0.010
6/19/2008	110	N/A	ND	ND	830	ND	2,200	2,300	ND	ND	53	ND	ND	ND	1,200	ND	ND	ND	ND	ND	ND	ND	6,693	0.040
7/18/2008	ND	N/A	ND	ND	27	ND	270	60	ND	ND	ND	ND	ND	ND	100	ND	ND	ND	ND	ND	ND	ND	457	0.003
8/12/2008	ND	N/A	15	ND	130	ND	400	60	ND	ND	ND	ND	ND	ND	1,500	30	16	ND	ND	ND	ND	ND	2,151	0.010
9/11/2008	ND	N/A	15	ND	170	ND	520	ND	ND	ND	ND	ND	ND	ND	890	53	30	ND	ND	ND	ND	ND	1,678	0.010
11/18/2008	ND	N/A	ND	ND	60	ND	97	ND	ND	ND	ND	ND	ND	ND	150	180	ND	ND	ND	ND	ND	ND	487	0.003
12/18/2008	ND	N/A	ND	ND	38	ND	330	98	ND	ND	ND	ND	ND	ND	51	18	ND	ND	ND	ND	ND	ND	535	0.004
1/22/2009	ND	N/A	ND	ND	19	ND	490	42	ND	ND	ND	ND	ND	ND	25	12	11	ND	ND	ND	ND	ND	599	0.005
2/20/2009	ND	N/A	ND	ND	91	ND	310	220	ND	ND	ND	ND	ND	ND	380	68	ND	ND	ND	ND	ND	ND	1,069	0.008
3/18/2009	ND	N/A	ND	ND	69	ND	280	210	ND	ND	ND	ND	ND	ND	1,900	190	ND	ND	ND	ND	ND	ND	2,649	0.007
4/17/2009	ND	N/A	ND	ND	ND	ND	140	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140	0.002
5/20/2009	ND	N/A	ND	ND	42	ND	140	110	ND	ND	ND	ND	ND	ND	200	ND	ND	ND	ND	ND	ND	ND	492	0.006
6/23/2009	ND	N/A	ND	ND	130	ND	320	66	ND	ND	ND	ND	ND	ND	82	ND	18	ND	ND	ND	ND	ND	616	0.007
7/23/2009	ND	N/A	ND	ND	88	ND	210	250	ND	ND	ND	ND	ND	ND	890	ND	12	ND	ND	ND	ND	ND	1,450	0.017
8/28/2009	ND	N/A	ND	ND	130	ND	290	330	ND	ND	ND	ND	ND	ND	1,100	ND	14	ND	ND	ND	ND	ND	1,864	0.021
9/28/2009	ND	N/A	ND	ND	38	ND	110	130	ND	ND	ND	ND	ND	ND	580	ND	ND	ND	ND	ND	ND	ND	858	0.010
10/27/2009	ND	N/A	ND	ND	94	ND	260	170	ND	ND	ND	ND	ND	ND	180	35	ND	ND	ND	ND	ND	ND	739	0.009
11/24/2009	ND	N/A	ND	ND	84	ND	210	250	ND	ND	ND	ND	ND	ND	710	ND	ND	ND	ND	ND	ND	ND	1,254	0.015
12/23/2009	ND	N/A	ND	ND	30	ND	180	28	ND	ND	ND	ND	ND	ND	19	29	ND	ND	ND	ND	ND	ND	286	0.003
1/19/2010	ND	N/A	ND	ND	100	ND	260	190	ND	ND	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	ND	566	0.007
2/17/2010	ND	N/A	ND	ND	100	ND	110	ND	ND	ND	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	ND	226	0.003
3/17/2010	ND	N/A	ND	ND	ND	ND	19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	0.000
4/16/2010	ND	N/A	ND	ND	89	ND	200	260	ND	ND	ND	ND	ND	ND	600	14	ND	ND	ND	ND	ND	ND	1,163	0.013
5/13/2010	13	N/A	ND	ND	61	ND	180	260	ND	15	ND	ND	ND	67	1,300	ND	13	12	ND	ND	55	16	1,992	0.021
6/18/2010	ND	N/A	ND	ND	ND	ND	19	20	ND	ND	ND	ND	ND	ND	18	ND	ND	76	16	ND	25	14	188	0.002
7/19/2010	ND	N/A	ND	ND	24	ND	89	74	ND	ND	ND	ND	ND	ND	87	ND	ND	11	ND	ND	ND	ND	285	0.003
8/19/2010	ND	N/A	ND	ND	55	ND	210	210	ND	ND	ND	ND	ND	ND	720	ND	13	ND	ND	ND	ND	ND	1,208	0.012
9/17/2010	ND	N/A	ND	ND	110	ND	310	330	ND	ND	ND	ND	ND	ND	430	ND	24	ND	ND	ND	ND	ND	1,204	0.01191
10/12/2010	ND	N/A	ND	ND	81	ND	170	400	ND	ND	ND	ND	ND	32	1,000	49	17	ND	ND	ND	ND	ND	1,749	0.0173
11/2/2010	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.00
12/1/2010	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	14	0.00014
1/5/2011	ND	N/A	ND	ND	ND	ND	24	ND	ND	ND	ND	ND	ND	ND	20	11	ND	ND	ND	ND	ND	ND	55	0.00054
2/7/2011	ND	N/A	ND	ND	9	ND	95	13	ND	ND	ND	ND	ND	ND	53	12	20	ND	ND	ND	ND	ND	202	0.00199
3/3/2011	ND	N/A	ND	ND	8	ND	120	15	ND	ND	ND	ND	ND	66	44	16	13	ND	ND	ND	18	ND	300	0.00297
4/14/2011	ND	N/A	ND	ND	40	ND	310	110	ND	ND	25	ND	ND	ND	48	ND	13	ND	ND	ND	ND	ND	546	0.0054
5/6/2011	ND	N/A	ND	ND	51	ND	240	150	ND	ND	ND	ND	ND	ND	70	34	ND	ND	ND	ND	ND	ND	545	0.00539
6/9/2011	14	N/A	23	ND	190	ND	340	760	ND	ND	ND	ND	ND	26	440	51	20	ND	ND	ND	ND	ND	1,864	0.01843
7/11/2011	11	N/A	ND	ND	92	ND	220	320	ND	ND	21	ND	ND	67	320	16	ND	ND	ND	ND	29	10	1,106	0.01094
8/3/2011	ND	N/A	ND	ND	60	ND	170	320	ND	ND	ND	ND	ND	ND	110	ND	ND	ND	ND	ND	ND	ND	660	0.00653
9/15/2011	ND	N/A	ND	ND	35	ND	140	170	ND	ND	ND	ND	ND	ND	200	ND	ND	ND	ND	ND	ND	ND	545	0.00539
10/18/2011	ND	N/A	ND	ND	27	ND	80	110	ND	ND	ND	ND	ND	22	200	ND	ND	ND	ND	ND	ND	ND	439	0.00434
11/8/2011	ND	N/A	ND	ND	33	ND	110	130	ND	ND	ND	ND	ND	ND	330	ND	ND	ND	ND	ND	ND	ND	603	0.00596
12/6/2011	ND	N/A	ND	ND	36	ND	140	140	ND	ND	ND	ND	ND	ND	310	ND	ND	ND	ND	ND	ND	ND	626	0.00619

TABLE 2

Building A Mid-GAC Concentrations (µg/m^3)

LABORATORY DATA SUMMARY

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	benzene	chlorodifluoromethane	chloroform	dichlorodifluoromethane	1,1-dichloroethane	1,2-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	naphthalene	tetrachloroethene	toluene	1,1,1,-trichloroethane	trichloroethene	trichlorofluoromethane	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs (ug/m3)	Mass (lbs/day)
1/3/2012	ND	N/A	ND	ND	19	ND	82	71	ND	ND	ND	ND	ND	ND	200	ND	ND	ND	ND	ND	ND	ND	372	0.00368
2/16/2012	ND	N/A	ND	ND	26	ND	130	120	ND	ND	ND	ND	ND	ND	430	11	ND	ND	ND	ND	ND	ND	717	0.00709
3/15/2012	ND	N/A	ND	ND	37	ND	210	190	ND	ND	ND	ND	ND	ND	480	38	ND	ND	ND	ND	ND	ND	955	0.00944
4/16/2012	ND	N/A	ND	ND	48	ND	200	260	ND	ND	ND	ND	ND	ND	640	34	ND	ND	ND	ND	ND	ND	1,182	0.01169
5/9/2012	ND	N/A	ND	ND	26	ND	140	140	ND	ND	ND	ND	ND	ND	76	14	ND	ND	ND	ND	ND	ND	396	0.00392
6/4/2012	ND	N/A	ND	ND	35	ND	170	170	ND	ND	ND	ND	ND	ND	120	63	ND	ND	ND	ND	ND	ND	558	0.00552
7/5/2012	ND	N/A	ND	ND	74	ND	260	320	ND	ND	19	ND	ND	ND	210	26	12	ND	ND	ND	ND	ND	921	0.00911
8/15/2012	ND	N/A	ND	ND	40	ND	130	240	ND	ND	ND	ND	ND	10	420	20	13	ND	ND	ND	ND	ND	873	0.00863
9/12/2012	ND	N/A	ND	ND	43	ND	140	180	ND	ND	ND	ND	ND	14	34	13	13	ND	ND	ND	ND	ND	437	0.00432
10/18/2012	ND	N/A	ND	ND	29	ND	95	160	ND	ND	ND	ND	ND	ND	25	28	ND	ND	ND	ND	ND	ND	337	0.00333
11/13/2012	ND	N/A	ND	ND	16	ND	94	89	ND	ND	ND	ND	ND	ND	20	21	ND	ND	ND	ND	ND	ND	240	0.00237
12/6/2012	ND	N/A	ND	ND	14	ND	92	86	ND	ND	ND	ND	ND	ND	26	20	ND	ND	ND	ND	ND	ND	238	0.00235
1/4/2013	ND	N/A	ND	ND	21	ND	130	97	ND	ND	ND	ND	ND	ND	88	15	ND	ND	ND	ND	ND	ND	351	0.00347
2/6/2013	ND	N/A	ND	ND	32	ND	120	120	ND	ND	ND	ND	ND	ND	180	19	ND	ND	ND	ND	ND	ND	471	0.00466
3/7/2013	ND	N/A	ND	ND	46	ND	150	180	ND	ND	ND	ND	ND	ND	150	37	ND	ND	ND	ND	ND	ND	563	0.00557
4/8/2013	ND	N/A	ND	ND	15	ND	46	66	ND	ND	ND	ND	ND	ND	43	92	ND	ND	ND	ND	ND	ND	262	0.00259
5/10/2013	ND	N/A	ND	ND	73	ND	210	380	ND	ND	ND	ND	ND	ND	170	31	16	ND	ND	ND	ND	ND	880	0.0087
6/5/2013	ND	N/A	ND	ND	33	ND	160	210	ND	ND	ND	ND	23	ND	460	15	ND	ND	ND	ND	ND	ND	901	0.00891
7/3/2013	21	N/A	ND	ND	78	ND	200	330	ND	ND	ND	ND	ND	ND	38	42	ND	ND	ND	ND	ND	ND	709	0.00701
8/14/2013	50	N/A	ND	ND	59	ND	120	390	ND	ND	20	ND	ND	7.3	63	66	11	ND	ND	ND	ND	ND	786	0.00778
9/9/2013	17	N/A	ND	ND	23	ND	110	180	ND	ND	ND	ND	ND	ND	50	21	ND	ND	ND	ND	ND	ND	401	0.00397
10/10/2013	29	N/A	ND	ND	33	ND	120	190	ND	ND	ND	ND	ND	9.9	170	32	ND	ND	ND	ND	ND	ND	584	0.00577
11/7/2013	38	N/A	ND	ND	48	ND	95	260	ND	ND	ND	ND	ND	ND	38	39	ND	ND	ND	ND	ND	ND	518	0.00512
12/5/2013	31.8	ND	ND	2.9	18.8	ND	51.6	107	ND	ND	6.0	5.9	ND	4.7	34.1	43.5	N/A	3.2	ND	ND	ND	ND	310	0.00306
1/13/2014	ND	3.9	1.6	2.2	22.4	ND	113.0	162	ND	1.9	2.3	4.7	42.1	64.0	19.3	4.9	N/A	3.7	1.7	ND	7.4	2.5	460	0.00454
2/14/2014	55.1	3.1	3.1	2.8	31.0	ND	166	189	2.5	ND	ND	ND	ND	ND	64.8	54.9	N/A	ND	ND	ND	ND	ND	572	0.00566
3/12/2014	24.5	4.5	ND	2.2	24.5	ND	134	154	ND	ND	28.1	ND	ND	3.4	38.5	47.5	N/A	ND	ND	ND	ND	ND	461	0.00456
4/10/2014	40.8	ND	ND	ND	51.4	ND	267	270	ND	66.2	ND	ND	ND	45.2	65.6	74.8	N/A	ND	ND	ND	215	59.5	1,156	0.01143
5/5/2014	53.4	1.4	10.5	3.1	63.8	ND	253	406	5.7	ND	0.96 J	3.6 J	ND	3.0	47.8	48.9	N/A	ND	ND	ND	0.94 J	ND	902	0.00892
6/5/2014	2.3	9.6	ND	3.0	14.3	ND	165	113	ND	ND	167	1.8 J	23.1	60.4	63.5	24.5	N/A	1.9	ND	ND	1.8 J	1.9	653	0.00646
7/3/2014	7.6 J	ND	ND	ND	47.4	16.8	344	286	ND	ND	ND	ND	ND	11.7 J	178	25.4	N/A	ND	ND	ND	ND	ND	917	0.00907
9/16/2014	ND	1.9	3.6	3.0	53.9	ND	179	294	ND	0.40 J	ND	ND	0.88 J	4.6	76	43.6	N/A	2.4	0.71 J	ND	1.2 J	ND	665	0.00658

ND - non-detect (below detection limit)

N/A - not applicable (samples not analyzed for compound)

J - estimated

Samples not collected in May 2014 and August 2014 as system was shut down due to firewater line break.

Samples analyzed from 4/2/08 to 11/7/13 analyzed by TestAmerica, Inc. of Knoxville, TN.

Samples analyzed from 12/5/13 to present analyzed by Pace Analytical Services, Inc. of Minneapolis, MN.

TABLE 3

Building A Effluent Concentrations (µg/m^3)

LABORATORY DATA SUMMARY

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	benzene	chlorodifluoromethane	dichlorodifluoromethane	1,1-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	napthalene	tetrachloroethene	toluene	1,1,1,-trichloroethane	trichloroethene	trichlorofluoromethane	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs (ug/m3)	Mass (lbs/day)
3/31/2008	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
4/2/2008	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
4/4/2008	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	110	ND	ND	110	0.001
4/11/2008	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
4/17/2008	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
4/24/2008	ND	N/A	ND	13	470	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	513	0.004
5/21/2008	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
6/19/2008	76	N/A	ND	65	2,200	67	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	2,408	0.015
8/1/2008	ND	N/A	ND	15	300	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	329	0.005
8/12/2008	ND	N/A	ND	42	310	55	ND	ND	19	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	426	0.005
9/11/2008	ND	N/A	ND	ND	46	ND	ND	ND	18	ND	ND	ND	11	ND	ND	N/A	ND	ND	ND	ND	ND	75	0.001
11/18/2008	ND	N/A	ND	ND	ND	ND	ND	ND	61	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	61	0.000
12/18/2008	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
1/22/2009	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
2/20/2009	ND	N/A	ND	ND	110	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	120	0.000
3/18/2009	ND	N/A	ND	ND	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	14	0.000
4/17/2009	ND	N/A	ND	20	53	64	ND	ND	ND	ND	ND	ND	26	ND	ND	N/A	ND	ND	ND	ND	ND	163	0.001
5/20/2009	ND	N/A	ND	ND	46	9.9	ND	ND	ND	ND	ND	ND	38	ND	ND	N/A	ND	ND	ND	ND	ND	93.9	0.000
6/23/2009	ND	N/A	ND	ND	ND	11.0	ND	ND	ND	ND	ND	ND	44	ND	ND	N/A	ND	ND	ND	ND	ND	55	0.000
7/23/2009	ND	N/A	ND	21	190	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	211	0.002
8/28/2009	ND	N/A	ND	29	46	52	ND	ND	ND	ND	ND	7.7	250	ND	ND	N/A	ND	ND	ND	ND	ND	384.7	0.003
9/28/2009	ND	N/A	ND	19	100	27	ND	ND	ND	ND	ND	ND	93	ND	ND	N/A	ND	ND	ND	ND	ND	239	0.002
10/27/2009	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	40	24	ND	ND	N/A	ND	ND	ND	ND	ND	64	0.001
11/24/2009	ND	N/A	ND	ND	53	ND	ND	ND	ND	ND	ND	ND	21	ND	ND	N/A	ND	ND	ND	ND	ND	74	0.001
12/23/2009	ND	N/A	ND	10	11	21	ND	ND	ND	ND	ND	8.8	190	16	ND	N/A	ND	ND	ND	ND	ND	256.8	0.003
1/19/2010	ND	N/A	ND	10	18	27	ND	ND	ND	ND	ND	ND	200	ND	ND	N/A	ND	ND	ND	ND	ND	255	0.003
2/17/2010	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
3/17/2010	ND	N/A	ND	ND	20	11	ND	ND	ND	ND	ND	ND	17	11	ND	N/A	ND	ND	ND	ND	ND	59	0.001
4/16/2010	ND	N/A	ND	9.4	330	12	ND	ND	ND	ND	ND	ND	27	31	ND	N/A	ND	ND	ND	ND	ND	409.4	0.004
5/13/2010	7.2	N/A	ND	57.0	160	250	ND	19	ND	ND	ND	58	1,100	24	12	N/A	33	ND	ND	77	24	1,821.2	0.019
6/18/2010	ND	N/A	ND	ND	90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	62	13	ND	16	9.3	190.3	0.002
7/19/2010	ND	N/A	ND	ND	100	8.7	ND	ND	ND	ND	ND	ND	40	16	ND	N/A	ND	ND	ND	ND	ND	164.7	0.002
8/19/2010	ND	N/A	ND	47	270	90	ND	ND	ND	ND	ND	ND	41	ND	15	N/A	ND	ND	ND	ND	ND	463	0.005
9/17/2010	ND	N/A	ND	39	260	88	ND	ND	ND	ND	ND	ND	120	ND	ND	N/A	ND	ND	ND	ND	ND	507	0.01
10/12/2010	ND	N/A	ND	10	58	81	ND	ND	ND	ND	ND	16	360	30	17	N/A	ND	ND	ND	ND	ND	572	0.01
11/2/2010	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
12/1/2010	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14.0	ND	ND	N/A	ND	ND	ND	ND	ND	14	0.000
1/5/2011	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
2/7/2011	ND	N/A	ND	ND	24	ND	ND	ND	ND	ND	ND	ND	ND	14	21	N/A	ND	ND	ND	ND	ND	59	0.000
3/3/2011	120	N/A	ND	ND	25	ND	ND	ND	ND	ND	ND	58	ND	ND	19	N/A	ND	ND	ND	23	ND	245	0.002
4/14/2011	ND	N/A	ND	ND	110	ND	ND	ND	23	ND	ND	55	ND	ND	ND	N/A	ND	ND	ND	11	ND	199	0.002
5/6/2011	ND	N/A	ND	ND	170	8.8	ND	ND	ND	ND	ND	ND	21	19	ND	N/A	ND	ND	ND	ND	ND	218.8	0.002
6/9/2011	ND	N/A	ND	91	580	59.0	ND	ND	ND	ND	ND	30	34	ND	19	N/A	ND	ND	ND	ND	ND	813	0.008
7/11/2011	ND	N/A	ND	ND	ND	ND	ND	13	21	ND	ND	100	26	ND	ND	N/A	ND	ND	ND	43	17	220	0.002

TABLE 3

Building A Effluent Concentrations (µg/m^3)

LABORATORY DATA SUMMARY

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	benzene	chlorodifluoromethane	dichlorodifluoromethane	1,1-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	napthalene	tetrachloroethene	toluene	1,1,1,-trichloroethane	trichloroethene	trichlorofluoromethane	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs (ug/m3)	Mass (lbs/day)
8/3/2011	ND	N/A	ND	ND	19	ND	ND	ND	ND	ND	ND	11	20	ND	ND	N/A	ND	ND	ND	ND	ND	50	0.001
9/15/2011	ND	N/A	ND	41	150	100	ND	ND	ND	ND	ND	ND	12	ND	ND	N/A	ND	ND	ND	ND	ND	303	0.003
10/18/2011	ND	N/A	ND	35	77	130	ND	ND	ND	ND	ND	25	ND	ND	ND	N/A	ND	ND	ND	ND	ND	267	0.003
11/8/2011	ND	N/A	ND	39	95	150	ND	ND	ND	ND	ND	ND	15	ND	ND	N/A	ND	ND	ND	ND	ND	299	0.003
12/6/2011	ND	N/A	ND	37	110	150	ND	ND	ND	ND	ND	ND	16	ND	ND	N/A	ND	ND	ND	ND	ND	313	0.003
1/3/2012	ND	N/A	ND	15	67	56	ND	ND	ND	ND	ND	ND	20	11	ND	N/A	ND	ND	ND	ND	ND	169	0.002
2/16/2012	ND	N/A	ND	24	100	85	ND	ND	ND	ND	ND	ND	52	ND	ND	N/A	ND	ND	ND	ND	ND	261	0.003
3/15/2012	ND	N/A	ND	19	100	82	ND	ND	ND	ND	ND	ND	45	ND	ND	N/A	ND	ND	ND	ND	ND	246	0.002
4/16/2012	ND	N/A	ND	44	240	180	ND	ND	ND	ND	ND	ND	140	12	ND	N/A	ND	ND	ND	ND	ND	616	0.006
5/9/2012	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
6/4/2012	ND	N/A	ND	ND	12	ND	ND	9.6	ND	ND	ND	9.1	ND	18	ND	N/A	ND	ND	ND	42	12	102.7	0.001
7/5/2012	ND	N/A	ND	ND	87	ND	ND	ND	ND	ND	ND	26	ND	ND	ND	N/A	ND	ND	ND	ND	ND	113	0.001
8/15/2012	ND	N/A	ND	38	210	130	ND	ND	ND	ND	ND	8.7	ND	ND	ND	N/A	ND	ND	ND	ND	ND	386.7	0.004
9/12/2012	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	13	ND	ND	ND	N/A	ND	ND	ND	ND	ND	13.0	0.000
10/18/2012	ND	N/A	ND	ND	9.8	ND	ND	ND	ND	ND	ND	ND	ND	13	ND	N/A	ND	ND	ND	ND	ND	22.8	0.000
11/13/2012	ND	N/A	ND	ND	48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	48.0	0.001
12/6/2012	ND	N/A	ND	ND	63	8.8	ND	ND	ND	ND	ND	ND	ND	13	ND	N/A	ND	ND	ND	ND	ND	84.8	0.001
1/4/2013	ND	N/A	ND	12	100	33	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	145	0.001
2/6/2013	ND	N/A	ND	28	150	77	ND	ND	ND	ND	ND	ND	ND	11	ND	N/A	ND	ND	ND	ND	ND	266	0.003
3/7/2013	ND	N/A	ND	40	140	130	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	310	0.003
4/8/2013	ND	N/A	ND	16	55	56	ND	ND	ND	ND	ND	ND	ND	42	ND	N/A	ND	ND	ND	ND	ND	169	0.002
5/10/2013	ND	N/A	ND	38	190	180	ND	ND	ND	ND	ND	ND	12	16	ND	N/A	ND	ND	ND	ND	ND	436	0.004
6/5/2013	ND	N/A	ND	21	110	86	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	217	0.002
7/3/2013	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.00	0.000
8/14/2013	ND	N/A	ND	ND	52	8.2	ND	ND	17	ND	ND	ND	ND	16	ND	N/A	ND	ND	ND	ND	ND	93.2	0.001
9/9/2013	ND	N/A	ND	ND	180	15	ND	ND	ND	ND	ND	ND	ND	ND	12	N/A	ND	ND	ND	ND	ND	207	0.002
10/10/2013	ND	N/A	ND	66	190	270	ND	ND	ND	ND	ND	11	ND	13	15	N/A	ND	ND	ND	ND	ND	565	0.006
11/7/2013	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.00	0.000
12/5/2013	0.97	856	ND	3.0	14.8	1.9	ND	ND	105	ND	1.6	3.0	ND	1.8	N/A	12	ND	ND	ND	ND	ND	1,000	0.010
1/13/2014	1.7	12.5	2.3	5.9	31.3	6.4	ND	1.9	1.8	5.7	ND	22.2	ND	ND	N/A	1.4	4.0	ND	ND	5.8	2.2	105	0.001
2/14/2014	0.65	1.7	2.1	26	111	42.6	ND	ND	ND	ND	ND	4.0	2.4	10	N/A	ND	ND	ND	ND	ND	ND	200	0.002
3/12/2014	2.0	13.3	2.3	ND	ND	ND	ND	3.5	35.2	ND	2.6	36.5	ND	1.2	N/A	ND	3.0	ND	ND	7.7	2.9	110	0.001
4/10/2014	2.8	ND	ND	15.1	97	82.9	ND	49.4	48.3	ND	ND	64.9	ND	62.1	N/A	ND	7.2	ND	ND	154	45.1	629	0.006
5/5/2014	0.9	1.4	2.8	16.8	139	98.7	1.8	ND	0.88 J	3.1 J	ND	2.5	1.4 J	ND	N/A	ND	ND	ND	ND	1.4 J	ND	271	0.003
6/5/2014	2.3	3.2	3.4	ND	ND	2.9	ND	ND	19.6	2.6 J	21.9	3.1	6.1	7.1	N/A	ND	2.0	ND	ND	1.7 J	1.9	78	0.001
7/3/2014	5.0 J	3.5 J	ND	ND	8.6	4.1 J	ND	6.8 J	ND	6.8 J	ND	7.2	ND	ND	N/A	ND	7.3 J	6.5 J	ND	8.8 J	7.4 J	72	0.001
9/16/2014	0.42 J	ND	3.3	3.5	209	6.5	ND	ND	1.4 J	4.5	0.89 J	58.2	8.7	19.4	N/A	0.79 J	2.0	0.75 J	ND	1.2 J	0.86 J	321	0.003

ND - non-detect (below detection limit)

N/A - not applicable (samples not analyzed for compound)

J - estimated

The chlorodifluoromethane and 1,2,3-trimethylbenzene concentrations reported in the 12/5/2013 sample were reported as tenatively identified compounds and were converted from 238 ppbv and 2.3. ppbv, respectively.

Samples not collected in May 2014 and August 2014 as system was shut down due to firewater line break.

Samples analyzed from 4/2/08 to 11/7/13 analyzed by TestAmerica, Inc. of Knoxville, TN.

Samples analyzed from 12/5/13 to present analyzed by Pace Analytical Services, Inc. of Minneapolis, MN.

TABLE 4

Building C Influent Concentrations (µg/m^3)

LABORATORY DATA SUMMARY

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	FLOW (scfm)	benzene	carbon tetrachloride	chlorodifluoromethane	chloroform	chloromethane	dichlorodifluoromethane	1,1-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	naphthalene	tetrachloroethene	toluene	1,1,1,-trichloroethane	trichloroethene	1,1,2-trichloro-1,2,2-trifluoroethane	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs (ug/m3)	Mass (lbs/day)	Mass (lbs removed in period)
3/31/2008	55	ND	ND	N/A	ND	ND	ND	ND	ND	25,000	ND	320	ND	ND	ND	ND	ND	550	ND	N/A	990	740	2,100	1,100	370	31,170	0.1500	0.450
4/2/2008	57	ND	ND	N/A	ND	ND	ND	ND	ND	2,700	ND	ND	ND	ND	ND	ND	ND	84	ND	N/A	63	56	320	65	ND	3,288	0.0200	0.040
4/4/2008	60	ND	ND	N/A	ND	ND	ND	ND	32	6,600	ND	44	ND	ND	ND	ND	ND	440	ND	N/A	180	170	690	180	68	8,404	0.0500	0.350
4/11/2008	65	ND	ND	N/A	ND	ND	ND	ND	ND	4,100	ND	ND	ND	ND	ND	ND	ND	600	ND	N/A	73	61	370	48	ND	5,252	0.0300	0.180
4/17/2008	60	ND	ND	N/A	ND	ND	ND	ND	ND	2,900	ND	ND	ND	ND	ND	ND	ND	670	ND	N/A	69	55	190	34	ND	3,918	0.0200	0.140
4/24/2008	63	ND	ND	N/A	ND	ND	ND	ND	ND	2,600	ND	ND	ND	ND	28	ND	ND	750	ND	N/A	85	70	130	32	17	3,712	0.0200	0.540
5/21/2008	60	ND	ND	N/A	ND	ND	ND	ND	ND	1,600	ND	ND	ND	ND	17	ND	ND	650	ND	N/A	65	51	41	15	ND	2,439	0.0100	0.310
6/19/2008	60	7.4	ND	N/A	ND	ND	ND	ND	ND	300	ND	ND	ND	ND	ND	110	ND	ND	ND	N/A	23	19	8	9	ND	476	0.0030	0.090
7/18/2008	54	ND	ND	N/A	ND	ND	ND	ND	ND	1,300	ND	ND	ND	ND	14	ND	ND	440	ND	N/A	45	36	35	ND	ND	1,870	0.0090	0.279
8/13/2008	60	ND	ND	N/A	16	ND	ND	ND	ND	410	ND	ND	ND	ND	ND	ND	ND	58	ND	N/A	ND	ND	13	ND	ND	497	0.0030	0.093
9/11/2008	60	ND	ND	N/A	ND	ND	ND	ND	ND	730	ND	ND	18	ND	ND	ND	13	130	ND	N/A	ND	ND	20	ND	ND	911	0.0050	0.305
11/12/2008	62	ND	ND	N/A	ND	ND	ND	ND	ND	390	ND	ND	ND	ND	ND	ND	ND	110	ND	N/A	ND	ND	17	ND	ND	517	0.0029	0.086
12/18/2008	66	ND	ND	N/A	ND	ND	ND	ND	ND	420	ND	ND	ND	ND	ND	ND	ND	150	ND	N/A	ND	ND	22	ND	ND	592	0.0035	0.105
1/22/2009	67	ND	ND	N/A	ND	ND	ND	ND	ND	810	ND	ND	ND	ND	170	ND	ND	580	ND	N/A	37	29	38	17	14	1,695	0.0102	0.306
2/21/2009	65	ND	ND	N/A	ND	ND	ND	ND	ND	630	ND	ND	ND	ND	140	ND	ND	270	ND	N/A	39	34	25	16	12	1,166	0.0068	0.204
3/18/2009	66	ND	ND	N/A	ND	ND	ND	ND	ND	460	ND	ND	ND	ND	160	ND	ND	350	ND	N/A	62	51	16	14	13	1,126	0.0067	0.200
4/17/2009	66	ND	ND	N/A	ND	ND	ND	ND	ND	200	ND	ND	ND	ND	46	ND	ND	86	ND	N/A	19	16	6.1	ND	ND	373	0.0022	0.066
5/20/2009	64	ND	ND	N/A	ND	ND	ND	ND	ND	210	ND	ND	ND	ND	24	ND	ND	79	ND	N/A	14	14	5.7	ND	ND	347	0.0020	0.060
6/23/2009	56	ND	ND	N/A	ND	ND	ND	ND	ND	190	ND	ND	ND	ND	ND	ND	ND	58	ND	N/A	ND	ND	ND	ND	ND	248	0.0012	0.037
7/23/2009	60	ND	ND	N/A	ND	ND	ND	ND	ND	150	ND	ND	ND	ND	ND	ND	ND	55	ND	N/A	ND	ND	ND	ND	ND	205	0.0011	0.033
8/28/2009	NA	ND	ND	N/A	ND	ND	ND	ND	ND	720	ND	ND	17	ND	ND	ND	ND	160	ND	N/A	ND	ND	13	ND	ND	910	0.0049	0.147
9/28/2009	NA	ND	ND	N/A	ND	ND	ND	ND	ND	39	ND	ND	110	ND	ND	ND	ND	16	ND	N/A	ND	ND	ND	ND	ND	165	0.0009	0.027
10/27/2009	60	ND	ND	N/A	ND	ND	ND	ND	ND	200	ND	ND	ND	ND	ND	ND	ND	64	ND	N/A	ND	ND	ND	ND	ND	264	0.0014	0.043
11/24/2009	60	ND	ND	N/A	ND	ND	ND	ND	ND	190	ND	ND	ND	ND	ND	ND	ND	75	ND	N/A	ND	ND	ND	ND	ND	265	0.0000	0.000
12/23/2009	65	ND	ND	N/A	ND	ND	ND	ND	ND	96	ND	ND	ND	ND	ND	26	ND	45	ND	N/A	ND	ND	ND	8.7	ND	176	0.0010	0.031
1/19/2010	65	ND	ND	N/A	ND	ND	ND	ND	ND	140	ND	ND	ND	ND	ND	ND	ND	57	ND	N/A	ND	ND	ND	ND	ND	197	0.0012	0.035
2/17/2010	68	ND	ND	N/A	ND	ND	ND	ND	ND	100	ND	ND	ND	ND	ND	ND	ND	37	ND	N/A	ND	ND	ND	ND	ND	137	0.0008	0.025
3/17/2010	65	ND	ND	N/A	ND	ND	ND	ND	ND	87	ND	ND	ND	ND	ND	ND	ND	33	ND	N/A	ND	ND	ND	ND	ND	120	0.0007	0.021
4/16/2010	65	ND	ND	N/A	ND	ND	ND	ND	ND	110	ND	ND	ND	ND	ND	ND	ND	39	ND	N/A	ND	ND	ND	ND	ND	149	0.0009	0.026
5/13/2010	68	58	ND	N/A	ND	ND	ND	ND	ND	65	ND	38	ND	ND	ND	220	ND	22	ND	N/A	25	ND	ND	140	39	607	0.0037	0.111
6/18/2010	66	ND	ND	N/A	ND	ND	ND	ND	ND	72	ND	ND	ND	ND	ND	ND	ND	25	ND	N/A	83	17	ND	30	17	244	0.0014	0.043
7/19/2010	60	ND	ND	N/A	ND	ND	ND	ND	ND	68	ND	ND	ND	ND	ND	ND	ND	34	ND	N/A	ND	ND	ND	ND	ND	102	0.0006	0.017
8/19/2010	61	ND	ND	N/A	ND	ND	ND	ND	ND	100	ND	ND	ND	ND	ND	ND	ND	31	ND	N/A	ND	ND	ND	ND	ND	131	0.0007	0.022
9/17/2010	63	ND	ND	N/A	ND	ND	ND	ND	ND	70	ND	ND	ND	ND	ND	ND	ND	33	ND	N/A	ND	ND	ND	ND	ND	103	0.0006	0.018
10/12/2010	60	10	ND	N/A	ND	ND	ND	ND	ND	160	ND	11	ND	ND	ND	130	110.0	70	ND	N/A	ND	ND	ND	23	ND	514	0.0028	0.083
11/2/2010	65	ND	ND	N/A	ND	ND	ND	ND	ND	65	ND	ND	ND	ND	ND	ND	ND	35	ND	N/A	ND	ND	ND	ND	ND	100	0.0006	0.018
12/1/2010	65	ND	ND	N/A	ND	ND	ND	ND	ND	120	ND	ND	ND	ND	19	ND	ND	89	ND	N/A	ND	ND	ND	ND	ND	228	0.0013	0.040
1/5/2011	68	ND	ND	N/A	ND	ND	ND	ND	ND	160	ND	ND	ND	ND	94	7.7	ND	250	ND	N/A	ND	ND	9	ND	ND	520	0.0032	0.095
2/7/2011	70	ND	ND	N/A	ND	ND	ND	ND	ND	180	ND	ND	ND	ND	120	ND	ND	270	ND	N/A	ND	ND	ND	ND	ND	570	0.0036	0.108
3/3/2011	69	ND	ND	N/A	ND	ND	ND	ND	ND	170	ND	ND	ND	ND	110	34	ND	180	ND	N/A	ND	ND	ND	ND	ND	494	0.0031	0.092
4/14/2011	65	ND	ND	N/A	ND	ND	ND	ND	ND	130	ND	ND	ND	ND	37	10	ND	90	ND	N/A	ND	ND	ND	ND	ND	267	0.0016	0.047
5/6/2011	70	8	ND	N/A	ND	ND	ND	ND	ND	100	ND	16	ND	ND	19	ND	ND	82	ND	N/A	ND	ND	ND	9	ND	234	0.0015	0.046
6/9/2011	55	26	ND	N/A	ND	ND	ND	ND	ND	97	ND	ND	ND	ND	ND	14	ND	63	ND	N/A	ND	ND	ND	ND	ND	200	0.0010	0.030
7/11/2011	51	20	ND	N/A	ND	ND	ND	ND	ND	74	ND	ND	37	ND	ND	62	ND	26	ND	N/A	ND	ND	ND	21	ND	240	0.0011	0.033
8/3/2011	50	14	ND	N/A	ND	ND	ND	ND	ND	76	ND	ND	ND	ND	ND	ND	ND	34	ND	N/A	ND	ND	ND	ND	ND	124	0.0006	0.017
9/15/2011	48	10	ND	N/A	ND	ND	ND	ND	ND	22	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	32	0.0001	0.004
10/25/2011	55	ND	ND	N/A	ND	ND	ND	ND	ND	38	ND	ND	27	ND	ND	20	ND	ND	ND	N/A	ND	ND	ND	11	ND	96	0.0005	0.015
11/8/2011	55	12	ND	N/A	ND	ND	ND	ND	ND	45	ND	ND	ND	ND	ND	ND	ND	16	ND	N/A	ND	ND	ND	ND	ND	73	0.0004	0.011
12/6/2011	55	ND	ND	N/A	ND	ND	ND	ND	ND	62	ND	ND	ND	ND	ND	ND	ND	21	ND	N/A	ND	ND	ND	ND	ND	83	0.0004	0.013

TABLE 4

Building C Influent Concentrations (µg/m^3)

LABORATORY DATA SUMMARY

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	FLOW (scfm)	benzene	carbon tetrachloride	chlorodifluoromethane	chloroform	chloromethane	dichlorodifluoromethane	1,1-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	naphthalene	tetrachloroethene	toluene	1,1,1,-trichloroethane	trichloroethene	1,1,2-trichloro-1,2,2-trifluoroethane	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs (ug/m3)	Mass (lbs/day)	Mass (lbs removed in period)
1/3/2012	50	ND	ND	N/A	ND	ND	ND	ND	ND	55	ND	ND	ND	ND	ND	ND	ND	21	ND	N/A	ND	ND	ND	ND	ND	76	0.0003	0.011
2/16/2012	54	ND	ND	N/A	ND	ND	ND	ND	ND	76	ND	ND	ND	ND	ND	ND	ND	43	ND	N/A	ND	ND	ND	ND	ND	119	0.0006	0.017
3/15/2012	55	ND	ND	N/A	ND	ND	ND	ND	ND	93	ND	ND	ND	ND	16	ND	ND	58	ND	N/A	ND	ND	ND	ND	ND	167	0.0008	0.026
4/16/2012	54	ND	ND	N/A	ND	ND	ND	ND	ND	64	ND	ND	ND	ND	16	ND	ND	56	ND	N/A	ND	ND	ND	ND	ND	136	0.0007	0.020
5/9/2012	51	ND	ND	N/A	ND	ND	ND	ND	ND	72	ND	ND	ND	ND	20	9.8	ND	65	ND	N/A	ND	ND	ND	ND	ND	167	0.0008	0.024
6/4/2012	52	ND	ND	N/A	ND	ND	ND	ND	ND	71	ND	ND	ND	ND	17	ND	ND	50	ND	N/A	ND	ND	ND	ND	ND	138	0.0006	0.003
8/16/2012	49	ND	ND	N/A	ND	ND	ND	ND	ND	39	ND	ND	ND	ND	ND	ND	ND	19	ND	N/A	ND	ND	ND	ND	ND	58	0.0003	0.008
9/12/2012	30	ND	ND	N/A	ND	ND	ND	ND	ND	41	ND	ND	ND	ND	ND	23	ND	22	ND	N/A	ND	ND	ND	ND	ND	86	0.0002	0.007
10/18/2012	65	ND	ND	N/A	ND	ND	ND	ND	ND	95	ND	ND	ND	ND	ND	ND	ND	45	ND	N/A	ND	ND	ND	ND	ND	140	0.0008	0.025
11/13/2012	61	ND	ND	N/A	ND	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	ND	270	ND	N/A	ND	ND	ND	31	16	335	0.0018	0.055
12/6/2012	62	ND	ND	N/A	ND	ND	ND	ND	ND	70	ND	ND	ND	ND	22	ND	ND	91	ND	N/A	ND	ND	5.3	ND	ND	188	0.0010	0.033
1/4/2013	56	ND	ND	N/A	ND	ND	ND	ND	ND	66	ND	ND	ND	ND	42	ND	ND	110	ND	N/A	ND	ND	ND	ND	ND	218	0.0011	0.034
2/6/2013	60	ND	ND	N/A	ND	ND	ND	ND	ND	49	ND	ND	ND	ND	29	ND	ND	91	ND	N/A	ND	ND	ND	ND	ND	169	0.0009	0.026
3/7/2013	57	ND	ND	N/A	ND	ND	ND	ND	ND	60	ND	ND	ND	ND	45	ND	ND	100	ND	N/A	ND	ND	ND	ND	ND	205	0.0011	0.033
4/8/2013	57	ND	ND	N/A	ND	ND	ND	ND	ND	44	ND	ND	ND	ND	21	ND	ND	52	ND	N/A	ND	ND	ND	ND	ND	117	0.0006	0.018
5/10/2013	112	ND	ND	N/A	ND	ND	ND	ND	ND	120	ND	ND	ND	ND	ND	ND	ND	2,900	ND	N/A	ND	ND	ND	80	ND	3,100	0.0312	0.968
6/5/2013	161	ND	ND	N/A	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND	ND	460	50	N/A	ND	ND	ND	31	15	566	0.0082	0.246
7/3/2013	182	12	ND	N/A	ND	12	ND	ND	ND	ND	ND	9.4	ND	ND	ND	ND	ND	290	16	N/A	11	ND	ND	43	23	416	0.0068	0.211
8/14/2013	180	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	20	ND	ND	ND	ND	210	18	N/A	ND	ND	ND	20	11	279	0.0045	0.140
9/9/2013	182	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	150	ND	N/A	ND	ND	ND	ND	ND	150	0.0025	0.074
10/10/2013	190	14	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200	16	N/A	ND	ND	ND	20	10	260	0.0044	0.138
11/7/2013	160	13	ND	N/A	ND	ND	ND	ND	ND	18	ND	9.8	ND	ND	ND	ND	ND	280	ND	N/A	ND	ND	ND	45	24	390	0.0056	0.168
12/5/2013	154	6.3	ND	ND	ND	N/A	6.6	ND	ND	13	ND	7.3	4.1	33.9	5.4	4.0	ND	228	N/A	ND	4.8	2.4	ND	30.4	16.1	362	0.0050	0.155
1/13/2014	175	13.7	ND	4.7	ND	N/A	ND	ND	ND	5.7	ND	10.3	3.4	22.6	5.6	49.6	ND	298	N/A	5.5	17.8	ND	ND	49.1	19.3	505	0.0079	0.246
2/14/2014	168	1.8	ND	4.5	ND	N/A	2.2	ND	ND	2.3	ND	2.1	ND	5.3	2.2	2.7	ND	157	N/A	ND	2.8	ND	ND	8.9	4.7	197	0.0030	0.083
3/12/2014	175	9.1	ND	3.0	3.2	N/A	2.2	ND	ND	4.9	ND	5.9	ND	11.5	3.3	6.0	ND	261.0	N/A	1.6	6.0	3.0	ND	25.3	12.3	358	0.0056	0.175
4/10/2014	168	10	ND	7.1	ND	N/A	ND	ND	ND	7.0	ND	67	ND	12.1	5.1	50.7	6.6	266	N/A	ND	6.9	ND	ND	218	67.4	724	0.0109	0.317
5/5/2014	182	11.8	1.2	5.8	1.5 J	N/A	2.9	ND	ND	7.6	ND	4.7	1.2 J	12.7	3.6	30.6	ND	236	N/A	2.1	6.8	3.5	ND	20.9	11.3	364	0.0060	0.149
6/5/2014	180	12.8	ND	ND	2.7	N/A	2.1	ND	ND	2.7	ND	4.1	24.5	13.1	23.1	11.6	ND	154	N/A	6.1	18	6.1	ND	27	12.1	320	0.0052	0.160
7/3/2014	182	14.4	0.77 J	11.2	5.6	N/A	1.4 J	ND	0.88 J	4.1	0.81 J	6.3	147	16.9	7.1	5.7	ND	183	N/A	2.8	7.3	4.7	ND	19.4	9.8	449	0.0073	0.206
8/13/2014	166	10.8	1.7	N/A	66.2	1.5	ND	7.6	4.8	4.7	ND	7.5	ND	20.6	7.0	5.0	33.6	289	N/A	N/A	7.8	3.9	ND	30.2	16.0	518	0.0077	0.317
9/12/2014	175	8.0	1.1	5.6	ND	N/A	2.9	7.0	ND	5.3	ND	2.9	0.76 J	31.2	2.1	3.4	37.9	124	N/A	2.1	5.4	2.1	ND	17.2	10.8	270	0.0042	0.127

ND - non-detect (below detection limit)

N/A - not applicable (samples not analyzed for compound)

J - estimated

Sampling not conducted in July 2012 due to system shutdown test.

Completed first-phase system expansion on October 31, 2012.

Completed second-phase system expansion on May 10, 2013.

Samples analyzed from 4/2/08 to 11/7/13 analyzed by TestAmerica, Inc. of Knoxville, TN.

Samples analyzed from 12/5/13 to present analyzed by Pace Analytical Services, Inc. of Minneapolis, MN.

TABLE 5

Building C Mid-GAC Concentrations (µg/m^3)

LABORATORY DATA SUMMARY

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	benzene	carbon tetrachloride	chlorodifluoromethane	chloroform	dichlorodifluoromethane	1,1-dichloroethane	1,2-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	naphthalene	tetrachloroethene	toluene	1,2,4-Trichlorobenzene	1,1,1,-trichloroethane	trichloroethene	1,1,2-trichloro-1,2,2-trifluoroethane	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs (ug/m3)	Mass (lbs/day)
4/2/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	720	ND	ND	720.0	0.004
4/24/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	230	ND	ND	230.0	0.001
5/21/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	50	ND	ND	50.0	0.000
6/19/2008	28	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	51	ND	ND	79.0	0.000
7/18/2008	ND	ND	N/A	ND	ND	ND	ND	ND	150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	40	ND	ND	190.0	0.001
8/13/2008	ND	ND	N/A	ND	ND	ND	ND	ND	750	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15	ND	ND	765.0	0.004
9/11/2008	ND	ND	N/A	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	ND	ND	23.0	0.000
11/12/2008	ND	ND	N/A	ND	ND	ND	ND	ND	160	ND	ND	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17	ND	ND	227.0	0.001
12/18/2008	ND	ND	N/A	ND	ND	ND	ND	ND	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	25	ND	ND	205.0	0.001
1/22/2009	ND	ND	N/A	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	35	ND	ND	48.0	0.000
2/20/2009	ND	ND	N/A	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15	ND	ND	29.0	0.000
3/18/2009	ND	ND	N/A	ND	ND	ND	ND	ND	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	ND	ND	119.0	0.001
4/17/2009	ND	ND	N/A	ND	ND	ND	ND	ND	340	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.1	ND	ND	347.1	0.002
5/20/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.000
6/23/2009	ND	ND	N/A	ND	ND	ND	ND	ND	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.2	ND	ND	75.2	0.000
7/23/2009	ND	ND	N/A	ND	ND	ND	ND	ND	360	ND	ND	21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	381.0	0.002
8/28/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20.0	0.000
9/28/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.000
10/27/2009	ND	ND	N/A	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.0	0.000
11/24/2009	ND	ND	N/A	ND	ND	ND	ND	ND	23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	23.0	0.000
12/23/2009	ND	ND	N/A	ND	ND	ND	ND	ND	23	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	36.0	0.000
1/19/2010	ND	ND	N/A	ND	ND	ND	ND	ND	21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21.0	0.000
2/17/2010	ND	ND	N/A	ND	ND	ND	ND	ND	23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	23.0	0.000
3/17/2010	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.000
4/16/2010	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.000
5/13/2010	15	ND	N/A	ND	ND	ND	ND	ND	9.6	ND	9.8	ND	ND	ND	51	ND	ND	ND	ND	ND	ND	ND	ND	36	10	131.4	0.001
6/18/2010	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	79	16	ND	26	15		136.0	0.001
7/19/2010	11	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11.0	0.000
8/19/2010	ND	ND	N/A	ND	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.0	0.000
9/17/2010	35	ND	N/A	ND	ND	ND	ND	ND	26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	61.0	0.000
10/12/2010	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	ND	24	ND	ND	ND	ND	ND	ND	ND	ND	36.0	0.000
11/2/2010	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	12.0	0.000
12/1/2010	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.000
1/5/2011	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	ND	ND	9.0	0.000
2/7/2011	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.000
3/3/2011	ND	ND	N/A	ND	ND	ND	ND	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20.0	0.000
4/14/2011	ND	ND	N/A	ND	ND	ND	ND	ND	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	180.0	0.000
5/6/2011	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11.0	0.000
6/9/2011	32	ND	N/A	ND	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	62.0	0.000
7/11/2011	29	ND	N/A	ND	ND	ND	ND	ND	160	ND	ND	28	ND	ND	74	ND	ND	ND	ND	ND	ND	ND	ND	24	8.9	323.9	0.000
8/3/2011	25	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	25.0	0.000
9/15/2011	22	ND	N/A	ND	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	34.0	0.000
10/25/2011	16	ND	N/A	ND	ND	ND	ND	ND	19	ND	ND	24	ND	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	13	ND	92.0	0.000
11/8/2011	16	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16.0	0.000
12/6/2011	8.4	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.4	0.000
1/3/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.000
2/16/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.000

TABLE 5

Building C Mid-GAC Concentrations (µg/m^3)

LABORATORY DATA SUMMARY

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	benzene	carbon tetrachloride	chlorodifluoromethane	chloroform	dichlorodifluoromethane	1,1-dichloroethane	1,2-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	naphthalene	tetrachloroethene	toluene	1,2,4-Trichlorobenzene	1,1,1,-trichloroethane	trichloroethene	1,1,2-trichloro-1,2,2-trifluoroethane	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs (ug/m3)	Mass (lbs/day)
3/15/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.000
4/16/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.000
5/9/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.000
6/4/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	8.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.7	0.000
8/15/2012	ND	ND	N/A	ND	ND	ND	ND	ND	28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	28.0	0.000
9/12/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19.0	0.000
10/18/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.000
11/13/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.000
12/6/2012	ND	ND	N/A	ND	ND	ND	ND	ND	9.3	ND	ND	ND	ND	ND	ND	ND	ND	57	ND	ND	ND	ND	ND	ND	ND	66.3	0.001
1/4/2013	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21	ND	ND	ND	ND	ND	ND	ND	21.0	0.000
2/6/2013	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	24	ND	ND	ND	ND	ND	ND	ND	24.0	0.000
3/7/2013	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	ND	ND	ND	ND	ND	ND	ND	19.0	0.000
4/8/2013	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	ND	ND	ND	ND	ND	ND	ND	19.0	0.000
5/10/2013	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	87	ND	ND	ND	ND	ND	ND	ND	87.0	0.001
6/5/2013	ND	ND	N/A	ND	ND	ND	ND	ND	28	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	ND	ND	ND	ND	ND	ND	47.0	0.000
7/3/2013	ND	ND	N/A	ND	ND	ND	ND	ND	34	ND	ND	21	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	ND	69.0	0.001
8/14/2013	9.9	ND	N/A	ND	ND	ND	ND	ND	17	ND	ND	17	ND	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	ND	55.9	0.001
9/9/2013	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0	0.000
10/10/2013	11	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11.0	0.000
11/7/2013	11	ND	N/A	ND	ND	ND	ND	ND	9.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	31.3	0.000
12/5/2013	10.9	ND	N/A	ND	8.6	ND	ND	ND	7.4	ND	ND	6.4	ND	ND	2.5	ND	ND	10.7	N/A	ND	ND	ND	ND	ND	ND	46.5	0.000
1/13/2014	8.3	ND	4.2	ND	2.2	ND	ND	ND	11.0	ND	1.7	2.4	4.8	ND	21.3	ND	3.0	124	N/A	ND	2.7	ND	ND	5.8	2.4	193.8	0.002
2/14/2014	5.8	ND	6.1	ND	2.0	ND	ND	ND	5.7	ND	ND	ND	2.5	ND	ND	ND	ND	256	N/A	ND	ND	ND	ND	ND	ND	278.1	0.003
3/12/2014	13.5	ND	3.7	ND	2.4	ND	ND	ND	10.5	ND	3.7	ND	ND	18.2	12.5	ND	ND	5.6	N/A	5.9	15.3	4.4	ND	17.1	7.6	120.4	0.001
4/10/2014	7.8	ND	8.2	ND	ND	ND	ND	ND	14.6	ND	84.3	ND	ND	ND	64.8	ND	9.6	18.6	N/A	ND	ND	ND	ND	263	73.6	544.5	0.005
5/5/2014	9.6	ND	6.1	1.3 J	2.9	ND	ND	ND	11.7	0.90 J	ND	1.4 J	3.4 J	ND	1.6	ND	ND	0.86 J	N/A	ND	0.88 J	ND	ND	0.85 J	ND	41.49	0.000
6/5/2014	8.5	ND	2.6	ND	2.6	ND	ND	ND	5.9	ND	ND	20.6	2.3 J	9.6	1.3 J	ND	ND	ND	N/A	2.0	2.6	ND	ND	1.9 J	2.2	62.1	0.001
7/3/2014	10.2	0.64 J	12.3	5.1	1.8	ND	ND	ND	5.8	0.79 J	1.4 J	9.7	4.1 J	ND	1.4	ND	ND	3.4	N/A	ND	1.6 J	1.5 J	ND	1.9 J	1.6	63.23	0.001
8/13/2014	11.4	1.8	N/A	60.1	1.6 J	5.1	0.69 J	ND	5.8	ND	6.0	1.3 J	5.0 J	2.6	10.8	5.4	4.4	20.1	N/A	N/A	14.4	6.3	ND	18.7	6.4	187.89	0.002
9/12/2014	7.4	2.1	5.9	31.4	2.4	9.4	ND	ND	5.4	ND	0.41 J	1.1 J	ND	0.62 J	1.3	ND	25.3	50.2	N/A	ND	ND	ND	ND	0.96 J	ND	143.89	0.001

ND - non-detect (below detection limit)

N/A - not applicable (samples not analyzed for compound)

J - estimated

Sampling not conducted in July 2012 due to shutdown test.

*November 2012 sample collected while four new extraction wells intalled in October 2012 were operating (November 5-26, 2012). Wells temporarily closed until May 16, 2013.

Samples analyzed from 4/2/08 to 11/7/13 analyzed by TestAmerica, Inc. of Knoxville, TN.

Samples analyzed from 12/5/13 to present analyzed by Pace Analytical Services, Inc. of Minneapolis, MN.

TABLE 6

Building C Effluent Concentrations (µg/m^3)

LABORATORY DATA SUMMARY

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	benzene	carbon tetrachloride	chlorodifluoromethane	chloroform	dichlorodifluoromethane	1,1-dichloroethane	1,2-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	methyl-tert-butyl ether	naphthalene	tetrachloroethene	toluene	1,2,4-trichlorobenzene	1,1,1,-trichloroethane	1,1,2,-trichloroethane	trichloroethene	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs (ug/m3)	Mass (lbs/day)
3/31/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
4/2/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	170	ND	ND	170.0	0.002
4/4/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	360	ND	ND	360.0	0.004
4/11/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	25	N/A	ND	ND	550	ND	ND	575.0	0.006
4/17/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	100	ND	ND	100.0	0.001
4/24/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	260	ND	ND	260.0	0.003
5/23/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	52	ND	ND	52.0	0.001
6/19/2008	51	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	50	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	54	ND	ND	155.0	0.002
7/18/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	29	ND	ND	29.0	0.000
8/13/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	10	ND	16	ND	ND	26.0	0.000
9/11/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	63	ND	ND	ND	28	ND	ND	ND	ND	N/A	ND	ND	6.1	ND	ND	97.1	0.001
11/12/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	47	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	16	ND	ND	63.0	0.001
12/18/2008	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	31	ND	ND	31.0	0.000
2/4/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	29	ND	ND	29.0	0.000
2/20/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	6.8	ND	ND	6.8	0.000
3/18/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	26	ND	ND	26.0	0.000
4/17/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	8.9	ND	ND	8.9	0.000
5/20/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
6/23/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	5.5	9.4	ND	14.9	0.000
7/23/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	29	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	29.0	0.000
8/28/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
9/28/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
10/27/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
11/24/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
12/23/2009	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	10.0	0.000
1/19/2010	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
2/17/2010	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
3/17/2010	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
4/16/2010	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
5/13/2010	36	ND	N/A	ND	ND	ND	ND	ND	ND	ND	24	31	ND	ND	ND	140	ND	ND	ND	ND	N/A	17	ND	ND	89	25	362.0	0.004
6/18/2010	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	68	16	ND	28	16	128.0	0.001
7/19/2010	10	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	10.0	0.000
8/19/2010	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
9/17/2010	13	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	13.0	0.000
10/12/2010	ND	ND	N/A	ND	ND	ND	ND	ND	21	ND	ND	ND	ND	ND	ND	42	ND	110	ND	25	N/A	ND	ND	ND	ND	ND	198.0	0.002
11/2/2010	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
12/1/2010	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	24	ND	ND	N/A	ND	ND	ND	ND	ND	24.0	0.000
1/5/2011	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	12	ND	ND	12.0	0.000
2/7/2011	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	5	ND	ND	5.3	0.000
3/3/2011	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
4/14/2011	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	13.0	0.000
5/6/2011	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	15	N/A	ND	ND	ND	ND	ND	26.0	0.000
6/9/2011	8.4	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.9	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	17.3	0.000
7/11/2011	9.5	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	75	ND	ND	ND	61	ND	ND	ND	ND	N/A	ND	ND	ND	21	ND	166.5	0.002
8/3/2011	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	21	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	21.0	0.000
9/15/2011	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000

TABLE 6

Building C Effluent Concentrations (µg/m^3)

LABORATORY DATA SUMMARY

SSD System O&M, Middle River Complex, Middle River, Maryland

Samples analyzed by EPA Method TO-15

Date	benzene	carbon tetrachloride	chlorodifluoromethane	chloroform	dichlorodifluoromethane	1,1-dichloroethane	1,2-dichloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	trans-1,2-dichloroethene	ethylbenzene	methylene chloride	methyl-tert-butyl ether	naphthalene	tetrachloroethene	toluene	1,2,4-trichlorobenzene	1,1,1,-trichloroethane	1,1,2,-trichloroethane	trichloroethene	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	vinyl chloride	m-xylene & p-xylene	o-xylene	Total VOCs (ug/m3)	Mass (lbs/day)
10/25/2011	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	23	ND	ND	ND	21	ND	ND	ND	ND	N/A	ND	ND	ND	11	ND	55.0	0.001
11/8/2011	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
12/6/2011	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
1/3/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
2/16/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
3/15/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
4/16/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
5/9/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
6/4/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	8.4	ND	23.4	0.000
8/15/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
9/12/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	22.0	0.000
10/18/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
11/13/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
12/6/2012	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
1/4/2013	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
2/6/2013	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	5.3	ND	ND	5.3	0.000
3/7/2013	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
4/8/2013	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
5/10/2013	9.9	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	34	N/A	ND	ND	ND	ND	ND	44	0.000
6/5/2013	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
7/3/2013	6.4	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	29	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	35	0.000
8/14/2013	5.8	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	23	0.000
9/9/2013	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	0.0	0.000
10/10/2013	11	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	11	0.000
11/7/2013	10	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	ND	ND	ND	30	0.000
12/5/2013	9.3	ND	ND	ND	9.2	ND	ND	ND	ND	2.1	ND	ND	13.9	ND	ND	ND	3.5	ND	ND	ND	3.7	ND	4.9	2.3	ND	ND	49	0.000
1/13/2014	4.8	ND	4.3	1.6	ND	ND	ND	ND	8.2	ND	ND	2.3	ND	4.8	ND	26.3	ND	ND	ND	3.8	1.7	7.3	ND	ND	3.6	ND	69	0.001
2/14/2014	6.6	3.3	10.6	3.8	4.5	2.5	2.4	2.4	7.0	2.3	2.9	1.3	2.1	3.0	4.5	4.0	3.3	3.6	3.1	5.7	8.7	6.1	4.3	ND	3.4	2.8	104	0.001
3/12/2014	6.9	ND	2.5	ND	2.2	ND	ND	ND	ND	ND	ND	13.7	ND	ND	ND	3.2	ND	ND	ND	1.9	0.94	5.1	2.3	ND	ND	ND	39	0.000
4/10/2014	6.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	110	ND	ND	ND	ND	95.4	ND	ND	ND	ND	ND	ND	ND	ND	330	91.7	633	0.006
5/5/2014	6.0	ND	6.8	ND	3.2	ND	ND	ND	2.3	ND	ND	1.4 J	ND	4.0 J	ND	3.4	ND	ND	ND	ND	1.4 J	7.2	3.5	ND	1.2 J	ND	40	0.000
6/5/2014	5.7	ND	2.9	ND	2.9	ND	ND	ND	2.5	ND	ND	20	ND	2.3 J	21.1	2.3	ND	ND	ND	ND	3.1	7.5	3.5	ND	1.5 J	1.8	77	0.001
7/3/2014	10.6	ND	10.6	1.6	1.1 J	ND	ND	ND	4.2	ND	4.3	5.8 J	ND	2.4 J	20.5	4.2	ND	ND	ND	1.6	1.9	9.7	5.4	ND	7.4	1.8	93	0.001
8/13/2014	6.1	ND	N/A	31.1	ND	2.1 J	ND	ND	4.5	ND	ND	ND	ND	1.8 J	ND	3.0	ND	ND	ND	ND	N/A	8.3	4.4	ND	3.4 J	2.0 J	67	0.001
9/12/2014	4.0	0.89 J	5.9	59.4	3.6	7.3	ND	3.9	3.8	ND	ND	0.80 J	ND	1.6 J	0.62 J	2.2	ND	3.9	ND	6.7	1.4 J	8.0	ND	ND	0.95 J	ND	115	0.001

ND - non-detect (below detection limit)

N/A - not applicable (samples not analyzed for compound)

J - estimated

Sampling not conducted in July 2012 due to system shutdown test.

November 2012 sample collected after the potassium permanganate zeolite (PPZ) unit. PPZ unit was taken offline prior to the December 2012 sample.

Samples analyzed from 4/2/08 to 11/7/13 analyzed by TestAmerica, Inc. of Knoxville, TN.

Samples analyzed from 12/5/13 to present analyzed by Pace Analytical Services, Inc. of Minneapolis, MN.

APPENDIX A—SYSTEM FIELD DATA SHEETS

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 4/10/14 Time: 1130 Personnel: DLM Room Temp: _____

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 Filter* (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
	2.0	11	17	6	0	106	160

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Comments
North Leg - Ground Floor	1157	0.49	642	56.0	
South Leg - Ground Floor	1159	1.34	402	35.1	
North Leg - Basement	1223	1.31	41	3.6	
South Leg - Basement	1224	1.25	1018	88.9	

** Flow = Velocity x 0.0873

VACUUM MONITORING		
Well	Time	Vacuum (in. H_2O)
SSD-1-A	1208	0.07
SSD-12-A	1210	0.14
SSD-11-A	1212	0.16
SSD-13-A	1214	0.24
SSD-2-A	1215	0.85
SSD-16-A	1216	0.73
015-A	1218	1.17
SSD-3-A	1220	0.51
SSD-19-A	1226	0.00
~~018-A~~		
SSD-20-A	1232	0.08 H_2O
SSD-21-A	1228	0.52
SSD-22-A	1229	0.47

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-INFLUENT	1145	2575
A-MID GAC	1146	9239
A-EFFLUENT	1147	9243

1. Was the blower running upon arrival?
   YES (circled) NO
2. Where there any alarm conditions upon arrival?
   YES NO (circled)
   Comment: _____
3. Was the blower ambient air valve open?
   YES NO (circled)
4. Was there water in the knockout tank?
   YES NO (circled) Volume: _____
5. Was the vacuum/flow on either leg adjusted?
   YES NO (circled)
   Comment: _____
6. Are there any leaks or damage to system hoses?
   YES NO (circled)
7. Is there any damage to system components?
   YES NO (circled)
8. Are all locks and zip-ties secure?
   YES (circled) NO
9. Do the these fall to zero when system is turned off?
   Flow Gauge YES (circled) NO
   Pressure Gauges YES (circled) NO
   Vacuum Gauges YES (circled) NO
10. Was there a GAC change out?
    YES NO (circled)
11. How many unused GAC units are at this location?
    NEW 2
    SPENT 0

ADDITIONAL COMMENTS:
Removed tubing Kink from SSD-11-A

FIELD REP. SIGNATURE: Dawn L Mannion Time: _____

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 4/24/14 Time: 1248 Personnel: DLM Room Temp: _____

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 Filter* (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
	2.0	11	17	6	0	104	155

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Comments
North Leg - Ground Floor	1254	0.47	620	54.1	
South Leg - Ground Floor	1255	1.33	422	36.8	
North Leg - Basement	1311	1.28	46	4.0	
South Leg - Basement	1312	1.24	1031	90.0	

** Flow = Velocity x 0.0873

VACUUM MONITORING			
Well	Time	Vacuum (in. H_2O)	
SSD-1-A	1257	0.07	
SSD-12-A	1258	0.14	
SSD-11-A	1259	0.12	
SSD-13-A	1302	0.26	
SSD-2-A	1303	0.84	
SSD-16-A	1305	0.74	
015-A	1306	1.15	
SSD-3-A	1308	0.51	
SSD-19-A	1314	0.00	
018-A	—	—	
SSD-20-A	1322	0.22	
SSD-21-A	1316	0.50	variable
SSD-22-A	1318	0.47	variable

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-INFLUENT	N/A	N/A
A-MID GAC	↓	↓
A-EFFLUENT	↓	↓

1. Was the blower running upon arrival?
   YES (circled) NO
2. Where there any alarm conditions upon arrival?
   YES NO (circled)
   Comment: _____
3. Was the blower ambient air valve open?
   YES NO (circled)
4. Was there water in the knockout tank?
   YES NO (circled) Volume: _____
5. Was the vacuum/flow on either leg adjusted?
   YES NO (circled)
   Comment: _____
6. Are there any leaks or damage to system hoses?
   YES NO (circled)
7. Is there any damage to system components?
   YES NO (circled)
8. Are all locks and zip-ties secure?
   YES (circled) NO
9. Do the these fall to zero when system is turned off?
   Flow Gauge YES (circled) NO
   Pressure Gauges YES (circled) NO
   Vacuum Gauges YES (circled) NO
10. Was there a GAC change out?
    YES NO (circled)
11. How many unused GAC units are at this location?
    NEW 2
    SPENT 0

ADDITIONAL COMMENTS:

_____

FIELD REP. SIGNATURE: [signature] Time: _____

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 5/5/14 Time: _____ Personnel: DLM Room Temp: _____

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 Filter* (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
N/A	2.0	11	17	6	0	108	150

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Comments
North Leg - Ground Floor	N/A	0.44	600	52.4	
South Leg - Ground Floor	↓	1.28	425	37.1	
North Leg - Basement	↓	1.28	4	0.3	
South Leg - Basement	↓	1.22	981	85.6	

** Flow = Velocity x 0.0873

VACUUM MONITORING			
Well	Time	Vacuum (in. H_2O)	
SSD-1-A	N/A	0.07	H_2O
SSD-12-A	↓	0.10	H_2O
SSD-11-A	↓	0.17	
SSD-13-A	↓	0.25	
SSD-2-A	↓	0.84	
SSD-16-A	↓	0.69	
015-A	↓	1.11	
SSD-3-A	↓	0.51	H_2O
SSD-19-A	↓	0.00	
018-A	↓	N/A	
SSD-20-A	↓	0.05	H_2O
SSD-21-A	↓	0.51	
SSD-22-A	↓	0.45	

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-INFLUENT	1415	2238
A-MID GAC	1417	2553
A-EFFLUENT	1419	2227

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 0

ADDITIONAL COMMENTS:

_____

FIELD REP. SIGNATURE: [signature] **Time:** _____

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 5/23/14 Time: 1455 Personnel: DLM Room Temp: _____

GENERAL SYSTEM MONITORING							
Time	Vacuum post-MS (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
1502	2.0	11	16	5	0	116	160

* Replace filter if >25 in. H_2O

150 after GAC Δ

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Comments
North Leg - Ground Floor	1506	0.44	594	51.9	
South Leg - Ground Floor	1507	1.23	415	36.2	
North Leg - Basement	1521	1.17	6	0.5	
South Leg - Basement	1523	1.12	1037	90.5	

** Flow = Velocity x 0.0873

VACUUM MONITORING		
Well	Time	Vacuum (in. H_2O)
SSD-1-A	1509	0.09
SSD-12-A	1511	0.12
SSD-11-A	1512	0.14
SSD-13-A	1514	0.26
SSD-2-A	1515	0.82
SSD-16-A	1516	0.70
015-A	1517	1.08
SSD-3-A	1519	0.48
SSD-19-A	1529	0.00
SSD-20-A	1530	-0.06
SSD-21-A	1526	0.33
SSD-22-A	1524	0.31

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-INFLUENT	N/A	N/A
A-MID GAC	↓	↓
A-EFFLUENT	↓	↓

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 moisture separator?
   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 1

ADDITIONAL COMMENTS:

1532: Turn off system for GAC Δ
1615: Turn on system

FIELD REP. SIGNATURE: Dawne L Mann Time: _____

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 6/5/14 Time: _____ Personnel: DLM/CL Room Temp: _____

GENERAL SYSTEM MONITORING							
Time	Vacuum post-MS (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
N/A	27	11	17	6	0	120	150

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Comments
North Leg - Ground Floor	N/A	0.63	731	63.8	
South Leg - Ground Floor	↓	1.77	565	49.3	
North Leg - Basement	↓	2.21	93	8.1	
South Leg - Basement	↓	2.18	718	62.7	

** Flow = Velocity x 0.0873

VACUUM MONITORING		
Well	Time	Vacuum (in. H_2O)
SSD-1-A	N/A	0.14
SSD-12-A	↓	0.17
SSD-11-A	↓	0.17
SSD-13-A	↓	0.36
SSD-2-A	↓	1.17
SSD-16-A	↓	1.00
015-A	↓	1.52
SSD-3-A	↓	0.77
SSD-19-A	↓	0.02
SSD-20-A	↓	0.64
SSD-21-A	↓	0.00
SSD-22-A	↓	0.38

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-INFLUENT		2436 (PA) / 09578 (TA)
A-MID GAC	17:28	2077 (PA) / 10837 (TA)
A-EFFLUENT	17:30	2645 (PA) / 09582 (TA)

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 moisture separator?
   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 1

ADDITIONAL COMMENTS:

FIELD REP. SIGNATURE: Daniel L Mancia Time: _____

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 6/19/14 Time: 1120 Personnel: DLM Room Temp: _____

GENERAL SYSTEM MONITORING							
Time	Vacuum post-MS (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
1123	2.25	11	16	5	0	122	155

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Comments
North Leg - Ground Floor	1126	0.49	646	56.0	
South Leg - Ground Floor	1127	1.37	~~441~~ 469	40.9	
North Leg - Basement	1139	1.45	32	2.8	
South Leg - Basement	1141	1.40	892	77.9	

** Flow = Velocity x 0.0873

VACUUM MONITORING		
Well	Time	Vacuum (in. H_2O)
SSD-1-A	1051	0.07
SSD-12-A	1052	0.14
SSD-11-A	1130	0.15
SSD-13-A	1110	0.27
SSD-2-A	1132	0.93
SSD-16-A	1133	0.80
015-A	1135	1.17
SSD-3-A	1137	0.53
SSD-19-A	1143	0.01
SSD-20-A	1147	-0.11
SSD-21-A	1100	0.78
SSD-22-A	1105	0.73

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-INFLUENT	N/A	N/A
A-MID GAC	↓	↓
A-EFFLUENT	↓	↓

1. Was the blower running upon arrival?
   YES (circled) NO
2. Where there any alarm conditions upon arrival?
   YES NO (circled)
   Comment: _____
3. Was the blower ambient air valve open?
   YES NO (circled)
4. Was there water in the moisture separator?
   YES NO (circled) Volume: _____
5. Was the vacuum/flow on either leg adjusted?
   YES NO (circled)
   Comment: _____
6. Are there any leaks or damage to system hoses?
   YES NO (circled)
7. Is there any damage to system components?
   YES NO (circled)
8. Are all locks and zip-ties secure?
   YES (circled) NO
9. Do the these fall to zero when system is turned off?
   Flow Gauge YES (circled) NO
   Pressure Gauges YES (circled) NO
   Vacuum Gauges YES (circled) NO
10. Was there a GAC change out?
    YES NO (circled)
11. How many unused GAC units are at this location?
    NEW 1
    SPENT 1

ADDITIONAL COMMENTS:
Replaced missing fire extinguisher.

FIELD REP. SIGNATURE: [signature] Time: 1147

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 7/3/14 Time: _____ Personnel: DLM Room Temp: _____

GENERAL SYSTEM MONITORING							
Time	Vacuum post-MS (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
N/A	2.0	11	16	5	0	124	158

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING					
Location Top-N	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Comments
North Leg - Ground Floor along	N/A	0.40	665	58.1	
South Leg - Ground Floor wall	↓	1.12	412	36.0	
North Leg - Basement against	↓	1.02	42	3.7	
South Leg - Basement fence	↓	0.96	1066	93.1	

** Flow = Velocity x 0.0873 onsite

VACUUM MONITORING		
Well	Time	Vacuum (in. H_2O)
SSD-1-A	N/A	0.06
SSD-12-A	↓	0.12
SSD-11-A	↓	0.07
SSD-13-A	↓	0.22
SSD-2-A	↓	0.78
SSD-16-A	↓	0.65
015-A	↓	0.98
SSD-3-A	↓	0.47
SSD-19-A	↓	0.00
SSD-20-A	↓	-0.12
SSD-21-A	↓	0.20
SSD-22-A	↓	0.18

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-INFLUENT	1300	1324
A-MID GAC	1302	1318
A-EFFLUENT	1304	1790

1. Was the blower running upon arrival?
   YES (circled) NO
2. Where there any alarm conditions upon arrival?
   YES NO (circled)
   Comment: _____
3. Was the blower ambient air valve open?
   YES NO (circled)
4. Was there water in the moisture separator?
   YES NO (circled) Volume: _____
5. Was the vacuum/flow on either leg adjusted?
   YES NO (circled)
   Comment: _____
6. Are there any leaks or damage to system hoses?
   YES NO (circled)
7. Is there any damage to system components?
   YES NO (circled)
8. Are all locks and zip-ties secure?
   YES (circled) NO
9. Do the these fall to zero when system is turned off?
   Flow Gauge YES (circled) NO
   Pressure Gauges YES (circled) NO
   Vacuum Gauges YES (circled) NO
10. Was there a GAC change out?
    YES NO (circled)
11. How many unused GAC units are at this location?
    NEW 1
    SPENT 1

ADDITIONAL COMMENTS:

FIELD REP. SIGNATURE: [signature] Time: _____

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 7/16/14 Time: 2:26 pm Personnel: Chris Leahy Room Temp: 80°F

GENERAL SYSTEM MONITORING

Time	Vacuum post-MS (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
2:26 pm	2.0	11.0	16	5	0	122	158

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Comments
North Leg - Ground Floor	2:45	0.45	722	~~[illegible]~~ 63.0	
South Leg - Ground Floor	2:45	1.20	355	~~[illegible]~~ 31.0	
North Leg - Basement	3:50	1.10	73	~~[illegible]~~ 6.4	
South Leg - Basement	3:50	0.97	964	~~[illegible]~~ 84.2	

** Flow = Velocity x 0.0873

VACUUM MONITORING

Well	Time	Vacuum (in. H_2O)
SSD-1-A	2:30	0.09 - cap rusted
SSD-12-A	2:35	0.12
SSD-11-A	2:41	0.10
SSD-13-A	2:46	0.10
SSD-2-A	2:52	0.82
SSD-16-A	2:58	0.69
015-A	3:03	1.01
SSD-3-A - floor	3:09	0.49
SSD-19-A	3:19	0.00
SSD-20-A - floor	3:26	0.17
SSD-21-A	3:45	0.23
SSD-22-A	3:33	0.22

MONTHLY VAPOR SAMPLING

Location	Time	Canister ID
A-INFLUENT	n/a	n/a
A-MID GAC	n/a	n/a
A-EFFLUENT	n/a	n/a

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 moisture separator? 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 1

ADDITIONAL COMMENTS:

Veloci-calc meter shut off for low battery

FIELD REP. SIGNATURE: [signature] Time: 3:52 pm

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 7/30/14 **Time:** 15:15 **Personnel:** Chris Leahy **Room Temp:** 80°

GENERAL SYSTEM MONITORING							
Time	Vacuum post-MS (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
15:15	2	11	16	5	Ø	119	160

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Comments
North Leg - Ground Floor	15:18	0.41	760	66.3	
South Leg - Ground Floor	15:20	1.13	437	37.7	
North Leg - Basement	15:45	1.03	20	1.7	
South Leg - Basement	15:46	0.91	967	84.4	

** Flow = Velocity x 0.0873

VACUUM MONITORING		
Well	Time	Vacuum (in. H_2O)
SSD-1-A	15:23	0.07
SSD-12-A	15:40	0.07
SSD-11-A	15:38	0.13
SSD-13-A	15:36	0.26
SSD-2-A	15:35	0.78
SSD-16-A	15:31	0.69
015-A	15:33	0.99
SSD-3-A	15:30	0.49
SSD-19-A	15:54	0.00
SSD-20-A	15:56	-0.15
SSD-21-A	15:50	0.13
SSD-22-A	15:52	0.12

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-INFLUENT	n/a	n/a
A-MID GAC	n/a	n/a
A-EFFLUENT	n/a	n/a

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 moisture separator?**
   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 1

FIELD REP. SIGNATURE: [signature] **Time:** 4:00pm

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 8/16/14 **Time:** 2:30 pm **Personnel:** Chris Leahy **Room Temp:** 78°

GENERAL SYSTEM MONITORING							
Time	Vacuum post-MS (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
14:30	4	12	17	5	0	116	150

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING					
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Comments
North Leg - Ground Floor	N/A	1.63	885	77.3	
South Leg - Ground Floor	↓	2.28	498	43.5	
North Leg - Basement		0.67	94	8.2	
South Leg - Basement	↓	0.59	812	70.9	

** Flow = Velocity x 0.0873

VACUUM MONITORING		
Well	Time	Vacuum (in. H_2O)
SSD-1-A	N/A	0.11
SSD-12-A	↓	0.68
SSD-11-A		0.38
SSD-13-A		0.54
SSD-2-A		1.34
SSD-16-A		1.24
015-A		1.83
SSD-3-A		1.79
SSD-19-A		under H_2O
SSD-20-A		under H_2O
SSD-21-A		0.14
SSD-22-A	↓	0.09

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
A-INFLUENT	15:15	2626
A-MID GAC	1520	2452
A-EFFLUENT	1525	2402

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 moisture separator?
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 1

ADDITIONAL COMMENTS:
system A reset at 14:30

FIELD REP. SIGNATURE: [signature] **Time:** 16:30

2
397 92740

SSD SYSTEM CHECK - BUILDING A

LMC Middle River Complex, Middle River, Maryland

Date: 9/26/14 **Time:** 3:30 pm **Personnel:** Chris Leahy **Room Temp:** 80°

GENERAL SYSTEM MONITORING

Time	Vacuum post-MS (in. H_2O)	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Pressure post-Blower (in. H_2O)	Temp (°F)	Flow (scfm)
2:30 pm	2	11	17	6	0	117	154

* Replace filter if >25 in. H_2O

LEG VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Comments
North Leg - Ground Floor	N/A	1.10	601	52.5	
South Leg - Ground Floor	↓	1.48	440	38.4	
North Leg - Basement		1.11	92	8.0	
South Leg - Basement		1.10	1,265	110.4	

** Flow = Velocity x 0.0873

VACUUM MONITORING

Well	Time	Vacuum (in. H_2O)
SSD-1-A	N/A	0.07
SSD-12-A	↓	1.07
SSD-11-A		0.41
SSD-13-A		0.33
SSD-2-A		0.95
SSD-16-A		0.84
015-A		1.31
SSD-3-A		0.88
SSD-19-A		under H_2O
SSD-20-A		-0.51
SSD-21-A		0.18
SSD-22-A		0.18

MONTHLY VAPOR SAMPLING

Location	Time	Canister ID
A-INFLUENT	n/a	n/a
A-MID GAC	n/a	n/a
A-EFFLUENT	n/a	n/a

ADDITIONAL COMMENTS:

1. **Was the blower running upon arrival?**
   YES (circled) NO
2. **Where there any alarm conditions upon arrival?**
   YES NO (circled)
   Comment: _____
3. **Was the blower ambient air valve open?**
   YES NO (circled)
4. **Was there water in the moisture separator?**
   YES NO (circled) Volume: _____
5. **Was the vacuum/flow on either leg adjusted?**
   YES NO (circled)
   Comment: _____
6. **Are there any leaks or damage to system hoses?**
   YES NO (circled)
7. **Is there any damage to system components?**
   YES NO (circled)
8. **Are all locks and zip-ties secure?**
   YES (circled) NO
9. **Do the these fall to zero when system is turned off?**
   Flow Gauge YES (circled) NO
   Pressure Gauges YES (circled) NO
   Vacuum Gauges YES (circled) NO
10. **Was there a GAC change out?**
    YES NO (circled)
11. **How many unused GAC units are at this location?**
    NEW 1
    SPENT 1

FIELD REP. SIGNATURE: _____ **Time:** 3:45 pm

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 4/10/14 Time: 0930 Personnel: DLM

1. Was the system running upon arrival?
   (YES) NO
2. Where there any alarm conditions upon arrival?
   YES (NO)
   Comment: _____
3. Is the blower ambient air valve open?
   YES (NO)
4. Are there any leaks or damage to system hoses?
   YES (NO)
5. Is there any damage to system components?
   YES (NO)
6. Are all locks and zip-ties secure?
   (YES) NO
7. Was there a GAC change out?
   YES (NO)
8. Was there a $KMnO_4$ change out?
   YES (NO)
9. How many GAC units are at this location?
   NEW 2 SPENT 0
10. How many $KMnO_4$ units are at this location?
    NEW 1 SPENT 0
11. How many water drums are on-site?
    EMPTY 0 PART FULL 1 FULL 2
12. Are water drums in good condition and labeled?
    (YES) NO
    Comment: _____
13. Do the these fall to zero when system is turned off?
    Flow Gauge (YES) NO
    Pressure Gauges (YES) NO
    Vacuum Gauges (YES) NO

GENERAL SYSTEM MONITORING

Time	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Flow (scfm)	Pressure post-Blower (in. H_2O)	Temp post-Blower (°F)	Temp post-HE (°F)
0950	40	46	6	168	40	162	88

* Replace filter if >25 in. H_2O

14. How many hours are displayed on the time counter? 7453.1

EXTRACTION WELL VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Vacuum/Flow Adjustment	Comments
SSD-21-C	0956	5.98	857	18.7	None	
SSD-23-C			CLOSED			
SSD-30-C	0959	37.2	N/A	N/A	None	H_2O
SSD-26-C	1000	37.0	N/A	N/A	None	H_2O
SSD-31-C	1002	35.5	N/A	N/A	None	H_2O
SSD-27-C	1004	1.38	1192	26.0	None	
SSD-32-C	1005	3.28	1595	34.8	None	
SSD-28-C	1007	34.2	1682	36.7	None	
SSD-33-C	1008	28.1	3584	78.1	None	
SSD-29-C	1010	36.0	848	18.5	None	H_2O
SSD-34-C	1016	36.2	799	17.4	None	H_2O

** Flow = Velocity x 0.0218

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

VMP VACUUM MONITORING							
VMP	Time	Vacuum (in. H_2O)	Comments	VMP	Time	Vacuum (in. H_2O)	Comments
001-C	1042	0.11		113-C	1033	6.47	
SSD-22-C	—	N/A	Heavy Equip	133-C	1030	1.35	
SSD-2-C	1041	0.02		111-C	1028	0.00	
SSD-24-C	1038	0.07		060-C	1026	16.57	
SSD-25-C	1045	0.00		127-C	1024	4.97	
SSD-3-C	1043	0.32		141-C	1018	-0.56	
SSD-4-C	1039	0.66		050-C	1021	0.00	
135-C	1036	0.28		126-C	1022	0.00	
088-C	1034	0.00					

MOISTURE SEPARATOR, SUMP, AND DRAIN MONITORING						
Location	Contains Water?		Water Drained?		Volume Drained	Valves Closed?	
Moisture Separators							
MS-1	YES	NO	~~YES~~	~~NO~~	N/A	YES	NO
MS-2	YES	NO	~~YES~~	~~NO~~	↓	YES	NO
Pipe Sumps							
PS-1	YES	NO	~~YES~~	~~NO~~	N/A	YES	NO
PS-2	YES	NO	~~YES~~	~~NO~~	↓	YES	NO
PS-3	YES	NO	~~YES~~	~~NO~~	↓	YES	NO
PS-4	YES	NO	~~YES~~	~~NO~~	↓	YES	NO
PS-5	YES	NO	~~YES~~	~~NO~~	↓	YES	NO
System Sumps							
Exhaust Stack Sump	YES	NO	YES	NO	1802	YES	NO
GAC and PPZ Drains							
Lead GAC	YES	NO	~~YES~~	~~NO~~	N/A	YES	NO
Lag GAC	YES	NO	~~YES~~	~~NO~~	↓	YES	NO
PPZ	YES	NO	~~YES~~	~~NO~~	↓	YES	NO

MONTHLY VAPOR SAMPLING			
Location	Time	Canister ID	Comments
C-INFLUENT	1052	2568	
C-MID GAC	1053	1348	
C-EFFLUENT	1054	751	

ADDITIONAL COMMENTS:

FIELD REP. SIGNATURE: [signature] **Time:** _____

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 4/23/14 Time: _____ Personnel: DLM

1. Was the system running upon arrival?
   YES NO
2. Where there any alarm conditions upon arrival?
   YES NO
   Comment: _____
3. Is the blower ambient air valve open?
   YES NO
4. Are there any leaks or damage to system hoses?
   YES NO
5. Is there any damage to system components?
   YES NO
6. Are all locks and zip-ties secure?
   YES NO
7. Was there a GAC change out?
   YES NO
8. Was there a $KMnO_4$ change out?
   YES NO
9. How many GAC units are at this location?
   NEW 2 SPENT 0
10. How many $KMnO_4$ units are at this location?
    NEW 1 SPENT 0
11. How many water drums are on-site?
    EMPTY 0 PART FULL 1 FULL 2
12. Are water drums in good condition and labeled?
    YES NO
    Comment: _____
13. Do the these fall to zero when system is turned off?
    Flow Gauge YES NO
    Pressure Gauges YES NO
    Vacuum Gauges YES NO

GENERAL SYSTEM MONITORING

Time	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Flow (scfm)	Pressure post-Blower (in. H_2O)	Temp post-Blower (°F)	Temp post-HE (°F)
1159	36	38	2	182	42	157	88

* Replace filter if >25 in. H_2O

14. How many hours are displayed on the time counter? 7790.8

EXTRACTION WELL VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Vacuum/Flow Adjustment	Comments
SSD-21-C	1206	11.20	1187	25.9	YES 1/2 Turn	
SSD-23-C			CLOSED			
SSD-30-C	0949	32.0	1137	24.8	None	H_2O
SSD-26-C	0953	31.9	1178	25.7	None	H_2O
SSD-31-C	0955	30.7	1223	26.7	None	
SSD-27-C	1024	1.23	1128	24.6	None	
SSD-32-C	1027	3.05	1436	31.3	None	
SSD-28-C	1102	25.9	2562	55.9	None	
SSD-33-C	1110	24.0	3959	86.3	None	
SSD-29-C	1117	29.9	899	19.6	None	H_2O
SSD-34-C	1118	30.2	1093	23.8	None	H_2O

** Flow = Velocity x 0.0218

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

VMP VACUUM MONITORING							
VMP	Time	Vacuum (in. H_2O)	Comments	VMP	Time	Vacuum (in. H_2O)	Comments
001-C	N/A	N/A	Heavy Equip.	113-C	0956	6.34	
SSD-22-C	1214	0.01		133-C	1058	1.23	
SSD-2-C	1212	0.04		111-C	1030	0.00	
SSD-24-C	1209	0.10		060-C	1104	11.95	
SSD-25-C	1218	0.00		127-C	1111	4.06	
SSD-3-C	1217	0.73		141-C	1120	0.64	
SSD-4-C	1211	1.36		050-C	1127	0.00	
135-C	0959	0.28		126-C	1125	0.00	
088-C	0957	0.00					

MOISTURE SEPARATOR, SUMP, AND DRAIN MONITORING							
Location	Contains Water?		Water Drained?		Volume Drained	Valves Closed?	
Moisture Separators							
MS-1	YES	NO	~~YES~~	~~NO~~	N/A	YES	NO
MS-2	YES	NO	~~YES~~	~~NO~~	↓	YES	NO
Pipe Sumps							
PS-1	YES	NO	~~YES~~	~~NO~~	N/A	YES	NO
PS-2	YES	NO	~~YES~~	~~NO~~	↓	YES	NO
PS-3	YES	NO	~~YES~~	NO	↓	YES	NO
PS-4	YES	NO	~~YES~~	NO	↓	YES	NO
PS-5	YES	NO	YES	NO	↓	YES	NO
System Sumps							
Exhaust Stack Sump	YES	NO	YES	NO	5 oz	YES	NO
GAC and PPZ Drains							
Lead GAC	YES	NO	~~YES~~	~~NO~~	N/A	YES	NO
Lag GAC	YES	NO	~~YES~~	~~NO~~	↓	YES	NO
PPZ	YES	NO	~~YES~~	~~NO~~	↓	YES	NO

MONTHLY VAPOR SAMPLING			
Location	Time	Canister ID	Comments
C-INFLUENT	N/A	N/A	
C-MID GAC	↓	↓	
C-EFFLUENT	↓	↓	

ADDITIONAL COMMENTS:

FIELD REP. SIGNATURE: [signature] **Time:** 1246

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 5/5/14 Time: _____ Personnel: DLM

1. Was the system running upon arrival?
   YES NO
2. Where there any alarm conditions upon arrival?
   YES NO
   Comment: _____
3. Is the blower ambient air valve open?
   YES NO
4. Are there any leaks or damage to system hoses?
   YES NO
5. Is there any damage to system components?
   YES NO
6. Are all locks and zip-ties secure?
   YES NO
7. Was there a GAC change out?
   YES NO
8. Was there a $KMnO_4$ change out?
   YES NO
9. How many GAC units are at this location?
   NEW 2 SPENT 0
10. How many $KMnO_4$ units are at this location?
    NEW 1 SPENT 0
11. How many water drums are on-site?
    EMPTY 0 PART FULL 1 FULL 2
12. Are water drums in good condition and labeled?
    YES NO
    Comment: _____
13. Do the these fall to zero when system is turned off?
    Flow Gauge YES NO
    Pressure Gauges YES NO
    Vacuum Gauges YES NO

GENERAL SYSTEM MONITORING

Time	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Flow (scfm)	Pressure post-Blower (in. H_2O)	Temp post-Blower (°F)	Temp post-HE (°F)
N/A	30	37	7	182	44	155	92

* Replace filter if >25 in. H_2O

14. How many hours are displayed on the time counter? 8042.7

EXTRACTION WELL VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Vacuum/Flow Adjustment	Comments
SSD-21-C	N/A	11.08	1127	24.6	None	
SSD-23-C			CLOSED			
SSD-30-C		25.9	619	13.5	None	
SSD-26-C		25.6	496	10.8	None	H_2O
SSD-31-C		24.9	955	20.8	None	H_2O
SSD-27-C		1.04	992	21.6	None	
SSD-32-C		2.47	1324	28.9	None	
SSD-28-C		15.78	3708	80.8	None	Variable Vac
SSD-33-C		19.93	2761	60.2	None	
SSD-29-C		24.6	737	16.1	None	H_2O
SSD-34-C		24.6	905	19.7	None	

** Flow = Velocity x 0.0218

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

VMP VACUUM MONITORING							
VMP	Time	Vacuum (in. H_2O)	Comments	VMP	Time	Vacuum (in. H_2O)	Comments
001-C	N/A	0.23		113-C	N/A	6.10	
SSD-22-C		0.00		133-C		1.09	
SSD-2-C		0.02		111-C		0.00	
SSD-24-C		0.11		060-C		5.88	
SSD-25-C		0.00		127-C		3.99	
SSD-3-C		0.73		141-C		-0.62	
SSD-4-C		1.09		050-C		0.00	
135-C		0.40		126-C		0.00	
088-C		0.00					

MOISTURE SEPARATOR, SUMP, AND DRAIN MONITORING						
Location	Contains Water?		Water Drained?		Volume Drained	Valves Closed?	
Moisture Separators							
MS-1	YES	NO	~~YES~~	~~NO~~	N/A	YES	NO
MS-2	YES	NO	~~YES~~	~~NO~~		YES	NO
Pipe Sumps							
PS-1	YES	NO	~~YES~~	~~NO~~	N/A	YES	NO
PS-2	YES	NO	~~YES~~	~~NO~~		YES	NO
PS-3	YES	NO	~~YES~~	~~NO~~		YES	NO
PS-4	YES	NO	~~YES~~	~~NO~~		YES	NO
PS-5	YES	NO	~~YES~~	~~NO~~		YES	NO
System Sumps							
Exhaust Stack Sump	YES	NO	~~YES~~	~~NO~~	N/A	YES	NO
GAC and PPZ Drains							
Lead GAC	YES	NO	~~YES~~	~~NO~~	N/A	YES	NO
Lag GAC	YES	NO	~~YES~~	~~NO~~		YES	NO
PPZ	YES	NO	~~YES~~	~~NO~~		YES	NO

MONTHLY VAPOR SAMPLING			
Location	Time	Canister ID	Comments
C-INFLUENT	1135	2224	
C-MID GAC	1137	2526	
C-EFFLUENT	1139	2212	

ADDITIONAL COMMENTS:

FIELD REP. SIGNATURE: [signature] **Time:** _____

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 5/23/14 Time: 1300 Personnel: DLM

1. Was the system running upon arrival?
   (YES) NO
2. Where there any alarm conditions upon arrival?
   YES (NO)
   Comment: _____
3. Is the blower vacuum relief valve open?
   YES (NO)
4. Are there any leaks or damage to system hoses?
   YES (NO)
5. Is there any damage to system components?
   YES (NO)
6. Are all locks and zip-ties secure?
   (YES) NO
7. Was there a GAC change out?
   YES (NO)
8. Was there a $KMnO_4$ change out?
   YES (NO)
9. How many GAC units are at this location?
   NEW 2 SPENT 0
10. How many $KMnO_4$ units are at this location?
    NEW 1 SPENT 0
11. How many water drums are on-site?
    EMPTY 0 PART FULL 1 FULL 2
12. Are water drums in good condition and labeled?
    (YES) NO
    Comment: _____
13. Do the these fall to zero when system is turned off?

Flow Gauge	(YES)	NO
Pressure Gauges	(YES)	NO
Vacuum Gauges	(YES)	NO

GENERAL SYSTEM MONITORING

Time	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Flow (scfm)	Pressure post-Blower (in. H_2O)	Temp post-Blower (°F)	Temp post-HE (°F)
1320	28	36	8	182	45	159	98

* Replace filter if >25 in. H_2O

14. How many hours are displayed on the time counter? 8476.9

EXTRACTION WELL VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Vacuum/Flow Adjustment	Comments
SSD-21-C	1332	11.23	1075	23.4	None	
SSD-23-C			CLOSED			
SSD-30-C	1335	23.9	370	8.1	None	
SSD-26-C	1336	23.8	302	6.6	None	H_2O
SSD-31-C	1338	23.1	981	21.4	None	
SSD-27-C	1340	0.97	973	21.2	None	
SSD-32-C	1342	2.45	1277	27.8	None	
SSD-28-C	1344	10.79	>max	N/A	None	
SSD-33-C	1345	18.56	2574	56.1	None	
SSD-29-C	1347	22.5	486	10.6	None	
SSD-34-C	1356	22.2	191	4.2	None	

** Flow = Velocity x 0.0218

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

VMP VACUUM MONITORING							
VMP	Time	Vacuum (in. H_2O)	Comments	VMP	Time	Vacuum (in. H_2O)	Comments
001-C	1423	0.21		113-C	1411	6.46	
SSD-22-C	—	N/A	Heavy Equip.	133-C	1408	1.09	
SSD-2-C	1422	0.06		111-C	1406	0.00	
SSD-24-C	1418	0.15		060-C	1402	3.13	
SSD-25-C	1426	0.00		127-C	1400	4.85	
SSD-3-C	1425	0.99		141-C	1352	-0.69	
SSD-4-C	1420	1.62		050-C	1354	0.00	
135-C	1416	0.80		126-C	1357	0.00	
088-C	1415	0.80					

MOISTURE SEPARATOR, SUMP, AND DRAIN MONITORING								
Location	Contains Water?		Water Drained?			Volume Drained	Drain Valve Closed?	
Moisture Separators								
MS-1	YES	NO	YES	NO	N/A	N/A	YES	NO
MS-2	YES	NO	YES	NO	N/A	↓	YES	NO
Pipe Sumps								
PS-1	YES	NO	YES	NO	N/A	N/A	YES	NO
PS-2	YES	NO	YES	NO	N/A	↓	YES	NO
PS-3	YES	NO	YES	NO	N/A	↓	YES	NO
PS-4	YES	NO	YES	NO	N/A	↓	YES	NO
PS-5	YES	NO	YES	NO	N/A	↓	YES	NO
System Sumps								
Exhaust Stack Sump	YES	NO	YES	NO	N/A	N/A	YES	NO
GAC and PPZ Drains								
Lead GAC	YES	NO	YES	NO	N/A	N/A	YES	NO
Lag GAC	YES	NO	YES	NO	N/A	↓	YES	NO
PPZ	YES	NO	YES	NO	N/A	↓	YES	NO

MONTHLY VAPOR SAMPLING			
Location	Time	Canister ID	Comments
C-INFLUENT	N/A	N/A	
C-MID GAC	↓	↓	
C-EFFLUENT	↓	↓	

ADDITIONAL COMMENTS:

FIELD REP. SIGNATURE: David A. Marini **Time:** 1450

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 6/5/14 Time: _____ Personnel: DLM

1. Was the system running upon arrival?
   YES NO
2. Where there any alarm conditions upon arrival?
   YES NO
   Comment: _____
3. Is the blower vacuum relief valve open?
   YES NO
4. Are there any leaks or damage to system hoses?
   YES NO
5. Is there any damage to system components?
   YES NO
6. Are all locks and zip-ties secure?
   YES NO
7. Was there a GAC change out?
   YES NO
8. Was there a $KMnO_4$ change out?
   YES NO
9. How many GAC units are at this location?
   NEW 2 SPENT 0
10. How many $KMnO_4$ units are at this location?
    NEW 1 SPENT 0
11. How many water drums are on-site?
    EMPTY 0 PART FULL 1 FULL 2
12. Are water drums in good condition and labeled?
    YES NO
    Comment: _____
13. Do the these fall to zero when system is turned off?
    Flow Gauge YES NO
    Pressure Gauges YES NO
    Vacuum Gauges YES NO

GENERAL SYSTEM MONITORING

Time	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Flow (scfm)	Pressure post-Blower (in. H_2O)	Temp post-Blower (°F)	Temp post-HE (°F)
N/A	28	34	6	180	45	160	102

* Replace filter if >25 in. H_2O

14. How many hours are displayed on the time counter? 8784.5

EXTRACTION WELL VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Vacuum/Flow Adjustment	Comments
SSD-21-C	N/A	11.26	1107	24.1	None	
SSD-23-C			CLOSED			
SSD-30-C	N/A	23.8	803	17.5	None	
SSD-26-C		23.4	837	18.2	None	
SSD-31-C		22.9	756	16.5	None	
SSD-27-C		0.98	980	21.4	None	
SSD-32-C		2.46	1298	28.3	None	
SSD-28-C		9.91	>max	N/A	None	
SSD-33-C		18.78	2481	54.1	None	variable vac.
SSD-29-C		22.1	528	11.5	None	
SSD-34-C		22.0	812	17.7	None	

** Flow = Velocity x 0.0218

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

VMP VACUUM MONITORING							
VMP	Time	Vacuum (in. H_2O)	Comments	VMP	Time	Vacuum (in. H_2O)	Comments
001-C	N/A	0.19		113-C	N/A	5.19	variable.
SSD-22-C		0.00		133-C		1.10	
SSD-2-C		0.04		111-C		0.00	
SSD-24-C		0.17		060-C		2.70	
SSD-25-C		0.00		127-C		5.73	
SSD-3-C		0.89		141-C		-0.66	
SSD-4-C		1.51		050-C		0.00	
135-C		1.09		126-C		0.00	
088-C		0.00					

MOISTURE SEPARATOR, SUMP, AND DRAIN MONITORING								
Location	Contains Water?		Water Drained?			Volume Drained	Drain Valve Closed?	
Moisture Separators								
MS-1	YES	NO	YES	NO	N/A	N/A	YES	NO
MS-2	YES	NO	YES	NO	N/A		YES	NO
Pipe Sumps								
PS-1	YES	NO	YES	NO	N/A	N/A	YES	NO
PS-2	YES	NO	YES	NO	N/A		YES	NO
PS-3	YES	NO	YES	NO	N/A		YES	NO
PS-4	YES	NO	YES	NO	N/A		YES	NO
PS-5	YES	NO	YES	NO	N/A		YES	NO
System Sumps								
Exhaust Stack Sump	YES	NO	YES	NO	N/A	N/A	YES	NO
GAC and PPZ Drains								
Lead GAC	YES	NO	YES	NO	N/A	N/A	YES	NO
Lag GAC	YES	NO	YES	NO	N/A		YES	NO
PPZ	YES	NO	YES	NO	N/A		YES	NO

MONTHLY VAPOR SAMPLING			
Location	Time	Canister ID	Comments
C-INFLUENT	1408	10965 (TA) / 1311 (PA)	
C-MID GAC	1410	09576 (TA) / 2592 (PA)	
C-EFFLUENT	1412	09832 (TA) / 2616 (PA)	

ADDITIONAL COMMENTS:

FIELD REP. SIGNATURE: [signature] **Time:** _____

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 6/19/14 Time: _____ Personnel: DLM

1. Was the system running upon arrival?
   (YES) NO
2. Where there any alarm conditions upon arrival?
   YES (NO)
   Comment: _____
3. Is the blower vacuum relief valve open?
   YES (NO)
4. Are there any leaks or damage to system hoses?
   YES (NO)
5. Is there any damage to system components?
   YES (NO)
6. Are all locks and zip-ties secure?
   (YES) NO
7. Was there a GAC change out?
   YES (NO)
8. Was there a $KMnO_4$ change out?
   YES (NO)
9. How many GAC units are at this location?
   NEW 2 SPENT 0
10. How many $KMnO_4$ units are at this location?
    NEW 1 SPENT 0
11. How many water drums are on-site?
    EMPTY 0 PART FULL 1 FULL 2
12. Are water drums in good condition and labeled?
    (YES) NO
    Comment: _____
13. Do the these fall to zero when system is turned off?

Flow Gauge	YES	NO
Pressure Gauges	YES	NO
Vacuum Gauges	YES	NO

GENERAL SYSTEM MONITORING

Time	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Flow (scfm)	Pressure post-Blower (in. H_2O)	Temp post-Blower (°F)	Temp post-HE (°F)
1218	28	44	26	182	44	166	106

* Replace filter if >25 in. H_2O

3rd

14. How many hours are displayed on the time counter? 8839.2

EXTRACTION WELL VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Vacuum/Flow Adjustment	Comments
SSD-21-C	1231	12.62	1038	22.6	None	
SSD-23-C			CLOSED			
SSD-30-C	1235	24.6	494	10.8	None	
SSD-26-C	1237	24.3	649	14.1	None	
SSD-31-C	1238	23.8	816	17.8	None	
SSD-27-C	1241	1.00	1010	22.0	None	
SSD-32-C	1242	2.64	1299	28.3	None	
SSD-28-C	1244	10.23	>max			
SSD-33-C	1252	19.74	2384	52.0	None	
SSD-29-C	1300	23.0	659	14.4	None	
SSD-34-C	1301	23.1	548	11.9	None	

** Flow = Velocity x 0.0218

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

VMP VACUUM MONITORING							
VMP	Time	Vacuum (in. H_2O)	Comments	VMP	Time	Vacuum (in. H_2O)	Comments
001-C	—	0.29		113-C	1325	5.87	
SSD-22-C	1335	0.03		133-C	1321	1.22	
SSD-2-C	—	0.07		111-C	1319	0.00	
SSD-24-C	—	0.23		060-C	1318	2.77	
SSD-25-C	1339	0.00		127-C	1313	6.73	
SSD-3-C	1337	1.26		141-C	1306	-0.73	
SSD-4-C	1333	1.94		050-C	1308	0.00	
135-C	1329	1.31		126-C	1310	0.00	
088-C	1327	0.00					

MOISTURE SEPARATOR, SUMP, AND DRAIN MONITORING								
Location	Contains Water?		Water Drained?			Volume Drained	Drain Valve Closed?	
Moisture Separators								
MS-1	YES	NO	YES	NO	N/A	N/A	YES	NO
MS-2	YES	NO	YES	NO	N/A	↓	YES	NO
Pipe Sumps								
PS-1	YES	NO	YES	NO	N/A	N/A	YES	NO
PS-2	YES	NO	YES	NO	N/A		YES	NO
PS-3	YES	NO	YES	NO	N/A		YES	NO
PS-4	YES	NO	YES	NO	N/A		YES	NO
PS-5	YES	NO	YES	NO	N/A	↓	YES	NO
System Sumps								
Exhaust Stack Sump	YES	NO	YES	NO	N/A	N/A	YES	NO
GAC and PPZ Drains								
Lead GAC	YES	NO	YES	NO	N/A	N/A	YES	NO
Lag GAC	YES	NO	YES	NO	N/A		YES	NO
PPZ	YES	NO	YES	NO	N/A	↓	YES	NO

MONTHLY VAPOR SAMPLING			
Location	Time	Canister ID	Comments
C-INFLUENT	N/A	N/A	
C-MID GAC	↓	↓	
C-EFFLUENT	↓	↓	

ADDITIONAL COMMENTS:

FIELD REP. SIGNATURE: Dennis L Wenner **Time:** _____

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 7/3/14 Time: 1040 Personnel: DLM

1. Was the system running upon arrival?
   YES NO
2. Where there any alarm conditions upon arrival?
   YES NO
   Comment: _____
3. Is the blower vacuum relief valve open?
   YES NO
4. Are there any leaks or damage to system hoses?
   YES NO
5. Is there any damage to system components?
   YES NO
6. Are all locks and zip-ties secure?
   YES NO
7. Was there a GAC change out?
   YES NO
8. Was there a $KMnO_4$ change out?
   YES NO
9. How many GAC units are at this location?
   NEW 2 SPENT 0
10. How many $KMnO_4$ units are at this location?
    NEW 1 SPENT 0
11. How many water drums are on-site?
    EMPTY 3 PART FULL 0 FULL 0
12. Are water drums in good condition and labeled?
    YES NO
    Comment: _____
13. Do the these fall to zero when system is turned off?

Flow Gauge	YES	NO
Pressure Gauges	YES	NO
Vacuum Gauges	YES	NO

GENERAL SYSTEM MONITORING

Time	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Flow (scfm)	Pressure post-Blower (in. H_2O)	Temp post-Blower (°F)	Temp post-HE (°F)
1052	29	36	7	175	45 Variable	168	110

* Replace filter if >25 in. H_2O

14. How many hours are displayed on the time counter? 9168.5

EXTRACTION WELL VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Vacuum/Flow Adjustment	Comments
SSD-21-C		11.94	1095	23.9	None	
SSD-23-C			CLOSED			
SSD-30-C		24.6	698	15.2	None	
SSD-26-C		24.3	811	17.7	None	
SSD-31-C		24.0	756	16.5	None	
SSD-27-C		0.98	1004	21.9	None	
SSD-32-C		2.77	1217	26.5	None	
SSD-28-C		10.08	>max	N/A	None	variable Vac
SSD-33-C		20.0	2225	48.5	None	
SSD-29-C		22.8	928	20.2	None	
SSD-34-C	1135	22.8	515	11.2	None	Variable Veloc.

** Flow = Velocity x 0.0218

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

VMP VACUUM MONITORING							
VMP	Time	Vacuum (in. H_2O)	Comments	VMP	Time	Vacuum (in. H_2O)	Comments
001-C		0.24		113-C		6.54	
SSD-22-C		0.02		133-C		1.22	
SSD-2-C		0.07		111-C		0.00	
SSD-24-C		0.17		060-C		2.70	
SSD-25-C	1057	0.02		127-C		7.40	
SSD-3-C		0.95		141-C		-0.61	
SSD-4-C		1.65		050-C		0.00	
135-C		1.33		126-C	1130	0.00	
088-C		0.00					

MOISTURE SEPARATOR, SUMP, AND DRAIN MONITORING								
Location	Contains Water?		Water Drained?			Volume Drained	Drain Valve Closed?	
Moisture Separators								
MS-1	YES	NO	YES	NO	N/A	N/A	YES	NO
MS-2	YES	NO	YES	NO	N/A	↓	YES	NO
Pipe Sumps								
PS-1	YES	NO	YES	NO	N/A	N/A	YES	NO
PS-2	YES	NO	YES	NO	N/A	↓	YES	NO
PS-3	YES	NO	YES	NO	N/A	↓	YES	NO
PS-4	YES	NO	YES	NO	N/A	↓	YES	NO
PS-5	YES	NO	YES	NO	N/A	↓	YES	NO
System Sumps								
Exhaust Stack Sump	YES	NO	YES	NO	N/A	N/A	YES	NO
GAC and PPZ Drains								
Lead GAC	YES	NO	YES	NO	N/A	N/A	YES	NO
Lag GAC	YES	NO	YES	NO	N/A	↓	YES	NO
PPZ	YES	NO	YES	NO	N/A	↓	YES	NO

MONTHLY VAPOR SAMPLING			
Location	Time	Canister ID	Comments
C-INFLUENT	1200	1776	
C-MID GAC	1202	1161	
C-EFFLUENT	1204	1333	

ADDITIONAL COMMENTS:

FIELD REP. SIGNATURE: [signature] **Time:** _____

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 7/16/14 Time: 11:00 am Personnel: Chris Healy

1. Was the system running upon arrival?
   YES NO
2. Where there any alarm conditions upon arrival?
   YES NO
   Comment: _____
3. Is the blower vacuum relief valve open?
   YES NO
4. Are there any leaks or damage to system hoses?
   YES NO
5. Is there any damage to system components?
   YES NO
6. Are all locks and zip-ties secure?
   YES NO
7. Was there a GAC change out?
   YES NO
8. Was there a $KMnO_4$ change out?
   YES NO
9. How many GAC units are at this location?
   NEW 2 SPENT _____
10. How many $KMnO_4$ units are at this location?
    NEW 1 SPENT _____
11. How many water drums are on-site?
    EMPTY 3 PART FULL _____ FULL _____
12. Are water drums in good condition and labeled?
    YES NO
    Comment: _____
13. Do the these fall to zero when system is turned off?

Flow Gauge	YES	NO
Pressure Gauges	YES	NO
Vacuum Gauges	YES	NO

in blower room, after blue breather tank

GENERAL SYSTEM MONITORING							
Time	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Flow (scfm)	Pressure post-Blower (in. H_2O)	Temp post-Blower (°F)	Temp post-HE (°F)
10:55	32	42	10	182	43	167	110

* Replace filter if >25 in. H_2O

1.pc to filter

14. How many hours are displayed on the time counter? 9467.4

in middle of B

EXTRACTION WELL VACUUM AND VELOCITY MONITORING						
Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Vacuum/Flow Adjustment	Comments
SSD-21-C	12:06 pm	23.9	>max	n/a	none	variable veloc - max 2 of 3 readings
~~SSD-23-C~~						
SSD-30-C	12:40	27.7	550	33.79	none	
SSD-26-C	12:56	27.5	322	7.02	none	
SSD-31-C	1:03	26.6	1145	24.96	none	
SSD-27-C	1:10	1.10	895	19.51	none	
SSD-32-C	1:18	11.15	>max	n/a	none	28C is under 32C
SSD-28-C	1:26	2.94	1242	27.08	none	32C is under 28C
SSD-33-C	1:50	22.1	3051	66.51	none	
SSD-29-C	1:34	26.2	305	6.65	none	
SSD-34-C	1:40	25.9	1320	28.78	none	

** Flow = Velocity x 0.0218

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

VMP VACUUM MONITORING Floor

VMP	Time	Vacuum (in. H_2O)	Comments	VMP	Time	Vacuum (in. H_2O)	Comments
001-C	12:37	0.04		113-C	12:55	5.02	
SSD-22-C	12:33	0.01		133-C	1:09	1.32	
SSD-2-C	12:29	0.02		111-C	1:17	0.00	
SSD-24-C	12:26	0.03		060-C	1:50	2.91	
SSD-25-C	12:22	0.00	water filled	127-C	2:01	8.09	
SSD-3-C	12:18	0.02		141-C	1:28	0.00	
SSD-4-C	12:15	0.29		050-C	1:35	0.00	
135-C	2:01	1.38		126-C	1:40	0.00	
088-C	12:58	0.01					

South

window

MOISTURE SEPARATOR, SUMP, AND DRAIN MONITORING

Location	Contains Water?		Water Drained?			Volume Drained	Drain Valve Closed?	
Moisture Separators								
MS-1	YES	NO	YES	NO	N/A	n/a	YES	NO
MS-2	YES	NO	YES	NO	N/A	n/a	YES	NO
Pipe Sumps								
PS-1	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-2	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-3	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-4	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-5	YES	NO	YES	NO	N/A	n/a	YES	NO
System Sumps								
Exhaust Stack Sump	YES	NO	YES	NO	N/A	n/a	YES	NO
GAC and PPZ Drains								
Lead GAC	YES	NO	YES	NO	N/A	n/a	YES	NO
Lag GAC	YES	NO	YES	NO	N/A	n/a	YES	NO
PPZ	YES	NO	YES	NO	N/A	n/a	YES	NO

MONTHLY VAPOR SAMPLING

Location	Time	Canister ID	Comments
C-INFLUENT	n/a	n/a	
C-MID GAC	n/a	n/a	
C-EFFLUENT	n/a	n/a	

ADDITIONAL COMMENTS:

FIELD REP. SIGNATURE: [signature] **Time:** 2:05 pm

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 7/24/14 Time: _____ Personnel: DLM

1. Was the system running upon arrival?
   YES NO
2. Where there any alarm conditions upon arrival?
   YES NO
   Comment: _____
3. Is the blower vacuum relief valve open?
   YES NO
4. Are there any leaks or damage to system hoses?
   YES NO
5. Is there any damage to system components?
   YES NO
6. Are all locks and zip-ties secure?
   YES NO
7. Was there a GAC change out?
   YES NO
8. Was there a $KMnO_4$ change out?
   YES NO
9. How many GAC units are at this location?
   NEW 2 SPENT 0
10. How many $KMnO_4$ units are at this location?
    NEW 1 SPENT 0
11. How many water drums are on-site?
    EMPTY 3 PART FULL 0 FULL 0
12. Are water drums in good condition and ~~labeled?~~ N/A
    YES NO
    Comment: _____
13. ~~Do the these fall to zero when system is turned off?~~
    ~~Flow Gauge YES NO~~
    ~~Pressure Gauges YES NO~~
    ~~Vacuum Gauges YES NO~~

GENERAL SYSTEM MONITORING

Time	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Flow (scfm)	Pressure post-Blower (in. H_2O)	Temp post-Blower (°F)	Temp post-HE (°F)
N/A							

* Replace filter if >25 in. H_2O

14. How many hours are displayed on the time counter? N/A

EXTRACTION WELL VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Vacuum/Flow Adjustment	Comments
SSD-21-C	1052	12.07	1025	22.3	None	
SSD-23-C	N/A	N/A	N/A	N/A	N/A	
SSD-30-C	↓	↓	↓	↓	↓	
SSD-26-C						
SSD-31-C						
SSD-27-C						
SSD-32-C						
SSD-28-C						
SSD-33-C						
SSD-29-C						
SSD-34-C	↓	↓	↓	↓	↓	

** Flow = Velocity x 0.0218

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

VMP VACUUM MONITORING							
VMP	Time	Vacuum (in. H_2O)	Comments	VMP	Time	Vacuum (in. H_2O)	Comments
001-C	1057	0.30		113-C	N/A	N/A	
SSD-22-C	N/A	N/A		133-C	↓	↓	
SSD-2-C	1059	0.06		111-C	↓	↓	
SSD-24-C	1103	0.22		060-C	↓	↓	
SSD-25-C	1106	0.00		127-C	↓	↓	
SSD-3-C	1104	1.10		141-C	↓	↓	
SSD-4-C	1101	2.04		050-C	↓	↓	
135-C	N/A	N/A		126-C	↓	↓	
088-C	↓	↓					

MOISTURE SEPARATOR, SUMP, AND DRAIN MONITORING								
Location	Contains Water?		Water Drained?			Volume Drained	Drain Valve Closed?	
Moisture Separators								
MS-1	YES	NO	YES	NO	N/A		YES	NO
MS-2	YES	NO	YES	NO	N/A		YES	NO
Pipe Sumps								
PS-1	YES	NO	YES	NO	N/A		YES	NO
PS-2	YES	NO	YES	NO	N/A		YES	NO
PS-3	YES	NO	YES	NO	N/A		YES	NO
PS-4	YES	NO	YES	NO	N/A		YES	NO
PS-5	YES	NO	YES	NO	N/A		YES	NO
System Sumps								
Exhaust Stack Sump	YES	NO	YES	NO	N/A		YES	NO
GAC and PPZ Drains								
Lead GAC	YES	NO	YES	NO	N/A		YES	NO
Lag GAC	YES	NO	YES	NO	N/A		YES	NO
PPZ	YES	NO	YES	NO	N/A		YES	NO

MONTHLY VAPOR SAMPLING			
Location	Time	Canister ID	Comments
C-INFLUENT	N/A	N/A	
C-MID GAC	↓	↓	
C-EFFLUENT	↓	↓	

ADDITIONAL COMMENTS:

FIELD REP. SIGNATURE: Dennis L Wilmie **Time:** _____

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 7/30/14 Time: 13:25 Personnel: Chris Leahy

1. Was the system running upon arrival?
   (YES) NO
2. Where there any alarm conditions upon arrival?
   YES (NO)
   Comment: _____
3. Is the blower vacuum relief valve open?
   YES (NO)
4. Are there any leaks or damage to system hoses?
   YES (NO)
5. Is there any damage to system components?
   YES (NO)
6. Are all locks and zip-ties secure?
   (YES) NO
7. Was there a GAC change out?
   YES (NO)
8. Was there a $KMnO_4$ change out?
   YES (NO)
9. How many GAC units are at this location?
   NEW 2 SPENT _____
10. How many $KMnO_4$ units are at this location?
    NEW 1 SPENT _____
11. How many water drums are on-site?
    EMPTY 3 PART FULL _____ FULL _____
12. Are water drums in good condition and labeled?
    (YES) NO
    Comment: _____
13. Do the these fall to zero when system is turned off?

Flow Gauge	(YES)	NO
Pressure Gauges	(YES)	NO
Vacuum Gauges	(YES)	NO

GENERAL SYSTEM MONITORING

Time	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Flow (scfm)	Pressure post-Blower (in. H_2O)	Temp post-Blower (°F)	Temp post-HE (°F)
13:25	40	46	6	172	40	170	109

* Replace filter if >25 in. H_2O

14. How many hours are displayed on the time counter? 9,804.1

EXTRACTION WELL VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Vacuum/Flow Adjustment	Comments
SSD-21-C	13:45	15.20	1451	31.6	none	
SSD-23-C						
SSD-30-C	14:02	36.5	~~356~~ 1,286	28.0	none	☆
SSD-26-C	14:10	36.6	variable	N/A	none	water pumping more below port
SSD-31-C	14:17	36.3	896	19.5	none	
SSD-27-C	14:20	1.40	1431	31.2	none	
SSD-32-C	14:27	3.57	1,559	34.0	none	
SSD-28-C	14:35	2.01	2056	44.8	closed to ~20%	
SSD-33-C	14:38	29.9	3006	65.5	none	
SSD-29-C	14:47	35.8	~~1450~~ 1,004	21.9	none	☆ H_2O
SSD-34-C	14:50	35.9	540		none	slightly variable did get stable

** Flow = Velocity x 0.0218

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

VMP VACUUM MONITORING							
VMP	Time	Vacuum (in. H_2O)	Comments	VMP	Time	Vacuum (in. H_2O)	Comments
001-C	13:56	0.37		113-C 31	14:15	7.30	
SSD-22-C	13:50	~~0.06~~ N/A CL		133-C 32	14:24	1.58	
SSD-2-C	13:51	~~0.00~~ 0.06 CL		111-C	14:30	0.00	
SSD-24-C	13:47	0.21		060-C	14:32	0.87	turned down veloc at 28c
SSD-25-C	13:37	0.00		127-C	14:40	9.43	
SSD-3-C	13:39	0.16		141-C	14:43	-0.66	
SSD-4-C	13:42	2.35		050-C	14:55	0.00	
135-C 30	14:00	2.05		126-C	14:57	0.00	
088-C 26	14:10	0.00					

MOISTURE SEPARATOR, SUMP, AND DRAIN MONITORING								
Location	Contains Water?		Water Drained?			Volume Drained	Drain Valve Closed?	
Moisture Separators								
MS-1	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
MS-2	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
Pipe Sumps								
PS-1	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
PS-2	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
PS-3	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
PS-4	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
PS-5	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
System Sumps								
Exhaust Stack Sump	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
GAC and PPZ Drains								
Lead GAC	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
Lag GAC	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
PPZ	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO

MONTHLY VAPOR SAMPLING			
Location	Time	Canister ID	Comments
C-INFLUENT	n/a	n/a	
C-MID GAC	n/a	n/a	
C-EFFLUENT	n/a	n/a	

ADDITIONAL COMMENTS: Before system check:
SSD-28-C velocity reduced to 2056 ft/min. Dry ice used to check if patch in floor near 28-C was sealed. Dry ice showed a crack pulling vapor 4' south of patch. Crack was sealed with caulk. It did not change velocity or vacum at 28-C & 60-C

FIELD REP. SIGNATURE: [signature] **Time:** 4:00pm

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 8/11/14 Time: 13:45 Personnel: Chris Leahy

1. Was the system running upon arrival?
   YES (NO)
2. Where there any alarm conditions upon arrival?
   YES (NO)
   Comment: _____
3. Is the blower vacuum relief valve open?
   YES (NO)
4. Are there any leaks or damage to system hoses?
   YES (NO)
5. Is there any damage to system components?
   YES (NO)
6. Are all locks and zip-ties secure?
   (YES) NO
7. Was there a GAC change out?
   YES (NO)
8. Was there a $KMnO_4$ change out?
   YES (NO)
9. How many GAC units are at this location?
   NEW 2 SPENT _____
10. How many $KMnO_4$ units are at this location?
    NEW 1 SPENT _____
11. How many water drums are on-site?
    EMPTY 3 PART FULL _____ FULL _____
12. Are water drums in good condition and labeled?
    (YES) NO
    Comment: _____
13. Do the these fall to zero when system is turned off?

Flow Gauge	(YES)	NO
Pressure Gauges	(YES)	NO
Vacuum Gauges	(YES)	NO

GENERAL SYSTEM MONITORING

Time	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Flow (scfm)	Pressure post-Blower (in. H_2O)	Temp post-Blower (°F)	Temp post-HE (°F)
	38	43	5	166	39	176	140

* Replace filter if >25 in. H_2O

14. How many hours are displayed on the time counter? 10,078.7

EXTRACTION WELL VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Vacuum/Flow Adjustment	Comments
SSD-21-C	14:21	16.32	1,438	31.3	None	
SSD-23-C				CLOSED		
SSD-30-C	14:26	39.3	1,362	29.7	None	
SSD-26-C	14:33	38.7	1,256	27.4		
SSD-31-C	14:37	38.5	1,442	31.4		
SSD-27-C	14:43	1.42	1,361	29.7		
SSD-32-C	14:48	3.77	1,726	37.6		
SSD-28-C	14.53	2.12	2,033	44.3		
SSD-33-C	14:57	31.7	2,927	63.8		
SSD-29-C	15:03	37.6	1,420	31.0		
SSD-34-C	15:08	37.6	1,060	23.1		

** Flow = Velocity x 0.0218

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

VMP VACUUM MONITORING							
VMP	Time	Vacuum (in. H_2O)	Comments	VMP	Time	Vacuum (in. H_2O)	Comments
001-C	14:18	0.40		113-C	15:14	5.19	
SSD-22-C	14:14	0.03		133-C	15:19	1.68	
SSD-2-C	14:10	0.09		111-C	15:25	0.00	
SSD-24-C	14:05	0.21		060-C	15:30	0.97	
SSD-25-C	14:01	0.00		127-C	15:34	10.53	
SSD-3-C	13:58	~~0.06~~ 1.05		141-C	15:38	-0.65	
SSD-4-C	13:55	2.36		050-C	15:42	0.00	
135-C	14:25	1.47		126-C	15:47	0.00	
088-C	14:30	0.00					

MOISTURE SEPARATOR, SUMP, AND DRAIN MONITORING								
Location	Contains Water?		Water Drained?			Volume Drained	Drain Valve Closed?	
Moisture Separators								
MS-1	YES	NO	YES	NO	N/A	n/a	YES	NO
MS-2	YES	NO	YES	NO	N/A	n/a	YES	NO
Pipe Sumps								
PS-1	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-2	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-3	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-4	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-5	YES	NO	YES	NO	N/A	n/a	YES	NO
System Sumps								
Exhaust Stack Sump	YES	NO	YES	NO	N/A	n/a	YES	NO
GAC and PPZ Drains								
Lead GAC	YES	NO	YES	NO	N/A	n/a	YES	NO
Lag GAC	YES	NO	YES	NO	N/A	n/a	YES	NO
PPZ	YES	NO	YES	NO	N/A	n/a	YES	NO

MONTHLY VAPOR SAMPLING			
Location	Time	Canister ID	Comments
C-INFLUENT	8/13 ~~14:00~~ 16:40	2790	
C-MID GAC	8/13 ~~14:00~~ 16:50	2795	
C-EFFLUENT	8/13 ~~14:00~~ 17:00	2793	

ADDITIONAL COMMENTS:

FIELD REP. SIGNATURE: _____ **Time:** _____

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 8/26/14 Time: 2:15 pm Personnel: Chris Leahy

1. Was the system running upon arrival?
   YES NO
2. Where there any alarm conditions upon arrival?
   YES NO
   Comment: _____
3. Is the blower vacuum relief valve open?
   YES NO
4. Are there any leaks or damage to system hoses?
   YES NO
5. Is there any damage to system components?
   YES NO
6. Are all locks and zip-ties secure?
   YES NO
7. Was there a GAC change out?
   YES NO
8. Was there a $KMnO_4$ change out?
   YES NO
9. How many GAC units are at this location?
   NEW 2 SPENT _____
10. How many $KMnO_4$ units are at this location?
    NEW 1 SPENT _____
11. How many water drums are on-site?
    EMPTY 1 PART FULL 1 FULL 1
12. Are water drums in good condition and labeled?
    YES NO
    Comment: _____
13. Do the these fall to zero when system is turned off?

Flow Gauge	YES	NO
Pressure Gauges	YES	NO
Vacuum Gauges	YES	NO

GENERAL SYSTEM MONITORING

Time	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Flow (scfm)	Pressure post-Blower (in. H_2O)	Temp post-Blower (°F)	Temp post-HE (°F)
2:35 pm	43	48	5	66	38	174	109

* Replace filter if >25 in. H_2O

14. How many hours are displayed on the time counter? 10,439.2

EXTRACTION WELL VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Vacuum/Flow Adjustment	Comments
SSD-21-C	3:02	15.92	1,497	32.6	none	
SSD-23-C			CLOSED			
SSD-30-C	3:20	38.2	3,354	73.1	none	water noise
SSD-26-C	3:26	38.6	max	N/A		"
SSD-31-C	3:35	37.7	max	N/A		"
SSD-27-C	3:45	1.40	1,119	24.4		
SSD-32-C	3:51	3.60	1,543	33.6		
SSD-28-C	4:01	2.02	1,961	42.7		
SSD-33-C	4:06	31.1	2,824	61.6		
SSD-29-C	4:09	37.6	3,762	82.0		"
SSD-34-C	4:12	37.4	3,052	66.5		"

** Flow = Velocity x 0.0218

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

VMP VACUUM MONITORING							
VMP	Time	Vacuum (in. H_2O)	Comments	VMP	Time	Vacuum (in. H_2O)	Comments
001-C	3:06	0.40		113-C	3:40	6.60	
SSD-22-C	3:00	0.02		133-C	3:47	1.55	
SSD-2-C	3:15	0.07		111-C	3:55	0.00	
SSD-24-C	3:07	0.29		060-C	4:03	~~0.46~~	0.91
SSD-25-C	2:45	0.00		127-C	4:09	10.46	
SSD-3-C	2:50	1.16		141-C	4:12	- 0.59	
SSD-4-C	2:55	2.52		050-C	4:15	0.00	
135-C	3:20	1.41		126-C	4:20	0.00	
088-C	3:25	0.00					

MOISTURE SEPARATOR, SUMP, AND DRAIN MONITORING							
Location	Contains Water?		Water Drained?			Volume Drained	Drain Valve Closed?	
Moisture Separators								
MS-1	YES	NO	YES	NO	N/A	n/a	YES	NO
MS-2	YES	NO	YES	NO	N/A	n/a	YES	NO
Pipe Sumps								
PS-1	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-2	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-3	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-4	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-5	YES	NO	YES	NO	N/A	n/a	YES	NO
System Sumps								
Exhaust Stack Sump	YES	NO	YES	NO	N/A	n/a	YES	NO
GAC and PPZ Drains								
Lead GAC	YES	NO	YES	NO	N/A	n/a	YES	NO
Lag GAC	YES	NO	YES	NO	N/A	n/a	YES	NO
PPZ	YES	NO	YES	NO	N/A	n/a	YES	NO

MONTHLY VAPOR SAMPLING			
Location	Time	Canister ID	Comments
C-INFLUENT	N/A	N/A	
C-MID GAC	↓	↓	
C-EFFLUENT			

ADDITIONAL COMMENTS:

FIELD REP. SIGNATURE: [signature] **Time:** 6:15 pm

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 9/12/14 Time: 1:30pm Personnel: Chris Leahy

1. Was the system running upon arrival?
   (YES) NO
2. Where there any alarm conditions upon arrival?
   YES (NO)
   Comment: _____
3. Is the blower vacuum relief valve open?
   YES (NO)
4. Are there any leaks or damage to system hoses?
   YES (NO)
5. Is there any damage to system components?
   YES (NO)
6. Are all locks and zip-ties secure?
   (YES) NO
7. Was there a GAC change out?
   YES (NO)
8. Was there a $KMnO_4$ change out?
   YES (NO)
9. How many GAC units are at this location?
   NEW 2 SPENT _____
10. How many $KMnO_4$ units are at this location?
    NEW 1 SPENT _____
11. How many water drums are on-site?
    EMPTY 1 PART FULL 1 FULL 1
12. Are water drums in good condition and labeled?
    (YES) NO
    Comment: _____
13. Do the these fall to zero when system is turned off?
    Flow Gauge (YES) NO
    Pressure Gauges (YES) NO
    Vacuum Gauges (YES) NO

GENERAL SYSTEM MONITORING

Time	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Flow (scfm)	Pressure post-Blower (in. H_2O)	Temp post-Blower (°F)	Temp post-HE (°F)
13:30	43	48	5	17.5	38	172	110

* Replace filter if >25 in. H_2O

14. How many hours are displayed on the time counter? 10,784.4

EXTRACTION WELL VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Vacuum/Flow Adjustment	Comments
SSD-21-C		14.26	1,351	29.5	none	
SSD-23-C			CLOSED			
SSD-30-C		37.6	2,056	44.8	none	
SSD-26-C		36.5	3,011	65.6		
SSD-31-C		37.2	2,856	62.3		
SSD-27-C		1.21	996	21.7		
SSD-32-C		3.76	1,296	28.3		
SSD-28-C		1.86	1,852	40.4		
SSD-33-C		29.6	2,621	57.1		
SSD-29-C		36.9	3,542	77.2		
SSD-34-C		37.6	2,906	63.4		

** Flow = Velocity x 0.0218

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

VMP VACUUM MONITORING							
VMP	Time	Vacuum (in. H_2O)	Comments	VMP	Time	Vacuum (in. H_2O)	Comments
001-C	N/A	0.32		133-C	N/A	1.50	
SSD-22-C		0.03		155-C		0.37	
SSD-2-C		0.09		153-C		0.14	
SSD-24-C		0.36		111-C		0.00	
SSD-25-C		0.00		060-C		1.01	
SSD-3-C		1.06		151-C		0.00	
SSD-4-C		2.31		127-C		9.26	
159-C	13:45	7.14		150-C		0.08	broken*
135-C	N/A	1.38		152-C		0.33	
088-C	N/A	0.00		141-C		-0.46	
157-C	13:55	0.03		050-C		0.00	
113-C	N/A	5.91		149-C		0.00	
156-C	14:10	0.29		126-C		0.00	
154-C	N/A	0.06		158-C		0.20	

MOISTURE SEPARATOR, SUMP, AND DRAIN MONITORING								
Location	Contains Water?		Water Drained?			Volume Drained	Drain Valve Closed?	
Moisture Separators								
MS-1	YES	NO	YES	NO	N/A	n/a	YES	NO
MS-2	YES	NO	YES	NO	N/A	n/a	YES	NO
Pipe Sumps								
PS-1	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-2	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-3	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-4	YES	NO	YES	NO	N/A	n/a	YES	NO
PS-5	YES	NO	YES	NO	N/A	n/a	YES	NO
System Sumps								
Exhaust Stack Sump	YES	NO	YES	NO	N/A	n/a	YES	NO
GAC and PPZ Drains								
Lead GAC	YES	NO	YES	NO	N/A	n/a	YES	NO
Lag GAC	YES	NO	YES	NO	N/A	n/a	YES	NO
PPZ	YES	NO	YES	NO	N/A	n/a	YES	NO

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
C-INFLUENT	4:35	2605
C-MID GAC	4:45	2793
C-EFFLUENT	4:55	2795

ADDITIONAL COMMENTS:

* Vapor pin loose in hole

FIELD REP. SIGNATURE: [signature]

Time: 9/12/24 4:55 pm

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

Date: 9/23/14 **Time:** 1:50 pm **Personnel:** Chris Leahy

1. Was the system running upon arrival?
YES NO

2. Were there any alarm conditions upon arrival?
YES NO
Comment: _____

3. Is the blower vacuum relief valve open?
YES NO

4. Are there any leaks or damage to system hoses?
YES NO

5. Is there any damage to system components?
YES NO

6. Are all locks and zip-ties secure?
YES NO

7. Was there a GAC change out?
YES NO

8. Was there a $KMnO_4$ change out?
YES NO

9. How many GAC units are at this location?
NEW 1 SPENT 1

10. How many $KMnO_4$ units are at this location?
NEW 1 SPENT _____

11. How many water drums are on-site?
EMPTY 1 PART FULL 1 FULL 1

12. Are water drums in good condition and labeled?
YES NO
Comment: _____

13. Do the these fall to zero when system is turned off?

Flow Gauge	YES	NO
Pressure Gauges	YES	NO
Vacuum Gauges	YES	NO

GENERAL SYSTEM MONITORING

Time	Vacuum pre-Filter (in. H_2O)	Vacuum post-Filter (in. H_2O)	Diff Pressure of Filter* (in. H_2O)	Flow (scfm)	Pressure post-Blower (in. H_2O)	Temp post-Blower (°F)	Temp post-HE (°F)
2:00 pm	41	48	7	175	39	167	110

* Replace filter if >25 in. H_2O

14. How many hours are displayed on the time counter? 11,096.6

EXTRACTION WELL VACUUM AND VELOCITY MONITORING

Location	Time	Vacuum (in. H_2O)	Velocity (ft/min)	Flow** (scfm)	Vacuum/Flow Adjustment	Comments
SSD-21-C	N/A	15.31	1,348	29.4	none	
SSD-23-C			closed		n/a	
SSD-30-C		38.1	1,446	31.5	none	
SSD-26-C		37.8	3,126	68.1	none	
SSD-31-C		37.4	1,093	23.8	none	
SSD-27-C		1.40	1,246	27.2	none	
SSD-32-C		3.65	1,561	34.0	none	
SSD-28-C		1.88	1,963	42.8	none	
SSD-33-C		30.0	3,421	74.6	none	
SSD-29-C		36.6	3,034	66.1	none	
SSD-34-C		36.9	2,125	46.3	none	

** Flow = Velocity x 0.0218

SSD SYSTEM CHECK - BUILDING C

LMC Middle River Complex, Middle River, Maryland

VMP VACUUM MONITORING							
VMP	Time	Vacuum (in. H_2O)	Comments	VMP	Time	Vacuum (in. H_2O)	Comments
001-C	N/A	0.31		133-C	N/A	1.23	
SSD-22-C		0.03		155-C		0.32	bldg 19 Acc19 - Not 19!
SSD-2-C		0.09		153-C		0.16	
SSD-24-C		0.18		111-C		0.00	
SSD-25-C		0.00		060-C		0.83	
SSD-3-C		0.92		151-C		0.00	
SSD-4-C		2.18		127-C		10.04	
159-C		0.34		150-C		0.20	PG repaired
135-C		1.09		152-C		0.65	
088-C		0.01		141-C		-0.81	
157-C		0.02		050-C		0.00	
113-C		4.04	Variable	149-C		0.01	not 0.00
156-C		0.40		126-C		0.00	
154-C	✓	0.08	bldg 19 Acc19 Not 19	158-C	✓	0.15	

MOISTURE SEPARATOR, SUMP, AND DRAIN MONITORING								
Location	Contains Water?		Water Drained?			Volume Drained	Drain Valve Closed?	
Moisture Separators								
MS-1	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
MS-2	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
Pipe Sumps								
PS-1	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
PS-2	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
PS-3	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
PS-4	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
PS-5	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
System Sumps								
Exhaust Stack Sump	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
GAC and PPZ Drains								
Lead GAC	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
Lag GAC	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO
PPZ	YES	(NO)	YES	NO	(N/A)	n/a	(YES)	NO

MONTHLY VAPOR SAMPLING		
Location	Time	Canister ID
C-INFLUENT	n/a	n/a
C-MID GAC	n/a	n/a
C-EFFLUENT	n/a	n/a

ADDITIONAL COMMENTS:

~~VMPs~~ 149-C to 159-C
~~Sampled~~ on 9/26/14
monitored

FIELD REP. SIGNATURE: [signature]

Time: 3:45 pm

APPENDIX B—QUARTERLY SYSTEM CHECKS FORMS

SSD SYSTEM QUARTERLY SYSTEM CHECK - BUILDING A
LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Date: 6/5/14 **Time:** _____ **Quarter:** 2 **Personnel:** DLM/CL/MS

GENERAL SYSTEM

Checked System Components? (YES) NO Comments: _____

Checked System Pipes for Leaks? (YES) NO Comments: _____

Visually Inspected Air Filter? (YES) NO Need Replaced? YES (NO)
(replace filter when AP = 2-3 in. Hg)

Visually Inspected Intake Air Filter? (YES) NO Need Replaced? YES (NO)
(replace filter when AP = 2-3 in. Hg)

Checked Vacuum Relief Valve? (YES) NO Comments: _____

Measured and Recorded Amperage Draw on Blower? Yellow = 4.61 Orange = 5.58 Brown = 5.11

Are all components returned to system operating position? (YES) NO

Cleaned System and Area Around System? YES (NO) Comments: Time Constraint. Will clean during next bi-weekly

Checked that Fire Extinguisher is Near System? YES (NO)

SYSTEM ALARM SWITCHES AND AUTO-DIALER

Checked Water Level Switch? (YES) NO Did Auto-Dialer Indicate Zone 1 Alarm? (YES) NO

Checked Pressure Switch? (YES) NO Did Auto-Dialer Indicate Zone 2 Alarm? (YES) NO

Checked Temperature Switch? (YES) NO Did Auto-Dialer Indicate Zone 3 Alarm? (YES) NO

Checked 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

Checked GAC Units for Corrosion and Leaks? (YES) NO Comments: _____

Checked Condition of Sample Ports? (YES) NO Comments: _____

Number of used GAC Units On-site: 1 Contain Non-Haz Waste Labels? YES NO

Number of Unused GAC Units On-site: 1

VACUUM MONITORING POINTS

Checked Condition of Well Lids and Bolts? (YES) NO Comments: _____

Checked Condition of Tubing and Seal? (YES) NO Comments: _____

ADDITIONAL COMMENTS

Replaced faulty relay.

Personnel's Signature: [signature] Date: 6/5/14

SSD SYSTEM QUARTERLY SYSTEM CHECK - BUILDING C

LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Date: 6/5/14 Time: _____ Quarter: 2 Personnel: DLM/CSL/MS

GENERAL SYSTEM

Checked System Components? (YES) NO Comments: _____

Checked System Pipes for Leaks? (YES) NO Comments: _____

Visually Inspected Air Filter? (YES) NO Need Replaced? [redacted] (NO)
(replace filter when [redacted] = 2-3 in. Hg)

Visually Inspected Intake Air Filter? (YES) NO Need Replaced? YES (NO)

Checked Vacuum Relief Valve? (YES) NO Comments: _____

Measured and Recorded Amperage Draw on Blower? Yellow = 9.64 Orange = 11.56 Brown = 9.07

Are all components returned to system operating position? (YES) NO

Cleaned System and Area Around System? YES (NO) Comments: Time Constraint. Will clean during next bi-weekly.

Checked that Fire Extinguisher Near System? (YES) NO

SYSTEM ALARM SWITCHES AND AUTO-DIALER

Checked Post-Blower Temp. Switch (YES) NO Did Auto-Dialer Indicate Zone 1 Alarm? (YES) NO

Checked Post-Hex Temp. Switch? (YES) NO Did Auto-Dialer Indicate Zone 2 Alarm? (YES) NO

Checked MS-1 Water Level Switch? (YES) NO Did Auto-Dialer Indicate Zone 3 Alarm? (YES) NO

Checked MS-2 Water Level Switch? (YES) NO Did Auto-Dialer Indicate Zone 4 Alarm? (YES) NO

Checked High Pressure Switch? YES NO Did Auto-Dialer Indicate Zone 5 Alarm? YES NO

Checked Low Vacuum Switch? (YES) NO Did Auto-Dialer Indicate Zone 6 Alarm? (YES) NO

Do the Auto-Dialer Batteries Need Replaced? YES (NO)

CARBON UNITS

Checked GAC Units for Corrosion and Leaks? (YES) NO Comments: _____

Checked Condition of Sample Ports? (YES) NO Comments: _____

Number of used GAC/PPZ Units On-site: 0 / 0 Contain Non-Haz Waste Labels? YES NO N/A

Number of Unused GAC/PPZ Units On-site: 2 / 1

VACUUM MONITORING POINTS

Checked Condition of Well Lids and Bolts? (YES) NO Comments: _____

Checked Condition of Tubing and Seal? (YES) NO Comments: _____

ADDITIONAL COMMENTS

Cracked/Deteriorating concrete in floor near SSD-28-C. Suspected cause of increased flow/decreased vacuum at well.

Personnel's Signature: [signature] Date: 6/5/14

SSD SYSTEM QUARTERLY SYSTEM CHECK - BUILDING A
LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Date: 9/26 **Time:** 10:15 am **Quarter:** 3 **Personnel:** CL, MS

GENERAL SYSTEM

Checked System Components? (YES) NO Comments: _____

Checked System Pipes for Leaks? (YES) NO Comments: _____

Visually Inspected Air Filter? (YES) NO Need Replaced? YES NO
(replace filter when AP = 2-3 in. Hg)

Visually Inspected Intake Air Filter? (YES) NO Need Replaced? YES NO
(replace filter when AP = 2-3 in. Hg)

Checked Vacuum Relief Valve? (YES) NO Comments: _____

Measured and Recorded Amperage Draw on Blower? Yellow = 5.02 Orange = 5.30 Brown = 5.19

Are all components returned to system operating position? (YES) NO

Cleaned System and Area Around System? (YES) NO Comments: Swept, wiped down system & drums, picked up trash

Checked that Fire Extinguisher is Near System? (YES) NO

SYSTEM ALARM SWITCHES AND AUTO-DIALER

Checked Water Level Switch? (YES) NO Did Auto-Dialer Indicate Zone 1 Alarm? (YES) NO

Checked Pressure Switch? (YES) NO Did Auto-Dialer Indicate Zone 2 Alarm? (YES) NO

Checked Temperature Switch? (YES) NO Did Auto-Dialer Indicate Zone 3 Alarm? (YES) NO

Checked Low Pressure Switch? (YES) NO Did Auto-Dialer Indicate Zone 4 Alarm? (YES) NO

Do the Auto-Dialer Batteries Need Replaced? (YES) ~~NO~~ -6°C! Batteries replaced

CARBON UNITS

Checked GAC Units for Corrosion and Leaks? (YES) NO Comments: _____

Checked Condition of Sample Ports? (YES) NO Comments: _____

Number of used GAC Units On-site: 1 Contain Non-Haz Waste Labels? (YES) NO

Number of Unused GAC Units On-site: 1

VACUUM MONITORING POINTS

Checked Condition of Well Lids and Bolts? (YES) NO Comments: _____

Checked Condition of Tubing and Seal? (YES) NO Comments: _____

ADDITIONAL COMMENTS

_____

_____

Personnel's Signature: [signature] Date: 9/26/14

SSD SYSTEM QUARTERLY SYSTEM CHECK - BUILDING C

LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Date: 9/26/14 **Time:** 8:15 am **Quarter:** 3 **Personnel:** CL, MS

GENERAL SYSTEM

Checked System Components? (YES) NO Comments: _____

Checked System Pipes for Leaks? (YES) NO Comments: _____

Visually Inspected Air Filter? (YES) NO Need Replaced? YES (NO)
(replace filter when AP = 2-3 in. Hg)

Visually Inspected Intake Air Filter? (YES) NO Need Replaced? YES NO

Checked Vacuum Relief Valve? (YES) NO Comments: _____

Measured and Recorded Amperage Draw on Blower? Yellow = 12.24 Orange = 12.18 Brown = 10.81

Are all components returned to system operating position? (YES) NO

Cleaned System and Area Around System? (YES) NO Comments: Removed trash, wiped down system components

Checked that Fire Extinguisher Near System? (YES) NO

SYSTEM ALARM SWITCHES AND AUTO-DIALER

Checked Post-Blower Temp. Switch (YES) NO Did Auto-Dialer Indicate Zone 1 Alarm? (YES) NO

Checked Post-Hex Temp. Switch? (YES) NO Did Auto-Dialer Indicate Zone 2 Alarm? (YES) NO

Checked MS-1 Water Level Switch? (YES) NO Did Auto-Dialer Indicate Zone 3 Alarm? (YES) NO

Checked MS-2 Water Level Switch? (YES) NO Did Auto-Dialer Indicate Zone 4 Alarm? (YES) NO

Checked High Pressure Switch? (YES) NO Did Auto-Dialer Indicate Zone 5 Alarm? (YES) NO

Checked Low Vacuum Switch? (YES) NO Did Auto-Dialer Indicate Zone 6 Alarm? (YES) NO

Do the Auto-Dialer Batteries Need Replaced? YES (NO)

CARBON UNITS

Checked GAC Units for Corrosion and Leaks? (YES) NO Comments: _____

Checked Condition of Sample Ports? (YES) NO Comments: _____

Number of used GAC/PPZ Units On-site: 1 / 0 Contain Non-Haz Waste Labels? YES NO
n/a

Number of Unused GAC/PPZ Units On-site: 1 / 1

VACUUM MONITORING POINTS

Checked Condition of Well Lids and Bolts? (YES) NO Comments: _____

Checked Condition of Tubing and Seal? (YES) NO Comments: _____

ADDITIONAL COMMENTS

Performed GAC change out (1)

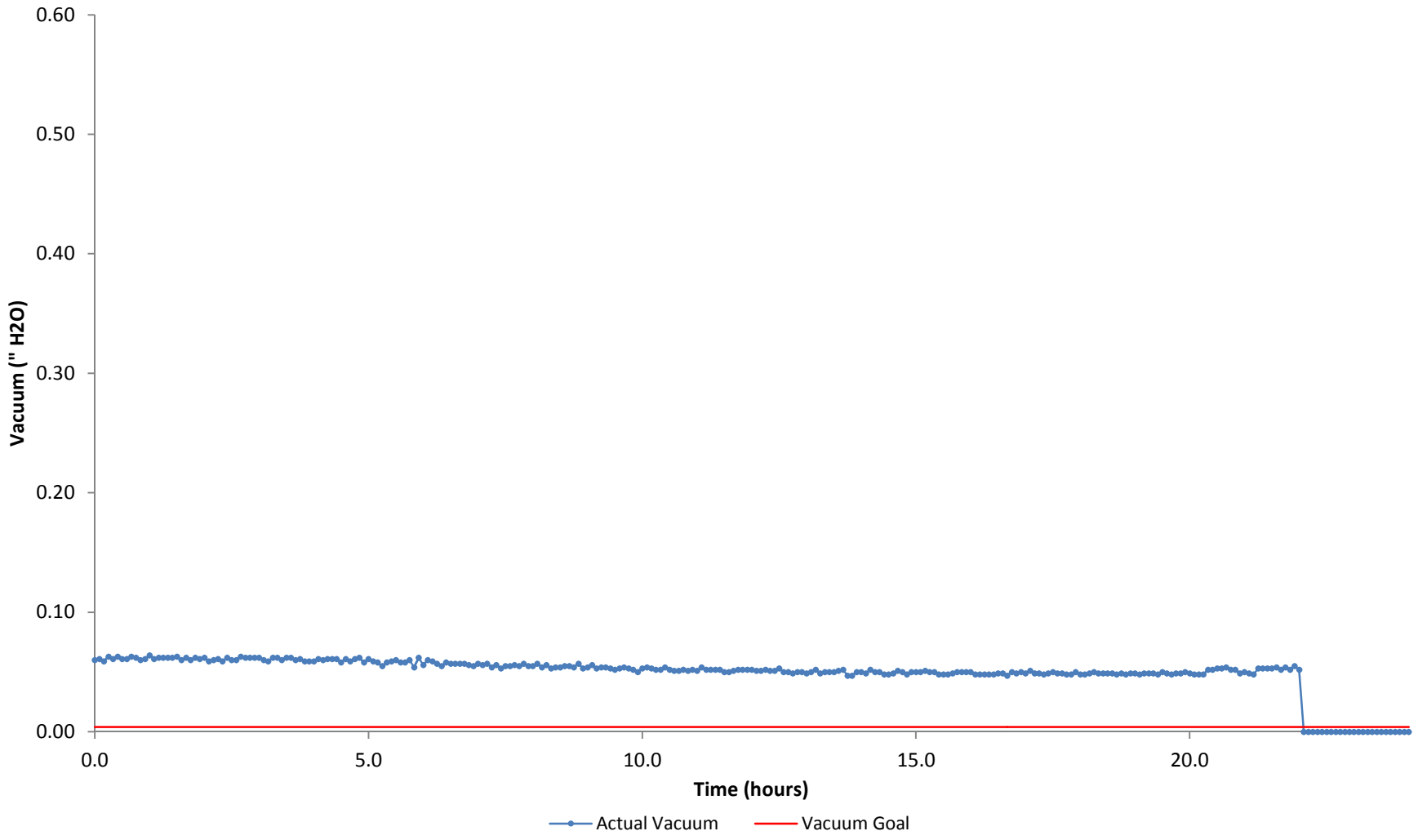
Personnel's Signature: [signature] Date: 9/26/14

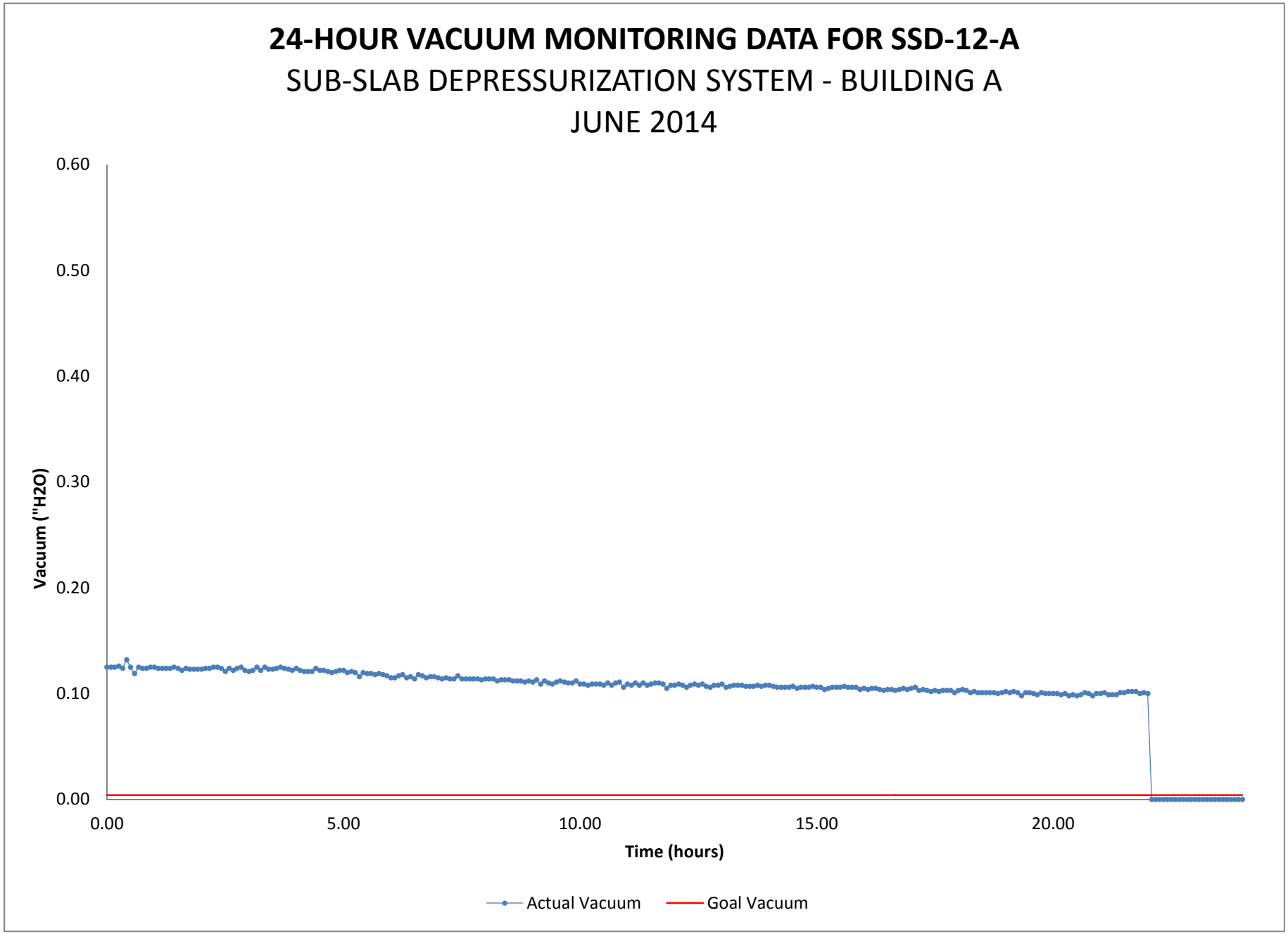
APPENDIX C—24-HOUR VACUUM MONITORING DATA GRAPHS

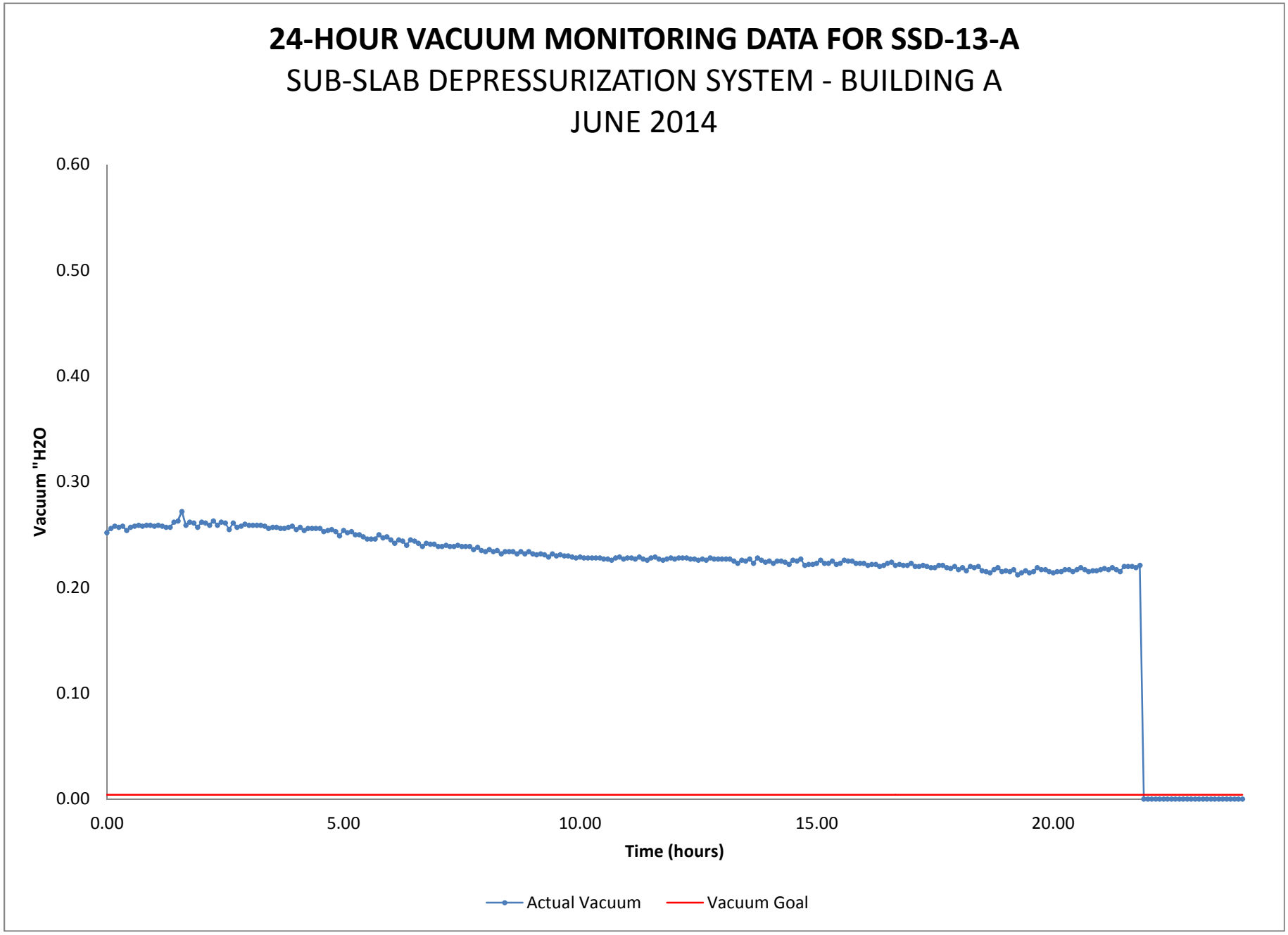
24-HOUR VACUUM MONITORING DATA FOR SSD-11-A

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING A

JUNE 2014




24-HOUR VACUUM MONITORING DATA FOR SSD-12-A
SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING A
JUNE 2014
Vacuum ("H2O)
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0.00
5.00
10.00
15.00
20.00
Time (hours)
Actual Vacuum
Goal Vacuum

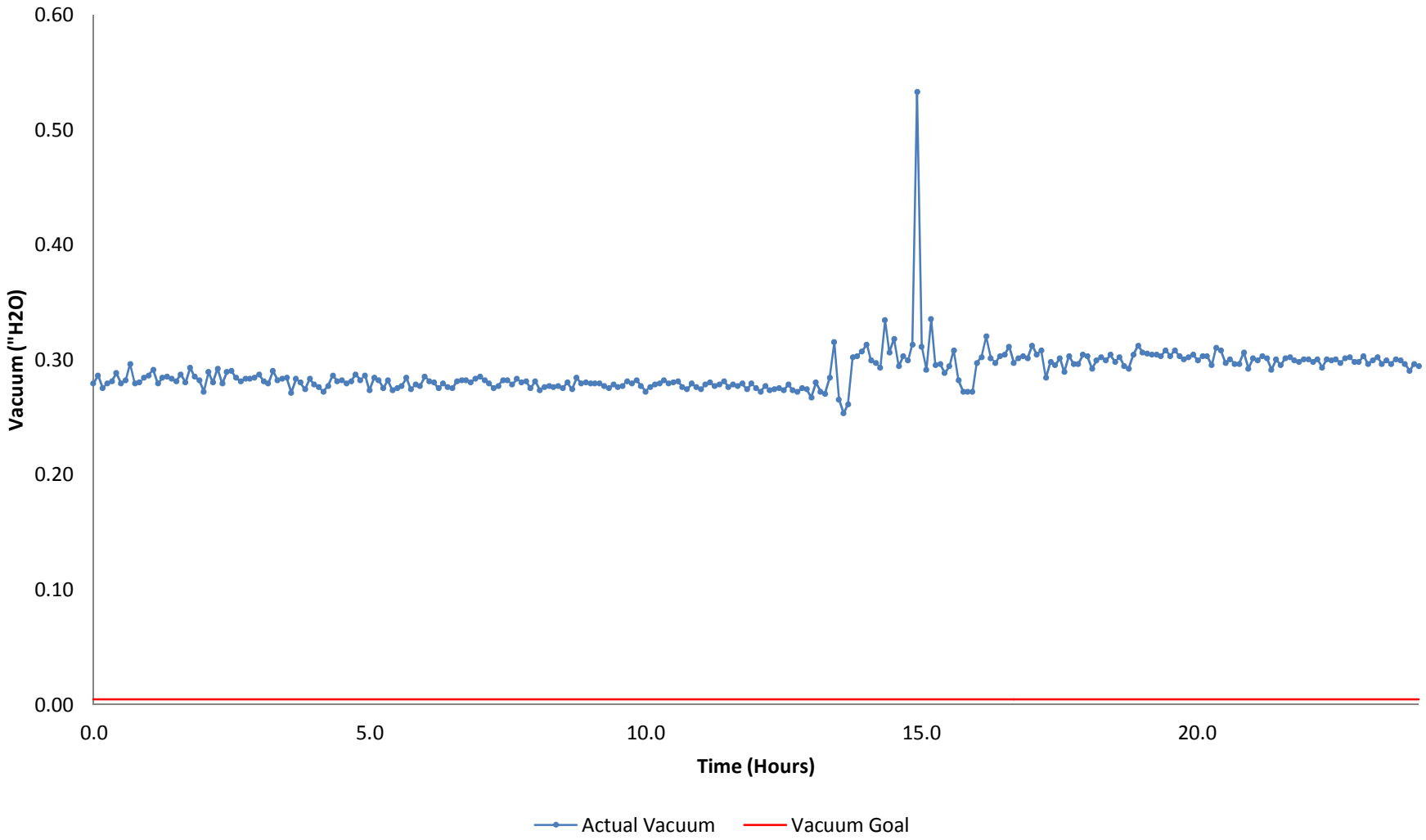

24-HOUR VACUUM MONITORING DATA FOR SSD-13-A
SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDING A
JUNE 2014
Vacuum "H2O
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0.00
5.00
10.00
15.00
20.00
Time (hours)
Actual Vacuum
Vacuum Goal

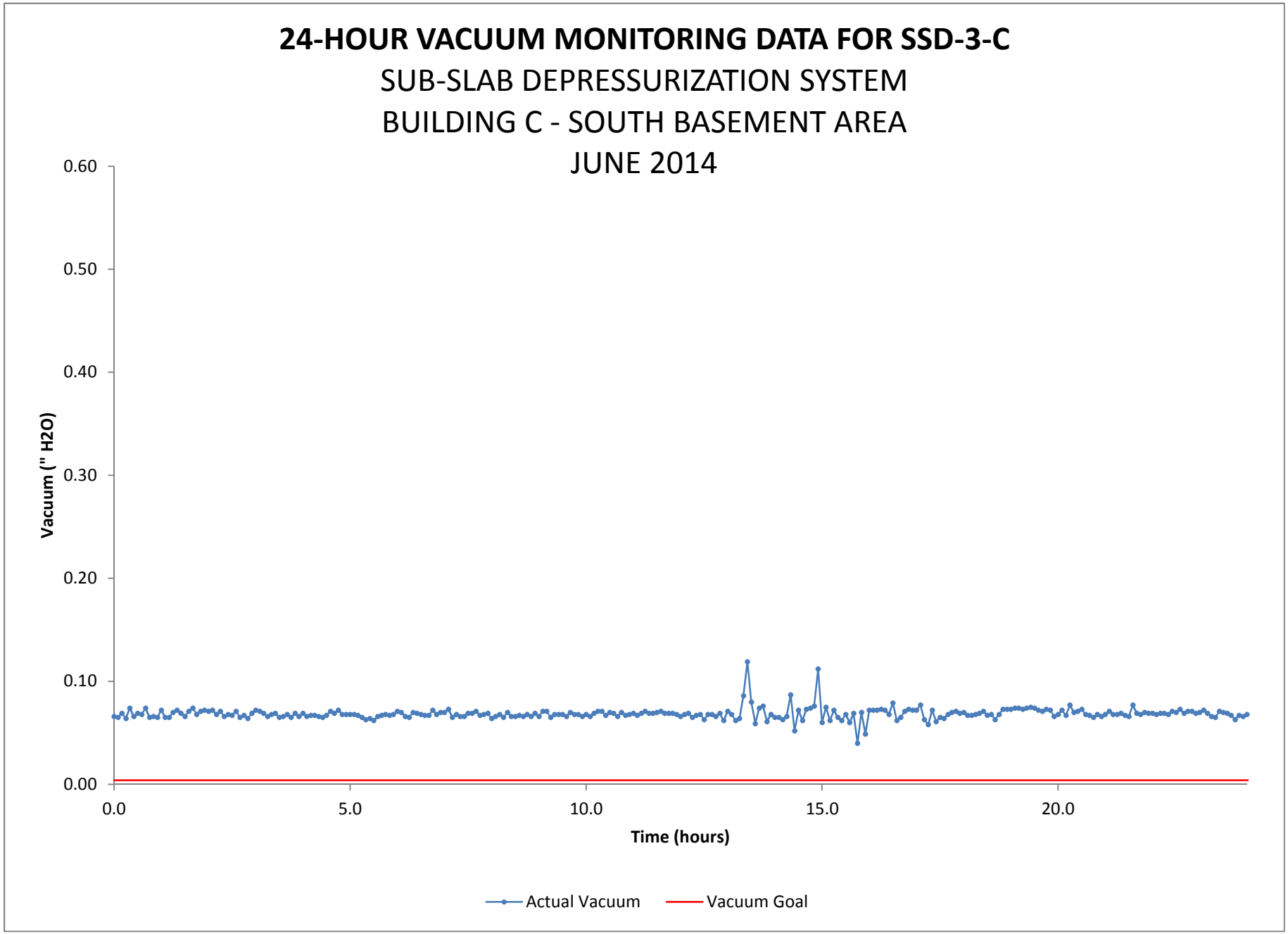
24-HOUR VACUUM MONITORING DATA FOR 001-C

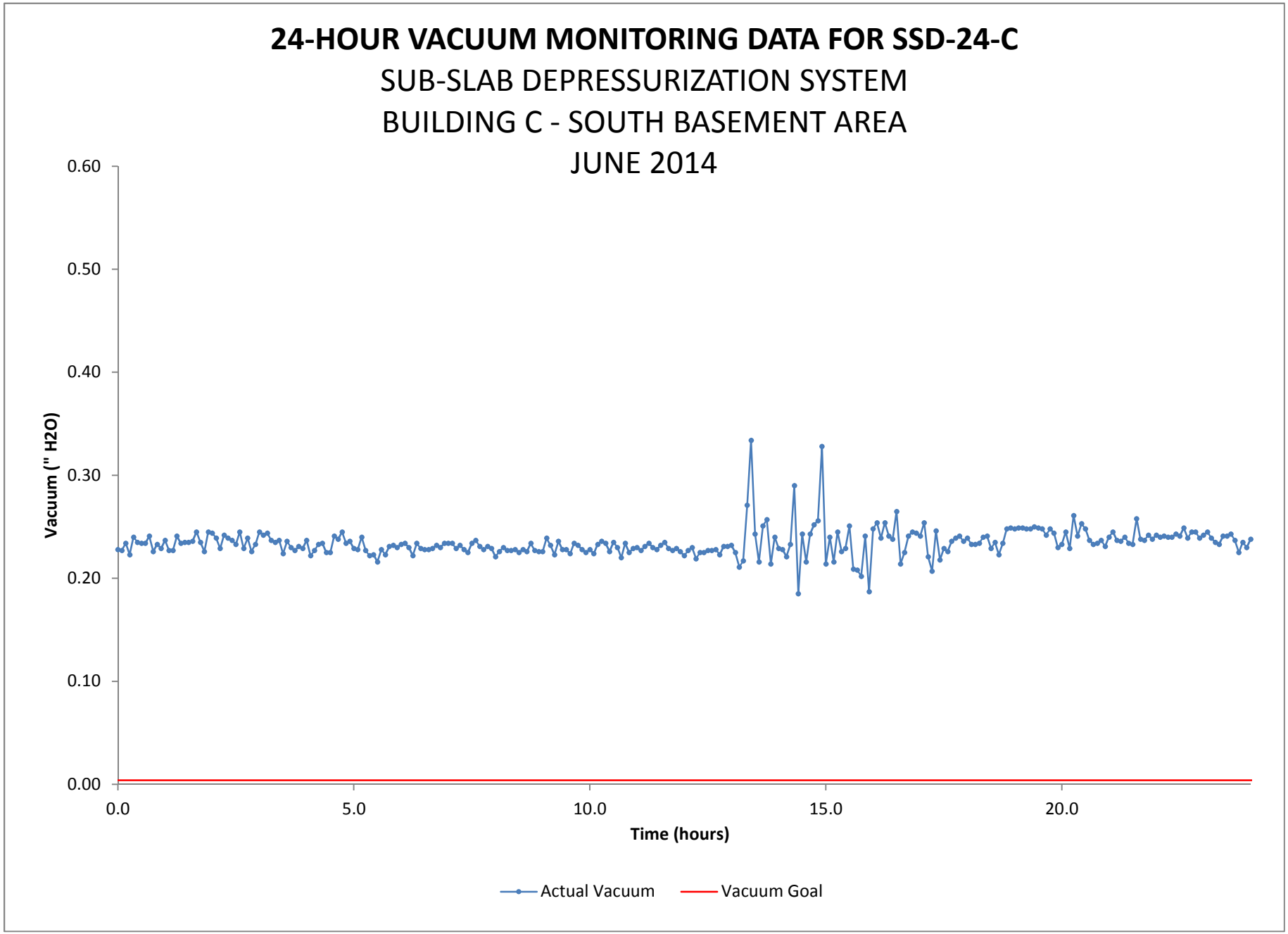
SUB-SLAB DEPRESSURIZATION SYSTEM

BUILDING C - SOUTH BASEMENT AREA

JUNE 2014




24-HOUR VACUUM MONITORING DATA FOR SSD-3-C
SUB-SLAB DEPRESSURIZATION SYSTEM
BUILDING C - SOUTH BASEMENT AREA
JUNE 2014
Vacuum (" H2O)
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0.0
5.0
10.0
15.0
20.0
Time (hours)
Actual Vacuum
Vacuum Goal


24-HOUR VACUUM MONITORING DATA FOR SSD-24-C
SUB-SLAB DEPRESSURIZATION SYSTEM
BUILDING C - SOUTH BASEMENT AREA
JUNE 2014
Vacuum (" H2O)
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0.0
5.0
10.0
15.0
20.0
Time (hours)
Actual Vacuum
Vacuum Goal

APPENDIX D—ANALYTICAL REPORTS

Tetra Tech **INTERNAL CORRESPONDENCE**

TO:	**P. RICH**	**DATE:**	**MAY 15, 2014**
FROM:	**A. COGNETTI**	**COPIES:**	**DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SAMPLE DELIVERY GROUP (SDG) – 10263098

SAMPLES: 6/Air/VOC

A-EFFLUENT	A-INFLUENT	A-MID GAC
C-EFFLUENT	C-INFLUENT	C-MID GAC

Overview

The sample set for LMC – Middle River, SDG 10263098 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 April 10, 2014 and analyzed by PACE Analytical. 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.

The laboratory control sample (LCS) percent recovery (%R) of 1,2,3-trimethylbenzene was greater than the upper quality control limit in batch 1668675. No action was taken on the nondetected 1,2,3-trimethylbenzene results.

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 USEPA National Functional Guidelines for Organic Data Validation (June 2008) 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
Data Validation Manager

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 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate

PROJ_NO: 03265	NSAMPLE	A-EFFLUENT			A-INFLUENT			A-MID-GAC			C-EFFLUENT		
SDG: 10263098	LAB_ID	10263098003			10263098001			10263098002			10263098006		
FRACTION: OV	SAMP_DATE	4/10/2014			4/10/2014			4/10/2014			4/10/2014		
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		5.9	U		646			65.6			13.8	U	
1,1,2-TRICHLOROETHANE		2.9	U		18.5	U		6.8	U		6.8	U	
1,1-DICHLOROETHANE		15.1			31.8			51.4			10.2	U	
1,1-DICHLOROETHENE		97			131			267			10.1	U	
1,2,3-TRIMETHYLBENZENE		5.3	U		33.6	U		12.4	U		12.4	U	
1,2,4-TRICHLOROBENZENE		19.9	U		127	U		46.9	U		46.9	U	
1,2,4-TRIMETHYLBENZENE		7.2			33.6	U		12.4	U		12.4	U	
1,2-DICHLOROETHANE		2.2	U		13.8	U		5.1	U		5.1	U	
1,3,5-TRIMETHYLBENZENE		13.2	U		83.9	U		31.1	U		31.1	U	
BENZENE		2.8			81.7			40.8			6.2		
CARBON TETRACHLORIDE		3.4	U		21.5	U		8	U		8	U	
CHLORODIFLUOROMETHANE		3.8	U		24.2	U		8.9	U		8.9	U	
CHLOROFORM		5.2	U		33.3	U		12.3	U		12.3	U	
CIS-1,2-DICHLOROETHENE		82.9			194			270			10.1	U	
DICHLORODIFLUOROMETHANE		5.3	U		33.9	U		12.6	U		12.6	U	
ETHYLBENZENE		49.4			120			66.2			110		
M+P-XYLENES		154			387			215			330		
METHYL TERT-BUTYL ETHER		3.9	U		24.5	U		9.1	U		9.1	U	
METHYLENE CHLORIDE		48.3			119	U		43.9	U		43.9	U	
NAPHTHALENE		14	U		89.4	U		33.1	U		33.1	U	
O-XYLENE		45.1			109			59.5			91.7		
TETRACHLOROETHENE		3.6	U		23.2	U		8.6	U		8.6	U	
TOLUENE		64.9			75.7			45.2			95.4		
TRANS-1,2-DICHLOROETHENE		4.3	U		27.2	U		10.1	U		10.1	U	
TRICHLOROETHENE		62.1			1490			74.8			6.8	U	
VINYL CHLORIDE		1.4	U		8.7	U		3.2	U		3.2	U	

PROJ_NO: 03265	NSAMPLE	C-INFLUENT			C-MID-GAC		
SDG: 10263098	LAB_ID	10263098004			10263098005		
FRACTION: OV	SAMP_DATE	4/10/2014			4/10/2014		
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		6.6			9.6		
1,1,2-TRICHLOROETHANE		1.7	U		4.6	U	
1,1-DICHLOROETHANE		2.6	U		6.9	U	
1,1-DICHLOROETHENE		2.5	U		6.8	U	
1,2,3-TRIMETHYLBENZENE		3.1	U		8.4	U	
1,2,4-TRICHLOROBENZENE		11.8	U		31.7	U	
1,2,4-TRIMETHYLBENZENE		6.9			8.4	U	
1,2-DICHLOROETHANE		1.3	U		3.4	U	
1,3,5-TRIMETHYLBENZENE		7.8	U		21	U	
BENZENE		10			7.8		
CARBON TETRACHLORIDE		2	U		5.4	U	
CHLORODIFLUOROMETHANE		7.1			8.2		
CHLOROFORM		3.1	U		8.3	U	
CIS-1,2-DICHLOROETHENE		7			14.6		
DICHLORODIFLUOROMETHANE		3.2	U		8.5	U	
ETHYLBENZENE		67			84.3		
M+P-XYLENES		218			263		
METHYL TERT-BUTYL ETHER		2.3	U		6.1	U	
METHYLENE CHLORIDE		11.1	U		29.7	U	
NAPHTHALENE		12.1			22.3	U	
O-XYLENE		67.4			73.6		
TETRACHLOROETHENE		5.1			5.8	U	
TOLUENE		50.7			64.8		
TRANS-1,2-DICHLOROETHENE		2.5	U		6.8	U	
TRICHLOROETHENE		266			18.6		
VINYL CHLORIDE		0.82	U		2.2	U	

Appendix B

Results as Reported by the Laboratory

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 117-0507599.20 SSD O&M
Pace Project No.: 10263098

Sample: A-Effluent **Lab ID: 10263098003** Collected: 04/10/14 11:47 Received: 04/11/14 09:23 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**2.8**	ug/m3	1.7	5.28		05/01/14 22:22	71-43-2	
Carbon tetrachloride	ND	ug/m3	3.4	5.28		05/01/14 22:22	56-23-5	
Chlorodifluoromethane	ND	ug/m3	3.8	5.28		05/01/14 22:22	75-45-6	
Chloroform	ND	ug/m3	5.2	5.28		05/01/14 22:22	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	5.3	5.28		05/01/14 22:22	75-71-8	
1,1-Dichloroethane	**15.1**	ug/m3	4.3	5.28		05/01/14 22:22	75-34-3	
1,2-Dichloroethane	ND	ug/m3	2.2	5.28		05/01/14 22:22	107-06-2	
1,1-Dichloroethene	**97.0**	ug/m3	4.3	5.28		05/01/14 22:22	75-35-4	
cis-1,2-Dichloroethene	**82.9**	ug/m3	4.3	5.28		05/01/14 22:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	4.3	5.28		05/01/14 22:22	156-60-5	
Ethylbenzene	**49.4**	ug/m3	4.6	5.28		05/01/14 22:22	100-41-4	
Methylene Chloride	**48.3**	ug/m3	18.6	5.28		05/01/14 22:22	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	3.9	5.28		05/01/14 22:22	1634-04-4	
Naphthalene	ND	ug/m3	14.0	5.28		05/01/14 22:22	91-20-3	
Tetrachloroethene	ND	ug/m3	3.6	5.28		05/01/14 22:22	127-18-4	
Toluene	**64.9**	ug/m3	4.1	5.28		05/01/14 22:22	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	19.9	5.28		05/01/14 22:22	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	5.9	5.28		05/01/14 22:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	2.9	5.28		05/01/14 22:22	79-00-5	
Trichloroethene	**62.1**	ug/m3	2.9	5.28		05/01/14 22:22	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	5.3	5.28		05/01/14 22:22	526-73-8	
1,2,4-Trimethylbenzene	**7.2**	ug/m3	5.3	5.28		05/01/14 22:22	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	13.2	5.28		05/01/14 22:22	108-67-8	
Vinyl chloride	ND	ug/m3	1.4	5.28		05/01/14 22:22	75-01-4	
m&p-Xylene	**154**	ug/m3	9.3	5.28		05/01/14 22:22	179601-23-1	
o-Xylene	**45.1**	ug/m3	4.6	5.28		05/01/14 22:22	95-47-6	

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 117-0507599.20 SSD O&M
Pace Project No.: 10263098

Sample: A-Influent **Lab ID: 10263098001** Collected: 04/10/14 11:45 Received: 04/11/14 09:23 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**81.7**	ug/m3	10.9	33.6		05/02/14 00:13	71-43-2	
Carbon tetrachloride	ND	ug/m3	21.5	33.6		05/02/14 00:13	56-23-5	
Chlorodifluoromethane	ND	ug/m3	24.2	33.6		05/02/14 00:13	75-45-6	
Chloroform	ND	ug/m3	33.3	33.6		05/02/14 00:13	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	33.9	33.6		05/02/14 00:13	75-71-8	
1,1-Dichloroethane	**31.8**	ug/m3	27.6	33.6		05/02/14 00:13	75-34-3	
1,2-Dichloroethane	ND	ug/m3	13.8	33.6		05/02/14 00:13	107-06-2	
1,1-Dichloroethene	**131**	ug/m3	27.2	33.6		05/02/14 00:13	75-35-4	
cis-1,2-Dichloroethene	**194**	ug/m3	27.2	33.6		05/02/14 00:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	27.2	33.6		05/02/14 00:13	156-60-5	
Ethylbenzene	**120**	ug/m3	29.6	33.6		05/02/14 00:13	100-41-4	
Methylene Chloride	ND	ug/m3	119	33.6		05/02/14 00:13	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	24.5	33.6		05/02/14 00:13	1634-04-4	
Naphthalene	ND	ug/m3	89.4	33.6		05/02/14 00:13	91-20-3	
Tetrachloroethene	ND	ug/m3	23.2	33.6		05/02/14 00:13	127-18-4	
Toluene	**75.7**	ug/m3	25.9	33.6		05/02/14 00:13	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	33.6		05/02/14 00:13	120-82-1	
1,1,1-Trichloroethane	**646**	ug/m3	37.3	33.6		05/02/14 00:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	18.5	33.6		05/02/14 00:13	79-00-5	
Trichloroethene	**1490**	ug/m3	18.5	33.6		05/02/14 00:13	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	33.6	33.6		05/02/14 00:13	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	33.6	33.6		05/02/14 00:13	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	83.9	33.6		05/02/14 00:13	108-67-8	
Vinyl chloride	ND	ug/m3	8.7	33.6		05/02/14 00:13	75-01-4	
m&p-Xylene	**387**	ug/m3	59.1	33.6		05/02/14 00:13	179601-23-1	
o-Xylene	**109**	ug/m3	29.6	33.6		05/02/14 00:13	95-47-6	

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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 117-0507599.20 SSD O&M
Pace Project No.: 10263098

Sample: A-Mid-Gac **Lab ID: 10263098002** Collected: 04/10/14 11:46 Received: 04/11/14 09:23 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**40.8**	ug/m3	4.0	12.43		05/01/14 12:55	71-43-2	
Carbon tetrachloride	ND	ug/m3	8.0	12.43		05/01/14 12:55	56-23-5	
Chlorodifluoromethane	ND	ug/m3	8.9	12.43		05/01/14 12:55	75-45-6	
Chloroform	ND	ug/m3	12.3	12.43		05/01/14 12:55	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	12.6	12.43		05/01/14 12:55	75-71-8	
1,1-Dichloroethane	**51.4**	ug/m3	10.2	12.43		05/01/14 12:55	75-34-3	
1,2-Dichloroethane	ND	ug/m3	5.1	12.43		05/01/14 12:55	107-06-2	
1,1-Dichloroethene	**267**	ug/m3	10.1	12.43		05/01/14 12:55	75-35-4	
cis-1,2-Dichloroethene	**270**	ug/m3	10.1	12.43		05/01/14 12:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	10.1	12.43		05/01/14 12:55	156-60-5	
Ethylbenzene	**66.2**	ug/m3	10.9	12.43		05/01/14 12:55	100-41-4	
Methylene Chloride	ND	ug/m3	43.9	12.43		05/01/14 12:55	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	9.1	12.43		05/01/14 12:55	1634-04-4	
Naphthalene	ND	ug/m3	33.1	12.43		05/01/14 12:55	91-20-3	
Tetrachloroethene	ND	ug/m3	8.6	12.43		05/01/14 12:55	127-18-4	
Toluene	**45.2**	ug/m3	9.6	12.43		05/01/14 12:55	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	46.9	12.43		05/01/14 12:55	120-82-1	
1,1,1-Trichloroethane	**65.6**	ug/m3	13.8	12.43		05/01/14 12:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	6.8	12.43		05/01/14 12:55	79-00-5	
Trichloroethene	**74.8**	ug/m3	6.8	12.43		05/01/14 12:55	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	12.4	12.43		05/01/14 12:55	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	12.4	12.43		05/01/14 12:55	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	31.1	12.43		05/01/14 12:55	108-67-8	
Vinyl chloride	ND	ug/m3	3.2	12.43		05/01/14 12:55	75-01-4	
m&p-Xylene	**215**	ug/m3	21.9	12.43		05/01/14 12:55	179601-23-1	
o-Xylene	**59.5**	ug/m3	10.9	12.43		05/01/14 12:55	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599.20 SSD O&M
Pace Project No.: 10263098

Sample: C-Effluent **Lab ID: 10263098006** Collected: 04/10/14 10:54 Received: 04/11/14 09:23 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**6.2**	ug/m3	4.0	12.43		05/01/14 23:45	71-43-2	
Carbon tetrachloride	ND	ug/m3	8.0	12.43		05/01/14 23:45	56-23-5	
Chlorodifluoromethane	ND	ug/m3	8.9	12.43		05/01/14 23:45	75-45-6	
Chloroform	ND	ug/m3	12.3	12.43		05/01/14 23:45	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	12.6	12.43		05/01/14 23:45	75-71-8	
1,1-Dichloroethane	ND	ug/m3	10.2	12.43		05/01/14 23:45	75-34-3	
1,2-Dichloroethane	ND	ug/m3	5.1	12.43		05/01/14 23:45	107-06-2	
1,1-Dichloroethene	ND	ug/m3	10.1	12.43		05/01/14 23:45	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	10.1	12.43		05/01/14 23:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	10.1	12.43		05/01/14 23:45	156-60-5	
Ethylbenzene	**110**	ug/m3	10.9	12.43		05/01/14 23:45	100-41-4	
Methylene Chloride	ND	ug/m3	43.9	12.43		05/01/14 23:45	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	9.1	12.43		05/01/14 23:45	1634-04-4	
Naphthalene	ND	ug/m3	33.1	12.43		05/01/14 23:45	91-20-3	
Tetrachloroethene	ND	ug/m3	8.6	12.43		05/01/14 23:45	127-18-4	
Toluene	**95.4**	ug/m3	9.6	12.43		05/01/14 23:45	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	46.9	12.43		05/01/14 23:45	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	13.8	12.43		05/01/14 23:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	6.8	12.43		05/01/14 23:45	79-00-5	
Trichloroethene	ND	ug/m3	6.8	12.43		05/01/14 23:45	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	12.4	12.43		05/01/14 23:45	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	12.4	12.43		05/01/14 23:45	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	31.1	12.43		05/01/14 23:45	108-67-8	
Vinyl chloride	ND	ug/m3	3.2	12.43		05/01/14 23:45	75-01-4	
m&p-Xylene	**330**	ug/m3	21.9	12.43		05/01/14 23:45	179601-23-1	
o-Xylene	**91.7**	ug/m3	10.9	12.43		05/01/14 23:45	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599.20 SSD O&M
Pace Project No.: 10263098

Sample: C-Influent **Lab ID: 10263098004** Collected: 04/10/14 10:52 Received: 04/11/14 09:23 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**10.0**	ug/m3	1.0	3.14		05/01/14 22:50	71-43-2	
Carbon tetrachloride	ND	ug/m3	2.0	3.14		05/01/14 22:50	56-23-5	
Chlorodifluoromethane	**7.1**	ug/m3	2.3	3.14		05/01/14 22:50	75-45-6	
Chloroform	ND	ug/m3	3.1	3.14		05/01/14 22:50	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	3.2	3.14		05/01/14 22:50	75-71-8	
1,1-Dichloroethane	ND	ug/m3	2.6	3.14		05/01/14 22:50	75-34-3	
1,2-Dichloroethane	ND	ug/m3	1.3	3.14		05/01/14 22:50	107-06-2	
1,1-Dichloroethene	ND	ug/m3	2.5	3.14		05/01/14 22:50	75-35-4	
cis-1,2-Dichloroethene	**7.0**	ug/m3	2.5	3.14		05/01/14 22:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	2.5	3.14		05/01/14 22:50	156-60-5	
Ethylbenzene	**67.0**	ug/m3	2.8	3.14		05/01/14 22:50	100-41-4	
Methylene Chloride	ND	ug/m3	11.1	3.14		05/01/14 22:50	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	2.3	3.14		05/01/14 22:50	1634-04-4	
Naphthalene	**12.1**	ug/m3	8.4	3.14		05/01/14 22:50	91-20-3	
Tetrachloroethene	**5.1**	ug/m3	2.2	3.14		05/01/14 22:50	127-18-4	
Toluene	**50.7**	ug/m3	2.4	3.14		05/01/14 22:50	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	11.8	3.14		05/01/14 22:50	120-82-1	
1,1,1-Trichloroethane	**6.6**	ug/m3	3.5	3.14		05/01/14 22:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.7	3.14		05/01/14 22:50	79-00-5	
Trichloroethene	**266**	ug/m3	1.7	3.14		05/01/14 22:50	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	3.1	3.14		05/01/14 22:50	526-73-8	
1,2,4-Trimethylbenzene	**6.9**	ug/m3	3.1	3.14		05/01/14 22:50	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	7.8	3.14		05/01/14 22:50	108-67-8	
Vinyl chloride	ND	ug/m3	0.82	3.14		05/01/14 22:50	75-01-4	
m&p-Xylene	**218**	ug/m3	5.5	3.14		05/01/14 22:50	179601-23-1	
o-Xylene	**67.4**	ug/m3	2.8	3.14		05/01/14 22:50	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599.20 SSD O&M
Pace Project No.: 10263098

Sample: C-Mid-Gac **Lab ID: 10263098005** Collected: 04/10/14 10:53 Received: 04/11/14 09:23 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**7.8**	ug/m3	2.7	8.4		05/01/14 23:17	71-43-2	
Carbon tetrachloride	ND	ug/m3	5.4	8.4		05/01/14 23:17	56-23-5	
Chlorodifluoromethane	**8.2**	ug/m3	6.0	8.4		05/01/14 23:17	75-45-6	
Chloroform	ND	ug/m3	8.3	8.4		05/01/14 23:17	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	8.5	8.4		05/01/14 23:17	75-71-8	
1,1-Dichloroethane	ND	ug/m3	6.9	8.4		05/01/14 23:17	75-34-3	
1,2-Dichloroethane	ND	ug/m3	3.4	8.4		05/01/14 23:17	107-06-2	
1,1-Dichloroethene	ND	ug/m3	6.8	8.4		05/01/14 23:17	75-35-4	
cis-1,2-Dichloroethene	**14.6**	ug/m3	6.8	8.4		05/01/14 23:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	6.8	8.4		05/01/14 23:17	156-60-5	
Ethylbenzene	**84.3**	ug/m3	7.4	8.4		05/01/14 23:17	100-41-4	
Methylene Chloride	ND	ug/m3	29.7	8.4		05/01/14 23:17	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	6.1	8.4		05/01/14 23:17	1634-04-4	
Naphthalene	ND	ug/m3	22.3	8.4		05/01/14 23:17	91-20-3	
Tetrachloroethene	ND	ug/m3	5.8	8.4		05/01/14 23:17	127-18-4	
Toluene	**64.8**	ug/m3	6.5	8.4		05/01/14 23:17	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	31.7	8.4		05/01/14 23:17	120-82-1	
1,1,1-Trichloroethane	**9.6**	ug/m3	9.3	8.4		05/01/14 23:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	4.6	8.4		05/01/14 23:17	79-00-5	
Trichloroethene	**18.6**	ug/m3	4.6	8.4		05/01/14 23:17	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	8.4	8.4		05/01/14 23:17	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	8.4	8.4		05/01/14 23:17	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	21.0	8.4		05/01/14 23:17	108-67-8	
Vinyl chloride	ND	ug/m3	2.2	8.4		05/01/14 23:17	75-01-4	
m&p-Xylene	**263**	ug/m3	14.8	8.4		05/01/14 23:17	179601-23-1	
o-Xylene	**73.6**	ug/m3	7.4	8.4		05/01/14 23:17	95-47-6	

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Appendix C

Support Documentation

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PROJECT NARRATIVE

Project: 117-0507599.20 SSD O&M
Pace Project No.: 10263098

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech GEO - Maryland
Date: May 02, 2014

General Information:
6 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: AIR/20121

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- LCS (Lab ID: 1668675)
  - 1,2,3-Trimethylbenzene

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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10263098

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

12985

Page: 1 of 1

Section A Required Client Information:
Company: Tetra Tech
Address: 51 Franklin St. #400 Annapolis, MD 21401
Email To: peter.rich@tetratech.com
Phone: 410-990-4607 Fax:
Requested Due Date/TAT:

Section B Required Project Information:
Report To: Peter.Rich@tetratech.com
Copy To: Dawn.Monico@tetratech.com
Purchase Order No.:
Project Name: SSD Oem
Project Number: 117-0507599.20

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST / Superfund / Emissions / Clean Air Act / X Voluntary Clean Up / Dry Clean / RCRA / Other
Location of Sampling by State: MD
Reporting Units: ug/m³ X / mg/m³ / PPBV / PPMV / Other
Report Level: II. III. IV. Other

Method: PM10 / 3C: Fixed Gas (%) / TO-3 / TO-3M (Methane) / TO-4 (PCBs) / TO-13 (PAH) / TO-14 / TO-15 / TO15 Short List*

Valid Media Codes: MEDIA / CODE — Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

Section D Required Client Information — AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED Composite Start End/Grab DATE	TIME	Composite DATE	TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	TO-14	Pace Lab ID
1	A-INFLUENT	1LC		4/10/14	1145	N/A		N/A		2575	N/A	X	001
2	A-MID-GAC				1146					9239		X	002
3	A-EFFLUENT				1147					9243		X	003
4	C-INFLUENT				1052					2568		X	004
5	C-MID-GAC				1053					1348		X	005
6	C-EFFLUENT				1054					0751		X	006
7													
8													
9													
10													
11													
12													

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	4/10/14	1430	[signature] Pace	4/11/14	0923

SAMPLE CONDITIONS: AMB — Temp in °C; Y/N Received on Ice; Y/N Custody Sealed Cooler; Y/N Samples Intact

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dawn Monico
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 4/10/14

ORIGINAL

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: tetra tech

Project #: WO# : 10263098

10263098

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 8033 6873 1986

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: _____ **Temp Blank rec:** ☐ Yes ☑ No

Temp. (TO17 and TO13 samples only) (°C): — **Corrected Temp (°C):** — **Thermom. Used:** ☐ B88A912167504 ☐ B88A9132521491 ☐ 72337080 ☐ 80512447

Temp should be above freezing to 6°C **Correction Factor:** — **Date & Initials of Person Examining Contents:** 4/11/14

Type of ice Received ☐ Blue ☐ Wet ☑ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: air can				11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
A - influent	2575				
A - mid gac	0754				
A - effluent	0760				
C - influent	2568				
C - mid gac	1348				
C - effluent	0751				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** 4/11/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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SAMPLE SUMMARY

Project: 117-0507599.20 SSD O&M
Pace Project No.: 10263098

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10263098001	**A-Influent**	Air	04/10/14 11:45	04/11/14 09:23
10263098002	**A-Mid-Gac**	Air	04/10/14 11:46	04/11/14 09:23
10263098003	**A-Effluent**	Air	04/10/14 11:47	04/11/14 09:23
10263098004	**C-Influent**	Air	04/10/14 10:52	04/11/14 09:23
10263098005	**C-Mid-Gac**	Air	04/10/14 10:53	04/11/14 09:23
10263098006	**C-Effluent**	Air	04/10/14 10:54	04/11/14 09:23

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HOLDTIME

SDG 10263098

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
	UG/M3	C-MID-GAC	10263098005	NM	04/10/2014	05/01/2014	05/01/2014	21	0	21
	UG/M3	C-INFLUENT	10263098004	NM	04/10/2014	05/01/2014	05/01/2014	21	0	21
	UG/M3	C-EFFLUENT	10263098006	NM	04/10/2014	05/01/2014	05/01/2014	21	0	21
	UG/M3	A-MID-GAC	10263098002	NM	04/10/2014	05/01/2014	05/01/2014	21	0	21
	UG/M3	A-INFLUENT	10263098001	NM	04/10/2014	05/02/2014	05/02/2014	22	0	22
	UG/M3	A-EFFLUENT	10263098003	NM	04/10/2014	05/01/2014	05/01/2014	21	0	21

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10263098
Lab File ID: 11901BFB.D BFB Injection Date: 04/29/2014
Instrument ID: 10AIRD BFB Injection Time: 08:43
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	21.01	
75	30.00 - 66.00% of mass 95	58.96	
96	5.00 - 9.00% of mass 95	6.14	
173	Less than 2.00% of mass 174	0.38	(0.46)
174	50.00 - 120.00% of mass 95	82.05	
175	4.00 - 9.00% of mass 174	6.54	(7.97)
176	93.00 - 101.00% of mass 174	79.44	(96.82)
177	5.00 - 9.00% of mass 176	4.90	(6.16)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CAL1	CAL1	11905.D	04/29/2014	11:21
2	CAL2	CAL2	11906.D	04/29/2014	11:49
3	CAL3	CAL3	11907.D	04/29/2014	12:16
4	CAL4	CAL4	11908.D	04/29/2014	12:44
5	CAL5	CAL5	11909.D	04/29/2014	13:11
6	CAL6	CAL6	11910.D	04/29/2014	13:41
7	CAL7	CAL7	11911.D	04/29/2014	14:14
8	ICVADDL (LCS)	ICVADDL	11912.D	04/29/2014	14:42
9	ICV (LCS)	ICV	11914.D	04/29/2014	15:46

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INITIAL CALIBRATION DATA

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Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\042914.b\TO15_119-14.m
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Calibration File Names:
Level 1: \\192.168.10.12\chem\10airD.i\042914.b\11905.d
Level 2: \\192.168.10.12\chem\10airD.i\042914.b\11906.d
Level 3: \\192.168.10.12\chem\10airD.i\042914.b\11907.d
Level 4: \\192.168.10.12\chem\10airD.i\042914.b\11908.d
Level 5: \\192.168.10.12\chem\10airD.i\042914.b\11909.d
Level 6: \\192.168.10.12\chem\10airD.i\042914.b\11910.d
Level 7: \\192.168.10.12\chem\10airD.i\042914.b\11911.d

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
1 Chlorodifluoromethane	1.10863	1.33430	1.43178	1.55272	1.74916	1.80929					
	1.63956						AVRG		1.51792		16.20499
2 Propylene	4.79658	5.26361	5.81292	5.79602	5.52600	5.22214					
	4.24928						AVRG		5.23811		10.73858
3 Dichlorodifluoromethane	0.44404	0.49534	0.52875	0.58204	0.66841	0.66832					
	0.66545						AVRG		0.57891		15.95599
4 Dichlorotetrafluoroethane	0.57367	0.58133	0.66756	0.73438	0.77002	0.75184					
	0.72119						AVRG		0.68571		11.74035

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
5 Chloromethane	1.79224	1.82202	2.20033	2.38301	2.47470	2.42329					
	2.21316						AVRG		2.18735		12.76721
6 Vinyl chloride	2.15255	2.43416	2.34712	2.62380	2.73606	2.52999					
	2.37317						AVRG		2.48669		7.85336
7 1,3-Butadiene	3.05638	3.88210	3.83061	4.48777	4.65555	4.31839					
	3.87216						AVRG		4.01471		13.32418
8 Bromomethane	1.38474	1.72285	1.90099	2.19492	2.28972	1.93163					
	2.03095						AVRG		1.92226		15.75635
9 Chloroethane	3.51241	5.44555	4.30858	5.39917	5.86014	4.74270					
	4.95585						AVRG		4.88920		16.21468
10 Ethanol	2.37597	3.90222	4.52342	5.30530	5.34790	4.41430					
	5.17615						AVRG		4.43504		23.77656
11 Vinyl Bromide	1.92642	1.68976	2.00381	2.31623	2.32214	1.94462					
	2.08819						AVRG		2.04159		11.02861

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
12 Isopentane	2.11147	2.38362	2.49027	3.02685	2.89457	2.25994					
	2.44100						AVRG		2.51539		13.15834
13 Trichlorofluoromethane	0.42664	0.45398	0.50242	0.56726	0.62382	0.56666					
	0.65730						AVRG		0.54258		15.75701
14 Acrolein	5.77257	5.26361	6.48200	6.58637	9.92757	7.50214					
	7.89282						AVRG		7.06101		22.05782
15 Acetone	15584	12327	24338	41748	275133	721401					
	1146814						LINR	-0.03602	1.29651		0.99591
16 Isopropyl Alcohol	1.10494	1.54946	1.67953	1.90720	1.79540	1.53976					
	1.76698						AVRG		1.62046		16.23140
17 1,1-Dichloroethene	1.00188	1.17423	1.24717	1.30400	1.40354	1.19925					
	1.33620						AVRG		1.23804		10.57299
18 Tert Butyl Alcohol	1.04149	1.24071	1.64383	1.71616	1.19648	1.06163					
	1.24019						AVRG		1.30578		20.56426

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
19 Acrylonitrile	3.03959	3.63036	3.77546	4.13872	3.89070	2.98476					
	3.20226						AVRG		3.52312		12.77713
20 Freon 113	0.71045	0.82182	0.95271	1.03814	1.10108	0.93890					
	1.06252						AVRG		0.94652		14.76039
21 Methylene chloride	+++++	+++++	1.12261	1.22849	2.18607	1.79755					
	1.98342						AVRG		1.66363		28.11690
22 Allyl Chloride	5.09084	4.28479	4.61930	5.00066	5.29713	4.24018					
	4.54121						AVRG		4.72487		8.68754
23 Carbon Disulfide	0.46011	0.53383	0.60034	0.68368	0.72077	0.59651					
	0.66231						AVRG		0.60822		14.85178
24 trans-1,2-dichloroethene	1.61835	1.58499	1.93457	2.07176	2.17877	1.80941					
	1.94776						AVRG		1.88080		11.82250
25 Methyl Tert Butyl Ether	0.62030	0.60620	0.70477	0.76442	0.78240	0.66664					
	0.70576						AVRG		0.69293		9.66467

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
26 Vinyl Acetate	0.87005	0.76954	0.89461	1.02673	1.04556	0.78872					
	0.86928						AVRG		0.89493		11.92577
27 1,1-Dichloroethane	0.85790	0.79669	0.95390	1.10081	1.25074	0.99782					
	1.09172						AVRG		1.00708		15.42302
29 Methyl Ethyl Ketone	3.49025	3.02422	3.59972	4.41507	4.91513	4.02889					
	4.34902						AVRG		3.97462		16.24080
30 n-Hexane	++++	1.19518	1.54402	1.77688	1.80132	1.47291					
	1.54702						AVRG		1.55622		14.26163
31 Di-isopropyl Ether	0.76462	0.73378	0.79486	0.83588	0.85342	0.70632					
	0.73256						AVRG		0.77449		7.18390
32 cis-1,2-Dichloroethene	2.01987	1.94551	2.18971	2.54325	2.35482	1.93474					
	2.00920						AVRG		2.14144		10.85897
33 Ethyl Acetate	0.95189	1.07579	1.17627	1.25346	1.21085	0.99431					
	1.02279						AVRG		1.09791		10.60089

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
34 Chloroform	0.61229	0.59638	0.72224	0.78105	0.80482	0.72333					
	0.79596						AVRG		0.71944		11.84705
35 Ethyl Tert-Butyl Ether	0.79943	0.79998	0.95271	0.92887	0.85251	0.71325					
	0.74700						AVRG		0.82768		10.76764
36 Tetrahydrofuran	3.66766	2.86802	3.22233	3.32477	3.10665	2.52809					
	2.57199						AVRG		3.04136		13.57927
37 1,1,1-Trichloroethane	0.59506	0.65212	0.68773	0.77031	0.79341	0.73391					
	0.81697						AVRG		0.72136		11.14269
38 1,2-Dichloroethane	0.80681	0.89892	0.97174	1.09780	1.11741	1.01242					
	1.17673						AVRG		1.01169		12.89517
39 Benzene	0.62345	0.76649	0.83215	0.84424	0.78558	0.62911					
	0.64298						AVRG		0.73200		13.31317
40 Carbon tetrachloride	0.66054	0.61551	0.74037	0.78353	0.84331	0.80417					
	0.89510						AVRG		0.76322		12.96862

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
41 Cyclohexane	2.16377	2.22691	2.39434	2.20263	2.05875	1.63834					
	1.66345						AVRG		2.04974		14.15468
42 Tert Amyl Methyl Ether	++++	0.48099	0.72788	0.82832	0.92897	0.82682					
	0.76138						AVRG		0.75906		20.11461
44 2,2,4-Trimethylpentane	0.66676	0.66343	0.67803	0.70618	0.65716	0.60958					
	0.54684						AVRG		0.64686		8.14678
45 Heptane	1.94221	1.87965	2.04932	2.00769	1.89340	1.80275					
	1.52932						AVRG		1.87205		9.18826
46 1,2-Dichloropropane	2.19381	2.02217	2.21690	2.42279	2.29877	2.13928					
	1.93016						AVRG		2.17484		7.58816
47 Trichloroethene	2849	3942	8857	17485	193643	449574					
	851950						QUAD	0.00370	0.45554	0.03736	0.99998
48 Bromodichloromethane	0.61513	0.60050	0.71455	0.72686	0.73858	0.72989					
	0.70687						AVRG		0.69034		8.32397

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
49 1,4-Dioxane	+++++	4.66868	4.06933	4.46588	3.79898	3.91347					
	4.20410						AVRG		4.18674		7.91678
50 Methylcyclohexane	+++++	5.51201	4.29864	4.28525	3.86643	3.60745					
	3.34857						AVRG		4.15306		18.37713
51 Metnyl Isobutyl Ketone	1.52468	1.64984	1.46592	1.40825	1.31608	1.19938					
	1.06251						AVRG		1.37524		14.52113
52 cis-1,3-Dichloropropene	1.44064	1.36440	1.32632	1.39227	1.30928	1.19932					
	1.10480						AVRG		1.30529		8.91582
53 trans-1,3-Dichloropropene	1909	4756	10917	23623	342871	766856					
	+++++						LINR	0.01324	1.10199		0.99987
55 Toluene	0.36737	0.55600	0.64548	0.65619	0.60723	0.56997					
	0.52688						AVRG		0.56130		17.37918
56 1,1,2-Trichloroethane	1.55322	1.53229	1.72991	1.75946	1.69913	1.60184					
	1.48103						AVRG		1.62241		6.63591

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
57 Methyl Butyl Ketone	1682	3860	10586	23346	301003	664972						
	+++++						LINR	0.00865	0.57753		0.99993	
58 Dibromochloromethane	0.42039	0.39262	0.46712	0.45729	0.42342	0.42085						
	0.41159						AVRG		0.42761		6.06710	
59 1,2-Dibromoethane	0.45088	0.45021	0.49823	0.52212	0.47109	0.46021						
	0.43366						AVRG		0.46949		6.55742	
60 Tetrachloroethene	0.50662	0.55469	0.56536	0.57757	0.54174	0.51792						
	0.49184						AVRG		0.53653		5.94788	
62 Chlorobenzene	0.36438	0.36958	0.40938	0.43219	0.39748	0.37483						
	0.36372						AVRG		0.38736		6.79533	
63 Ethyl Benzene	5182	10817	29397	64649	833929	1926819						
	+++++						LINR	0.01400	0.20041		0.99970	<-
64 m&p-Xylene	3928	8239	24507	52546	688538	1596537						
	+++++						LINR	0.01504	0.24189		0.99965	<-

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2	
65 Bromoform	0.42004	0.40509	0.44330	0.44891	0.36947	0.36427	0.35393	AVRG		0.40072		9.67732	
66 Styrene	2062	4051	12692	31221	450016	1053102	1812694	LINR	0.03874	0.34290		0.99727	
67 o-Xylene	3570	9617	27383	56860	706816	1565588	+++++	LINR	0.00730	0.24563		0.99996	<-
68 1,1,2,2-Tetrachloroethane	0.38450	0.35260	0.41465	0.43661	0.37696	0.36481	0.34073	AVRG		0.38155		8.91444	
69 Isopropylbenzene	0.28998	0.24879	0.25777	0.25326	0.20594	0.20104	0.19086	AVRG		0.23538		15.52282	
70 N-Propylbenzene	+++++	10839	33802	75774	1066669	2470640	4073483	LINR	0.03363	0.15060		0.99923	
71 4-Ethyltoluene	+++++	8452	27295	58160	792764	1845068	3057758	LINR	0.03432	0.20099		0.99899	

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
72 1,3,5-Trimethylbenzene	3460	8790	26701	56783	721660	1688125	+++++	LINR	0.01539	0.22909		0.99950
73 Tert-Butyl Benzene	+++++	0.45847	0.35677	0.34699	0.26318	0.24904	0.24674	AVRG		0.32020		26.08608
74 1,2,4-Trimethylbenzene	+++++	0.34338	0.29189	0.28889	0.22815	0.21912	0.21857	AVRG		0.26500		19.28292
75 1,3-Dichlorobenzene	0.60142	0.50822	0.51389	0.50245	0.40554	0.37624	0.38532	AVRG		0.47044		17.74804
76 Sec- Butylbenzene	3744	11127	32176	73237	966965	2317866	3453786	LINR	0.00929	0.17358		0.99860
78 Benzyl Chloride	3501	7859	18105	39861	602878	1437471	2342750	LINR	0.02936	0.26182		0.99918
79 1,4-Dichlorobenzene	0.46931	0.45342	0.48022	0.48613	0.40159	0.38350	0.37148	AVRG		0.43509		11.09362

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
80 p-Isopropyltoluene	++++	0.39148	0.32023	0.30792	0.24143	0.23172					
	0.23283						AVRG		0.28760		22.27694
81 1,2,3-Trimethylbenzene	0.48256	0.33891	0.31728	0.31892	0.26316	0.24992					
	0.24246						AVRG		0.31617		26.09567
82 1,2-Dichlorobenzene	0.74908	0.58132	0.57822	0.59773	0.45095	0.43389					
	0.41410						AVRG		0.54361		21.91629
83 N-Butylbenzene	2592	7224	24972	55815	740863	1829597					
	2961925						LINR	0.03157	0.20686		0.99882
84 1,2,4-Trichlorobenzene	921	2246	6975	15433	212786	526363					
	++++						LINR	0.02491	0.73813		0.99786
85 Naphthalene	1353	2734	9381	23661	340101	766785					
	+++++						LINR	0.01681	0.50041		0.99990
86 Hexachlorobutadiene	0.74871	0.64520	0.65366	0.65771	0.72977	0.68856					
	0.73965						AVRG		0.69475		6.35821

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INITIAL CALIBRATION DATA

Start Cal Date : 29-APR-2014 11:21
End Cal Date : 29-APR-2014 14:14
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\042914.b\TO15_119-14.m
Last Edit : 30-Apr-2014 10:00 10airD.i

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
$ 28 Hexane-d14(S)	1.78262	1.66177	1.49128	1.84534	1.89891	1.74150					
	1.93376						AVRG		1.76502		8.63300
$ 54 Toluene-d8 (S)	1.22279	1.20080	1.15363	1.19395	1.18181	1.24511					
	1.20406						AVRG		1.20031		2.42635
$ 77 1,4-dichlorobenzene-d4 (S)	2.09866	2.08081	1.97951	1.93528	1.69051	1.83931					
	1.87271						AVRG		1.92811		7.41086

Report Date : 30-Apr-2014 10:15

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 29-APR-2014 11:21
End Cal Date : 29-APR-2014 14:14
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\042914.b\TO15_119-14.m
Last Edit : 30-Apr-2014 10:00 10airD.i

Average %RSD Results.

Calculated Average %RSD = 13.19801
Maximun Average %RSD = 30.00000
* Passed Average %RSD Test.

Curve	Formula	Units
Averaged	Amt = m1*Rsp	Amount
Linear	Amt = b + m1*Rsp	Amount
Quad	Rsp = b + m1*Amt + m2*Amt^2	Amount

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10263098
Lab File ID: 12048BFB.D BFB Injection Date: 05/01/2014
Instrument ID: 10AIRD BFB Injection Time: 08:18
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	20.26	
75	30.00 - 66.00% of mass 95	54.90	
96	5.00 - 9.00% of mass 95	6.68	
173	Less than 2.00% of mass 174	1.12	(1.32)
174	50.00 - 120.00% of mass 95	84.46	
175	4.00 - 9.00% of mass 174	5.94	(7.03)
176	93.00 - 101.00% of mass 174	78.70	(93.18)
177	5.00 - 9.00% of mass 176	5.49	(6.97)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV	CCV	12049.D	05/01/2014	08:46
2	LCS for HBN 294712 [AIR/	1668675	12049_20121.D	05/01/2014	08:46
3	BLANK for HBN 294712 [AI	1668674	12104_20121.D	05/01/2014	11:54
4	A-Mid-Gac	10263098002	12105.D	05/01/2014	12:55
5	A-Mid-Gac(1655291DUP)	1670745-DUP	12106.D	05/01/2014	13:23
6	A-Effluent	10263098003	12125.D	05/01/2014	22:22
7	C-Influent	10263098004	12126.D	05/01/2014	22:50
8	C-Mid-Gac	10263098005	12127.D	05/01/2014	23:17
9	C-Effluent	10263098006	12128.D	05/01/2014	23:45
10	A-Influent	10263098001	12129.D	05/02/2014	00:13

Data File: \\192.168.10.12\chem\10airD.i\050114.b\12049.d
Report Date: 01-May-2014 08:29

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airD.i Injection Date: 01-MAY-2014 08:46
Lab File ID: 12049.d Init. Cal. Date(s): 29-APR-2014 29-APR-2014
Analysis Type: AIR Init. Cal. Times: 11:21 14:14
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airD.i\050114.b\TO15_119-14.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
1 Chlorodifluoromethane	1.51792	1.26224	1.26224	0.010	-16.84431	30.00000	Averaged	
2 Propylene	5.23811	3.45070	3.45070	0.010	-34.12315	30.00000	Averaged	<-
3 Dichlorodifluoromethane	0.57891	0.51290	0.51290	0.010	-11.40156	30.00000	Averaged	
4 Dichlorotetrafluoroethane	0.68571	0.59151	0.59151	0.010	-13.73795	30.00000	Averaged	
5 Chloromethane	2.18725	1.82793	1.82793	0.010	-16.42788	30.00000	Averaged	
6 Vinyl chloride	2.45669	1.99106	1.99106	0.010	-18.95375	30.00000	Averaged	
7 1,3-Butadiene	4.01471	3.23264	3.23264	0.010	-19.48007	30.00000	Averaged	
8 Bromomethane	1.92226	1.69537	1.69537	0.010	-11.80333	30.00000	Averaged	
9 Chloroethane	4.88920	4.18621	4.18621	0.010	-14.37832	30.00000	Averaged	
10 Ethanol	4.43504	4.40079	4.40079	0.100	-0.77215	30.00000	Averaged	
11 Vinyl Bromide	2.04159	1.73965	1.73965	0.010	-14.78945	30.00000	Averaged	
12 Isopentane	2.51539	2.03779	2.03779	0.010	-18.98719	30.00000	Averaged	
13 Trichlorofluoromethane	0.54258	0.50527	0.50527	0.010	-6.87780	30.00000	Averaged	
14 Acrolein	7.06101	6.69629	6.69629	0.010	-5.16524	30.00000	Averaged	
15 Acetone	10.00000	12.06314	1.04361	0.010	20.63144	30.00000	Linear	
16 Isopropyl Alcohol	1.62046	1.35848	1.35848	0.010	-16.16723	30.00000	Averaged	
17 1,1-Dichloroethene	1.23804	1.15363	1.15363	0.010	-6.81778	30.00000	Averaged	
18 Tert Butyl Alcohol	1.30578	0.92955	0.92955	0.100	-28.81321	30.00000	Averaged	
19 Acrylonitrile	3.52312	2.93925	2.93925	0.010	-16.57252	30.00000	Averaged	
20 Freon 113	0.94652	0.88847	0.88847	0.010	-6.13202	30.00000	Averaged	
21 Methylene chloride	1.66363	1.72004	1.72004	0.010	3.39088	30.00000	Averaged	
22 Allyl Chloride	4.72487	3.87215	3.87215	0.010	-18.04749	30.00000	Averaged	
23 Carbon Disulfide	0.60822	0.57123	0.57123	0.010	-6.08214	30.00000	Averaged	
24 trans-1,2-dichloroethene	1.88080	1.62700	1.62700	0.010	-13.49422	30.00000	Averaged	
25 Methyl Tert Butyl Ether	0.69293	0.57018	0.57018	0.010	-17.71437	30.00000	Averaged	
26 Vinyl Acetate	0.89493	0.76736	0.76736	0.010	-14.25456	30.00000	Averaged	
27 1,1-Dichloroethane	1.00708	0.95345	0.95345	0.010	-5.32570	30.00000	Averaged	
$ 28 Hexane-d14(S)	1.76502	1.78020	1.78020	0.200	0.85954	30.00000	Averaged	
29 Methyl Ethyl Ketone	3.97462	3.54596	3.54596	0.010	-10.78487	30.00000	Averaged	
30 n-Hexane	1.55622	1.37009	1.37009	0.010	-11.96047	30.00000	Averaged	
31 Di-isopropyl Ether	0.77449	0.64498	0.64498	0.010	-16.72262	30.00000	Averaged	
32 cis-1,2-Dichloroethene	2.14144	1.72127	1.72127	0.010	-19.62105	30.00000	Averaged	
33 Ethyl Acetate	1.09791	0.87795	0.87795	0.010	-20.03436	30.00000	Averaged	
34 Chloroform	0.71944	0.64003	0.64003	0.010	-11.03694	30.00000	Averaged	
35 Ethyl Tert-Butyl Ether	0.82768	0.59762	0.59762	0.010	-27.79600	30.00000	Averaged	
36 Tetrahydrofuran	3.04136	2.16805	2.16805	0.010	-28.71445	30.00000	Averaged	
37 1,1,1-Trichloroethane	0.72136	0.64949	0.64949	0.010	-9.96358	30.00000	Averaged	
38 1,2-Dichloroethane	1.01169	0.93356	0.93356	0.010	-7.72274	30.00000	Averaged	
39 Benzene	0.73200	0.58784	0.58784	0.300	-19.69349	30.00000	Averaged	
40 Carbon tetrachloride	0.76322	0.73968	0.73968	0.010	-3.08418	30.00000	Averaged	
41 Cyclohexane	2.04974	1.57856	1.57856	0.010	-22.98740	30.00000	Averaged	
42 Tert Amyl Methyl Ether	0.75906	0.65897	0.65897	0.010	-13.18636	30.00000	Averaged	

Data File: \\192.168.10.12\chem\10airD.i\050114.b\12049.d
Report Date: 01-May-2014 08:29

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airD.i Injection Date: 01-MAY-2014 08:46
Lab File ID: 12049.d Init. Cal. Date(s): 29-APR-2014 29-APR-2014
Analysis Type: AIR Init. Cal. Times: 11:21 14:14
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airD.i\050114.b\TO15_119-14.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
44 2,2,4-Trimethylpentane	0.64686	0.50666	0.50666	0.010	-21.67443	30.00000	Averaged
45 Heptane	1.87205	1.44792	1.44792	0.010	-22.65561	30.00000	Averaged
46 1,2-Dichloropropane	2.17484	1.77098	1.77098	0.010	-18.56975	30.00000	Averaged
47 Trichloroethene	10.00000	12.23728	1.62047	0.010	22.37275	30.00000	Quadratic
48 Bromodichloromethane	0.69034	0.61390	0.61390	0.010	-11.07224	30.00000	Averaged
49 1,4-Dioxane	4.18674	3.45873	3.45873	0.010	-17.38854	30.00000	Averaged
50 Methylcyclohexane	4.15306	3.11851	3.11851	0.010	-24.91049	30.00000	Averaged
51 Methyl Isobutyl Ketone	1.37524	0.97415	0.97415	0.010	-29.16486	30.00000	Averaged
52 cis-1,3-Dichloropropene	1.30529	1.01449	1.01449	0.010	-22.27880	30.00000	Averaged
53 trans-1,3-Dichloropropene	10.00000	11.88773	0.93744	0.010	18.87734	30.00000	Linear
$ 54 Toluene-d8 (S)	1.20031	1.16545	1.16545	0.200	-2.90410	30.00000	Averaged
55 Toluene	0.56130	0.49318	0.49318	0.300	-12.13754	30.00000	Averaged
56 1,1,2-Trichloroethane	1.62241	1.38254	1.38254	0.010	-14.78512	30.00000	Averaged
57 Methyl Butyl Ketone	10.00000	11.76133	0.49468	0.010	17.61328	30.00000	Linear
58 Dibromochloromethane	0.42761	0.38355	0.38355	0.010	-10.30278	30.00000	Averaged
59 1,2-Dibromoethane	0.46949	0.41441	0.41441	0.010	-11.73091	30.00000	Averaged
60 Tetrachloroethene	0.53653	0.47987	0.47987	0.010	-10.56207	30.00000	Averaged
62 Chlorobenzene	0.38736	0.34447	0.34447	0.010	-11.07317	30.00000	Averaged
63 Ethyl Benzene	10.00000	11.56515	0.17541	0.300	15.65150	30.00000	Linear <-
64 m&p-Xylene	10.00000	11.28995	0.21714	0.300	12.89954	30.00000	Linear <-
65 Bromoform	0.40072	0.33004	0.33004	0.010	-17.63690	30.00000	Averaged
66 Styrene	10.00000	10.73964	0.33123	0.010	7.39642	30.00000	Linear
67 o-Xylene	10.00000	11.62038	0.21272	0.300	16.20376	30.00000	Linear <-
68 1,1,2,2-Tetrachloroethane	0.38155	0.31294	0.31294	0.010	-17.98175	30.00000	Averaged
69 Isopropylbenzene	0.23538	0.17847	0.17847	0.010	-24.17591	30.00000	Averaged
70 N-Propylbenzene	10.00000	10.97860	0.14151	0.010	9.78595	30.00000	Linear
71 4-Ethyltoluene	10.00000	10.93910	0.18968	0.010	9.39105	30.00000	Linear
72 1,3,5-Trimethylbenzene	10.00000	11.15995	0.20815	0.010	11.59954	30.00000	Linear
73 Tert-Butyl Benzene	0.32020	0.23197	0.23197	0.010	-27.55340	30.00000	Averaged
74 1,2,4-Trimethylbenzene	0.26500	0.20342	0.20342	0.010	-23.23635	30.00000	Averaged
75 1,3-Dichlorobenzene	0.47044	0.34869	0.34869	0.010	-25.88082	30.00000	Averaged
76 Sec- Butylbenzene	10.00000	11.39774	0.15355	0.010	13.97738	30.00000	Linear
$ 77 1,4-dichlorobenzene-d4 (S)	1.92811	1.94117	1.94117	0.200	0.67698	30.00000	Averaged
78 Benzyl Chloride	10.00000	10.55555	0.25514	0.010	5.55546	30.00000	Linear
79 1,4-Dichlorobenzene	0.43509	0.36177	0.36177	0.010	-16.85236	30.00000	Averaged
80 p-Isopropyltoluene	0.28760	0.21021	0.21021	0.010	-26.90891	30.00000	Averaged
81 1,2,3-Trimethylbenzene	0.31617	0.22409	0.22409	0.010	-29.12434	30.00000	Averaged
82 1,2-Dichlorobenzene	0.54361	0.40933	0.40933	0.010	-24.70113	30.00000	Averaged
83 N-Butylbenzene	10.00000	11.37988	0.18697	0.010	13.79883	30.00000	Linear
84 1,2,4-Trichlorobenzene	10.00000	11.09426	0.68061	0.010	10.94264	30.00000	Linear
85 Naphthalene	10.00000	12.14268	0.41790	0.010	21.42681	30.00000	Linear
86 Hexachlorobutadiene	0.69475	0.62198	0.62198	0.010	-10.47459	30.00000	Averaged

Data File: \\192.168.10.12\chem\10airD.i\050114.b\12049.d
Report Date: 01-May-2014 08:29

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airD.i	Injection Date: 01-MAY-2014 08:46
Lab File ID: 12049.d	Init. Cal. Date(s): 29-APR-2014 29-APR-2014
Analysis Type: AIR	Init. Cal. Times: 11:21 14:14
Lab Sample ID: CCV	Quant Type: ISTD

Method: \\192.168.10.12\chem\10airD.i\050114.b\TO15_119-14.m

Average %D / Drift Results.	
Calculated Average %D/Drift =	15.41976
Maximun Average %D/Drift =	30.00000
* Passed Average %D/Drift Test.	

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(612)607-1700

QUALITY CONTROL DATA

Project: 117-0507599.20 SSD O&M
Pace Project No.: 10263098

QC Batch: AIR/20121 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10263098001, 10263098002, 10263098003, 10263098004, 10263098005, 10263098006

METHOD BLANK: 1668674 Matrix: Air
Associated Lab Samples: 10263098001, 10263098002, 10263098003, 10263098004, 10263098005, 10263098006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	05/01/14 11:54	
1,1,2-Trichloroethane	ug/m3	ND	0.55	05/01/14 11:54	
1,1-Dichloroethane	ug/m3	ND	0.82	05/01/14 11:54	
1,1-Dichloroethene	ug/m3	ND	0.81	05/01/14 11:54	
1,2,3-Trimethylbenzene	ug/m3	ND	1.0	05/01/14 11:54	
1,2,4-Trichlorobenzene	ug/m3	ND	3.8	05/01/14 11:54	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	05/01/14 11:54	
1,2-Dichloroethane	ug/m3	ND	0.41	05/01/14 11:54	
1,3,5-Trimethylbenzene	ug/m3	ND	2.5	05/01/14 11:54	
Benzene	ug/m3	ND	0.32	05/01/14 11:54	
Carbon tetrachloride	ug/m3	ND	0.64	05/01/14 11:54	
Chlorodifluoromethane	ug/m3	ND	0.72	05/01/14 11:54	
Chloroform	ug/m3	ND	0.99	05/01/14 11:54	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	05/01/14 11:54	
Dichlorodifluoromethane	ug/m3	ND	1.0	05/01/14 11:54	
Ethylbenzene	ug/m3	ND	0.88	05/01/14 11:54	
m&p-Xylene	ug/m3	ND	1.8	05/01/14 11:54	
Methyl-tert-butyl ether	ug/m3	ND	0.73	05/01/14 11:54	
Methylene Chloride	ug/m3	ND	3.5	05/01/14 11:54	
Naphthalene	ug/m3	ND	2.7	05/01/14 11:54	
o-Xylene	ug/m3	ND	0.88	05/01/14 11:54	
Tetrachloroethene	ug/m3	ND	0.69	05/01/14 11:54	
Toluene	ug/m3	ND	0.77	05/01/14 11:54	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	05/01/14 11:54	
Trichloroethene	ug/m3	ND	0.55	05/01/14 11:54	
Vinyl chloride	ug/m3	ND	0.26	05/01/14 11:54	

LABORATORY CONTROL SAMPLE: 1668675

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	61.6	111	72-128	
1,1,2-Trichloroethane	ug/m3	55.5	65.1	117	72-130	
1,1-Dichloroethane	ug/m3	41.2	43.5	106	68-128	
1,1-Dichloroethene	ug/m3	40.3	43.3	107	68-130	
1,2,3-Trimethylbenzene	ug/m3	50	70.5	141	60-140	L3
1,2,4-Trichlorobenzene	ug/m3	75.5	83.7	111	30-150	
1,2,4-Trimethylbenzene	ug/m3	50	65.1	130	71-140	
1,2-Dichloroethane	ug/m3	41.2	44.6	108	71-132	
1,3,5-Trimethylbenzene	ug/m3	50	55.8	112	73-136	
Benzene	ug/m3	32.5	40.4	124	69-134	
Carbon tetrachloride	ug/m3	64	66.0	103	66-134	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 117-0507599.20 SSD O&M
Pace Project No.: 10263098

LABORATORY CONTROL SAMPLE: 1668675

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorodifluoromethane	ug/m3	36	43.2	120	60-140	
Chloroform	ug/m3	49.7	55.8	112	72-127	
cis-1,2-Dichloroethene	ug/m3	40.3	50.1	124	71-135	
Dichlorodifluoromethane	ug/m3	50.3	56.7	113	69-125	
Ethylbenzene	ug/m3	44.2	51.0	116	73-139	
m&p-Xylene	ug/m3	44.2	49.8	113	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	44.5	121	72-132	
Methylene Chloride	ug/m3	35.3	34.2	97	64-134	
Naphthalene	ug/m3	53.3	64.7	121	61-150	
o-Xylene	ug/m3	44.2	51.3	116	71-138	
Tetrachloroethene	ug/m3	69	77.1	112	69-136	
Toluene	ug/m3	38.3	43.6	114	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	46.6	116	70-131	
Trichloroethene	ug/m3	54.6	66.8	122	70-135	
Vinyl chloride	ug/m3	26	32.1	123	69-132	

SAMPLE DUPLICATE: 1670745

Parameter	Units	10263098002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	65.6	64.6	1	25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	51.4	48.3	6	25	
1,1-Dichloroethene	ug/m3	267	250	6	25	
1,2,3-Trimethylbenzene	ug/m3	ND	ND		25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
Benzene	ug/m3	40.8	39.8	3	25	
Carbon tetrachloride	ug/m3	ND	ND		25	
Chlorodifluoromethane	ug/m3	ND	ND		25	
Chloroform	ug/m3	ND	5.7J		25	
cis-1,2-Dichloroethene	ug/m3	270	267	1	25	
Dichlorodifluoromethane	ug/m3	ND	ND		25	
Ethylbenzene	ug/m3	66.2	66.9	1	25	
m&p-Xylene	ug/m3	215	212	1	25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	18.9J		25	
Naphthalene	ug/m3	ND	13.4J		25	
o-Xylene	ug/m3	59.5	60.6	2	25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	45.2	43.4	4	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	74.8	70.9	5	25	
Vinyl chloride	ug/m3	ND	ND		25	

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Data File: \\192.168.10.12\chem\10airD.i\050114.b\12125.d
Report Date: 02-May-2014 11:49

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 12125.d
Lab Smp Id: 10263098003 A-Effluent
Analysis Type: VOA
Quant Type: ISTD
Operator: JAM
Method File: \\192.168.10.12\chem\10airD.i\050114.b\TO15_119-14.m
Misc Info: 20121

Calibration Date: 01-MAY-2014
Calibration Time: 08:46
Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	386113	231668	540558	409835	6.14
61 Chlorobenzene - d	173857	104314	243400	199318	14.64

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.41	6.08	6.74	6.41	0.00
61 Chlorobenzene - d	10.09	9.76	10.42	10.08	-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: \\192.168.10.12\chem\10airD.i\050114.b\12129.d
Report Date: 02-May-2014 12:54

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 12129.d
Lab Smp Id: 10263098001 A-Influent
Analysis Type: VOA
Quant Type: ISTD
Operator: JAM
Method File: \\192.168.10.12\chem\10airD.i\050114.b\TO15_119-14.m
Misc Info: 20121

Calibration Date: 01-MAY-2014
Calibration Time: 08:46

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	386113	231668	540558	398576	3.23
61 Chlorobenzene - d	173857	104314	243400	190512	9.58

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.41	6.08	6.74	6.41	-0.00
61 Chlorobenzene - d	10.09	9.76	10.42	10.08	-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: \\192.168.10.12\chem\10airD.i\050114.b\12105.d
Report Date: 02-May-2014 08:35

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 12105.d
Lab Smp Id: 10263098002 A- mid-GHC
Analysis Type: VOA
Quant Type: ISTD
Operator: JAM
Method File: \\192.168.10.12\chem\10airD.i\050114.b\TO15_119-14.m
Misc Info: 20121

Calibration Date: 01-MAY-2014
Calibration Time: 08:46

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	386113	231668	540558	296828	-23.12
61 Chlorobenzene - d	173857	104314	243400	138919	-20.10

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.41	6.08	6.74	6.40	-0.05
61 Chlorobenzene - d	10.09	9.76	10.42	10.08	-0.06

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: \\192.168.10.12\chem\10airD.i\050114.b\12128.d
Report Date: 02-May-2014 12:45

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 12128.d
Lab Smp Id: 10263098006 C-Effluent
Analysis Type: VOA
Quant Type: ISTD
Operator: JAM
Method File: \\192.168.10.12\chem\10airD.i\050114.b\TO15_119-14.m
Misc Info: 20121

Calibration Date: 01-MAY-2014
Calibration Time: 08:46
Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	386113	231668	540558	411337	6.53
61 Chlorobenzene - d	173857	104314	243400	208465	19.91

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.41	6.08	6.74	6.41	0.00
61 Chlorobenzene - d	10.09	9.76	10.42	10.08	-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: \\192.168.10.12\chem\10airD.i\050114.b\12126.d
Report Date: 02-May-2014 12:30

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 12126.d
Lab Smp Id: 10263098004 C-Influent
Analysis Type: VOA
Quant Type: ISTD
Operator: JAM
Method File: \\192.168.10.12\chem\10airD.i\050114.b\TO15_119-14.m
Misc Info: 20121

Calibration Date: 01-MAY-2014
Calibration Time: 08:46
Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	386113	231668	540558	418688	8.44
61 Chlorobenzene - d	173857	104314	243400	205020	17.92

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.41	6.08	6.74	6.41	0.05
61 Chlorobenzene - d	10.09	9.76	10.42	10.09	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: \\192.168.10.12\chem\10airD.i\050114.b\12127.d
Report Date: 02-May-2014 12:37

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 12127.d
Lab Smp Id: 10263098005 C-Mid-GAC
Analysis Type: VOA
Quant Type: ISTD
Operator: JAM
Method File: \\192.168.10.12\chem\10airD.i\050114.b\TO15_119-14.m
Misc Info: 20121

Calibration Date: 01-MAY-2014
Calibration Time: 08:46

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	386113	231668	540558	413709	7.15
61 Chlorobenzene - d	173857	104314	243400	199721	14.88

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.41	6.08	6.74	6.41	0.00
61 Chlorobenzene - d	10.09	9.76	10.42	10.08	-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.

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Minneapolis, MN 55414
(612)607-1700

Sample Calculation

ANALYTICAL RESULTS

Project: 117-0507599.20 SSD O&M
Pace Project No.: 10263098

Sample: A-Influent **Lab ID: 10263098001** Collected: 04/10/14 11:45 Received: 04/11/14 09:23 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**81.7**	ug/m3	10.9	33.6		05/02/14 00:13	71-43-2	
Carbon tetrachloride	ND	ug/m3	21.5	33.6		05/02/14 00:13	56-23-5	
Chlorodifluoromethane	ND	ug/m3	24.2	33.6		05/02/14 00:13	75-45-6	
Chloroform	ND	ug/m3	33.3	33.6		05/02/14 00:13	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	33.9	33.6		05/02/14 00:13	75-71-8	
1,1-Dichloroethane	**31.8**	ug/m3	27.6	33.6		05/02/14 00:13	75-34-3	
1,2-Dichloroethane	ND	ug/m3	13.8	33.6		05/02/14 00:13	107-06-2	
1,1-Dichloroethene	**131**	ug/m3	27.2	33.6		05/02/14 00:13	75-35-4	
cis-1,2-Dichloroethene	**194**	ug/m3	27.2	33.6		05/02/14 00:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	27.2	33.6		05/02/14 00:13	156-60-5	
Ethylbenzene	**120**	ug/m3	29.6	33.6		05/02/14 00:13	100-41-4	
Methylene Chloride	ND	ug/m3	119	33.6		05/02/14 00:13	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	24.5	33.6		05/02/14 00:13	1634-04-4	
Naphthalene	ND	ug/m3	89.4	33.6		05/02/14 00:13	91-20-3	
Tetrachloroethene	ND	ug/m3	23.2	33.6		05/02/14 00:13	127-18-4	
Toluene	**75.7**	ug/m3	25.9	33.6		05/02/14 00:13	108-88-3	
~~1,2,4-Trichlorobenzene~~	ND	ug/m3	127	33.6		05/02/14 00:13	120-82-1	
1,1,1-Trichloroethane	**646**	ug/m3	37.3	33.6		05/02/14 00:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	18.5	33.6		05/02/14 00:13	79-00-5	
Trichloroethene	**1490**	ug/m3	18.5	33.6		05/02/14 00:13	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	33.6	33.6		05/02/14 00:13	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	33.6	33.6		05/02/14 00:13	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	83.9	33.6		05/02/14 00:13	108-67-8	
Vinyl chloride	ND	ug/m3	8.7	33.6		05/02/14 00:13	75-01-4	
m&p-Xylene	**387**	ug/m3	59.1	33.6		05/02/14 00:13	179601-23-1	
o-Xylene	**109**	ug/m3	29.6	33.6		05/02/14 00:13	95-47-6	

$$\frac{191678}{398576} * 10\,ppbv * 33.6 * 0.72136 = 116.56\,ppbv$$

$$116.56\,ppbv * \frac{133.4\,g/mole}{24.45\,L/mole} = 635.96\,ug/m^3$$

Data File: \\192.168.10.12\chem\10airD.i\050114.b\12129.d
Report Date: 02-May-2014 12:54

Sample Calculation

Pace Analytical Services, Inc.

TO15 Analysis (UNIX)

Data file : \\192.168.10.12\chem\10airD.i\050114.b\12129.d
Lab Smp Id: 10263098001
Inj Date : 02-MAY-2014 00:13 A-INFLUENT
Operator : JAM Inst ID: 10airD.i
Smp Info :
Misc Info : 20121
Comment : Volatile Organic COMPOUNDS in Air
Method : \\192.168.10.12\chem\10airD.i\050114.b\TO15_119-14.m
Meth Date : 01-May-2014 08:24 jmasterman Quant Type: ISTD
Cal Date : 29-APR-2014 14:14 Cal File: 11911.d
Als bottle: 29
Dil Factor: 33.60000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14
Processing Host: VIRTUALXP-96992

Concentration Formula: Amt * DF * Uf * CpndVariable

Name	Value	Description
DF	33.600	Dilution Factor
Uf	1.000	ng unit correction factor
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
1 Chlorodifluoromethane	51	Compound Not Detected.					
2 Propylene	41	Compound Not Detected.					
3 Dichlorodifluoromethane	85	Compound Not Detected.					
4 Dichlorotetrafluoroethane	85	Compound Not Detected.					
5 Chloromethane	50	Compound Not Detected.					
6 Vinyl chloride	62	Compound Not Detected.					
7 1,3-Butadiene	54	Compound Not Detected.					
8 Bromomethane	94	Compound Not Detected.					
9 Chloroethane	64	Compound Not Detected.					
10 Ethanol	31	3.734	3.675	(0.583)	5135	0.57138	19.2(M)
11 Vinyl Bromide	106	Compound Not Detected.					
12 Isopentane	43	3.806	3.806	(0.594)	131101	8.27371	278
13 Trichlorofluoromethane	101	Compound Not Detected.					
14 Acrolein	56	Compound Not Detected.					
15 Acetone	43	3.954	3.931	(0.617)	91050	2.60152	87.4(M)
16 Isopropyl Alcohol	45	4.049	3.970	(0.632)	16186	0.65806	22.1(M)
17 1,1-Dichloroethene	61	4.210	4.206	(0.657)	31256	0.97086	32.6
18 Tert Butyl Alcohol	59	Compound Not Detected.					
19 Acrylonitrile	53	Compound Not Detected.					
20 Freon 113	101	Compound Not Detected.					
21 Methylene chloride	49	Compound Not Detected.					
22 Allyl Chloride	76	Compound Not Detected.					
23 Carbon Disulfide	76	Compound Not Detected.					

Data File: \\192.168.10.12\chem\10airD.i\050114.b\12129.d
Report Date: 02-May-2014 12:54

Sample Calculation

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
	24 trans-1,2-dichloroethene	96	Compound Not Detected.					
	25 Methyl Tert Butyl Ether	73	Compound Not Detected.					
	26 Vinyl Acetate	43	Compound Not Detected.					
	27 1,1-Dichloroethane	63	4.839	4.846	(0.755)	9099	0.22990	7.72
$	28 Hexane-d14(S)	66	4.964	4.957	(0.775)	187852	8.31870	8.32
	29 Methyl Ethyl Ketone	72	Compound Not Detected.					
	30 n-Hexane	57	5.085	5.082	(0.794)	134872	5.26602	177(M)
	31 Di-isopropyl Ether	45	Compound Not Detected.					
	32 cis-1,2-Dichloroethene	96	5.256	5.259	(0.820)	26633	1.43092	48.1(Q)
	33 Ethyl Acetate	43	Compound Not Detected.					
	34 Chloroform	83	Compound Not Detected.					
	35 Ethyl Tert-Butyl Ether	59	Compound Not Detected.					
	36 Tetrahydrofuran	42	Compound Not Detected.					
	37 1,1,1-Trichloroethane	97	5.902	5.905	(0.921)	191678	3.46907	116
	38 1,2-Dichloroethane	62	Compound Not Detected.					
	39 Benzene	78	6.200	6.203	(0.968)	40796	0.74923	25.2(M)
	40 Carbon tetrachloride	117	Compound Not Detected.					
	41 Cyclohexane	56	6.236	6.223	(0.973)	125548	6.45651	217(Q)
	42 Tert Amyl Methyl Ether	73	Compound Not Detected.					
*	43 1,4-Difluorobenzene	114	6.407	6.413	(1.000)	398576	10.0000	
	44 2,2,4-Trimethylpentane	57	6.587	6.590	(1.028)	275940	4.47829	150(M)
	45 Heptane	43	6.761	6.761	(1.055)	57283	2.69049	90.4(M)
	46 1,2-Dichloropropane	63	Compound Not Detected.					
	47 Trichloroethene	130	6.866	6.869	(1.072)	158394	8.10384	272
	48 Bromodichloromethane	83	Compound Not Detected.					
	49 1,4-Dioxane	88	Compound Not Detected.					
	50 Methylcyclohexane	98	7.400	7.400	(1.155)	28066	2.92440	98.2(Q)
	51 Methyl Isobutyl Ketone	43	Compound Not Detected.					
	52 cis-1,3-Dichloropropene	75	Compound Not Detected.					
	53 trans-1,3-Dichloropropene	75	Compound Not Detected.					
$	54 Toluene-d8 (S)	98	8.207	8.213	(1.281)	336078	10.1209	10.1
	55 Toluene	91	8.299	8.309	(1.295)	41779	0.58836	19.8
	56 1,1,2-Trichloroethane	97	Compound Not Detected.					
	57 Methyl Butyl Ketone	43	Compound Not Detected.					
	58 Dibromochloromethane	129	Compound Not Detected.					
	59 1,2-Dibromoethane	107	Compound Not Detected.					
	60 Tetrachloroethene	166	Compound Not Detected.					
*	61 Chlorobenzene - d5	117	10.083	10.089	(1.000)	190512	10.0000	
	62 Chlorobenzene	112	Compound Not Detected.					
	63 Ethyl Benzene	91	10.430	10.440	(1.034)	63547	0.80854	27.2
	64 m&p-Xylene	91	10.601	10.611	(1.051)	193757	2.61045	87.7
	65 Bromoform	173	Compound Not Detected.					
	66 Styrene	104	Compound Not Detected.					
	67 o-Xylene	91	11.181	11.191	(1.109)	51272	0.73403	24.7
	68 1,1,2,2-Tetrachloroethane	83	Compound Not Detected.					
	69 Isopropylbenzene	105	Compound Not Detected.					
	70 N-Propylbenzene	91	Compound Not Detected.					
	71 4-Ethyltoluene	105	12.719	12.739	(1.261)	3250	0.37745	12.7(M)
	72 1,3,5-Trimethylbenzene	105	12.831	12.844	(1.273)	5061	0.21479	7.22(M)
	73 Tert-Butyl Benzene	119	Compound Not Detected.					
	74 1,2,4-Trimethylbenzene	105	13.434	13.447	(1.332)	7691	0.10698	3.59(M)
	75 1,3-Dichlorobenzene	146	Compound Not Detected.					
	76 Sec- Butylbenzene	105	Compound Not Detected.					
$	77 1,4-dichlorobenzene-d4 (S)	150	13.877	13.893	(1.376)	87892	8.89528	8.90
	78 Benzyl Chloride	91	Compound Not Detected.					

Report Date : 30-Apr-2014 10:15

Sample Calculation

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 29-APR-2014 11:21
End Cal Date : 29-APR-2014 14:14
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\042914.b\TO15_119-14.m
Last Edit : 30-Apr-2014 10:00 10airD.i

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
34 Chloroform	0.61229	0.59638	0.72224	0.78105	0.80482	0.72333					
	0.79596						AVRG		0.71944		11.84705
35 Ethyl Tert-Butyl Ether	0.79943	0.79998	0.95271	0.92887	0.85251	0.71325					
	0.74700						AVRG		0.82768		10.76764
36 Tetrahydrofuran	3.66766	2.86802	3.22233	3.32477	3.10665	2.52809					
	2.57199						AVRG		3.04136		13.57927
37 1,1,1-Trichloroethane	0.59506	0.65212	0.68773	0.77031	0.79341	0.73391					
	0.81697						AVRG		0.72136		11.14269
38 1,2-Dichloroethane	0.80681	0.89892	0.97174	1.09780	1.11741	1.01242					
	1.27673						AVRG		1.01169		12.89517
39 Benzene	0.62345	0.76649	0.83215	0.84424	0.78558	0.62911					
	0.64298						AVRG		0.73200		13.31317
40 Carbon tetrachloride	0.66054	0.61551	0.74037	0.78353	0.84331	0.80417					
	0.89510						AVRG		0.76322		12.96862

Tetra Tech

INTERNAL CORRESPONDENCE

TO: P. RICH **DATE:** JUNE 19, 2014

FROM: A. COGNETTI **COPIES:** DV FILE

SUBJECT: ORGANIC DATA VALIDATION – VOC
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SAMPLE DELIVERY GROUP (SDG) – 10266558

SAMPLES: 6/Air/VOC

A-EFFLUENT	A-INFLUENT	A-MID GAC
C-EFFLUENT	C-INFLUENT	C-MID GAC

Overview

The sample set for LMC – Middle River, SDG 10266558 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 May 5, 2014 and analyzed by PACE Analytical. 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

- The concentration of methylene chloride in sample A-INFLUENT exceeded the instrument calibration range. The sample was not re-analyzed. The detected methylene chloride result in sample A-INFLUENT was qualified as estimated (J).

Notes

The continuing calibration percent differences (%Ds) for ethylbenzene and m&p xylenes were greater than the 30% quality control limit on May 17, 2014 @ 12:14 on instrument 10AIRD. No action was required because 1,1-dichloroethene and cis-1,2-dichloroethene were the only compounds reported using this analytical sequence.

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.

Nondetected results were reported to the reporting limit.

TO: P. Rich
FROM: A. Cognetti
SDG: 10266558
DATE: June 19, 2014

Executive Summary

Laboratory Performance: The concentration of methylene chloride in sample A-INFLUENT exceeded instrument calibration range.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to USEPA National Functional Guidelines for Organic Data Validation (June 2008) 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
Data Validation Manager

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 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate

PROJ_NO: 03265	NSAMPLE	A-EFFLUENT-10266558			A-INFLUENT-10266558			A-MID GAC-10266558			C-EFFLUENT-10266558		
SDG: 10266558	LAB_ID	10266558003			10266558001			10266558002			10266558006		
FRACTION: OV	SAMP_DATE	5/5/2014			5/5/2014			5/5/2014			5/5/2014		
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		1.4	J	P	142			47.8			1.9	U	
1,1,2-TRICHLOROETHANE		0.92	U		0.92	U		0.92	U		0.92	U	
1,1-DICHLOROETHANE		16.8			6.7			63.8			1.4	U	
1,1-DICHLOROETHENE		139			32.6			253			1.4	U	
1,2,3-TRIMETHYLBENZENE		1.7	U		2.8			1.7	U		1.4	J	P
1,2,4-TRICHLOROBENZENE		2.5	U		2.5	U		2.5	U		2.5	U	
1,2,4-TRIMETHYLBENZENE		1.7	U		11.5			1.7	U		7.2		
1,2-DICHLOROETHANE		0.69	U		0.69	U		0.69	U		0.69	U	
1,3,5-TRIMETHYLBENZENE		1.7	U		3			1.7	U		3.5		
BENZENE		0.9			4.8			53.4			6		
CARBON TETRACHLORIDE		1.1	U		1.1	U		1.1	U		1.1	U	
CHLORODIFLUOROMETHANE		1.4			8.8			1.4			6.8		
CHLOROFORM		1.7	U		3.9			10.5			1.7	U	
CIS-1,2-DICHLOROETHENE		98.7			44.7			406			2.3		
DICHLORODIFLUOROMETHANE		2.8			4.1			3.1			3.2		
ETHYLBENZENE		1.5	U		6.5			1.5	U		1.5	U	
M+P-XYLENES		1.4	J	P	24.3			0.94	J	P	1.2	J	P
METHYL TERT-BUTYL ETHER		1.2	U		1.2	U		1.2	U		1.2	U	
METHYLENE CHLORIDE		0.88	J	P	202	J	L	0.96	J	P	1.4	J	P
NAPHTHALENE		3.1	J	P	2.3	J	P	3.6	J	P	4	J	P
O-XYLENE		1.5	U		9.3			1.5	U		1.5	U	
TETRACHLOROETHENE		1.2	U		1.2			1.2	U		1.2	U	
TOLUENE		2.5			29.5			3			3.4		
TRANS-1,2-DICHLOROETHENE		1.8			1.4	U		5.7			1.4	U	
TRICHLOROETHENE		0.92	U		292			48.9			0.92	U	
VINYL CHLORIDE		0.44	U		0.44	U		0.44	U		0.44	U	

PROJ_NO: 03265	NSAMPLE	C-INFLUENT-10266558			C-MID GAC-10266558		
SDG: 10266558	LAB_ID	10266558004			10266558005		
FRACTION: OV	SAMP_DATE	5/5/2014			5/5/2014		
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		1.7	U		1.7	U	
1,1,2-TRICHLOROETHANE		0.86	U		0.86	U	
1,1-DICHLOROETHANE		1.3	U		1.3	U	
1,1-DICHLOROETHENE		1.3	U		1.3	U	
1,2,3-TRIMETHYLBENZENE		2.1			1.6	U	
1,2,4-TRICHLOROBENZENE		2.4	U		2.4	U	
1,2,4-TRIMETHYLBENZENE		6.8			0.88	J	P
1,2-DICHLOROETHANE		0.64	U		0.64	U	
1,3,5-TRIMETHYLBENZENE		3.5			1.6	U	
BENZENE		11.8			9.6		
CARBON TETRACHLORIDE		1.2			1	U	
CHLORODIFLUOROMETHANE		5.8			6.1		
CHLOROFORM		1.5	J	P	1.3	J	P
CIS-1,2-DICHLOROETHENE		7.6			11.7		
DICHLORODIFLUOROMETHANE		2.9			2.9		
ETHYLBENZENE		4.7			1.4	U	
M+P-XYLENES		20.9			0.85	J	P
METHYL TERT-BUTYL ETHER		1.1	U		1.1	U	
METHYLENE CHLORIDE		1.2	J	P	1.4	J	P
NAPHTHALENE		12.7			3.4	J	P
O-XYLENE		11.3			1.4	U	
TETRACHLOROETHENE		3.6			1.1	U	
TOLUENE		30.6			1.6		
TRANS-1,2-DICHLOROETHENE		1.3	U		0.9	J	P
TRICHLOROETHENE		236			0.86	J	P
VINYL CHLORIDE		0.41	U		0.41	U	

Appendix B

Results as Reported by the Laboratory

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ANALYTICAL RESULTS

Project: Air
Pace Project No.: 10266558

Sample: A-Effluent **Lab ID: 10266558003** Collected: 05/05/14 14:19 Received: 05/09/14 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.90**	ug/m3	0.55	1.68		05/17/14 03:54	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		05/17/14 03:54	56-23-5	
Chlorodifluoromethane	**1.4**	ug/m3	1.2	1.68		05/17/14 03:54	75-45-6	
Chloroform	ND	ug/m3	1.7	1.68		05/17/14 03:54	67-66-3	
Dichlorodifluoromethane	**2.8**	ug/m3	1.7	1.68		05/17/14 03:54	75-71-8	
1,1-Dichloroethane	**16.8**	ug/m3	1.4	1.68		05/17/14 03:54	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		05/17/14 03:54	107-06-2	
1,1-Dichloroethene	**139**	ug/m3	1.4	1.68		05/17/14 03:54	75-35-4	
cis-1,2-Dichloroethene	**98.7**	ug/m3	1.4	1.68		05/17/14 03:54	156-59-2	
trans-1,2-Dichloroethene	**1.8**	ug/m3	1.4	1.68		05/17/14 03:54	156-60-5	
Ethylbenzene	ND	ug/m3	1.5	1.68		05/17/14 03:54	100-41-4	
Methylene Chloride	**0.88J**	ug/m3	5.9	1.68		05/17/14 03:54	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		05/17/14 03:54	1634-04-4	
Naphthalene	**3.1J**	ug/m3	4.5	1.68		05/17/14 03:54	91-20-3	
Tetrachloroethene	ND	ug/m3	1.2	1.68		05/17/14 03:54	127-18-4	
Toluene	**2.5**	ug/m3	1.3	1.68		05/17/14 03:54	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.5	1.68		05/17/14 03:54	120-82-1	
1,1,1-Trichloroethane	**1.4J**	ug/m3	1.9	1.68		05/17/14 03:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		05/17/14 03:54	79-00-5	
Trichloroethene	ND	ug/m3	0.92	1.68		05/17/14 03:54	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		05/17/14 03:54	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.68		05/17/14 03:54	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.68		05/17/14 03:54	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		05/17/14 03:54	75-01-4	
m&p-Xylene	**1.4J**	ug/m3	3.0	1.68		05/17/14 03:54	179601-23-1	
o-Xylene	ND	ug/m3	1.5	1.68		05/17/14 03:54	95-47-6	

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ANALYTICAL RESULTS

Project: Air
Pace Project No.: 10266558

Sample: A-Influent **Lab ID: 10266558001** Collected: 05/05/14 14:15 Received: 05/09/14 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**4.8**	ug/m3	0.55	1.68		05/17/14 02:54	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		05/17/14 02:54	56-23-5	
Chlorodifluoromethane	**8.8**	ug/m3	1.2	1.68		05/17/14 02:54	75-45-6	
Chloroform	**3.9**	ug/m3	1.7	1.68		05/17/14 02:54	67-66-3	
Dichlorodifluoromethane	**4.1**	ug/m3	1.7	1.68		05/17/14 02:54	75-71-8	
1,1-Dichloroethane	**6.7**	ug/m3	1.4	1.68		05/17/14 02:54	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		05/17/14 02:54	107-06-2	
1,1-Dichloroethene	**32.6**	ug/m3	1.4	1.68		05/17/14 02:54	75-35-4	
cis-1,2-Dichloroethene	**44.7**	ug/m3	1.4	1.68		05/17/14 02:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		05/17/14 02:54	156-60-5	
Ethylbenzene	**6.5**	ug/m3	1.5	1.68		05/17/14 02:54	100-41-4	
Methylene Chloride	**202**	ug/m3	5.9	1.68		05/17/14 02:54	75-09-2	1M,E
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		05/17/14 02:54	1634-04-4	
Naphthalene	**2.3J**	ug/m3	4.5	1.68		05/17/14 02:54	91-20-3	
Tetrachloroethene	**1.2**	ug/m3	1.2	1.68		05/17/14 02:54	127-18-4	
Toluene	**29.5**	ug/m3	1.3	1.68		05/17/14 02:54	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.5	1.68		05/17/14 02:54	120-82-1	
1,1,1-Trichloroethane	**142**	ug/m3	1.9	1.68		05/17/14 02:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		05/17/14 02:54	79-00-5	
Trichloroethene	**292**	ug/m3	0.92	1.68		05/17/14 02:54	79-01-6	
1,2,3-Trimethylbenzene	**2.8**	ug/m3	1.7	1.68		05/17/14 02:54	526-73-8	
1,2,4-Trimethylbenzene	**11.5**	ug/m3	1.7	1.68		05/17/14 02:54	95-63-6	
1,3,5-Trimethylbenzene	**3.0**	ug/m3	1.7	1.68		05/17/14 02:54	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		05/17/14 02:54	75-01-4	
m&p-Xylene	**24.3**	ug/m3	3.0	1.68		05/17/14 02:54	179601-23-1	
o-Xylene	**9.3**	ug/m3	1.5	1.68		05/17/14 02:54	95-47-6	

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ANALYTICAL RESULTS

Project: Air
Pace Project No.: 10266558

Sample: A-Mid Gac **Lab ID: 10266558002** Collected: 05/05/14 14:17 Received: 05/09/14 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**53.4**	ug/m3	0.55	1.68		05/17/14 03:23	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		05/17/14 03:23	56-23-5	
Chlorodifluoromethane	**1.4**	ug/m3	1.2	1.68		05/17/14 03:23	75-45-6	
Chloroform	**10.5**	ug/m3	1.7	1.68		05/17/14 03:23	67-66-3	
Dichlorodifluoromethane	**3.1**	ug/m3	1.7	1.68		05/17/14 03:23	75-71-8	
1,1-Dichloroethane	**63.8**	ug/m3	1.4	1.68		05/17/14 03:23	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		05/17/14 03:23	107-06-2	
1,1-Dichloroethene	**253**	ug/m3	22.9	28.22		05/17/14 16:20	75-35-4	
cis-1,2-Dichloroethene	**406**	ug/m3	22.9	28.22		05/17/14 16:20	156-59-2	
trans-1,2-Dichloroethene	**5.7**	ug/m3	1.4	1.68		05/17/14 03:23	156-60-5	
Ethylbenzene	ND	ug/m3	1.5	1.68		05/17/14 03:23	100-41-4	
Methylene Chloride	**0.96J**	ug/m3	5.9	1.68		05/17/14 03:23	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		05/17/14 03:23	1634-04-4	
Naphthalene	**3.6J**	ug/m3	4.5	1.68		05/17/14 03:23	91-20-3	
Tetrachloroethene	ND	ug/m3	1.2	1.68		05/17/14 03:23	127-18-4	
Toluene	**3.0**	ug/m3	1.3	1.68		05/17/14 03:23	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.5	1.68		05/17/14 03:23	120-82-1	
1,1,1-Trichloroethane	**47.8**	ug/m3	1.9	1.68		05/17/14 03:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		05/17/14 03:23	79-00-5	
Trichloroethene	**48.9**	ug/m3	0.92	1.68		05/17/14 03:23	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		05/17/14 03:23	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.68		05/17/14 03:23	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.68		05/17/14 03:23	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		05/17/14 03:23	75-01-4	
m&p-Xylene	**0.94J**	ug/m3	3.0	1.68		05/17/14 03:23	179601-23-1	
o-Xylene	ND	ug/m3	1.5	1.68		05/17/14 03:23	95-47-6	

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ANALYTICAL RESULTS

Project: Air
Pace Project No.: 10266558

Sample: C-Effluent **Lab ID: 10266558006** Collected: 05/05/14 11:39 Received: 05/09/14 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**6.0**	ug/m3	0.55	1.68		05/17/14 05:20	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		05/17/14 05:20	56-23-5	
Chlorodifluoromethane	**6.8**	ug/m3	1.2	1.68		05/17/14 05:20	75-45-6	
Chloroform	ND	ug/m3	1.7	1.68		05/17/14 05:20	67-66-3	
Dichlorodifluoromethane	**3.2**	ug/m3	1.7	1.68		05/17/14 05:20	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		05/17/14 05:20	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		05/17/14 05:20	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		05/17/14 05:20	75-35-4	
cis-1,2-Dichloroethene	**2.3**	ug/m3	1.4	1.68		05/17/14 05:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		05/17/14 05:20	156-60-5	
Ethylbenzene	ND	ug/m3	1.5	1.68		05/17/14 05:20	100-41-4	
Methylene Chloride	**1.4J**	ug/m3	5.9	1.68		05/17/14 05:20	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		05/17/14 05:20	1634-04-4	
Naphthalene	**4.0J**	ug/m3	4.5	1.68		05/17/14 05:20	91-20-3	
Tetrachloroethene	ND	ug/m3	1.2	1.68		05/17/14 05:20	127-18-4	
Toluene	**3.4**	ug/m3	1.3	1.68		05/17/14 05:20	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.5	1.68		05/17/14 05:20	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		05/17/14 05:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		05/17/14 05:20	79-00-5	
Trichloroethene	ND	ug/m3	0.92	1.68		05/17/14 05:20	79-01-6	
1,2,3-Trimethylbenzene	**1.4J**	ug/m3	1.7	1.68		05/17/14 05:20	526-73-8	
1,2,4-Trimethylbenzene	**7.2**	ug/m3	1.7	1.68		05/17/14 05:20	95-63-6	
1,3,5-Trimethylbenzene	**3.5**	ug/m3	1.7	1.68		05/17/14 05:20	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		05/17/14 05:20	75-01-4	
m&p-Xylene	**1.2J**	ug/m3	3.0	1.68		05/17/14 05:20	179601-23-1	
o-Xylene	ND	ug/m3	1.5	1.68		05/17/14 05:20	95-47-6	

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: Air
Pace Project No.: 10266558

Sample: C-Influent **Lab ID: 10266558004** Collected: 05/05/14 11:35 Received: 05/09/14 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**11.8**	ug/m3	0.51	1.57		05/17/14 04:22	71-43-2	
Carbon tetrachloride	**1.2**	ug/m3	1.0	1.57		05/17/14 04:22	56-23-5	
Chlorodifluoromethane	**5.8**	ug/m3	1.1	1.57		05/17/14 04:22	75-45-6	
Chloroform	**1.5J**	ug/m3	1.6	1.57		05/17/14 04:22	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.6	1.57		05/17/14 04:22	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.3	1.57		05/17/14 04:22	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.64	1.57		05/17/14 04:22	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.57		05/17/14 04:22	75-35-4	
cis-1,2-Dichloroethene	**7.6**	ug/m3	1.3	1.57		05/17/14 04:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.57		05/17/14 04:22	156-60-5	
Ethylbenzene	**4.7**	ug/m3	1.4	1.57		05/17/14 04:22	100-41-4	
Methylene Chloride	**1.2J**	ug/m3	5.5	1.57		05/17/14 04:22	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.57		05/17/14 04:22	1634-04-4	
Naphthalene	**12.7**	ug/m3	4.2	1.57		05/17/14 04:22	91-20-3	
Tetrachloroethene	**3.6**	ug/m3	1.1	1.57		05/17/14 04:22	127-18-4	
Toluene	**30.6**	ug/m3	1.2	1.57		05/17/14 04:22	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.4	1.57		05/17/14 04:22	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.57		05/17/14 04:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.86	1.57		05/17/14 04:22	79-00-5	
Trichloroethene	**236**	ug/m3	0.86	1.57		05/17/14 04:22	79-01-6	
1,2,3-Trimethylbenzene	**2.1**	ug/m3	1.6	1.57		05/17/14 04:22	526-73-8	
1,2,4-Trimethylbenzene	**6.8**	ug/m3	1.6	1.57		05/17/14 04:22	95-63-6	
1,3,5-Trimethylbenzene	**3.5**	ug/m3	1.6	1.57		05/17/14 04:22	108-67-8	
Vinyl chloride	ND	ug/m3	0.41	1.57		05/17/14 04:22	75-01-4	
m&p-Xylene	**20.9**	ug/m3	2.8	1.57		05/17/14 04:22	179601-23-1	
o-Xylene	**11.3**	ug/m3	1.4	1.57		05/17/14 04:22	95-47-6	

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ANALYTICAL RESULTS

Project: Air
Pace Project No.: 10266558

Sample: C-Mid Gac **Lab ID: 10266558005** Collected: 05/05/14 11:37 Received: 05/09/14 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**9.6**	ug/m3	0.51	1.57		05/17/14 04:51	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.0	1.57		05/17/14 04:51	56-23-5	
Chlorodifluoromethane	**6.1**	ug/m3	1.1	1.57		05/17/14 04:51	75-45-6	
Chloroform	**1.3J**	ug/m3	1.6	1.57		05/17/14 04:51	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.6	1.57		05/17/14 04:51	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.3	1.57		05/17/14 04:51	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.64	1.57		05/17/14 04:51	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.57		05/17/14 04:51	75-35-4	
cis-1,2-Dichloroethene	**11.7**	ug/m3	1.3	1.57		05/17/14 04:51	156-59-2	
trans-1,2-Dichloroethene	**0.90J**	ug/m3	1.3	1.57		05/17/14 04:51	156-60-5	
Ethylbenzene	ND	ug/m3	1.4	1.57		05/17/14 04:51	100-41-4	
Methylene Chloride	**1.4J**	ug/m3	5.5	1.57		05/17/14 04:51	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.57		05/17/14 04:51	1634-04-4	
Naphthalene	**3.4J**	ug/m3	4.2	1.57		05/17/14 04:51	91-20-3	
Tetrachloroethene	ND	ug/m3	1.1	1.57		05/17/14 04:51	127-18-4	
Toluene	**1.6**	ug/m3	1.2	1.57		05/17/14 04:51	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.4	1.57		05/17/14 04:51	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.57		05/17/14 04:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.86	1.57		05/17/14 04:51	79-00-5	
Trichloroethene	**0.86J**	ug/m3	0.86	1.57		05/17/14 04:51	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.6	1.57		05/17/14 04:51	526-73-8	
1,2,4-Trimethylbenzene	**0.88J**	ug/m3	1.6	1.57		05/17/14 04:51	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.6	1.57		05/17/14 04:51	108-67-8	
Vinyl chloride	ND	ug/m3	0.41	1.57		05/17/14 04:51	75-01-4	
m&p-Xylene	**0.85J**	ug/m3	2.8	1.57		05/17/14 04:51	179601-23-1	
o-Xylene	ND	ug/m3	1.4	1.57		05/17/14 04:51	95-47-6	

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Appendix C

Support Documentation

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
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(612)607-1700

PROJECT NARRATIVE

Project: Air
Pace Project No.: 10266558

Method: TO-15
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: May 19, 2014

General Information:
6 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/20277

1M: Analyte is a common lab contaminant. Results may be biased high.
- A-Influent (Lab ID: 10266558001)
  - Methylene Chloride

E: Analyte concentration exceeded the calibration range. The reported result is estimated.
- A-Influent (Lab ID: 10266558001)
  - Methylene Chloride

This data package has been reviewed for quality and completeness and is approved for release.

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10266558

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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Page: of

Section A Required Client Information:

Company: Tetra Tech
Address: 51 Franklin St. Suite 400 Annapolis, MD 21401
Email To:
Phone: 410-990-4607 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To:
Copy To:
Purchase Order No.:
Project Name:
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other____

Location of Sampling by State MD

Reporting Units: ug/m³ X mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level II.___ III.___ IV.___ Other____

Method: PM10 | 3C-Fixed Gas (%) | TO-3 | TO-3M (Methane) | TO-4 (PCBs) | TO-13 (PAH) | TO-14 | TO-15 | TO15 Short List*

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	'Section D Required Client Information AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Composite Start End/Grab DATE	TIME	Composite - DATE	TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	TO-14	Pace Lab ID
1	A-~~[illegible]~~ INFLUENT			5/5/14	1415					2238		X	001
2	A-MID GAC				1417					2553		X	002
3	A-EFFLUENT				1419					2227		X	003
4	C-INFLUENT				1135					2224		X	004
5	C-MID GAC				1137					2526		X	005
6	C-EFFLUENT				1139					2212		X	006
7													
8													
9													
10													
11													
12													

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	5/6/14	1700	[signature]	5/9/14	0940

SAMPLE CONDITIONS: Amb Y/N Y/N Y/N; Y/N Y/N Y/N; Y/N Y/N Y/N

Temp in °C | Received on Ice | Custody Sealed Cooler | Samples Intact

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dave Moisio
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 5/6/14

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

FC046Rev.01, 03Feb2010

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: tetra tech MD

Project #: WO#: 10266558

10266558

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 803368731883

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: **Temp Blank rec:** ☐ Yes ☑ No

Temp. (TO17 and TO13 samples only) (°C): — **Corrected Temp (°C):** — **Thermom. Used:** ☐ B88A912167504 ☐ B88A9132521491 ☐ 72337080 ☐ 80512447

Temp should be above freezing to 6°C **Correction Factor:** **Date & Initials of Person Examining Contents:** 5/9/14

Type of ice Received ☐ Blue ☐ Wet ☑ None

Comments:

Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: air can				11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
A- influent	2238				
A- mid gac	2553				
A- effluent	2227				
C- influent	2224				
C- mid gac	2526				
C- effluent	2212				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: **Date:** 5-9-14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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SAMPLE SUMMARY

Project: Air
Pace Project No.: 10266558

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10266558001	A-Influent	Air	05/05/14 14:15	05/09/14 09:40
10266558002	A-Mid Gac	Air	05/05/14 14:17	05/09/14 09:40
10266558003	A-Effluent	Air	05/05/14 14:19	05/09/14 09:40
10266558004	C-Influent	Air	05/05/14 11:35	05/09/14 09:40
10266558005	C-Mid Gac	Air	05/05/14 11:37	05/09/14 09:40
10266558006	C-Effluent	Air	05/05/14 11:39	05/09/14 09:40

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HOLDTIME

SDG 10266558

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	C-MID GAC	10266558005	NM	05/05/2014	05/17/2014	05/17/2014	12	0	12
OV	UG/M3	C-INFLUENT	10266558004	NM	05/05/2014	05/17/2014	05/17/2014	12	0	12
OV	UG/M3	C-EFFLUENT	10266558006	NM	05/05/2014	05/17/2014	05/17/2014	12	0	12
OV	UG/M3	A-MID GAC	10266558002	NM	05/05/2014	05/17/2014	05/17/2014	12	0	12
OV	UG/M3	A-INFLUENT	10266558001	NM	05/05/2014	05/17/2014	05/17/2014	12	0	12
OV	UG/M3	A-EFFLUENT	10266558003	NM	05/05/2014	05/17/2014	05/17/2014	12	0	12

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical
Contract:
Lab Code: PASI
Case No.:
SAS No.:
SDG No.: 10266558
Lab File ID: 13304BFB.D
BFB Injection Date: 05/13/2014
Instrument ID: 10AIRD
BFB Injection Time: 16:01
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	22.30	
75	30.00 - 66.00% of mass 95	55.70	
96	5.00 - 9.00% of mass 95	6.69	
173	Less than 2.00% of mass 174	0.30	(0.30)
174	50.00 - 120.00% of mass 95	97.81	
175	4.00 - 9.00% of mass 174	7.04	(7.19)
176	93.00 - 101.00% of mass 174	93.47	(95.56)
177	5.00 - 9.00% of mass 176	5.93	(6.34)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CAL1	CAL1	13305.D	05/13/2014	16:28
2	CAL2	CAL2	13306.D	05/13/2014	16:55
3	CAL3	CAL3	13307.D	05/13/2014	17:23
4	CAL4	CAL4	13308.D	05/13/2014	17:50
5	CAL5	CAL5	13309.D	05/13/2014	18:17
6	CAL6	CAL6	13310.D	05/13/2014	18:46
7	CAL7	CAL7	13311.D	05/13/2014	19:17
8	ICVADD (LCS)	ICVADD	13312.D	05/13/2014	19:45
9	ICV (LCS)	ICV	13313.D	05/13/2014	20:12
10	LCS (LCS)	LCS	13314.D	05/13/2014	20:40
11	BLANK (BLK)	BLANK	13316.D	05/13/2014	21:38

Report Date : 14-May-2014 08:24

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-MAY-2014 16:28
End Cal Date : 13-MAY-2014 19:17
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\051314.b\TO15_133-14.m
Last Edit : 14-May-2014 08:06 drandall

Calibration File Names:
Level 1: \\192.168.10.12\chem\10airD.i\051314.b\13305.d
Level 2: \\192.168.10.12\chem\10airD.i\051314.b\13306.d
Level 3: \\192.168.10.12\chem\10airD.i\051314.b\13307.d
Level 4: \\192.168.10.12\chem\10airD.i\051314.b\13308.d
Level 5: \\192.168.10.12\chem\10airD.i\051314.b\13309.d
Level 6: \\192.168.10.12\chem\10airD.i\051314.b\13310.d
Level 7: \\192.168.10.12\chem\10airD.i\051314.b\13311.d

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
1 Chlorodifluoromethane	1.89345	2.63126	2.78308	3.02214	2.89347	2.96499					
	2.86642						AVRG		2.72211		14.21080
2 Propylene	8.82607	8.78989	9.77728	10.38330	8.94169	8.87018					
	8.24451						AVRG		9.11899		7.86201
3 Dichlorodifluoromethane	1.01191	1.14670	1.31694	1.40948	1.34127	1.39864					
	1.42489						AVRG		1.29283		12.04275
4 Dichlorotetrafluoroethane	1.21895	1.53884	1.68316	1.75063	1.61609	1.63911					
	1.58224						AVRG		1.57557		10.88497

Report Date : 14-May-2014 08:24

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-MAY-2014 16:28
End Cal Date : 13-MAY-2014 19:17
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\051314.b\TO15_133-14.m
Last Edit : 14-May-2014 08:06 drandall

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
5 Chloromethane	3.50631	4.20290	4.21775	4.46056	4.35801	4.43081					
	4.23830						AVRG		4.20209		7.70579
6 Vinyl chloride	4.10616	5.44801	5.46915	5.90506	5.23621	5.12347					
	4.90870						AVRG		5.17096		10.92159
7 1,3-Butadiene	6.22436	7.83671	8.33791	9.45743	7.92972	8.08546					
	7.70695						AVRG		7.93979		12.04828
8 Bromomethane	3.58930	4.44758	4.66340	5.12186	4.82895	4.83094					
	4.64329						AVRG		4.58933		10.62987
9 Chloroethane	9.26738	10.46121	11.41023	12.69972	11.92013	11.79569					
	11.20433						AVRG		11.25124		9.89003
10 Ethanol	7.65196	8.96074	11.13514	11.04950	10.71460	11.77253					
	12.92913						AVRG		10.60194		16.64253
11 Vinyl Bromide	3.98121	4.45945	4.97542	5.20910	4.70784	4.59692					
	4.48885						AVRG		4.63125		8.50894

Report Date : 14-May-2014 08:24

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-MAY-2014 16:28
End Cal Date : 13-MAY-2014 19:17
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\051314.b\TO15_133-14.m
Last Edit : 14-May-2014 08:06 drandall

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
12 Isopentane	4.34408	5.14208	5.57989	6.14115	5.42215	5.33468					
	5.07677						AVRG		5.29154		10.32224
13 Trichlorofluoromethane	0.99858	1.16367	1.29290	1.37895	1.34100	1.44030					
	1.46329						AVRG		1.29696		12.73522
14 Acrolein	22.39097	20.01410	19.22216	19.33036	16.57418	16.95927					
	16.06983						AVRG		18.65155		12.08235
15 Acetone	1.67147	2.14082	2.55895	2.72246	2.92444	2.96202					
	2.85397						AVRG		2.54773		18.76513
16 Isopropyl Alcohol	2.44146	3.30762	3.41772	3.72786	3.29711	3.38820					
	3.34201						AVRG		3.27457		12.08163
17 1,1-Dichloroethene	2.27343	2.78530	2.94875	3.15073	2.90482	2.82345					
	2.81017						AVRG		2.81381		9.54646
18 Tert Butyl Alcohol	1.88649	2.39810	2.58294	2.66845	2.39063	2.22137					
	2.18955						AVRG		2.33393		11.26780

Report Date : 14-May-2014 08:24

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-MAY-2014 16:28
End Cal Date : 13-MAY-2014 19:17
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\051314.b\TO15_133-14.m
Last Edit : 14-May-2014 08:06 drandall

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
19 Acrylonitrile	8.24785	7.92497	8.15949	8.59994	7.06101	6.63998					
	6.42876						AVRG		7.58028		11.32200
20 Freon 113	1.81961	2.10675	2.21919	2.37415	2.31183	2.34491					
	2.29225						AVRG		2.20981		8.77149
21 Methylene chloride	2.17558	2.88881	3.51932	4.07295	4.21127	4.28820					
	4.06389						AVRG		3.60286		22.16798
22 Allyl Chloride	9.89987	11.87337	11.86862	12.31446	11.24801	10.82018					
	10.02356						AVRG		11.14972		8.46573
23 Carbon Disulfide	1.13710	1.42668	1.62181	1.74098	1.66998	1.67580					
	1.62004						AVRG		1.55606		13.43411
24 trans-1,2-dichloroethene	3.57392	4.54124	4.61483	5.27395	4.75998	4.74320					
	4.53180						AVRG		4.57699		11.13259
25 Methyl Tert Butyl Ether	1.39651	1.57975	1.82062	1.90299	1.75991	1.74993					
	1.65362						AVRG		1.69476		9.94273

Report Date : 14-May-2014 08:24

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

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Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\051314.b\TO15_133-14.m
Last Edit : 14-May-2014 08:06 drandall

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
26 Vinyl Acetate	1.74902	2.06318	2.13052	2.15501	1.91201	1.92723					
	1.84658						AVRG		1.96908		7.70000
27 1,1-Dichloroethane	2.09039	2.25987	2.38720	2.56922	2.48558	2.54858					
	2.46750						AVRG		2.40119		7.17802
29 Methyl Ethyl Ketone	8.39309	10.90491	11.39437	12.02566	11.00702	11.27811					
	10.34158						AVRG		10.76353		10.81604
30 n-Hexane	2.65520	3.24029	3.54749	3.93614	3.59993	3.72222					
	3.41777						AVRG		3.44558		11.96055
31 Di-isopropyl Ether	1.37182	1.54900	1.71422	1.83480	1.64784	1.67130					
	1.51874						AVRG		1.61539		9.29127
32 cis-1,2-Dichloroethene	4.68246	4.86161	5.10794	5.89740	4.71179	4.79481					
	4.46272						AVRG		4.93125		9.50334
33 Ethyl Acetate	1.74536	2.12923	2.30953	2.45412	2.11648	2.19692					
	2.07621						AVRG		2.14684		10.25476

Report Date : 14-May-2014 08:24

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

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Last Edit : 14-May-2014 08:06 drandall

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
34 Chloroform	1.39856	1.62843	1.75439	1.85946	1.74833	1.80817					
	1.83396						AVRG		1.71876		9.31802
35 Ethyl Tert-Butyl Ether	1.55391	1.77243	1.87249	1.83351	1.57726	1.55593					
	1.53188						AVRG		1.67106		8.88914
36 Tetrahydrofuran	5.53735	6.55364	5.96562	6.23720	5.24484	5.39622					
	5.13090						AVRG		5.72368		9.39147
37 1,1,1-Trichloroethane	1.31349	1.56021	1.63711	1.77746	1.68533	1.78317					
	1.75944						AVRG		1.64517		10.18659
38 1,2-Dichloroethane	1.71928	2.00983	2.15786	2.24002	2.17924	2.29695					
	2.31432						AVRG		2.13107		9.77337
39 Benzene	1.39098	1.56587	1.73968	1.78471	1.56440	1.56133					
	1.47127						AVRG		1.58261		8.77453
40 Carbon tetrachloride	1.28441	1.49663	1.54962	1.69967	1.56147	1.70442					
	1.76614						AVRG		1.58034		10.33448

Report Date : 14-May-2014 08:24

Pace Analytical Services, Inc.

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Method file : \\192.168.10.12\chem\10airD.i\051314.b\TO15_133-14.m
Last Edit : 14-May-2014 08:06 drandall

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
41 Cyclohexane	3.69668	4.34213	4.29228	4.36380	3.67438	3.63926					
	3.48945						AVRG		3.92828		9.79138
42 Tert Amyl Methyl Ether	+++++	0.74291	1.18867	1.52281	1.70416	1.70927					
	1.62095						AVRG		1.41480		26.95515
44 2,2,4-Trimethylpentane	1.09673	1.19776	1.27228	1.27101	1.17800	1.16077					
	1.10591						AVRG		1.18321		5.96010
45 Heptane	3.44833	3.67292	3.43310	3.59256	3.23256	3.22524					
	3.04469						AVRG		3.37849		6.58063
46 1,2-Dichloropropane	3.87937	4.48638	4.65017	4.80501	4.36575	4.48328					
	4.07894						AVRG		4.39270		7.29403
47 Trichloroethene	3.07347	3.55475	3.61236	3.79782	3.43963	3.47207					
	3.30102						AVRG		3.46445		6.68073
48 Bromodichloromethane	1.39944	1.53249	1.58115	1.74169	1.54015	1.63781					
	1.61184						AVRG		1.57779		6.69323

Report Date : 14-May-2014 08:24

Pace Analytical Services, Inc.

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Last Edit : 14-May-2014 08:06 drandall

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
49 1,4-Dioxane	8.80278	8.90701	9.05884	9.09058	7.08882	8.34793					
	10.11416						AVRG		8.77287		10.42356
50 Methylcyclohexane	9.31915	9.96231	8.97701	8.77138	7.45452	8.01048					
	6.93725						AVRG		8.49030		12.61666
51 Methyl Isobutyl Ketone	2.31524	2.56907	2.51731	2.56739	2.10668	2.20631					
	2.13832						AVRG		2.34576		8.68418
52 cis-1,3-Dichloropropene	2.57229	2.68840	2.92012	2.92179	2.49633	2.55619					
	2.47714						AVRG		2.66175		7.12296
53 trans-1,3-Dichloropropene	2.52747	2.92612	2.89537	2.82041	2.21105	2.28473					
	2.23307						AVRG		2.55689		12.56948
55 Toluene	1.14255	1.31654	1.39872	1.42046	1.23358	1.23059					
	1.22039						AVRG		1.28040		7.95182
56 1,1,2-Trichloroethane	2.73016	3.23323	3.49345	3.70136	3.37519	3.34605					
	3.32511						AVRG		3.31494		9.00399

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
57 Methyl Butyl Ketone	1.70191	1.99672	2.02724	1.93304	1.63807	1.60404					
	1.57625						AVRG		1.78247		10.98868
58 Dibromochloromethane	1.05708	1.21030	1.29202	1.34996	1.24400	1.23977					
	1.22659						AVRG		1.23139		7.32497
59 1,2-Dibromoethane	1.29130	1.51992	1.66032	1.73566	1.59331	1.48702					
	1.45038						AVRG		1.53399		9.53787
60 Tetrachloroethene	1.35756	1.53019	1.70686	1.78321	1.63835	1.55156					
	1.61395						AVRG		1.59738		8.57592
62 Chlorobenzene	0.88762	1.11414	1.18038	1.28135	1.22767	1.16570					
	1.11671						AVRG		1.13908		11.03857
63 Ethyl Benzene	0.68659	0.79764	0.76902	0.78406	0.71944	0.68682					
	0.68525						AVRG		0.73269		6.78618
64 m&p-Xylene	0.85849	1.02734	0.97336	1.00052	0.90928	0.86111					
	0.84538						AVRG		0.92507		8.09054

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
65 Bromoform	0.92445	1.08689	1.19106	1.22769	1.15555	1.14002					
	1.14236						AVRG		1.12400		8.74998
66 Styrene	1.39122	1.53212	1.50654	1.45875	1.23419	1.15677					
	1.12997						AVRG		1.34422		12.52684
67 o-Xylene	0.77504	0.87945	0.88413	0.91032	0.85893	0.83445					
	0.83240						AVRG		0.85353		5.20311
68 1,1,2,2-Tetrachloroethane	0.85127	1.05990	1.19961	1.29639	1.23125	1.19192					
	1.17135						AVRG		1.14310		12.86362
69 Isopropylbenzene	0.49489	0.61607	0.65761	0.67360	0.64887	0.63772					
	0.63052						AVRG		0.62276		9.53617
70 N-Propylbenzene	0.52651	0.62622	0.64961	0.60764	0.54666	0.54875					
	0.54027						AVRG		0.57795		8.43057
71 4-Ethyltoluene	0.73053	0.78751	0.79235	0.75080	0.69074	0.68159					
	0.67143						AVRG		0.72928		6.84215

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Last Edit : 14-May-2014 08:06 drandall

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
72 1,3,5-Trimethylbenzene	0.74112	0.82419	0.81836	0.83490	0.79572	0.76287					
	0.76828						AVRG		0.79220		4.48815
73 Tert-Butyl Benzene	0.72643	0.90928	0.85717	0.85557	0.78222	0.78095					
	0.78397						AVRG		0.81366		7.66558
74 1,2,4-Trimethylbenzene	0.68076	0.77453	0.79354	0.80865	0.75114	0.75308					
	0.76074						AVRG		0.76035		5.39795
75 1,3-Dichlorobenzene	0.80007	1.07122	1.17092	1.20154	1.12453	1.10085					
	1.09954						AVRG		1.08124		12.19175
76 Sec- Butylbenzene	0.55341	0.63508	0.64095	0.61440	0.55908	0.56007					
	0.54858						AVRG		0.58737		6.97883
78 Benzyl Chloride	0.83225	1.05428	1.13103	1.14187	0.98706	0.93864					
	0.92767						AVRG		1.00183		11.34614
79 1,4-Dichlorobenzene	0.75067	0.94348	1.09708	1.17327	1.15638	1.14795					
	1.15356						AVRG		1.06034		14.87380

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
80 p-Isopropyltoluene	0.61430	0.77626	0.76734	0.77551	0.73573	0.69699					
	0.70456						AVRG		0.72439		8.07706
81 1,2,3-Trimethylbenzene	0.67997	0.79445	0.83427	0.84174	0.85372	0.81806					
	0.82565						AVRG		0.80684		7.31456
82 1,2-Dichlorobenzene	0.94720	1.16300	1.30834	1.29872	1.26423	1.22308					
	1.23267						AVRG		1.20532		10.28945
83 N-Butylbenzene	0.74218	0.82321	0.77966	0.78164	0.73415	0.71918					
	0.72847						AVRG		0.75836		4.95661
84 1,2,4-Trichlorobenzene	1.57578	2.13515	2.21735	2.18279	2.16416	2.00015					
	1.94598						AVRG		2.03162		11.03838
85 Naphthalene	1.07143	1.45254	1.47878	1.33619	1.34351	1.24918					
	1.19274						AVRG		1.30348		11.05906
86 Hexachlorobutadiene	1.08719	1.40697	1.55566	1.73090	2.11228	2.09752					
	2.13799						AVRG		1.73264		23.50982

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
$ 28 Hexane-d14(S)	2.52771	2.76494	2.63868	2.79030	2.67034	2.80289					
	2.73096						AVRG		2.70369		3.64098
$ 54 Toluene-d8 (S)	1.04370	1.02454	0.96864	1.01889	0.96343	1.03080					
	1.01777						AVRG		1.00968		3.07874
$ 77 1,4-dichlorobenzene-d4 (S)	1.55176	1.61907	1.56721	1.57398	1.50578	1.53081					
	1.55214						AVRG		1.55725		2.28625

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Average %RSD Results.	
Calculated Average %RSD =	10.14231
Maximun Average %RSD =	30.00000
* Passed Average %RSD Test.	

Curve	Formula	Units
Averaged	Amt = m1*Rsp	Amount

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical
Contract:
Lab Code: PASI
Case No.:
SAS No.:
SDG No.: 10266558
Lab File ID: 13601BFB.D
BFB Injection Date: 05/16/2014
Instrument ID: 10AIRD
BFB Injection Time: 11:47
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	22.92	
75	30.00 - 66.00% of mass 95	56.79	
96	5.00 - 9.00% of mass 95	6.50	
173	Less than 2.00% of mass 174	0.27	(0.28)
174	50.00 - 120.00% of mass 95	96.21	
175	4.00 - 9.00% of mass 174	6.82	(7.09)
176	93.00 - 101.00% of mass 174	93.25	(96.93)
177	5.00 - 9.00% of mass 176	6.01	(6.44)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV	CCV	13602.D	05/16/2014	12:15
2	LCS for HBN 297546 [AIR/	1683557	13602_20277.D	05/16/2014	12:15
3	LCS (LCS)	LCS	13602_LCS.D	05/16/2014	12:15
4	BLANK for HBN 297546 [AI	1683556	13605_20277.D	05/16/2014	14:19
5	BLANK (BLK)	BLANK	13605.D	05/16/2014	14:19
6	A-Influent	10266558001	13630.D	05/17/2014	02:54
7	A-Mid Gac	10266558002	13631.D	05/17/2014	03:23
8	A-Effluent	10266558003	13632.D	05/17/2014	03:54
9	C-Influent	10266558004	13633.D	05/17/2014	04:22
10	C-Mid Gac	10266558005	13634.D	05/17/2014	04:51
11	C-Effluent	10266558006	13635.D	05/17/2014	05:20

Data File: \\192.168.10.12\chem\10airD.i\051614.b\13602.d
Report Date: 16-May-2014 11:46

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airD.i Injection Date: 16-MAY-2014 12:15
Lab File ID: 13602.d Init. Cal. Date(s): 13-MAY-2014 13-MAY-2014
Analysis Type: AIR Init. Cal. Times: 16:28 19:17
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airD.i\051614.b\TO15_133-14.m

COMPOUND	RRF / AMOUNT	RF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Chlorodifluoromethane	2.72211	2.52953	0.010	-7.07484	30.00000	Averaged
2 Propylene	9.11899	7.93165	0.010	-13.02054	30.00000	Averaged
3 Dichlorodifluoromethane	1.29283	1.16353	0.010	-10.00161	30.00000	Averaged
4 Dichlorotetrafluoroethane	1.57557	1.42648	0.010	-9.46265	30.00000	Averaged
5 Chloromethane	4.20209	3.81825	0.010	-9.13451	30.00000	Averaged
6 Vinyl chloride	5.17096	4.62252	0.010	-10.60617	30.00000	Averaged
7 1,3-Butadiene	7.93979	7.06471	0.010	-11.02139	30.00000	Averaged
8 Bromomethane	4.58933	4.10799	0.010	-10.48817	30.00000	Averaged
9 Chloroethane	11.25124	10.35728	0.010	-7.94541	30.00000	Averaged
10 Ethanol	10.60194	9.91701	0.100	-6.46046	30.00000	Averaged
11 Vinyl Bromide	4.63125	4.05752	0.010	-12.38833	30.00000	Averaged
12 Isopentane	5.29154	4.81322	0.010	-9.03939	30.00000	Averaged
13 Trichlorofluoromethane	1.29696	1.14245	0.010	-11.91272	30.00000	Averaged
14 Acrolein	18.65155	15.14869	0.010	-18.78051	30.00000	Averaged
15 Acetone	2.54773	2.46192	0.010	-3.36820	30.00000	Averaged
16 Isopropyl Alcohol	3.27457	2.84030	0.010	-13.26182	30.00000	Averaged
17 1,1-Dichloroethene	2.81381	2.45013	0.010	-12.92469	30.00000	Averaged
18 Tert Butyl Alcohol	2.33393	2.04718	0.100	-12.28605	30.00000	Averaged
19 Acrylonitrile	7.58028	6.06162	0.010	-20.03439	30.00000	Averaged
20 Freon 113	2.20981	1.99817	0.010	-9.57738	30.00000	Averaged
21 Methylene chloride	3.60286	3.63466	0.010	0.88259	30.00000	Averaged
22 Allyl Chloride	11.14972	9.60271	0.010	-13.87493	30.00000	Averaged
23 Carbon Disulfide	1.55606	1.45151	0.010	-6.71838	30.00000	Averaged
24 trans-1,2-dichloroethene	4.57699	4.08830	0.010	-10.67717	30.00000	Averaged
25 Methyl Tert Butyl Ether	1.69476	1.48116	0.010	-12.60339	30.00000	Averaged
26 Vinyl Acetate	1.96908	1.62418	0.010	-17.51594	30.00000	Averaged
27 1,1-Dichloroethane	2.40119	2.08251	0.010	-13.27200	30.00000	Averaged
$ 28 Hexane-d14(S)	2.70369	2.72942	0.200	0.95179	30.00000	Averaged
29 Methyl Ethyl Ketone	10.76353	9.42769	0.010	-12.41080	30.00000	Averaged
30 n-Hexane	3.44558	3.26486	0.010	-5.24472	30.00000	Averaged
31 Di-isopropyl Ether	1.61539	1.44598	0.010	-10.48721	30.00000	Averaged
32 cis-1,2-Dichloroethene	4.93125	4.17253	0.010	-15.38588	30.00000	Averaged
33 Ethyl Acetate	2.14684	1.85065	0.010	-13.79640	30.00000	Averaged
34 Chloroform	1.71876	1.51034	0.010	-12.12629	30.00000	Averaged
35 Ethyl Tert-Butyl Ether	1.67106	1.40343	0.010	-16.01564	30.00000	Averaged
36 Tetrahydrofuran	5.72368	4.57632	0.010	-20.04587	30.00000	Averaged
37 1,1,1-Trichloroethane	1.64517	1.42217	0.010	-13.55469	30.00000	Averaged
38 1,2-Dichloroethane	2.13107	1.81959	0.010	-14.61607	30.00000	Averaged
39 Benzene	1.58261	1.35040	0.300	-14.67218	30.00000	Averaged
40 Carbon tetrachloride	1.58034	1.32724	0.010	-16.01556	30.00000	Averaged
41 Cyclohexane	3.92828	3.09775	0.010	-21.14237	30.00000	Averaged
42 Tert Amyl Methyl Ether	1.41480	1.50244	0.010	6.19452	30.00000	Averaged

Data File: \\192.168.10.12\chem\10airD.i\051614.b\13602.d
Report Date: 16-May-2014 11:46

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airD.i
Lab File ID: 13602.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: \\192.168.10.12\chem\10airD.i\051614.b\TO15_133-14.m

Injection Date: 16-MAY-2014 12:15
Init. Cal. Date(s): 13-MAY-2014 13-MAY-2014
Init. Cal. Times: 16:28 19:17
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
44 2,2,4-Trimethylpentane	1.18321	1.01383	0.010	-14.31565	30.00000	Averaged
45 Heptane	3.37849	2.76528	0.010	-18.15017	30.00000	Averaged
46 1,2-Dichloropropane	4.39270	3.67309	0.010	-16.38202	30.00000	Averaged
47 Trichloroethene	3.46445	2.90990	0.010	-16.00671	30.00000	Averaged
48 Bromodichloromethane	1.57779	1.31996	0.010	-16.34124	30.00000	Averaged
49 1,4-Dioxane	8.77287	6.50355	0.010	-25.86753	30.00000	Averaged
50 Methylcyclohexane	8.49030	6.27458	0.010	-26.09703	30.00000	Averaged
51 Methyl Isobutyl Ketone	2.34576	1.83375	0.010	-21.82710	30.00000	Averaged
52 cis-1,3-Dichloropropene	2.66175	2.15662	0.010	-18.97744	30.00000	Averaged
53 trans-1,3-Dichloropropene	2.55689	1.96257	0.010	-23.24391	30.00000	Averaged
$ 54 Toluene-d8 (S)	1.00968	1.04309	0.200	3.30884	30.00000	Averaged
55 Toluene	1.28040	1.06526	0.300	-16.80247	30.00000	Averaged
56 1,1,2-Trichloroethane	3.31494	2.86282	0.010	-13.63870	30.00000	Averaged
57 Methyl Butyl Ketone	1.78247	1.29545	0.010	-27.32295	30.00000	Averaged
58 Dibromochloromethane	1.23139	0.98216	0.010	-20.23960	30.00000	Averaged
59 1,2-Dibromoethane	1.53399	1.21966	0.010	-20.49055	30.00000	Averaged
60 Tetrachloroethene	1.59738	1.27355	0.010	-20.27244	30.00000	Averaged
62 Chlorobenzene	1.13908	0.95813	0.010	-15.88552	30.00000	Averaged
63 Ethyl Benzene	0.73269	0.55548	0.300	-24.18561	30.00000	Averaged
64 m&p-Xylene	0.92507	0.69068	0.300	-25.33776	30.00000	Averaged
65 Bromoform	1.12400	0.90082	0.010	-19.85633	30.00000	Averaged
66 Styrene	1.34422	0.97743	0.010	-27.28673	30.00000	Averaged
67 o-Xylene	0.85353	0.66597	0.300	-21.97445	30.00000	Averaged
68 1,1,2,2-Tetrachloroethane	1.14310	0.98970	0.010	-13.41921	30.00000	Averaged
69 Isopropylbenzene	0.62276	0.50704	0.010	-18.58126	30.00000	Averaged
70 N-Propylbenzene	0.57795	0.42532	0.010	-26.40817	30.00000	Averaged
71 4-Ethyltoluene	0.72928	0.54694	0.010	-25.00323	30.00000	Averaged
72 1,3,5-Trimethylbenzene	0.79220	0.59963	0.010	-24.30843	30.00000	Averaged
73 Tert-Butyl Benzene	0.81366	0.62670	0.010	-22.97692	30.00000	Averaged
74 1,2,4-Trimethylbenzene	0.76035	0.60568	0.010	-20.34237	30.00000	Averaged
75 1,3-Dichlorobenzene	1.08124	0.86079	0.010	-20.38829	30.00000	Averaged
76 Sec- Butylbenzene	0.58737	0.42879	0.010	-26.99762	30.00000	Averaged
$ 77 1,4-dichlorobenzene-d4 (S)	1.55725	1.56801	0.200	0.69075	30.00000	Averaged
78 Benzyl Chloride	1.00183	0.75749	0.010	-24.38949	30.00000	Averaged
79 1,4-Dichlorobenzene	1.06034	0.88408	0.010	-16.62328	30.00000	Averaged
80 p-Isopropyltoluene	0.72439	0.55346	0.010	-23.59617	30.00000	Averaged
81 1,2,3-Trimethylbenzene	0.80684	0.64342	0.010	-20.25403	30.00000	Averaged
82 1,2-Dichlorobenzene	1.20532	0.96780	0.010	-19.70591	30.00000	Averaged
83 N-Butylbenzene	0.75836	0.56707	0.010	-25.22325	30.00000	Averaged
84 1,2,4-Trichlorobenzene	2.03162	1.59501	0.010	-21.49103	30.00000	Averaged
85 Naphthalene	1.30348	1.00503	0.010	-22.89612	30.00000	Averaged
86 Hexachlorobutadiene	1.73264	1.59336	0.010	-8.03859	30.00000	Averaged

Data File: \\192.168.10.12\chem\10airD.i\051614.b\13602.d
Report Date: 16-May-2014 11:46

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airD.i Injection Date: 16-MAY-2014 12:15
Lab File ID: 13602.d Init. Cal. Date(s): 13-MAY-2014 13-MAY-2014
Analysis Type: AIR Init. Cal. Times: 16:28 19:17
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airD.i\051614.b\TO15_133-14.m

Average %D / Drift Results.	
Calculated Average %D/Drift =	15.73974
Maximun Average %D/Drift =	30.00000
* Passed Average %D/Drift Test.	

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10266558
Lab File ID: 13701BFB.D BFB Injection Date: 05/17/2014
Instrument ID: 10AIRD BFB Injection Time: 11:01
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	20.76	
75	30.00 - 66.00% of mass 95	52.77	
96	5.00 - 9.00% of mass 95	6.61	
173	Less than 2.00% of mass 174	0.00	(0.00)
174	50.00 - 120.00% of mass 95	95.90	
175	4.00 - 9.00% of mass 174	6.86	(7.15)
176	93.00 - 101.00% of mass 174	92.01	(95.94)
177	5.00 - 9.00% of mass 176	6.02	(6.54)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV	CCV	13703.D	05/17/2014	12:14
2	CERT	CERT	13707.D	05/17/2014	14:53
3	A-Mid Gac	10266558002	13710.D	05/17/2014	16:20

Data File: \\192.168.10.12\chem\10airD.i\051714.b\13703.d
Report Date: 17-May-2014 12:44

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airD.i
Lab File ID: 13703.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: \\192.168.10.12\chem\10airD.i\051714.b\TO15_133-14.m

Injection Date: 17-MAY-2014 12:14
Init. Cal. Date(s): 13-MAY-2014 13-MAY-2014
Init. Cal. Times: 16:28 19:17
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
1 Chlorodifluoromethane	2.72211	2.28148	0.010	-16.18711	30.00000	Averaged	
2 Propylene	9.11899	6.42134	0.010	-29.58276	30.00000	Averaged	
3 Dichlorodifluoromethane	1.29283	1.12865	0.010	-12.69919	30.00000	Averaged	
4 Dichlorotetrafluoroethane	1.57557	1.28977	0.010	-18.13964	30.00000	Averaged	
5 Chloromethane	4.20209	3.41882	0.010	-18.64001	30.00000	Averaged	
6 Vinyl chloride	5.17096	3.82705	0.010	-25.98961	30.00000	Averaged	
7 1,3-Butadiene	7.93979	5.89754	0.010	-25.72177	30.00000	Averaged	
8 Bromomethane	4.58933	3.66658	0.010	-20.10645	30.00000	Averaged	
9 Chloroethane	11.25124	8.71131	0.010	-22.57465	30.00000	Averaged	
10 Ethanol	10.60194	8.16276	0.100	-23.00697	30.00000	Averaged	
11 Vinyl Bromide	4.63125	3.68074	0.010	-20.52381	30.00000	Averaged	
12 Isopentane	5.29154	4.38134	0.010	-17.20103	30.00000	Averaged	
13 Trichlorofluoromethane	1.29696	1.16430	0.010	-10.22816	30.00000	Averaged	
14 Acrolein	18.65155	13.31148	0.010	-28.63072	30.00000	Averaged	
15 Acetone	2.54773	2.19628	0.010	-13.79484	30.00000	Averaged	
16 Isopropyl Alcohol	3.27457	2.38634	0.010	-27.12521	30.00000	Averaged	
17 1,1-Dichloroethene	2.81381	2.25089	0.010	-20.00542	30.00000	Averaged	
18 Tert Butyl Alcohol	2.33393	1.65882	0.100	-28.92599	30.00000	Averaged	
19 Acrylonitrile	7.58028	5.29305	0.010	-30.17347	30.00000	Averaged	<-
20 Freon 113	2.20981	1.85664	0.010	-15.98219	30.00000	Averaged	
21 Methylene chloride	3.60286	3.12371	0.010	-13.29904	30.00000	Averaged	
22 Allyl Chloride	11.14972	8.37682	0.010	-24.86970	30.00000	Averaged	
23 Carbon Disulfide	1.55606	1.23623	0.010	-20.55352	30.00000	Averaged	
24 trans-1,2-dichloroethene	4.57699	3.54896	0.010	-22.46077	30.00000	Averaged	
25 Methyl Tert Butyl Ether	1.69476	1.23889	0.010	-26.89896	30.00000	Averaged	
26 Vinyl Acetate	1.96908	1.44709	0.010	-26.50925	30.00000	Averaged	
27 1,1-Dichloroethane	2.40119	1.91899	0.010	-20.08178	30.00000	Averaged	
$ 28 Hexane-d14(S)	2.70369	2.72344	0.200	0.73037	30.00000	Averaged	
29 Methyl Ethyl Ketone	10.76353	8.25732	0.010	-23.28435	30.00000	Averaged	
30 n-Hexane	3.44558	2.80308	0.010	-18.64685	30.00000	Averaged	
31 Di-isopropyl Ether	1.61539	1.21537	0.010	-24.76270	30.00000	Averaged	
32 cis-1,2-Dichloroethene	4.93125	3.47210	0.010	-29.58986	30.00000	Averaged	
33 Ethyl Acetate	2.14684	1.59865	0.010	-25.53478	30.00000	Averaged	
34 Chloroform	1.71876	1.39776	0.010	-18.67586	30.00000	Averaged	
35 Ethyl Tert-Butyl Ether	1.67106	1.13658	0.010	-31.98437	30.00000	Averaged	<-
36 Tetrahydrofuran	5.72368	3.86867	0.010	-32.40947	30.00000	Averaged	<-
37 1,1,1-Trichloroethane	1.64517	1.38532	0.010	-15.79487	30.00000	Averaged	
38 1,2-Dichloroethane	2.13107	1.79830	0.010	-15.61538	30.00000	Averaged	
39 Benzene	1.58261	1.16735	0.300	-26.23892	30.00000	Averaged	
40 Carbon tetrachloride	1.58034	1.36307	0.010	-13.74813	30.00000	Averaged	
41 Cyclohexane	3.92828	2.76719	0.010	-29.55721	30.00000	Averaged	
42 Tert Amyl Methyl Ether	1.41480	1.18834	0.010	-16.00611	30.00000	Averaged	

Data File: \\192.168.10.12\chem\10airD.i\051714.b\13703.d
Report Date: 17-May-2014 12:44

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airD.i
Lab File ID: 13703.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: \\192.168.10.12\chem\10airD.i\051714.b\TO15_133-14.m

Injection Date: 17-MAY-2014 12:14
Init. Cal. Date(s): 13-MAY-2014 13-MAY-2014
Init. Cal. Times: 16:28 19:17
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
44 2,2,4-Trimethylpentane	1.18321	0.89610	0.010	-24.26545	30.00000	Averaged	
45 Heptane	3.37849	2.40347	0.010	-28.85940	30.00000	Averaged	
46 1,2-Dichloropropane	4.39270	3.20564	0.010	-27.02348	30.00000	Averaged	
47 Trichloroethene	3.46445	2.60084	0.010	-24.92785	30.00000	Averaged	
48 Bromodichloromethane	1.57779	1.26031	0.010	-20.12208	30.00000	Averaged	
49 1,4-Dioxane	8.77287	5.20133	0.010	-40.71121	30.00000	Averaged	<-
50 Methylcyclohexane	8.49030	5.58478	0.010	-34.22161	30.00000	Averaged	<-
51 Methyl Isobutyl Ketone	2.34576	1.64033	0.010	-30.07268	30.00000	Averaged	<-
52 cis-1,3-Dichloropropene	2.66175	1.94501	0.010	-26.92748	30.00000	Averaged	
53 trans-1,3-Dichloropropene	2.55689	1.78864	0.010	-30.04634	30.00000	Averaged	<-
$ 54 Toluene-d8 (S)	1.00968	1.03843	0.200	2.84728	30.00000	Averaged	
55 Toluene	1.28040	0.96917	0.300	-24.30759	30.00000	Averaged	
56 1,1,2-Trichloroethane	3.31494	2.66732	0.010	-19.53615	30.00000	Averaged	
57 Methyl Butyl Ketone	1.78247	1.15815	0.010	-35.02532	30.00000	Averaged	<-
58 Dibromochloromethane	1.23139	0.92495	0.010	-24.88560	30.00000	Averaged	
59 1,2-Dibromoethane	1.53399	1.08295	0.010	-29.40294	30.00000	Averaged	
60 Tetrachloroethene	1.59738	1.19925	0.010	-24.92421	30.00000	Averaged	
62 Chlorobenzene	1.13908	0.85697	0.010	-24.76682	30.00000	Averaged	
63 Ethyl Benzene	0.73269	0.50071	0.300	-31.66087	30.00000	Averaged	<-
64 m&p-Xylene	0.92507	0.63109	0.300	-31.77921	30.00000	Averaged	<-
65 Bromoform	1.12400	0.86903	0.010	-22.68392	30.00000	Averaged	
66 Styrene	1.34422	0.89816	0.010	-33.18380	30.00000	Averaged	<-
67 o-Xylene	0.85353	0.62015	0.300	-27.34261	30.00000	Averaged	
68 1,1,2,2-Tetrachloroethane	1.14310	0.90755	0.010	-20.60614	30.00000	Averaged	
69 Isopropylbenzene	0.62276	0.47918	0.010	-23.05577	30.00000	Averaged	
70 N-Propylbenzene	0.57795	0.41149	0.010	-28.80154	30.00000	Averaged	
71 4-Ethyltoluene	0.72928	0.51004	0.010	-30.06298	30.00000	Averaged	<-
72 1,3,5-Trimethylbenzene	0.79220	0.59549	0.010	-24.83151	30.00000	Averaged	
73 Tert-Butyl Benzene	0.81366	0.62034	0.010	-23.75851	30.00000	Averaged	
74 1,2,4-Trimethylbenzene	0.76035	0.60285	0.010	-20.71460	30.00000	Averaged	
75 1,3-Dichlorobenzene	1.08124	0.90778	0.010	-16.04289	30.00000	Averaged	
76 Sec- Butylbenzene	0.58737	0.45778	0.010	-22.06241	30.00000	Averaged	
$ 77 1,4-dichlorobenzene-d4 (S)	1.55725	1.84897	0.200	18.73282	30.00000	Averaged	
78 Benzyl Chloride	1.00183	0.84563	0.010	-15.59123	30.00000	Averaged	
79 1,4-Dichlorobenzene	1.06034	0.93694	0.010	-11.63831	30.00000	Averaged	
80 p-Isopropyltoluene	0.72439	0.56866	0.010	-21.49697	30.00000	Averaged	
81 1,2,3-Trimethylbenzene	0.80684	0.69190	0.010	-14.24560	30.00000	Averaged	
82 1,2-Dichlorobenzene	1.20532	1.02626	0.010	-14.85606	30.00000	Averaged	
83 N-Butylbenzene	0.75836	0.60227	0.010	-20.58201	30.00000	Averaged	
84 1,2,4-Trichlorobenzene	2.03162	1.44756	0.010	-28.74839	30.00000	Averaged	
85 Naphthalene	1.30348	0.92323	0.010	-29.17215	30.00000	Averaged	
86 Hexachlorobutadiene	1.73264	1.43765	0.010	-17.02567	30.00000	Averaged	

Data File: \\192.168.10.12\chem\10airD.i\051714.b\13703.d
Report Date: 17-May-2014 12:44

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airD.i Injection Date: 17-MAY-2014 12:14
Lab File ID: 13703.d Init. Cal. Date(s): 13-MAY-2014 13-MAY-2014
Analysis Type: AIR Init. Cal. Times: 16:28 19:17
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airD.i\051714.b\TO15_133-14.m

Average %D / Drift Results.	
Calculated Average %D/Drift =	22.90525
Maximun Average %D/Drift =	30.00000
* Passed Average %D/Drift Test.	

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Air
Pace Project No.: 10266558

QC Batch: AIR/20277 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10266558001, 10266558002, 10266558003, 10266558004, 10266558005, 10266558006

METHOD BLANK: 1683556 Matrix: Air
Associated Lab Samples: 10266558001, 10266558002, 10266558003, 10266558004, 10266558005, 10266558006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	05/16/14 14:19	
1,1,2-Trichloroethane	ug/m3	ND	0.55	05/16/14 14:19	
1,1-Dichloroethane	ug/m3	ND	0.82	05/16/14 14:19	
1,1-Dichloroethene	ug/m3	ND	0.81	05/16/14 14:19	
1,2,3-Trimethylbenzene	ug/m3	ND	1.0	05/16/14 14:19	
1,2,4-Trichlorobenzene	ug/m3	ND	1.5	05/16/14 14:19	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	05/16/14 14:19	
1,2-Dichloroethane	ug/m3	ND	0.41	05/16/14 14:19	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	05/16/14 14:19	
Benzene	ug/m3	ND	0.32	05/16/14 14:19	
Carbon tetrachloride	ug/m3	ND	0.64	05/16/14 14:19	
Chlorodifluoromethane	ug/m3	ND	0.72	05/16/14 14:19	
Chloroform	ug/m3	ND	0.99	05/16/14 14:19	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	05/16/14 14:19	
Dichlorodifluoromethane	ug/m3	ND	1.0	05/16/14 14:19	
Ethylbenzene	ug/m3	ND	0.88	05/16/14 14:19	
m&p-Xylene	ug/m3	ND	1.8	05/16/14 14:19	
Methyl-tert-butyl ether	ug/m3	ND	0.73	05/16/14 14:19	
Methylene Chloride	ug/m3	ND	3.5	05/16/14 14:19	
Naphthalene	ug/m3	ND	2.7	05/16/14 14:19	
o-Xylene	ug/m3	ND	0.88	05/16/14 14:19	
Tetrachloroethene	ug/m3	ND	0.69	05/16/14 14:19	
Toluene	ug/m3	ND	0.77	05/16/14 14:19	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	05/16/14 14:19	
Trichloroethene	ug/m3	ND	0.55	05/16/14 14:19	
Vinyl chloride	ug/m3	ND	0.26	05/16/14 14:19	

LABORATORY CONTROL SAMPLE: 1683557

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	64.2	116	72-128	
1,1,2-Trichloroethane	ug/m3	55.5	64.2	116	72-130	
1,1-Dichloroethane	ug/m3	41.2	47.4	115	68-128	
1,1-Dichloroethene	ug/m3	40.3	46.3	115	68-130	
1,2,3-Trimethylbenzene	ug/m3	50	62.7	125	60-140	
1,2,4-Trichlorobenzene	ug/m3	75.5	96.1	127	30-150	
1,2,4-Trimethylbenzene	ug/m3	50	62.7	125	71-140	
1,2-Dichloroethane	ug/m3	41.2	48.2	117	71-132	
1,3,5-Trimethylbenzene	ug/m3	50	66.0	132	73-136	
Benzene	ug/m3	32.5	38.1	117	69-134	
Carbon tetrachloride	ug/m3	64	76.1	119	66-134	

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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Air
Pace Project No.: 10266558

LABORATORY CONTROL SAMPLE: 1683557

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorodifluoromethane	ug/m3	36	38.7	108	60-140	
Chloroform	ug/m3	49.7	56.5	114	72-127	
cis-1,2-Dichloroethene	ug/m3	40.3	47.6	118	71-135	
Dichlorodifluoromethane	ug/m3	50.3	55.9	111	69-125	
Ethylbenzene	ug/m3	44.2	58.2	132	73-139	
m&p-Xylene	ug/m3	44.2	59.1	134	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	41.9	114	72-132	
Methylene Chloride	ug/m3	35.3	35.0	99	64-134	
Naphthalene	ug/m3	53.3	69.1	130	61-150	
o-Xylene	ug/m3	44.2	56.6	128	71-138	
Tetrachloroethene	ug/m3	69	86.5	125	69-136	
Toluene	ug/m3	38.3	46.0	120	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	45.1	112	70-131	
Trichloroethene	ug/m3	54.6	65.0	119	70-135	
Vinyl chloride	ug/m3	26	29.1	112	69-132	

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Data File: \\192.168.10.12\chem\10airD.i\051614.b\13630.d
Report Date: 17-May-2014 14:41

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 13630.d
Lab Smp Id: 10266558001
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10airD.i\051614.b\TO15_133-14.m
Misc Info: 20277

Calibration Date: 16-MAY-2014
Calibration Time: 12:15

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	667873	400724	935022	669453	0.24
61 Chlorobenzene - d	515932	309559	722305	473957	-8.14

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.41	6.08	6.74	6.41	-0.05
61 Chlorobenzene - d	10.09	9.76	10.42	10.08	-0.07

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: \\192.168.10.12\chem\10airD.i\051614.b\13631.d
Report Date: 17-May-2014 14:41

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 13631.d
Lab Smp Id: 10266558002
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10airD.i\051614.b\TO15_133-14.m
Misc Info: 20277

Calibration Date: 16-MAY-2014
Calibration Time: 12:15

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	667873	400724	935022	644445	-3.51
61 Chlorobenzene - d	515932	309559	722305	445075	-13.73

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.41	6.08	6.74	6.41	-0.05
61 Chlorobenzene - d	10.09	9.76	10.42	10.08	-0.06

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: \\192.168.10.12\chem\10airD.i\051714.b\13710.d
Report Date: 18-May-2014 11:23

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 13710.d
Lab Smp Id: 10266558002
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10airD.i\051714.b\TO15_133-14.m
Misc Info: 20277

Calibration Date: 17-MAY-2014
Calibration Time: 12:14

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	667873	400724	935022	544088	-18.53
61 Chlorobenzene - d	515932	309559	722305	378802	-26.58

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.41	6.08	6.74	6.40	-0.10
61 Chlorobenzene - d	10.09	9.76	10.42	10.08	-0.10

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: \\192.168.10.12\chem\10airD.i\051614.b\13632.d
Report Date: 17-May-2014 14:43

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 13632.d
Lab Smp Id: 10266558003
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10airD.i\051614.b\TO15_133-14.m
Misc Info: 20277

Calibration Date: 16-MAY-2014
Calibration Time: 12:15

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	667873	400724	935022	629703	-5.72
61 Chlorobenzene - d	515932	309559	722305	412321	-20.08

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.41	6.08	6.74	6.40	-0.10
61 Chlorobenzene - d	10.09	9.76	10.42	10.08	-0.07

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: \\192.168.10.12\chem\10airD.i\051614.b\13633.d
Report Date: 17-May-2014 14:45

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 13633.d
Lab Smp Id: 10266558004
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10airD.i\051614.b\TO15_133-14.m
Misc Info: 20277

Calibration Date: 16-MAY-2014
Calibration Time: 12:15

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	667873	400724	935022	606700	-9.16
61 Chlorobenzene - d	515932	309559	722305	424505	-17.72

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.41	6.08	6.74	6.41	0.00
61 Chlorobenzene - d	10.09	9.76	10.42	10.08	-0.06

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: \\192.168.10.12\chem\10airD.i\051614.b\13634.d
Report Date: 17-May-2014 14:46

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 13634.d
Lab Smp Id: 10266558005
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10airD.i\051614.b\TO15_133-14.m
Misc Info: 20277

Calibration Date: 16-MAY-2014
Calibration Time: 12:15

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	667873	400724	935022	586468	-12.19
61 Chlorobenzene - d	515932	309559	722305	410861	-20.37

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.41	6.08	6.74	6.41	-0.05
61 Chlorobenzene - d	10.09	9.76	10.42	10.08	-0.07

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: \\192.168.10.12\chem\10airD.i\051614.b\13635.d
Report Date: 17-May-2014 14:47

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 13635.d
Lab Smp Id: 10266558006
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10airD.i\051614.b\TO15_133-14.m
Misc Info: 20277

Calibration Date: 16-MAY-2014
Calibration Time: 12:15

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	667873	400724	935022	570628	-14.56
61 Chlorobenzene - d	515932	309559	722305	405312	-21.44

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.41	6.08	6.74	6.40	-0.10
61 Chlorobenzene - d	10.09	9.76	10.42	10.08	-0.06

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.

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Minneapolis, MN 55414
(612)607-1700

Sample Calculation

ANALYTICAL RESULTS

Project: Air
Pace Project No.: 10266558

Sample: A-Influent **Lab ID: 10266558001** Collected: 05/05/14 14:15 Received: 05/09/14 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**4.8**	ug/m3	0.55	1.68		05/17/14 02:54	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		05/17/14 02:54	56-23-5	
Chlorodifluoromethane	**8.8**	ug/m3	1.2	1.68		05/17/14 02:54	75-45-6	
Chloroform	**3.9**	ug/m3	1.7	1.68		05/17/14 02:54	67-66-3	
Dichlorodifluoromethane	**4.1**	ug/m3	1.7	1.68		05/17/14 02:54	75-71-8	
1,1-Dichloroethane	**6.7**	ug/m3	1.4	1.68		05/17/14 02:54	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		05/17/14 02:54	107-06-2	
1,1-Dichloroethene	**32.6**	ug/m3	1.4	1.68		05/17/14 02:54	75-35-4	
cis-1,2-Dichloroethene	**44.7**	ug/m3	1.4	1.68		05/17/14 02:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		05/17/14 02:54	156-60-5	
Ethylbenzene	**6.5**	ug/m3	1.5	1.68		05/17/14 02:54	100-41-4	
Methylene Chloride	**202**	ug/m3	5.9	1.68		05/17/14 02:54	75-09-2	1M,E
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		05/17/14 02:54	1634-04-4	
Naphthalene	**2.3J**	ug/m3	4.5	1.68		05/17/14 02:54	91-20-3	
Tetrachloroethene	**1.2**	ug/m3	1.2	1.68		05/17/14 02:54	127-18-4	
Toluene	**29.5**	ug/m3	1.3	1.68		05/17/14 02:54	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.5	1.68		05/17/14 02:54	120-82-1	
1,1,1-Trichloroethane	**142**	ug/m3	1.9	1.68		05/17/14 02:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		05/17/14 02:54	79-00-5	
Trichloroethene	**292**	ug/m3	0.92	1.68		05/17/14 02:54	79-01-6	
1,2,3-Trimethylbenzene	**2.8**	ug/m3	1.7	1.68		05/17/14 02:54	526-73-8	
1,2,4-Trimethylbenzene	**11.5**	ug/m3	1.7	1.68		05/17/14 02:54	95-63-6	
1,3,5-Trimethylbenzene	**3.0**	ug/m3	1.7	1.68		05/17/14 02:54	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		05/17/14 02:54	75-01-4	
m&p-Xylene	**24.3**	ug/m3	3.0	1.68		05/17/14 02:54	179601-23-1	
o-Xylene	**9.3**	ug/m3	1.5	1.68		05/17/14 02:54	95-47-6	

$$\frac{167896}{473957} * 10 * 1.68 = 5.95 \text{ ppbv}$$

$$5.95 \text{ ppbv} * \frac{106.2 \text{ g/mole}}{24.45 \text{ L/mole}} = 25.8 \text{ ug/m}^3$$

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Data File: \\192.168.10.12\chem\10airD.i\051614.b\13630.d
Report Date: 17-May-2014 14:41

Sample Calculation

Pace Analytical Services, Inc.

TO15 Analysis (UNIX)

Data file : \\192.168.10.12\chem\10airD.i\051614.b\13630.d
Lab Smp Id: 10266558001 A-Influent
Inj Date : 17-MAY-2014 02:54
Operator : AH2 Inst ID: 10airD.i
Smp Info :
Misc Info : 20277
Comment : Volatile Organic COMPOUNDS in Air
Method : \\192.168.10.12\chem\10airD.i\051614.b\TO15_133-14.m
Meth Date : 17-May-2014 14:36 ahamilton Quant Type: ISTD
Cal Date : 13-MAY-2014 19:17 Cal File: 13311.d
Als bottle: 30
Dil Factor: 1.68000
Integrator: HP RTE Compound Sublist: TetraTech.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * CpndVariable

Name	Value	Description
DF	1.680	Dilution Factor
Uf	1.000	ng unit correction factor
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
	1 Chlorodifluoromethane	51	3.121	3.124	(0.487)	35862	1.45821	2.45
	3 Dichlorodifluoromethane	85	3.167	3.164	(0.494)	25436	0.49121	0.825
	6 Vinyl chloride	62	Compound Not Detected.					
	17 1,1-Dichloroethene	61	4.206	4.206	(0.657)	114639	4.81844	8.09
	21 Methylene chloride	49	4.324	4.328	(0.675)	631594	33.9911	57.1(A)
	24 trans-1,2-dichloroethene	96	Compound Not Detected.					
	25 Methyl Tert Butyl Ether	73	Compound Not Detected.					
	27 1,1-Dichloroethane	63	4.842	4.843	(0.756)	27211	0.97600	1.64
$	28 Hexane-d14(S)	66	4.957	4.957	(0.774)	265053	10.7046	10.7
	32 cis-1,2-Dichloroethene	96	5.252	5.259	(0.820)	89530	6.59486	11.1
	34 Chloroform	83	5.400	5.407	(0.843)	18063	0.46375	0.779(M)
	37 1,1,1-Trichloroethane	97	5.898	5.902	(0.921)	620083	15.2385	25.6
	38 1,2-Dichloroethane	62	Compound Not Detected.					
	39 Benzene	78	6.190	6.200	(0.966)	37122	0.87757	1.47
	40 Carbon tetrachloride	117	Compound Not Detected.					
*	43 1,4-Difluorobenzene	114	6.407	6.413	(1.000)	669453	10.0000	
	47 Trichloroethene	130	6.863	6.869	(1.071)	614338	31.7922	53.4(A)
$	54 Toluene-d8 (S)	98	8.207	8.214	(1.281)	675318	10.1853	10.2
	55 Toluene	91	8.296	8.306	(1.295)	239519	4.58106	7.70
	56 1,1,2-Trichloroethane	97	Compound Not Detected.					
	60 Tetrachloroethene	166	9.296	9.302	(0.922)	3105	0.10465	0.176
*	61 Chlorobenzene - d5	117	10.083	10.093	(1.000)	473957	10.0000	
	63 Ethyl Benzene	91	10.427	10.440	(1.034)	56404	0.87195	1.46
	64 m&p-Xylene	91	10.598	10.614	(1.051)	167896	3.27698	5.50

TETRA TECH **INTERNAL CORRESPONDENCE**

TO:	**P. RICH**	**DATE:**	**OCTOBER 7, 2014**
FROM:	**A. COGNETTI**	**COPIES:**	**DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SAMPLE DELIVERY GROUPS (SDGs) – 10270038 and 10271427

SAMPLES: 6/Air/VOC

A-EFFLUENT	A-INFLUENT	A-MID GAC
C-EFFLUENT	C-INFLUENT	C-MID GAC

Overview

The sample set for LMC – Middle River, SDG 10270038 and 10271427 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 June 5 and 18, 2014 and analyzed by Pace Analytical. 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

Methylene chloride was detected in the laboratory method blank associated with batch 1714133.

Contaminant	Maximum Concentration (ug/m^3)	Action Level (ug/m^3)
Methylene chloride	1.1	11.0

An action level of 10X the maximum concentration of contaminant was established in order to evaluate samples for blank contamination. Sample aliquot and dilution factors were taken into consideration when applying the action level. No action was taken on the detected results greater than the action level.

As noted on the chain of custody, the laboratory was instructed not to analyze sample A-INFLUENT collected on June 5, 2014. Sample A-INFLUENT was re-collected on June 18, 2014. The sample results are included in this data package.

Nondetected results were reported to the reporting limit.

TO: P. Rich
FROM: A. Cognetti
SDG: 10270038 & 10271427
DATE: October 7, 2014

Executive Summary

Laboratory Performance: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to USEPA National Functional Guidelines for Organic Data Validation (June 2008) 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
Data Validation Manager

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 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate

PROJ_NO: 03265 SDG: 10270038 FRACTION: OV MEDIA: AIR	NSAMPLE	A-EFFLUENT			A-MID-GAC			C-EFFLUENT			C-INFLUENT		
	LAB_ID	10270038002			10270038001			10270038005			10270038003		
	SAMP_DATE	6/5/2014			6/5/2014			6/5/2014			6/5/2014		
	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		6.1			63.5			1.9	U		1.9	U	
1,1,2-TRICHLOROETHANE		0.96	U		0.96	U		0.92	U		0.92	U	
1,1-DICHLOROETHANE		1.4	U		14.3			1.4	U		1.4	U	
1,1-DICHLOROETHENE		1.4	U		165			1.4	U		1.4	U	
1,2,3-TRIMETHYLBENZENE		1.7	U		1.7	U		3.1			6.1		
1,2,4-TRICHLOROBENZENE		2.6	U		2.6	U		2.5	U		2.5	U	
1,2,4-TRIMETHYLBENZENE		2			1.9			7.5			18		
1,2-DICHLOROETHANE		0.71	U		0.71	U		0.69	U		0.69	U	
1,3,5-TRIMETHYLBENZENE		1.7	U		1.7	U		3.5			6.1		
BENZENE		2.3			2.3			5.7			12.8		
CARBON TETRACHLORIDE		1.1	U		1.1	U		1.1	U		1.1	U	
CHLORODIFLUOROMETHANE		3.2			9.6			2.9			1.2	U	
CHLOROFORM		1.7	U		1.7	U		1.7	U		2.7		
CIS-1,2-DICHLOROETHENE		2.9			113			2.5			2.7		
DICHLORODIFLUOROMETHANE		3.4			3			2.9			2.1		
ETHYLBENZENE		1.5	U		1.5	U		1.5	U		4.1		
M+P-XYLENES		1.7	J	P	1.8	J	P	1.5	J	P	27		
METHYL TERT-BUTYL ETHER		1.3	U		1.3	U		1.2	U		1.2	U	
METHYLENE CHLORIDE		19.6			167			20			24.5		
NAPHTHALENE		2.6	J	P	1.8	J	P	2.3	J	P	13.1		
O-XYLENE		1.9			1.9			1.8			12.1		
TETRACHLOROETHENE		21.9			23.1			21.1			23.1		
TOLUENE		3.1			60.4			2.3			11.6		
TRANS-1,2-DICHLOROETHENE		1.4	U		1.4	U		1.4	U		1.4	U	
TRICHLOROETHENE		7.1			24.5			0.92	U		154		
VINYL CHLORIDE		0.45	U		0.45	U		0.44	U		0.44	U	

PROJ_NO: 03265	NSAMPLE	C-MID-GAC
SDG: 10270038	LAB_ID	10270038004
FRACTION: OV	SAMP_DATE	6/5/2014
MEDIA: AIR	QC_TYPE	NM
	UNITS	UG/M3
	PCT_SOLIDS	
	DUP_OF	

PARAMETER	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE	1.9	U	
1,1,2-TRICHLOROETHANE	0.92	U	
1,1-DICHLOROETHANE	1.4	U	
1,1-DICHLOROETHENE	1.4	U	
1,2,3-TRIMETHYLBENZENE	2		
1,2,4-TRICHLOROBENZENE	2.5	U	
1,2,4-TRIMETHYLBENZENE	2.6		
1,2-DICHLOROETHANE	0.69	U	
1,3,5-TRIMETHYLBENZENE	1.7	U	
BENZENE	8.5		
CARBON TETRACHLORIDE	1.1	U	
CHLORODIFLUOROMETHANE	2.6		
CHLOROFORM	1.7	U	
CIS-1,2-DICHLOROETHENE	5.9		
DICHLORODIFLUOROMETHANE	2.6		
ETHYLBENZENE	1.5	U	
M+P-XYLENES	1.9	J	P
METHYL TERT-BUTYL ETHER	1.2	U	
METHYLENE CHLORIDE	20.6		
NAPHTHALENE	2.3	J	P
O-XYLENE	2.2		
TETRACHLOROETHENE	9.6		
TOLUENE	1.3	J	P
TRANS-1,2-DICHLOROETHENE	1.4	U	
TRICHLOROETHENE	0.92	U	
VINYL CHLORIDE	0.44	U	

PROJ_NO: 03265	NSAMPLE	A-INFLUENT
SDG: 10271427	LAB_ID	10271427001
FRACTION: OV	SAMP_DATE	6/18/2014
MEDIA: AIR	QC_TYPE	NM
	UNITS	UG/M3
	PCT_SOLIDS	
	DUP_OF	

PARAMETER	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE	1000	J	P
1,1,2-TRICHLOROETHANE	18.5	U	
1,1-DICHLOROETHANE	565		
1,1-DICHLOROETHENE	2840		
1,2,3-TRIMETHYLBENZENE	33.6	U	
1,2,4-TRICHLOROBENZENE	50.7	U	
1,2,4-TRIMETHYLBENZENE	17.6	J	P
1,2-DICHLOROETHANE	13.8	U	
1,3,5-TRIMETHYLBENZENE	33.6	U	
BENZENE	1040		
CARBON TETRACHLORIDE	21.5	U	
CHLORODIFLUOROMETHANE	30.3		
CHLOROFORM	136		
CIS-1,2-DICHLOROETHENE	3710		
DICHLORODIFLUOROMETHANE	33.9	U	
ETHYLBENZENE	29.6	U	
M+P-XYLENES	25.6	J	P
METHYL TERT-BUTYL ETHER	24.5	U	
METHYLENE CHLORIDE	138		
NAPHTHALENE	34.9	J	P
O-XYLENE	29.6	U	
TETRACHLOROETHENE	23.2	U	
TOLUENE	199		
TRANS-1,2-DICHLOROETHENE	51.7		
TRICHLOROETHENE	1490		
VINYL CHLORIDE	8.7	U	

Appendix B

Results as Reported by the Laboratory

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ANALYTICAL RESULTS

Project: Dawn
Pace Project No.: 10270038

Sample: A-EFFLUENT **Lab ID: 10270038002** Collected: 06/05/14 17:30 Received: 06/09/14 09:10 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**2.3**	ug/m3	1.1	1.74		06/19/14 23:36	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		06/19/14 23:36	56-23-5	
Chlorodifluoromethane	**3.2**	ug/m3	1.3	1.74		06/19/14 23:36	75-45-6	
Chloroform	ND	ug/m3	1.7	1.74		06/19/14 23:36	67-66-3	
Dichlorodifluoromethane	**3.4**	ug/m3	1.8	1.74		06/19/14 23:36	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.74		06/19/14 23:36	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		06/19/14 23:36	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.74		06/19/14 23:36	75-35-4	
cis-1,2-Dichloroethene	**2.9**	ug/m3	1.4	1.74		06/19/14 23:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		06/19/14 23:36	156-60-5	
Ethylbenzene	ND	ug/m3	1.5	1.74		06/19/14 23:36	100-41-4	
Methylene Chloride	**19.6**	ug/m3	6.1	1.74		06/19/14 23:36	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		06/19/14 23:36	1634-04-4	
Naphthalene	**2.6J**	ug/m3	4.6	1.74		06/19/14 23:36	91-20-3	
Tetrachloroethene	**21.9**	ug/m3	1.2	1.74		06/19/14 23:36	127-18-4	
Toluene	**3.1**	ug/m3	1.3	1.74		06/19/14 23:36	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.6	1.74		06/19/14 23:36	120-82-1	
1,1,1-Trichloroethane	**6.1**	ug/m3	1.9	1.74		06/19/14 23:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		06/19/14 23:36	79-00-5	
Trichloroethene	**7.1**	ug/m3	0.96	1.74		06/19/14 23:36	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.74		06/19/14 23:36	526-73-8	
1,2,4-Trimethylbenzene	**2.0**	ug/m3	1.7	1.74		06/19/14 23:36	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.74		06/19/14 23:36	108-67-8	
Vinyl chloride	ND	ug/m3	0.45	1.74		06/19/14 23:36	75-01-4	
m&p-Xylene	**1.7J**	ug/m3	3.1	1.74		06/19/14 23:36	179601-23-1	
o-Xylene	**1.9**	ug/m3	1.5	1.74		06/19/14 23:36	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599 SSDOem
Pace Project No.: 10271427

Sample: A-Influent **Lab ID: 10271427001** Collected: 06/18/14 10:10 Received: 06/20/14 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1040**	ug/m3	10.9	33.6		07/03/14 21:30	71-43-2	
Carbon tetrachloride	ND	ug/m3	21.5	33.6		07/03/14 21:30	56-23-5	
Chlorodifluoromethane	**30.3**	ug/m3	24.2	33.6		07/03/14 21:30	75-45-6	
Chloroform	**136**	ug/m3	16.7	33.6		07/03/14 21:30	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	33.9	33.6		07/03/14 21:30	75-71-8	1M
1,1-Dichloroethane	**565**	ug/m3	27.6	33.6		07/03/14 21:30	75-34-3	
1,2-Dichloroethane	ND	ug/m3	13.8	33.6		07/03/14 21:30	107-06-2	
1,1-Dichloroethene	**2840**	ug/m3	27.2	33.6		07/03/14 21:30	75-35-4	
cis-1,2-Dichloroethene	**3710**	ug/m3	27.2	33.6		07/03/14 21:30	156-59-2	
trans-1,2-Dichloroethene	**51.7**	ug/m3	27.2	33.6		07/03/14 21:30	156-60-5	
Ethylbenzene	ND	ug/m3	29.6	33.6		07/03/14 21:30	100-41-4	
Methylene Chloride	**138**	ug/m3	119	33.6		07/03/14 21:30	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	24.5	33.6		07/03/14 21:30	1634-04-4	
Naphthalene	**34.9J**	ug/m3	89.4	33.6		07/03/14 21:30	91-20-3	
Tetrachloroethene	ND	ug/m3	23.2	33.6		07/03/14 21:30	127-18-4	
Toluene	**199**	ug/m3	25.9	33.6		07/03/14 21:30	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	50.7	33.6		07/03/14 21:30	120-82-1	
1,1,1-Trichloroethane	**1000J**	ug/m3	1190	1075.2		07/08/14 09:16	71-55-6	A3
1,1,2-Trichloroethane	ND	ug/m3	18.5	33.6		07/03/14 21:30	79-00-5	
Trichloroethene	**1490**	ug/m3	591	1075.2		07/08/14 09:16	79-01-6	A3
1,2,3-Trimethylbenzene	ND	ug/m3	33.6	33.6		07/03/14 21:30	526-73-8	
1,2,4-Trimethylbenzene	**17.6J**	ug/m3	33.6	33.6		07/03/14 21:30	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	33.6	33.6		07/03/14 21:30	108-67-8	
Vinyl chloride	ND	ug/m3	8.7	33.6		07/03/14 21:30	75-01-4	
m&p-Xylene	**25.6J**	ug/m3	59.1	33.6		07/03/14 21:30	179601-23-1	
o-Xylene	ND	ug/m3	29.6	33.6		07/03/14 21:30	95-47-6	

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ANALYTICAL RESULTS

Project: Dawn
Pace Project No.: 10270038

Sample: A-MID-GAC **Lab ID: 10270038001** Collected: 06/05/14 17:28 Received: 06/09/14 09:10 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**2.3**	ug/m3	1.1	1.74		06/19/14 23:59	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.74		06/19/14 23:59	56-23-5	
Chlorodifluoromethane	**9.6**	ug/m3	1.3	1.74		06/19/14 23:59	75-45-6	
Chloroform	ND	ug/m3	1.7	1.74		06/19/14 23:59	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.8	1.74		06/19/14 23:59	75-71-8	
1,1-Dichloroethane	**14.3**	ug/m3	1.4	1.74		06/19/14 23:59	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.71	1.74		06/19/14 23:59	107-06-2	
1,1-Dichloroethene	**165**	ug/m3	1.4	1.74		06/19/14 23:59	75-35-4	
cis-1,2-Dichloroethene	**113**	ug/m3	1.4	1.74		06/19/14 23:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.74		06/19/14 23:59	156-60-5	
Ethylbenzene	ND	ug/m3	1.5	1.74		06/19/14 23:59	100-41-4	
Methylene Chloride	**167**	ug/m3	6.1	1.74		06/19/14 23:59	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.3	1.74		06/19/14 23:59	1634-04-4	
Naphthalene	**1.8J**	ug/m3	4.6	1.74		06/19/14 23:59	91-20-3	
Tetrachloroethene	**23.1**	ug/m3	1.2	1.74		06/19/14 23:59	127-18-4	
Toluene	**60.4**	ug/m3	1.3	1.74		06/19/14 23:59	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.6	1.74		06/19/14 23:59	120-82-1	
1,1,1-Trichloroethane	**63.5**	ug/m3	1.9	1.74		06/19/14 23:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.96	1.74		06/19/14 23:59	79-00-5	
Trichloroethene	**24.5**	ug/m3	0.96	1.74		06/19/14 23:59	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.74		06/19/14 23:59	526-73-8	
1,2,4-Trimethylbenzene	**1.9**	ug/m3	1.7	1.74		06/19/14 23:59	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.74		06/19/14 23:59	108-67-8	
Vinyl chloride	ND	ug/m3	0.45	1.74		06/19/14 23:59	75-01-4	
m&p-Xylene	**1.8J**	ug/m3	3.1	1.74		06/19/14 23:59	179601-23-1	
o-Xylene	**1.9**	ug/m3	1.5	1.74		06/19/14 23:59	95-47-6	

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ANALYTICAL RESULTS

Project: Dawn
Pace Project No.: 10270038

Sample: C-EFFLUENT **Lab ID: 10270038005** Collected: 06/05/14 14:12 Received: 06/09/14 09:10 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**5.7**	ug/m3	1.1	1.68		06/19/14 22:50	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		06/19/14 22:50	56-23-5	
Chlorodifluoromethane	**2.9**	ug/m3	1.2	1.68		06/19/14 22:50	75-45-6	
Chloroform	ND	ug/m3	1.7	1.68		06/19/14 22:50	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.7	1.68		06/19/14 22:50	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		06/19/14 22:50	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		06/19/14 22:50	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		06/19/14 22:50	75-35-4	
cis-1,2-Dichloroethene	**2.5**	ug/m3	1.4	1.68		06/19/14 22:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		06/19/14 22:50	156-60-5	
Ethylbenzene	ND	ug/m3	1.5	1.68		06/19/14 22:50	100-41-4	
Methylene Chloride	**20.0**	ug/m3	5.9	1.68		06/19/14 22:50	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		06/19/14 22:50	1634-04-4	
Naphthalene	**2.3J**	ug/m3	4.5	1.68		06/19/14 22:50	91-20-3	
Tetrachloroethene	**21.1**	ug/m3	1.2	1.68		06/19/14 22:50	127-18-4	
Toluene	**2.3**	ug/m3	1.3	1.68		06/19/14 22:50	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.5	1.68		06/19/14 22:50	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		06/19/14 22:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		06/19/14 22:50	79-00-5	
Trichloroethene	ND	ug/m3	0.92	1.68		06/19/14 22:50	79-01-6	
1,2,3-Trimethylbenzene	**3.1**	ug/m3	1.7	1.68		06/19/14 22:50	526-73-8	
1,2,4-Trimethylbenzene	**7.5**	ug/m3	1.7	1.68		06/19/14 22:50	95-63-6	
1,3,5-Trimethylbenzene	**3.5**	ug/m3	1.7	1.68		06/19/14 22:50	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		06/19/14 22:50	75-01-4	
m&p-Xylene	**1.5J**	ug/m3	3.0	1.68		06/19/14 22:50	179601-23-1	
o-Xylene	**1.8**	ug/m3	1.5	1.68		06/19/14 22:50	95-47-6	

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: Dawn
Pace Project No.: 10270038

Sample: C-INFLUENT **Lab ID: 10270038003** Collected: 06/05/14 14:08 Received: 06/09/14 09:10 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**12.8**	ug/m3	1.1	1.68		06/19/14 23:13	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		06/19/14 23:13	56-23-5	
Chlorodifluoromethane	ND	ug/m3	1.2	1.68		06/19/14 23:13	75-45-6	
Chloroform	**2.7**	ug/m3	1.7	1.68		06/19/14 23:13	67-66-3	
Dichlorodifluoromethane	**2.1**	ug/m3	1.7	1.68		06/19/14 23:13	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		06/19/14 23:13	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		06/19/14 23:13	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		06/19/14 23:13	75-35-4	
cis-1,2-Dichloroethene	**2.7**	ug/m3	1.4	1.68		06/19/14 23:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		06/19/14 23:13	156-60-5	
Ethylbenzene	**4.1**	ug/m3	1.5	1.68		06/19/14 23:13	100-41-4	
Methylene Chloride	**24.5**	ug/m3	5.9	1.68		06/19/14 23:13	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		06/19/14 23:13	1634-04-4	
Naphthalene	**13.1**	ug/m3	4.5	1.68		06/19/14 23:13	91-20-3	
Tetrachloroethene	**23.1**	ug/m3	1.2	1.68		06/19/14 23:13	127-18-4	
Toluene	**11.6**	ug/m3	1.3	1.68		06/19/14 23:13	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.5	1.68		06/19/14 23:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		06/19/14 23:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		06/19/14 23:13	79-00-5	
Trichloroethene	**154**	ug/m3	0.92	1.68		06/19/14 23:13	79-01-6	
1,2,3-Trimethylbenzene	**6.1**	ug/m3	1.7	1.68		06/19/14 23:13	526-73-8	
1,2,4-Trimethylbenzene	**18.0**	ug/m3	1.7	1.68		06/19/14 23:13	95-63-6	
1,3,5-Trimethylbenzene	**6.1**	ug/m3	1.7	1.68		06/19/14 23:13	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		06/19/14 23:13	75-01-4	
m&p-Xylene	**27.0**	ug/m3	3.0	1.68		06/19/14 23:13	179601-23-1	
o-Xylene	**12.1**	ug/m3	1.5	1.68		06/19/14 23:13	95-47-6	

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ANALYTICAL RESULTS

Project: Dawn
Pace Project No.: 10270038

Sample: C-MID-GAC **Lab ID: 10270038004** Collected: 06/05/14 14:10 Received: 06/09/14 09:10 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**8.5**	ug/m3	1.1	1.68		06/19/14 22:28	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		06/19/14 22:28	56-23-5	
Chlorodifluoromethane	**2.6**	ug/m3	1.2	1.68		06/19/14 22:28	75-45-6	
Chloroform	ND	ug/m3	1.7	1.68		06/19/14 22:28	67-66-3	
Dichlorodifluoromethane	**2.6**	ug/m3	1.7	1.68		06/19/14 22:28	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		06/19/14 22:28	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		06/19/14 22:28	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		06/19/14 22:28	75-35-4	
cis-1,2-Dichloroethene	**5.9**	ug/m3	1.4	1.68		06/19/14 22:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		06/19/14 22:28	156-60-5	
Ethylbenzene	ND	ug/m3	1.5	1.68		06/19/14 22:28	100-41-4	
Methylene Chloride	**20.6**	ug/m3	5.9	1.68		06/19/14 22:28	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		06/19/14 22:28	1634-04-4	
Naphthalene	**2.3J**	ug/m3	4.5	1.68		06/19/14 22:28	91-20-3	
Tetrachloroethene	**9.6**	ug/m3	1.2	1.68		06/19/14 22:28	127-18-4	
Toluene	**1.3J**	ug/m3	1.3	1.68		06/19/14 22:28	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.5	1.68		06/19/14 22:28	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		06/19/14 22:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		06/19/14 22:28	79-00-5	
Trichloroethene	ND	ug/m3	0.92	1.68		06/19/14 22:28	79-01-6	
1,2,3-Trimethylbenzene	**2.0**	ug/m3	1.7	1.68		06/19/14 22:28	526-73-8	
1,2,4-Trimethylbenzene	**2.6**	ug/m3	1.7	1.68		06/19/14 22:28	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.68		06/19/14 22:28	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		06/19/14 22:28	75-01-4	
m&p-Xylene	**1.9J**	ug/m3	3.0	1.68		06/19/14 22:28	179601-23-1	
o-Xylene	**2.2**	ug/m3	1.5	1.68		06/19/14 22:28	95-47-6	

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Appendix C

Support Documentation

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
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(612)607-1700

PROJECT NARRATIVE

Project: Dawn
Pace Project No.: 10270038

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: June 24, 2014

General Information:
5 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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10270038

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

13525

Page: 1 of 1

Section A Required Client Information:

Company: Tetra Tech
Address: 51 Franklin St. Suite 400 Annapolis, MD 21401
Email To: peter.rich@tetratech.com
Phone: 410-990-4607 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To:
Copy To:
Purchase Order No.:
Project Name:
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☒ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State: MD

Reporting Units: ug/m³ ☒ mg/m³ PPBV PPMV Other

Report Level: II. III. IV. ☒ Other

Method:

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	'Section D Required Client Information AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START END/GRAB DATE	TIME	COMPOSITE - DATE	TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	A-MID-GAC	1LC		6/5/14	1728					2077	N/A							X			
2	A-EFFLUENT				1730					2645								X			
3	C-INFLUENT				1408					1311								X			
4	C-MID-GAC				1410					2592								X			
5	C-EFFLUENT				1412					2616								X			
6																					
7	A-INFLUENT - DO NOT ANALYZE									2436											
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	6/5/14	1900	[signature] Pace	6/9/14	0910

SAMPLE CONDITIONS

Temp in °C	Amb	Y/N	Y/N
Received on Ice	Y/N	Y/N	Y/N
Custody Sealed Cooler	Y/N	Y/N	Y/N
Samples Intact	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dave Moore

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 06/05/14

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

FC046Rev.01, 03Feb2010

Pace Analytical®	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: tetra tech

Project #: WO#: 10270038 (10270038)

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 8033 6873 1839

Custody Seal on Cooler/Box Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: **Temp Blank rec:** ☐ Yes ☑ No

Temp. (TO17 and TO13 samples only) (°C): — **Corrected Temp (°C):** — **Thermom. Used:** ☐ B88A912167504 ☐ B88A9132521491 ☐ 72337080 ☐ 80512447

Temp should be above freezing to 6°C **Correction Factor:** **Date & Initials of Person Examining Contents:** 6-9-14

Type of ice Received ☐ Blue ☐ Wet ☑ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: air can				11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
A- Mid	2077				
A- eff	2645				
C- in-f	1311				
C- mid	2592				
C- eff	2616				
A- influent	2436				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: **Date:** 6-9-14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: Dawn
Pace Project No.: 10270038

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10270038001	A-MID-GAC	Air	06/05/14 17:28	06/09/14 09:10
10270038002	A-EFFLUENT	Air	06/05/14 17:30	06/09/14 09:10
10270038003	C-INFLUENT	Air	06/05/14 14:08	06/09/14 09:10
10270038004	C-MID-GAC	Air	06/05/14 14:10	06/09/14 09:10
10270038005	C-EFFLUENT	Air	06/05/14 14:12	06/09/14 09:10
10270038006	A-INFLUENT/DO NOT ANALYZE	Air		06/09/14 09:10

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HOLDTIME

SDG 10270038

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	C-MID-GAC	10270038004	NM	06/05/2014	06/19/2014	06/19/2014	14	0	14
OV	UG/M3	C-INFLUENT	10270038003	NM	06/05/2014	06/19/2014	06/19/2014	14	0	14
OV	UG/M3	C-EFFLUENT	10270038005	NM	06/05/2014	06/19/2014	06/19/2014	14	0	14
OV	UG/M3	A-MID-GAC	10270038001	NM	06/05/2014	06/19/2014	06/19/2014	14	0	14
OV	UG/M3	A-EFFLUENT	10270038002	NM	06/05/2014	06/19/2014	06/19/2014	14	0	14

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical
Contract:
Lab Code: PASI
Case No.:
SAS No.:
SDG No.: 10270038
Lab File ID: 16901BFB.D
BFB Injection Date: 06/18/2014
Instrument ID: 10AIRB
BFB Injection Time: 10:54
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	22.37	
75	30.00 - 66.00% of mass 95	54.46	
96	5.00 - 9.00% of mass 95	7.02	
173	Less than 2.00% of mass 174	0.64	(0.83)
174	50.00 - 120.00% of mass 95	77.53	
175	4.00 - 9.00% of mass 174	5.67	(7.31)
176	93.00 - 101.00% of mass 174	74.49	(96.09)
177	5.00 - 9.00% of mass 176	4.97	(6.68)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CAL1	CAL1	16902.D	06/18/2014	11:41
2	CAL2	CAL2	16903.D	06/18/2014	12:02
3	CAL3	CAL3	16904.D	06/18/2014	12:24
4	CAL4	CAL4	16905.D	06/18/2014	12:45
5	CAL5	CAL5	16906.D	06/18/2014	13:07
6	CAL6	CAL6	16907.D	06/18/2014	13:29
7	CAL7	CAL7	16908.D	06/18/2014	13:54
8	ICVADD (LCS)	ICVADD	16909.D	06/18/2014	14:29
9	ICV (LCS)	ICV	16910.D	06/18/2014	14:52

Report Date : 18-Jun-2014 16:32

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 18-JUN-2014 11:41
End Cal Date : 18-JUN-2014 13:54
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\061814.b\TO15_169-14_Markes.m
Last Edit : 18-Jun-2014 16:31 10airB.i

Calibration File Names:
Level 1: \\192.168.10.12\chem\10airB.i\061814.b\16902.D
Level 2: \\192.168.10.12\chem\10airB.i\061814.b\16903.D
Level 3: \\192.168.10.12\chem\10airB.i\061814.b\16904.D
Level 4: \\192.168.10.12\chem\10airB.i\061814.b\16905.D
Level 5: \\192.168.10.12\chem\10airB.i\061814.b\16906.D
Level 6: \\192.168.10.12\chem\10airB.i\061814.b\16907.D
Level 7: \\192.168.10.12\chem\10airB.i\061814.b\16908.D

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
1 Propylene	0.06762	0.04567	0.03812	0.04128	0.04973	0.05254					
	0.05622						AVRG		0.05017		19.79152
2 Dichlorodifluoromethane	0.30296	0.25398	0.21216	0.20482	0.21811	0.21407					
	0.22425						AVRG		0.23291		14.89333
3 Chlorodifluoromethane	0.15341	0.12574	0.11868	0.11079	0.12213	0.10461					
	0.08791						AVRG		0.11761		17.24138
4 Dichlorotetrafluoroethane	0.30780	0.22644	0.19839	0.20642	0.22521	0.21547					
	0.22078						AVRG		0.22864		15.89638

Report Date : 18-Jun-2014 16:32

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 18-JUN-2014 11:41
End Cal Date : 18-JUN-2014 13:54
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\061814.b\TO15_169-14_Markes.m
Last Edit : 18-Jun-2014 16:31 10airB.i

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
5 Chloromethane	+++++	0.05749	0.06378	0.05691	0.05095	0.04111					
	0.03617						AVRG		0.05107		20.68445
6 Vinyl chloride	0.04107	0.05103	0.05338	0.04767	0.05573	0.05943					
	0.06264						AVRG		0.05299		13.70475
7 1,3-Butadiene	0.03849	0.03831	0.03570	0.03027	0.04286	0.04486					
	0.04853						AVRG		0.03986		15.28677
8 Bromomethane	0.01989	0.03010	0.03399	0.03116	0.04005	0.03736					
	0.03311						AVRG		0.03224		19.99617
9 Chloroethane	0.04784	0.03726	0.03555	0.02940	0.03091	0.03070					
	0.02978						AVRG		0.03449		19.16757
10 Isopentane	+++++	0.07186	0.06347	0.06293	0.08054	0.08439					
	0.08087						AVRG		0.07401		12.61412
11 Vinyl Bromide	0.04075	0.03225	0.03390	0.03683	0.04757	0.05084					
	0.05349						AVRG		0.04223		20.04349

Report Date : 18-Jun-2014 16:32

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 18-JUN-2014 11:41
End Cal Date : 18-JUN-2014 13:54
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\061814.b\TO15_169-14_Markes.m
Last Edit : 18-Jun-2014 16:31 10airB.i

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
12 Trichlorofluoromethane	0.34295	0.24532	0.22719	0.22840	0.23346	0.22561					
	0.22417						AVRG		0.24673		17.44021
13 Ethanol	0.01763	0.01637	0.01779	0.01678	0.02089	0.02082					
	0.02028						AVRG		0.01865		10.46862
14 Acrolein	+++++	0.01067	0.01398	0.01072	0.01776	0.01952					
	0.02113						AVRG		0.01563		28.80620
15 Freon 113	0.17782	0.14131	0.11725	0.10735	0.12137	0.12142					
	0.13002						AVRG		0.13093		17.72775
16 Acetone	+++++	0.31277	0.26085	0.24039	0.22312	0.20840					
	0.20621						AVRG		0.24196		16.66849
17 Isopropyl Alcohol	0.17793	0.11422	0.09062	0.09029	0.12420	0.12743					
	0.13492						AVRG		0.12280		24.37269
18 1,1-Dichloroethene	0.09977	0.08483	0.07717	0.07852	0.11341	0.11298					
	0.11838						AVRG		0.09787		18.02488

Report Date : 18-Jun-2014 16:32

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 18-JUN-2014 11:41
End Cal Date : 18-JUN-2014 13:54
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\061814.b\TO15_169-14_Markes.m
Last Edit : 18-Jun-2014 16:31 10airB.i

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
19 Carbon Disulfide	0.39595	0.25824	0.20149	0.18367	0.21323	0.21394					
	0.23257						AVRG		0.24273		29.47401
20 Allyl Chloride	0.39595	0.25824	0.20149	0.18367	0.21259	0.21394					
	0.23241						AVRG		0.24261		29.50767
21 Tert Butyl Alcohol	0.17158	0.10371	0.09926	0.10472	0.15209	0.16373					
	0.18034						AVRG		0.13935		25.46087
22 Methylene chloride	+++++	+++++	0.13609	0.10123	0.08766	0.08283					
	0.08514						AVRG		0.09859		22.46212
23 Acrylonitrile	0.04827	0.03696	0.03766	0.03927	0.05629	0.05610					
	0.05976						AVRG		0.04776		20.54033
24 Methyl Tert Butyl Ether	1098	2106	4267	8936	165154	390601					
	665826						QUAD	-0.00242	0.16232	0.02044	0.99988
25 trans-1,2-dichloroethene	0.05902	0.04762	0.04368	0.04878	0.06071	0.06313					
	0.07041						AVRG		0.05619		17.24466

Report Date : 18-Jun-2014 16:32

Pace Analytical Services, Inc.

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Last Edit : 18-Jun-2014 16:31 10airB.i

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
26 n-Hexane	696	1046	2149	4648	86503	203223	347149	QUAD	-0.00123	0.08464	0.01064	0.99984
27 Vinyl Acetate	+++++	0.23300	0.21668	0.22976	0.36646	0.36506	0.38165	AVRG		0.29877		26.63921
28 Di-isopropyl Ether	1684	2899	5976	12860	236479	527576	845655	QUAD	-0.00450	0.25398	0.01022	0.99987
29 1,1-Dichloroethane	0.20072	0.13525	0.12030	0.12315	0.13837	0.13435	0.14256	AVRG		0.14210		19.03784
30 Ethyl Tert-Butyl Ether	1224	1981	4484	9096	180723	436032	750855	QUAD	-0.00292	0.17510	0.02575	0.99990
31 Ethyl Acetate	0.37338	0.25654	0.24876	0.26409	0.37727	0.37932	0.39529	AVRG		0.32781		20.50898
32 Methyl Ethyl Ketone	73.00000	215	1057	1709	28675	65897	111965	QUAD	-0.00033	0.02820	0.00311	0.99980

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Last Edit : 18-Jun-2014 16:31 10airB.i

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
33 cis-1,2-Dichloroethene	+++++	0.06905	0.04487	0.04575	0.06001	0.06218					
	0.07072						AVRG		0.05876		19.01898
34 Tetrahydrofuran	0.10289	0.07336	0.07112	0.07443	0.09080	0.09242					
	0.09979						AVRG		0.08640		15.33498
35 Chloroform	2567	3755	7772	14385	156297	330091					
	535211						QUAD	0.00128	0.15986	0.00612	0.99961
36 1,1,1-Trichloroethane	0.26060	0.18893	0.17102	0.16760	0.18479	0.18094					
	0.19595						AVRG		0.19283		16.31129
37 Cyclohexane	+++++	0.07111	0.05868	0.05958	0.09694	0.10645					
	0.11720						AVRG		0.08499		29.63155
38 Carbon tetrachloride	0.25469	0.18753	0.17058	0.16228	0.18308	0.17923					
	0.19482						AVRG		0.19032		15.94079
39 Benzene	5031	5210	8860	15763	179976	401924					
	683425						QUAD	0.00254	0.17143	0.01865	0.99967

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
40 1,2-Dichloroethane	0.15481	0.14537	0.12536	0.12878	0.14937	0.14335					
	0.14838						AVRG		0.14220		7.72426
41 Tert Amyl Methyl Ether	1228	2005	4336	8483	169335	404712					
	706854						QUAD	-0.00225	0.15949	0.02588	0.99981
42 2,2,4-Trimethylpentane	0.39359	0.24452	0.21534	0.22693	0.34417	0.35131					
	0.38046						AVRG		0.30805		24.77513
43 Heptane	0.15341	0.09995	0.07978	0.09073	0.14291	0.14686					
	0.15705						AVRG		0.12439		26.41494
45 Trichloroethene	5326	6350	6325	9690	72534	162162					
	284365						QUAD	0.00508	0.06122	0.01066	0.99953
46 Methylcyclohexane	280	324	1022	2191	41459	99299					
	180002						QUAD	-0.00038	0.03626	0.00798	0.99959
47 1,2-Dichloropropane	0.11407	0.08192	0.07275	0.06957	0.08381	0.08407					
	0.09065						AVRG		0.08526		17.10530

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
48 1,4-Dioxane	180	528	1145	2479	41731	93329					
	159301						QUAD	-0.00044	0.04061	0.00424	0.99958
49 Bromodichloromethane	0.25082	0.19795	0.16328	0.16346	0.19068	0.18550					
	0.19724						AVRG		0.19270		15.27996
50 cis-1,3-Dichloropropene	0.09332	0.07937	0.07141	0.07267	0.10349	0.11587					
	0.13222						AVRG		0.09548		24.16482
51 Methyl Isobutyl Ketone	0.17094	0.10811	0.11606	0.11771	0.20211	0.20500					
	0.21683						AVRG		0.16240		29.22970
52 Toluene	+++++	0.18483	0.14242	0.14851	0.21637	0.23794					
	0.26801						AVRG		0.19968		25.06961
53 trans-1,3-Dichloropropene	865	1794	3159	6792	116696	276111					
	461058						QUAD	-0.00174	0.11857	0.01216	0.99994
54 1,1,2-Trichloroethane	0.12105	0.09089	0.07976	0.07835	0.08573	0.08835					
	0.09718						AVRG		0.09162		15.81678

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
55 Tetrachloroethene	1910	2319	4708	8216	90012	220658					
	398961						QUAD	0.00177	0.09332	0.01735	0.99964
56 Methyl Butyl Ketone	1225	2048	4372	9970	176814	401940					
	639365						QUAD	-0.00413	0.22929	0.00219	0.99984
57 Dibromochloromethane	0.22653	0.17866	0.16442	0.15266	0.18240	0.18326					
	0.20111						AVRG		0.18415		13.11252
58 1,2-Dibromoethane	0.19451	0.14140	0.12877	0.11999	0.14733	0.15277					
	0.16823						AVRG		0.15043		16.62470
60 Chlorobenzene	4906	6643	10167	16499	156679	357159					
	625444						QUAD	0.00567	0.16846	0.01937	0.99933
61 Ethyl Benzene	0.44892	0.30919	0.26482	0.23138	0.33524	0.35262					
	0.39418						AVRG		0.33376		22.25636
62 m&p-Xylene	+++++	0.21163	0.17729	0.16470	0.26505	0.28086					
	0.31582						AVRG		0.23589		25.68274 <-

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
63 o-Xylene	1823	2550	5389	10191	214004	519763					
	902694						QUAD	-0.00376	0.24606	0.02863	0.99974
64 Styrene	821	1168	3078	6976	145602	363919					
	645035						QUAD	-0.00286	0.16245	0.02495	0.99979
65 Bromoform	0.19388	0.12536	0.12345	0.12535	0.14389	0.15069					
	0.17361						AVRG		0.14803		18.32255
66 Isopropylbenzene	2541	3127	6538	12586	260758	646422					
	1150012						QUAD	-0.00379	0.28745	0.04499	0.99973
67 1,1,2,2-Tetrachloroethane	2858	4378	8916	16454	166123	364415					
	600698						QUAD	0.00246	0.19858	0.00672	0.99951
68 N-Propylbenzene	0.44289	0.30196	0.26441	0.27013	0.46393	0.48054					
	0.52787						AVRG		0.39310		28.11555
69 4-Ethyltoluene	2240	3092	6668	13423	260118	641717					
	1127413						QUAD	-0.00399	0.29323	0.04038	0.99978

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
70 1,3,5-Trimethylbenzene	2694	3343	6491	13772	252425	597981					
	1044303						QUAD	-0.00298	0.28578	0.03242	0.99957
71 Tert Butyl Benzene	1451	2074	5226	9760	201921	506268					
	900787						QUAD	-0.00329	0.22305	0.03603	0.99979
72 1,2,4-Trimethylbenzene	2735	2932	5796	12918	249233	592405					
	1025689						QUAD	-0.00381	0.28697	0.02991	0.99964
73 Sec- Butylbenzene	2314	3825	7546	16372	325753	793146					
	1366868						QUAD	-0.00626	0.37993	0.04104	0.99981
74 p-isopropyltoluene	1681	2515	5807	13347	272668	692299					
	1230506						QUAD	-0.00522	0.30276	0.05002	0.99985
75 1,3-Dichlorobenzene	0.26671	0.16755	0.16850	0.16696	0.22397	0.23743					
	0.27764						AVRG		0.21554		22.33177
76 1,4-Dichlorobenzene	0.22703	0.14111	0.14309	0.16387	0.21719	0.23427					
	0.27234						AVRG		0.19984		25.38886

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
77 1,2,3-Trimethylbenzene	1415	2106	5690	12372	245700	598501					
	1039265						QUAD	-0.00481	0.28330	0.03302	0.99978
78 Benzyl Chloride	0.23494	0.17772	0.18119	0.18953	0.29112	0.30276					
	0.33040						AVRG		0.24395		26.20758
79 N-Butylbenzene	1842	3042	6841	14761	289520	679353					
	1146841						QUAD	-0.00584	0.34749	0.02483	0.99972
80 1,2-Dichlorobenzene	0.20556	0.15786	0.14602	0.14216	0.19448	0.20363					
	0.22916						AVRG		0.18269		18.51246
81 1,2,4-Trichlorobenzene	1092	1475	3147	6185	78460	215656					
	405931						QUAD	0.00060	0.07537	0.02443	0.99994
82 Hexachlorobutadiene	1120	1836	3519	7242	76896	196309					
	359840						QUAD	0.00120	0.07798	0.01779	0.99979
83 Naphthalene	2059	3148	5791	11646	176549	480324					
	875211						QUAD	-0.00091	0.18462	0.04567	0.99998

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Average %RSD Results.	
Calculated Average %RSD =	20.19308
Maximun Average %RSD =	30.00000
* Passed Average %RSD Test.	

Curve	Formula	Units
Averaged	Amt = Rsp/ml	Response
Quad	Rsp = b + m1*Amt + m2*Amt^2	Amount

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10270038
Lab File ID: 17001BFB.D BFB Injection Date: 06/19/2014
Instrument ID: 10AIRB BFB Injection Time: 12:29
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	26.18	
75	30.00 - 66.00% of mass 95	60.00	
96	5.00 - 9.00% of mass 95	6.56	
173	Less than 2.00% of mass 174	0.73	(1.06)
174	50.00 - 120.00% of mass 95	69.27	
175	4.00 - 9.00% of mass 174	5.18	(7.48)
176	93.00 - 101.00% of mass 174	66.95	(96.65)
177	5.00 - 9.00% of mass 176	4.29	(6.41)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	LCS for HBN 303431 [AIR/	1714134	17002_20600.D	06/19/2014	12:51
2	LCS (LCS)	LCS	17002LCS.D	06/19/2014	12:51
3	CCV	CCV	17002.D	06/19/2014	12:51
4	CERT	CERT	17006.D	06/19/2014	15:44
5	BLANK for HBN 303431 [AI	1714133	17006_20600.D	06/19/2014	15:44
6	C-MID-GAC	10270038004	17017.D	06/19/2014	22:28
7	C-EFFLUENT	10270038005	17018.D	06/19/2014	22:50
8	C-INFLUENT	10270038003	17019.D	06/19/2014	23:13
9	A-EFFLUENT	10270038002	17020.D	06/19/2014	23:36
10	A-MID-GAC	10270038001	17021.D	06/19/2014	23:59

Data File: \\192.168.10.12\chem\10airB.i\061914.b\17002.D
Report Date: 19-Jun-2014 13:42

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 19-JUN-2014 12:51
Lab File ID: 17002.D Init. Cal. Date(s): 18-JUN-2014 18-JUN-2014
Analysis Type: AIR Init. Cal. Times: 11:41 13:54
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\061914.b\TO15_169-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Propylene	0.05017	0.04442	0.04442	0.010	-11.45028	30.00000	Averaged
2 Dichlorodifluoromethane	0.23291	0.19113	0.19113	0.010	-17.93662	30.00000	Averaged
3 Chlorodifluoromethane	0.11761	0.10638	0.10638	0.010	-9.54606	30.00000	Averaged
4 Dichlorotetrafluoroethane	0.22864	0.21075	0.21075	0.010	-7.82422	30.00000	Averaged
5 Chloromethane	0.05107	0.04822	0.04822	0.010	-5.56819	30.00000	Averaged
6 Vinyl chloride	0.05299	0.05290	0.05290	0.010	-0.17869	30.00000	Averaged
7 1,3-Butadiene	0.03986	0.04065	0.04065	0.010	1.98939	30.00000	Averaged
8 Bromomethane	0.03224	0.03528	0.03528	0.010	9.42918	30.00000	Averaged
9 Chloroethane	0.03449	0.02510	0.02510	0.010	-27.21637	30.00000	Averaged
10 Isopentane	0.07401	0.07126	0.07126	0.010	-3.71476	30.00000	Averaged
11 Vinyl Bromide	0.04223	0.04049	0.04049	0.010	-4.11740	30.00000	Averaged
12 Trichlorofluoromethane	0.24673	0.20424	0.20424	0.010	-17.21934	30.00000	Averaged
13 Ethanol	0.01865	0.01789	0.01789	0.010	-4.08024	30.00000	Averaged
14 Acrolein	0.01563	0.01704	0.01704	0.010	9.02247	30.00000	Averaged
15 Freon 113	0.13093	0.10856	0.10856	0.010	-17.08732	30.00000	Averaged
16 Acetone	0.24196	0.21399	0.21399	0.010	-11.55837	30.00000	Averaged
17 Isopropyl Alcohol	0.12280	0.12016	0.12016	0.010	-2.15239	30.00000	Averaged
18 1,1-Dichloroethene	0.09787	0.10680	0.10680	0.010	9.12467	30.00000	Averaged
19 Carbon Disulfide	0.24273	0.20096	0.20096	0.010	-17.20837	30.00000	Averaged
20 Allyl Chloride	0.24261	0.20096	0.20096	0.010	-17.16955	30.00000	Averaged
21 Tert Butyl Alcohol	0.13935	0.15591	0.15591	0.010	11.88555	30.00000	Averaged
22 Methylene chloride	0.09859	0.08413	0.08413	0.010	-14.66747	30.00000	Averaged
23 Acrylonitrile	0.04776	0.05482	0.05482	0.010	14.78731	30.00000	Averaged
24 Methyl Tert Butyl Ether	10.00000	10.45352	5.27438	0.010	4.53521	30.00000	Quadratic
25 trans-1,2-dichloroethene	0.05619	0.06005	0.06005	0.010	6.85715	30.00000	Averaged
26 n-Hexane	10.00000	10.55842	10.00080	0.010	5.58415	30.00000	Quadratic
27 Vinyl Acetate	0.29877	0.36844	0.36844	0.010	23.31951	30.00000	Averaged
28 Di-isopropyl Ether	10.00000	10.37674	3.70304	0.010	3.76736	30.00000	Quadratic
29 1,1-Dichloroethane	0.14210	0.13440	0.13440	0.010	-5.41755	30.00000	Averaged
30 Ethyl Tert-Butyl Ether	10.00000	10.41103	4.82420	0.010	4.11026	30.00000	Quadratic
31 Ethyl Acetate	0.32781	0.38213	0.38213	0.010	16.57316	30.00000	Averaged
32 Methyl Ethyl Ketone	10.00000	10.30480	31.21680	0.010	3.04798	30.00000	Quadratic
33 cis-1,2-Dichloroethene	0.05876	0.05987	0.05987	0.010	1.88354	30.00000	Averaged
34 Tetrahydrofuran	0.08640	0.09321	0.09321	0.010	7.88582	30.00000	Averaged
35 Chloroform	10.00000	10.10839	5.91298	0.010	1.08394	30.00000	Quadratic
36 1,1,1-Trichloroethane	0.19283	0.18110	0.18110	0.010	-6.08540	30.00000	Averaged
37 Cyclohexane	0.08499	0.10236	0.10236	0.010	20.43368	30.00000	Averaged
38 Carbon tetrachloride	0.19032	0.17419	0.17419	0.010	-8.47412	30.00000	Averaged
39 Benzene	10.00000	12.97802	3.89947	0.300	29.78021	30.00000	Quadratic
40 1,2-Dichloroethane	0.14220	0.14715	0.14715	0.010	3.47660	30.00000	Averaged
41 Tert Amyl Methyl Ether	10.00000	10.54704	5.13460	0.010	5.47043	30.00000	Quadratic
42 2,2,4-Trimethylpentane	0.30805	0.34632	0.34632	0.010	12.42481	30.00000	Averaged
43 Heptane	0.12439	0.14523	0.14523	0.010	16.75864	30.00000	Averaged

Data File: \\192.168.10.12\chem\10airB.i\061914.b\17002.D
Report Date: 19-Jun-2014 13:42

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 19-JUN-2014 12:51
Lab File ID: 17002.D Init. Cal. Date(s): 18-JUN-2014 18-JUN-2014
Analysis Type: AIR Init. Cal. Times: 11:41 13:54
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\061914.b\TO15_169-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
45 Trichloroethene	10.00000	9.49529	13.73247	0.010	-5.04707	30.00000	Quadratic	
46 Methylcyclohexane	10.00000	10.94069	20.46861	0.010	9.40693	30.00000	Quadratic	
47 1,2-Dichloropropane	0.08526	0.08284	0.08284	0.010	-2.84230	30.00000	Averaged	
48 1,4-Dioxane	10.00000	9.84925	22.89930	0.010	-1.50753	30.00000	Quadratic	
49 Bromodichloromethane	0.19270	0.18172	0.18172	0.010	-5.69794	30.00000	Averaged	
50 cis-1,3-Dichloropropene	0.09548	0.10790	0.10790	0.010	13.01101	30.00000	Averaged	
51 Methyl Isobutyl Ketone	0.16240	0.19981	0.19981	0.010	23.03727	30.00000	Averaged	
52 Toluene	0.19968	0.25725	0.25725	0.010	28.83214	30.00000	Averaged	
53 trans-1,3-Dichloropropene	10.00000	10.31066	7.49385	0.010	3.10663	30.00000	Quadratic	
54 1,1,2-Trichloroethane	0.09162	0.08573	0.08573	0.010	-6.42841	30.00000	Averaged	
55 Tetrachloroethene	10.00000	10.07468	8.81913	0.010	0.74676	30.00000	Quadratic	
56 Methyl Butyl Ketone	10.00000	10.09276	4.35687	0.010	0.92758	30.00000	Quadratic	
57 Dibromochloromethane	0.18415	0.16582	0.16582	0.010	-9.95540	30.00000	Averaged	
58 1,2-Dibromoethane	0.15043	0.14600	0.14600	0.010	-2.94618	30.00000	Averaged	
60 Chlorobenzene	10.00000	10.19356	5.06280	0.010	1.93562	30.00000	Quadratic	
61 Ethyl Benzene	0.33376	0.42702	0.42702	0.030	27.94049	30.00000	Averaged	
62 m&p-Xylene	0.23589	0.30539	0.30539	0.300	29.46269	30.00000	Averaged	<-
63 o-Xylene	10.00000	11.26817	3.22733	0.300	12.68172	30.00000	Quadratic	
64 Styrene	10.00000	10.11791	5.34631	0.010	1.17906	30.00000	Quadratic	
65 Bromoform	0.14803	0.12986	0.12986	0.010	-12.27211	30.00000	Averaged	
66 Isopropylbenzene	10.00000	10.75940	2.79660	0.010	7.59400	30.00000	Quadratic	
67 1,1,2,2-Tetrachloroethane	10.00000	9.76942	4.92900	0.010	-2.30581	30.00000	Quadratic	
68 N-Propylbenzene	0.39310	0.45723	0.45723	0.010	16.31228	30.00000	Averaged	
69 4-Ethyltoluene	10.00000	10.59609	2.84038	0.010	5.96093	30.00000	Quadratic	
70 1,3,5-Trimethylbenzene	10.00000	10.38789	3.04075	0.010	3.87893	30.00000	Quadratic	
71 Tert Butyl Benzene	10.00000	10.40346	3.73475	0.010	4.03456	30.00000	Quadratic	
72 1,2,4-Trimethylbenzene	10.00000	10.72050	2.95665	0.010	7.20504	30.00000	Quadratic	
73 Sec- Butylbenzene	10.00000	10.25668	2.34412	0.010	2.56685	30.00000	Quadratic	
74 p-isopropyltoluene	10.00000	10.15191	2.82732	0.010	1.51910	30.00000	Quadratic	
75 1,3-Dichlorobenzene	0.21554	0.21520	0.21520	0.010	-0.15721	30.00000	Averaged	
76 1,4-Dichlorobenzene	0.19984	0.20939	0.20939	0.010	4.77881	30.00000	Averaged	
77 1,2,3-Trimethylbenzene	10.00000	10.24424	3.12436	0.010	2.44241	30.00000	Quadratic	
78 Benzyl Chloride	0.24395	0.27727	0.27727	0.010	13.65707	30.00000	Averaged	
79 N-Butylbenzene	10.00000	10.18979	2.67362	0.010	1.89787	30.00000	Quadratic	
80 1,2-Dichlorobenzene	0.18269	0.18731	0.18731	0.010	2.52582	30.00000	Averaged	
81 1,2,4-Trichlorobenzene	10.00000	10.44925	9.43206	0.010	4.49250	30.00000	Quadratic	
82 Hexachlorobutadiene	10.00000	10.12283	10.16575	0.010	1.22831	30.00000	Quadratic	
83 Naphthalene	10.00000	10.38663	4.16472	0.010	3.86631	30.00000	Quadratic	

Data File: \\192.168.10.12\chem\10airB.i\061914.b\17002.D
Report Date: 19-Jun-2014 13:42

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 19-JUN-2014 12:51
Lab File ID: 17002.D Init. Cal. Date(s): 18-JUN-2014 18-JUN-2014
Analysis Type: AIR Init. Cal. Times: 11:41 13:54
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\061914.b\TO15_169-14_Markes.m

Average %D / Drift Results.	
Calculated Average %D/Drift =	8.85546
Maximun Average %D/Drift =	30.00000
* Passed Average %D/Drift Test.	

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Dawn
Pace Project No.: 10270038

QC Batch: AIR/20600 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10270038001, 10270038002, 10270038003, 10270038004, 10270038005

METHOD BLANK: 1714133 Matrix: Air
Associated Lab Samples: 10270038001, 10270038002, 10270038003, 10270038004, 10270038005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	06/19/14 15:44	
1,1,2-Trichloroethane	ug/m3	ND	0.55	06/19/14 15:44	
1,1-Dichloroethane	ug/m3	ND	0.82	06/19/14 15:44	
1,1-Dichloroethene	ug/m3	ND	0.81	06/19/14 15:44	
1,2,3-Trimethylbenzene	ug/m3	ND	1.0	06/19/14 15:44	
1,2,4-Trichlorobenzene	ug/m3	ND	1.5	06/19/14 15:44	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	06/19/14 15:44	
1,2-Dichloroethane	ug/m3	ND	0.41	06/19/14 15:44	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	06/19/14 15:44	
Benzene	ug/m3	ND	0.65	06/19/14 15:44	
Carbon tetrachloride	ug/m3	ND	0.64	06/19/14 15:44	
Chlorodifluoromethane	ug/m3	ND	0.72	06/19/14 15:44	
Chloroform	ug/m3	ND	0.99	06/19/14 15:44	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	06/19/14 15:44	
Dichlorodifluoromethane	ug/m3	ND	1.0	06/19/14 15:44	
Ethylbenzene	ug/m3	ND	0.88	06/19/14 15:44	
m&p-Xylene	ug/m3	ND	1.8	06/19/14 15:44	
Methyl-tert-butyl ether	ug/m3	ND	0.73	06/19/14 15:44	
Methylene Chloride	ug/m3	1.1J	3.5	06/19/14 15:44	
Naphthalene	ug/m3	ND	2.7	06/19/14 15:44	
o-Xylene	ug/m3	ND	0.88	06/19/14 15:44	
Tetrachloroethene	ug/m3	ND	0.69	06/19/14 15:44	
Toluene	ug/m3	ND	0.77	06/19/14 15:44	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	06/19/14 15:44	
Trichloroethene	ug/m3	ND	0.55	06/19/14 15:44	
Vinyl chloride	ug/m3	ND	0.26	06/19/14 15:44	

LABORATORY CONTROL SAMPLE: 1714134

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	52.1	94	72-128	
1,1,2-Trichloroethane	ug/m3	55.5	51.9	94	72-130	
1,1-Dichloroethane	ug/m3	41.2	38.9	95	68-128	
1,1-Dichloroethene	ug/m3	40.3	44.0	109	68-130	
1,2,3-Trimethylbenzene	ug/m3	50	51.2	102	60-140	
1,2,4-Trichlorobenzene	ug/m3	75.5	78.8	104	30-150	
1,2,4-Trimethylbenzene	ug/m3	50	53.6	107	71-140	
1,2-Dichloroethane	ug/m3	41.2	42.6	103	71-132	
1,3,5-Trimethylbenzene	ug/m3	50	51.9	104	73-136	
Benzene	ug/m3	32.5	42.1	130	69-134	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Dawn
Pace Project No.: 10270038

LABORATORY CONTROL SAMPLE: 1714134

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/m3	64	58.5	91	66-134	
Chlorodifluoromethane	ug/m3	36	32.5	90	60-140	
Chloroform	ug/m3	49.7	50.2	101	72-127	
cis-1,2-Dichloroethene	ug/m3	40.3	41.1	102	71-135	
Dichlorodifluoromethane	ug/m3	50.3	41.3	82	69-125	
Ethylbenzene	ug/m3	44.2	56.5	128	73-139	
m&p-Xylene	ug/m3	44.2	57.1	129	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	38.3	104	72-132	
Methylene Chloride	ug/m3	35.3	30.1	85	64-134	
Naphthalene	ug/m3	53.3	55.3	104	61-150	
o-Xylene	ug/m3	44.2	49.7	113	71-138	
Tetrachloroethene	ug/m3	69	69.5	101	69-136	
Toluene	ug/m3	38.3	49.4	129	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	43.1	107	70-131	
Trichloroethene	ug/m3	54.6	51.9	95	70-135	
Vinyl chloride	ug/m3	26	25.9	100	69-132	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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Data File: \\192.168.10.12\chem\10airB.i\061914.b\17020.D
Report Date: 21-Jun-2014 12:52

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 17020.D
Lab Smp Id: 10270038002 A-Effluent
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10airB.i\061914.b\TO15_169-14_Markes.m
Misc Info: 20600

Calibration Date: 19-JUN-2014
Calibration Time: 12:51

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	896391	537835	1254947	1210989	35.10
59 Chlorobenzene - d	763949	458369	1069529	1040790	36.24

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.74	6.41	7.07	6.74	-0.00
59 Chlorobenzene - d	10.06	9.73	10.39	10.06	-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: \\192.168.10.12\chem\10airB.i\061914.b\17021.D
Report Date: 21-Jun-2014 12:52

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 17021.D
Lab Smp Id: 10270038001 AMID-GAC
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10airB.i\061914.b\TO15_169-14_Markes.m
Misc Info: 20600

Calibration Date: 19-JUN-2014
Calibration Time: 12:51

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	896391	537835	1254947	1153107	28.64
59 Chlorobenzene - d	763949	458369	1069529	1012765	32.57

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.74	6.41	7.07	6.74	0.00
59 Chlorobenzene - d	10.06	9.73	10.39	10.06	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: \\192.168.10.12\chem\10airB.i\061914.b\17018.D
Report Date: 21-Jun-2014 12:52

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 17018.D
Lab Smp Id: 10270038005 C-EFFLUENT
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10airB.i\061914.b\TO15_169-14_Markes.m
Misc Info: 20600

Calibration Date: 19-JUN-2014
Calibration Time: 12:51

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	896391	537835	1254947	1005293	12.15
59 Chlorobenzene - d	763949	458369	1069529	867907	13.61

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.74	6.41	7.07	6.74	-0.00
59 Chlorobenzene - d	10.06	9.73	10.39	10.06	-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: \\192.168.10.12\chem\10airB.i\061914.b\17019.D
Report Date: 21-Jun-2014 12:52

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 17019.D
Lab Smp Id: 10270038003 C-INFLUENT
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10airB.i\061914.b\TO15_169-14_Markes.m
Misc Info: 20600

Calibration Date: 19-JUN-2014
Calibration Time: 12:51

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	896391	537835	1254947	1057987	18.03
59 Chlorobenzene - d	763949	458369	1069529	942648	23.39

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.74	6.41	7.07	6.74	-0.00
59 Chlorobenzene - d	10.06	9.73	10.39	10.06	-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: \\192.168.10.12\chem\10airB.i\061914.b\17017.D
Report Date: 21-Jun-2014 12:52

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 17017.D
Lab Smp Id: 10270038004 C-MID-GAC
Analysis Type: VOA
Quant Type: ISTD
Operator: AH2
Method File: \\192.168.10.12\chem\10airB.i\061914.b\TO15_169-14_Markes.m
Misc Info: 20600

Calibration Date: 19-JUN-2014
Calibration Time: 12:51

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	896391	537835	1254947	975709	8.85
59 Chlorobenzene - d	763949	458369	1069529	838334	9.74

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.74	6.41	7.07	6.74	0.00
59 Chlorobenzene - d	10.06	9.73	10.39	10.06	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.

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

PROJECT NARRATIVE

Project: 117-0507599 SSDOem
Pace Project No.: 10271427

Method: TO-15
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: July 08, 2014

General Information:
1 sample was analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/20702

1M: This analyte did not meet the secondary source verification criteria for the initial calibration, with 57% recovery for Dichlorodifluoromethane (acceptance criteria is 60-140%).

- A-Influent (Lab ID: 10271427001)
  - Dichlorodifluoromethane
- BLANK (Lab ID: 1726132)
  - Dichlorodifluoromethane
- DUP (Lab ID: 1726756)
  - Dichlorodifluoromethane
- LCS (Lab ID: 1726133)
  - Dichlorodifluoromethane

A3: The sample was analyzed by serial dilution.

- A-Influent (Lab ID: 10271427001)
  - 1,1,1-Trichloroethane
  - Trichloroethene

This data package has been reviewed for quality and completeness and is approved for release.

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10271427

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

18506

Page: 1 of 1

Section A Required Client Information:

Company: Tetra Tech
Address: 51 Franklin St. 400 Annapolis, MD 21401
Email To:
Phone: 410-990-4607 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To:
Copy To:
Purchase Order No.:
Project Name: SSD oem
Project Number: 17-0507599

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☒ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State: MD

Reporting Units: ug/m³ ☒ mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

Method:

Section D Required Client Information

Valid Media Codes: MEDIA / CODE — Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START END/GRAB DATE	TIME	COMPOSITE - DATE	TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List+	Pace Lab ID
1	A-INFLUENT	1LC		6/18/14	1010	NA		-30	0.00	0907	N/A							X			001
2	UNUSED CAN	6LC								1728											002 No Analysis
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	6/19/14	1530	[signature] Pace	6/20/14	0940

SAMPLE CONDITIONS: Amb; Temp in °C; Received on Ice Y/N; Custody Sealed Cooler Y/N; Samples Intact Y/N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dana Monico
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY)

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

FC046Rev.01, 03Feb2010

Pace Analytical®	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: Tetra tech

Project #: WO#: 10271427 (10271427)

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 8033 6873 1699

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: _____ **Temp Blank rec:** ☐ Yes ☑ No

Temp. (TO17 and TO13 samples only) (°C): — **Corrected Temp (°C):** — **Thermom. Used:** ☐ B88A912167504 ☐ B88A9132521491 ☐ 72337080 ☐ 80512447

Temp should be above freezing to 6°C **Correction Factor:** _____ **Date & Initials of Person Examining Contents:** 4 6 2014

Type of Ice Received ☐ Blue ☐ Wet ☑ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: air can				11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received: rec. 1 gauge page 12

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
A-Influent	0607				
unused	1728				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: LVL 4 data package -10271442

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 117-0507599 SSDOem
Pace Project No.: 10271427

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10271427001	**A-Influent**	Air	06/18/14 10:10	06/20/14 09:40
10271427002	**Unused Can#1728**	Air		06/20/14 09:40

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HOLDTIME

SDG 10271427

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	A-INFLUENT	10271427001	NM	06/18/2014	07/08/2014	07/08/2014	20	0	20
OV	UG/M3	A-INFLUENT	10271427001	NM	06/18/2014	07/03/2014	07/03/2014	15	0	15

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10271427
Lab File ID: 18405BFB.D BFB Injection Date: 07/03/2014
Instrument ID: 10AIRD BFB Injection Time: 11:04
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	20.63	
75	30.00 - 66.00% of mass 95	57.80	
96	5.00 - 9.00% of mass 95	7.96	
173	Less than 2.00% of mass 174	0.73	(0.74)
174	50.00 - 120.00% of mass 95	98.28	
175	4.00 - 9.00% of mass 174	6.44	(6.56)
176	93.00 - 101.00% of mass 174	93.16	(94.79)
177	5.00 - 9.00% of mass 176	6.20	(6.66)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CAL1	CAL1	18405.D	07/03/2014	11:04
2	CAL2	CAL2	18406.D	07/03/2014	11:31
3	CAL3	CAL3	18407.D	07/03/2014	11:59
4	CAL4	CAL4	18408.D	07/03/2014	12:26
5	CAL5	CAL5	18409.D	07/03/2014	12:53
6	CAL6	CAL6	18410.D	07/03/2014	13:21
7	CAL7	CAL7	18411.D	07/03/2014	13:53
8	ICV (LCS)	ICV	18412.D	07/03/2014	14:20
9	ICVADD (LCS)	ICVADD	18414.D	07/03/2014	15:14
10	LCS for HBN 305852 [AIR/	1726133	18415_20702.D	07/03/2014	15:41
11	LCS (LCS)	LCS	18415.D	07/03/2014	15:41
12	BLANK (BLK)	BLANK	18416.D	07/03/2014	16:10
13	BLANK for HBN 305852 [AI	1726132	18416_20702.D	07/03/2014	16:10
14	C3935061614(1715798DU	1726756-DUP	18423.D	07/03/2014	19:26
15	A-Influent	10271427001	18427.D	07/03/2014	21:30

Report Date : 07-Jul-2014 11:13

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-JUL-2014 11:04
End Cal Date : 03-JUL-2014 13:53
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\070314.b\TO15_184-14.m
Last Edit : 07-Jul-2014 11:11 drandall

Calibration File Names:
Level 1: \\192.168.10.12\chem\10airD.i\070314.b\18405.d
Level 2: \\192.168.10.12\chem\10airD.i\070314.b\18406.d
Level 3: \\192.168.10.12\chem\10airD.i\070314.b\18407.d
Level 4: \\192.168.10.12\chem\10airD.i\070314.b\18408.d
Level 5: \\192.168.10.12\chem\10airD.i\070314.b\18409.d
Level 6: \\192.168.10.12\chem\10airD.i\070314.b\18410.d
Level 7: \\192.168.10.12\chem\10airD.i\070314.b\18411.d

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
1 Chlorodifluoromethane	3.04602	2.69692	2.31346	1.99453	2.34551	2.30008					
	2.02579						AVRG		2.38890		15.56471
2 Propylene	1589	2637	6200	11968	229737	498252					
	731622						LINR	0.01017	1.29068		0.99816
3 Dichlorodifluoromethane	15707	26433	55625	53673	966435	1421648					
	1816695						QUAD	0.00863	3.52979	-0.55961	0.99643
4 Dichlorotetrafluoroethane	5.14504	4.80684	4.15123	2.58036	4.02878	+++++					
	+++++						AVRG		4.14245		23.83584

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
5 Chloromethane	1.79350	1.68251	1.44787	1.21853	1.52863	1.34469					
	1.27290						AVRG		1.46980		14.47341
6 Vinyl chloride	1.44406	1.30063	1.18141	1.17954	1.43104	1.43653					
	1.48528						AVRG		1.35121		9.60712
7 1,3-Butadiene	0.88369	0.77634	0.75661	0.67449	0.85376	0.85532					
	0.89866						AVRG		0.81412		9.96438
8 Bromomethane	1.91499	1.70108	1.50320	1.34291	1.58123	1.58834					
	1.60313						AVRG		1.60499		10.94725
9 Chloroethane	0.80138	0.69785	0.59178	0.54931	0.64056	0.64951					
	0.67168						AVRG		0.65744		12.24821
10 Ethanol	0.94978	0.80131	0.57119	0.58314	0.54020	0.58071					
	0.59580						AVRG		0.66030		23.33914
11 Vinyl Bromide	1.64233	1.52512	1.41971	1.27603	1.57428	1.61319					
	1.59431						AVRG		1.52071		8.56203

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
12 Isopentane	1.51292	1.31181	1.20949	1.06978	1.32414	1.41090	1.48608	AVRG		1.33216		11.74700
13 Trichlorofluoromethane	6.39400	5.91293	5.24984	4.85027	5.44915	4.96099	4.61850	AVRG		5.34795		11.73415
14 Acrolein	0.44402	0.38088	0.33664	0.33517	0.42486	0.43976	0.46189	AVRG		0.40332		12.99142
15 Acetone	18062	28927	58110	112626	722982	1477238	2329201	LINR	-0.03662	0.42241		0.99971
16 Isopropyl Alcohol	2.57272	2.12091	1.89478	1.72915	1.84841	1.98859	1.94762	AVRG		2.01460		13.61525
17 1,1-Dichloroethene	2.85172	2.58667	2.26877	2.08083	2.52893	2.55463	2.49783	AVRG		2.48134		9.89594
18 Tert Butyl Alcohol	2.77573	2.37736	2.23938	2.07843	2.52362	2.89201	2.89629	AVRG		2.54040		12.82162

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
19 Acrylonitrile	1.01587	1.01202	0.86467	0.74992	0.99955	1.05567					
	1.09477						AVRG		0.97035		12.42217
20 Freon 113	3.63687	3.51181	3.01949	2.72987	3.18445	3.25057					
	3.04095						AVRG		3.19629		9.64043
21 Methylene chloride	2.50228	2.03502	1.71143	1.46660	1.69254	1.70672					
	1.75318						AVRG		1.83825		18.30857
22 Allyl Chloride	0.74043	0.61955	0.57310	0.52174	0.70794	0.71975					
	0.76553						AVRG		0.66401		13.97478
23 Carbon Disulfide	6.49096	5.43339	4.74040	4.02976	4.74557	4.81820					
	4.76783						AVRG		5.00373		15.41819
24 trans-1,2-dichloroethene	4310	8978	20752	37804	499464	1031130					
	1572415						LINR	-0.00134	0.60972		0.99962
25 Methyl Tert Butyl Ether	4.04686	4.02591	3.33944	3.11789	3.83135	4.16807					
	4.15547						AVRG		3.81214		10.97964

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
26 Vinyl Acetate	3.68673	3.38898	3.15058	2.95688	3.78142	3.90399					
	3.74084						AVRG		3.51563		10.14318
27 1,1-Dichloroethane	3.72472	3.32846	2.83475	2.55879	3.02643	3.08509					
	2.91963						AVRG		3.06827		12.17184
29 Methyl Ethyl Ketone	0.94622	0.83985	0.76472	0.63994	0.69065	0.72966					
	0.73940						AVRG		0.76435		13.24690
30 n-Hexane	2.59686	2.03143	2.03651	1.74824	2.03123	2.13831					
	2.22789						AVRG		2.11578		12.20569
31 Di-isopropyl Ether	3.85927	3.67479	3.56007	3.33108	4.29060	4.41733					
	4.50559						AVRG		3.94839		11.61611
32 cis-1,2-Dichloroethene	1.67122	1.40588	1.36247	1.19151	1.55718	1.64985					
	1.68177						AVRG		1.50284		12.47717
33 Ethyl Acetate	3.01397	2.90644	2.76435	2.56137	3.31402	3.45069					
	3.53455						AVRG		3.07791		11.87726

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
34 Chloroform	5.94563	4.98939	4.02512	3.75630	4.22406	4.11656					
	3.88329						AVRG		4.42005		17.68621
35 Ethyl Tert-Butyl Ether	7296	13565	34609	74015	1166364	2558844					
	+++++						QUAD	-0.04064	3.61632	0.28301	0.99992
36 Tetrahydrofuran	2149	4586	12650	27224	387015	833713					
	1330415						QUAD	-0.01629	1.29189	0.03004	0.99991
37 1,1,1-Trichloroethane	4.49919	4.19528	3.71664	3.51801	4.14842	4.10407					
	3.93307						AVRG		4.01638		8.10230
38 1,2-Dichloroethane	3.41723	3.39357	2.96225	2.76729	3.20110	3.16609					
	3.00975						AVRG		3.13104		7.51830
39 Benzene	4.33179	4.12018	3.81559	3.58657	4.81899	4.97449					
	4.96203						AVRG		4.37281		12.87721
40 Carbon tetrachloride	4.47901	4.31392	3.89640	3.59926	4.55051	4.07496					
	3.71926						AVRG		4.09047		9.08994

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
41 Cyclohexane	2916	6205	16445	37926	595061	1256720					
	2076585						QUAD	-0.02372	1.88962	0.08702	0.99995
42 Tert Amyl Methyl Ether	4.42281	3.87931	3.07443	2.72830	3.48487	3.77860					
	4.02475						AVRG		3.62758		15.96065
44 2,2,4-Trimethylpentane	4.20357	4.61770	4.44785	4.48964	6.15619	6.16257					
	6.44592						AVRG		5.21763		18.83269
45 Heptane	3545	7648	20766	45126	647011	1406900					
	2254523						QUAD	-0.02818	2.15293	0.06325	0.99989
46 1,2-Dichloropropane	1.65183	1.55009	1.38673	1.32262	1.66757	1.74228					
	1.79487						AVRG		1.58800		11.18758
47 Trichloroethene	1.98029	1.93137	1.75742	1.66932	2.07871	2.09404					
	2.05265						AVRG		1.93769		8.53020
48 Bromodichloromethane	4.80905	4.43715	4.04540	3.70775	4.61801	4.55926					
	4.34630						AVRG		4.36042		8.57314

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
49 1,4-Dioxane	0.52080	0.64652	0.59981	0.64783	0.66964	0.77956					
	0.84959						AVRG		0.67339		16.31353
50 Methylcyclohexane	1289	2867	8655	19199	284326	586460					
	933144						LINR	0.01605	1.03531		0.99994
51 Methyl Isobutyl Ketone	4894	9783	30883	65792	917797	1968511					
	3139567						QUAD	-0.03751	3.06265	0.06592	0.99992
52 cis-1,3-Dichloropropene	2.03886	1.91139	2.02235	2.00231	2.67972	2.86898					
	2.80557						AVRG		2.33274		18.36278
53 trans-1,3-Dichloropropene	3830	7775	19960	42387	860883	1861693					
	+++++						QUAD	-0.05215	2.73591	0.15942	0.99976
55 Toluene	6.20721	4.95225	4.67834	4.59234	5.71790	5.78121					
	5.64637						AVRG		5.36795		11.59667
56 1,1,2-Trichloroethane	2.14057	2.13649	1.83349	1.65517	2.06449	2.11210					
	2.06377						AVRG		2.00087		9.25624

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
57 Methyl Butyl Ketone	4233	8662	27835	63702	841570	1852136					
	2987204						LINR	0.00027	0.13404		0.99981
58 Dibromochloromethane	10.00535	9.37216	9.21713	8.79291	10.08382	9.38774					
	8.88004						AVRG		9.39131		5.33616
59 1,2-Dibromoethane	7.47966	8.01136	7.13984	7.27426	7.89978	7.60818					
	7.38387						AVRG		7.54242		4.24472
60 Tetrachloroethene	8.29336	8.76626	8.11331	8.26206	8.44353	7.97809					
	7.28403						AVRG		8.16295		5.65531
62 Chlorobenzene	9.27409	9.47518	9.08790	8.62818	9.89799	8.90990					
	9.62342						AVRG		9.27095		4.69373
63 Ethyl Benzene	15.53747	12.35351	13.69412	13.67353	16.58835	16.31302					
	16.25651						AVRG		14.91664		11.12887
64 m&p-Xylene	18.02570	12.90569	13.23533	12.56300	13.13727	12.62993					
	12.87155						AVRG		13.62407		14.35799

Report Date : 07-Jul-2014 11:13

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-JUL-2014 11:04
End Cal Date : 03-JUL-2014 13:53
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\070314.b\TO15_184-14.m
Last Edit : 07-Jul-2014 11:11 drandall

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
65 Bromoform	9.05246	9.18330	7.61025	6.73259	8.31059	7.80078					
	8.12087						AVRG		8.11583		10.45880
66 Styrene	3860	7483	21106	47488	868232	1958143					
	3493111						QUAD	-0.05469	7.02498	0.54688	0.99927
67 o-Xylene	11.94540	10.24779	12.65313	11.65011	12.82979	12.41607					
	12.91433						AVRG		12.09380		7.74076
68 1,1,2,2-Tetrachloroethane	11.89186	11.05253	10.47164	8.40082	8.12204	7.86281					
	8.58016						AVRG		9.48312		17.06154
69 Isopropylbenzene	10.35974	10.93622	11.75388	10.47749	14.24615	14.16452					
	15.17447						AVRG		12.44464		16.27888
70 N-Propylbenzene	12.13597	12.03726	13.60849	12.47970	15.68493	15.77179					
	17.58905						AVRG		14.18674		15.33747
71 4-Ethyltoluene	8.72805	9.47905	11.32103	10.20914	11.82929	11.60026					
	13.41504						AVRG		10.94027		14.48089

Report Date : 07-Jul-2014 11:13

Pace Analytical Services, Inc.

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Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\070314.b\TO15_184-14.m
Last Edit : 07-Jul-2014 11:11 drandall

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
72 1,3,5-Trimethylbenzene	12.15525	11.78859	12.95094	10.32867	10.72599	10.26062					
	11.67171						AVRG		11.41168		8.83559
73 Tert-Butyl Benzene	10.26231	11.07856	12.44363	10.08363	10.76552	10.61614					
	11.21113						AVRG		10.92299		7.16935
74 1,2,4-Trimethylbenzene	18.81263	15.46556	16.02920	11.64868	10.04909	9.75598					
	11.00556						AVRG		13.25239		26.43392
75 1,3-Dichlorobenzene	6.63490	7.32349	7.80186	6.71060	6.73613	6.10740					
	7.05512						AVRG		6.90993		7.87644
76 Sec- Butylbenzene	13.05032	15.15984	17.00200	13.98884	14.40347	13.16393					
	14.89947						AVRG		14.52398		9.32603
78 Benzyl Chloride	4.92505	5.18897	5.68477	5.54483	6.73055	6.11224					
	7.07947						AVRG		5.89513		13.41843
79 1,4-Dichlorobenzene	5.97752	6.71648	7.06226	6.31531	6.10261	5.52564					
	6.21551						AVRG		6.27362		7.96876

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Last Edit : 07-Jul-2014 11:11 drandall

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
80 p-Isopropyltoluene	9.43362	12.26323	15.41167	12.72518	11.80921	9.99161					
	10.94538						AVRG		11.79713		16.85236
81 1,2,3-Trimethylbenzene	10.21842	12.77055	13.94431	10.34248	9.17502	8.03899					
	9.37576						AVRG		10.55222		19.79534
82 1,2-Dichlorobenzene	7.21734	7.54946	8.37893	6.58068	5.93683	4.91446					
	5.73690						AVRG		6.61637		17.95904
83 N-Butylbenzene	7.70450	10.42059	14.74048	15.58990	14.10052	10.39395					
	11.08129						AVRG		12.00446		23.84906
84 1,2,4-Trichlorobenzene	2.34475	2.33058	2.12469	3.51124	3.33973	3.96925					
	3.84137						AVRG		3.06594		25.39516
85 Naphthalene	4.40899	4.94251	4.99480	8.02397	7.01366	7.28044					
	6.98665						AVRG		6.23586		22.68587
86 Hexachlorobutadiene	9.63812	10.54631	9.78905	10.78528	5.68738	5.51802					
	+++++						AVRG		8.66069		27.81462

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
$ 28 Hexane-d14(S)	0.47081	0.46953	0.45794	0.43079	0.39516	0.40455	0.40149	AVRG		0.43290		7.67605
$ 54 Toluene-d8 (S)	0.75276	0.73975	0.73134	0.75622	0.73412	0.78753	0.75567	AVRG		0.75106		2.54050
$ 77 1,4-dichlorobenzene-d4 (S)	0.23641	0.27650	0.30128	0.26399	0.27578	0.25555	0.26845	AVRG		0.26828		7.46810

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Average %RSD Results.	
Calculated Average %RSD =	12.95150
Maximun Average %RSD =	30.00000
* Passed Average %RSD Test.	

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + m1*Rsp	Amount
Quad	Rsp = b + m1*Amt + m2*Amt^2	Amount

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10271427
Lab File ID: 18801BFB.D BFB Injection Date: 07/07/2014
Instrument ID: 10AIRD BFB Injection Time: 14:31
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	20.88	
75	30.00 - 66.00% of mass 95	55.38	
96	5.00 - 9.00% of mass 95	6.44	
173	Less than 2.00% of mass 174	0.72	(0.73)
174	50.00 - 120.00% of mass 95	99.35	
175	4.00 - 9.00% of mass 174	7.43	(7.48)
176	93.00 - 101.00% of mass 174	95.46	(96.09)
177	5.00 - 9.00% of mass 176	6.42	(6.72)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CAL1	CAL1	18802.D	07/07/2014	14:59
2	CAL2	CAL2	18803.D	07/07/2014	15:27
3	CAL3	CAL3	18804.D	07/07/2014	15:55
4	CAL4	CAL4	18805.D	07/07/2014	16:23
5	CAL5	CAL5	18806.D	07/07/2014	16:51
6	CAL6	CAL6	18807.D	07/07/2014	17:20
7	CAL7	CAL7	18808.D	07/07/2014	17:52
8	ICV (LCS)	ICV	18809.D	07/07/2014	18:19
9	LCS (LCS)	LCS	18810.D	07/07/2014	18:47
10	BLANK (BLK)	BLANK	18812.D	07/07/2014	19:43
11	A-Influent	10271427001	18823.D	07/08/2014	09:16

Report Date : 08-Jul-2014 09:45

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-JUL-2014 14:59
End Cal Date : 07-JUL-2014 17:52
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\070714.b\TO15_188-14.m
Last Edit : 08-Jul-2014 09:45 10airD.i

Calibration File Names:
Level 1: \\192.168.10.12\chem\10airD.i\070714.b\18802.d
Level 2: \\192.168.10.12\chem\10airD.i\070714.b\18803.d
Level 3: \\192.168.10.12\chem\10airD.i\070714.b\18804.d
Level 4: \\192.168.10.12\chem\10airD.i\070714.b\18805.d
Level 5: \\192.168.10.12\chem\10airD.i\070714.b\18806.d
Level 6: \\192.168.10.12\chem\10airD.i\070714.b\18807.d
Level 7: \\192.168.10.12\chem\10airD.i\070714.b\18808.d

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
1 Chlorodifluoromethane	0.32136	0.31903	0.30377	0.28967	0.34958	0.37455	0.31393	AVRG		0.32456		8.83023
2 Propylene	0.20077	0.17659	0.18401	0.16811	0.11469	0.12880	0.11666	AVRG		0.15566		22.48921
3 Dichlorodifluoromethane	0.74289	0.69226	0.49683	0.36515	0.47315	+++++	+++++	AVRG		0.55406		28.57479
4 Dichlorotetrafluoroethane	0.56245	0.58644	0.55149	0.40294	0.59644	0.33234	+++++	AVRG		0.50535		21.80026

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
5 Chloromethane	0.21096	0.21075	0.19957	0.17708	0.22913	0.21425					
	0.20633						AVRG		0.20687		7.70055
6 Vinyl chloride	0.17850	0.16242	0.15731	0.15840	0.20844	0.24188					
	0.23313						AVRG		0.19144		18.87828
7 1,3-Butadiene	0.11178	0.11927	0.11672	0.11770	0.12836	0.13546					
	0.13960						AVRG		0.12413		8.43866
8 Bromomethane	0.22391	0.22725	0.19788	0.20012	0.24182	0.26238					
	0.25695						AVRG		0.23004		11.05953
9 Chloroethane	0.08476	0.07889	0.08721	0.07530	0.09448	0.10541					
	0.10206						AVRG		0.08973		12.68348
10 Ethanol	1894	3877	8228	15253	206721	393083					
	632953						LINR	0.00527	9.86423		0.99992
11 Vinyl Bromide	0.18660	0.19722	0.18531	0.18535	0.22864	0.25870					
	0.25115						AVRG		0.21328		15.15112

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
12 Isopentane	0.15760	0.15779	0.14642	0.15903	0.19318	0.22535					
	0.23103						AVRG		0.18148		19.32729
13 Trichlorofluoromethane	0.77556	0.76783	0.74240	0.71366	0.78037	0.80582					
	0.71116						AVRG		0.75669		4.69820
14 Acrolein	0.04506	0.04889	0.04208	0.04686	0.05960	0.06890					
	0.06930						AVRG		0.05438		21.04286
15 Acetone	0.57183	0.50181	0.41698	0.37933	0.37213	0.39715					
	0.39955						AVRG		0.43411		17.14755
16 Isopropyl Alcohol	0.21785	0.25142	0.23548	0.24745	0.31397	0.34142					
	0.32041						AVRG		0.27543		17.62237
17 1,1-Dichloroethene	0.30949	0.31710	0.30457	0.30482	0.37335	0.43032					
	0.38077						AVRG		0.34577		14.28904
18 Tert Butyl Alcohol	0.26876	0.30507	0.29127	0.30187	0.38764	0.47107					
	0.44748						AVRG		0.35331		23.07631

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
19 Acrylonitrile	0.11672	0.12511	0.11240	0.10606	0.15212	0.17919					
	0.16935						AVRG		0.13728		21.38344
20 Freon 113	0.45139	0.43894	0.42701	0.40619	0.47244	0.51698					
	0.48030						AVRG		0.45618		8.10997
21 Methylene chloride	0.33992	0.31062	0.27063	0.25825	0.24713	0.28652					
	0.27159						AVRG		0.28352		11.33383
22 Allyl Chloride	0.09006	0.07849	0.08334	0.08318	0.09963	0.11968					
	0.11306						AVRG		0.09535		16.73936
23 Carbon Disulfide	0.83881	0.75457	0.63920	0.61092	0.69419	0.77832					
	0.74249						AVRG		0.72264		11.05042
24 trans-1,2-dichloroethene	0.22967	0.21206	0.19322	0.19992	0.23889	0.26991					
	0.25554						AVRG		0.22846		12.49228
25 Methyl Tert Butyl Ether	8137	15072	37713	81110	1148786	2573285					
	3960146						LINR	0.02468	1.55500		0.99746

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
26 Vinyl Acetate	0.37606	0.39964	0.40602	0.40481	0.53679	0.61811					
	0.58423						AVRG		0.47509		21.28964
27 1,1-Dichloroethane	0.40460	0.39485	0.39367	0.37222	0.43679	0.48336					
	0.45705						AVRG		0.42036		9.47305
29 Methyl Ethyl Ketone	0.08996	0.09210	0.09085	0.08382	0.10453	0.11553					
	0.11195						AVRG		0.09839		12.41340
30 n-Hexane	0.23410	0.24595	0.25553	0.23957	0.29735	0.34374					
	0.33464						AVRG		0.27870		16.59616
31 Di-isopropyl Ether	0.40822	0.41582	0.44142	0.46373	0.61686	0.71177					
	0.69539						AVRG		0.53617		24.99693
32 cis-1,2-Dichloroethene	0.15790	0.16317	0.16050	0.16813	0.23074	0.26421					
	0.25923						AVRG		0.20056		24.32334
33 Ethyl Acetate	5552	11869	30542	69696	992709	2128536					
	3429712						LINR	0.02900	1.81674		0.99884

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
34 Chloroform	0.51954	0.51982	0.48079	0.50069	0.62182	0.67023					
	0.60852						AVRG		0.56020		12.90739
35 Ethyl Tert-Butyl Ether	4959	10757	29797	68117	1112687	2566532					
	4119453						LINR	0.04136	1.50911		0.99726
36 Tetrahydrofuran	1843	3870	11378	26574	385603	847553					
	1304740						LINR	0.02432	4.71544		0.99785
37 1,1,1-Trichloroethane	0.54191	0.50479	0.48800	0.50272	0.62906	0.65949					
	0.60647						AVRG		0.56178		12.29981
38 1,2-Dichloroethane	0.39976	0.38692	0.38378	0.38878	0.48163	0.50400					
	0.47565						AVRG		0.43150		12.26888
39 Benzene	0.41647	0.41687	0.45860	0.49860	0.70124	0.81516					
	0.75564						AVRG		0.58037		29.47393
40 Carbon tetrachloride	0.60200	0.59646	0.57256	0.57806	0.65589	0.66942					
	0.55816						AVRG		0.60465		7.01434

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
41 Cyclohexane	2521	4651	15625	36864	586512	1322357					
	1977116						LINR	0.02437	3.08387		0.99630
42 Tert Amyl Methyl Ether	35455	39307	61688	96982	1060040	2342209					
	3810343						LINR	0.01402	1.65445		0.99771
44 2,2,4-Trimethylpentane	9911	19374	54821	122776	1827038	3870381					
	6158350						LINR	0.02584	1.00791		0.99902
45 Heptane	2794	6545	18679	45953	641177	1392880					
	2250164						LINR	0.03204	2.77017		0.99860
46 1,2-Dichloropropane	0.17513	0.17941	0.18182	0.18036	0.23946	0.28035					
	0.27533						AVRG		0.21598		22.09200
47 Trichloroethene	0.21621	0.21533	0.22563	0.23341	0.29978	0.33576					
	0.31949						AVRG		0.26366		19.93073
48 Bromodichloromethane	0.53223	0.52126	0.52973	0.52639	0.66632	0.71864					
	0.67444						AVRG		0.59557		14.54546

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Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\070714.b\TO15_188-14.m
Last Edit : 08-Jul-2014 09:45 10airD.i

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
49 1,4-Dioxane	893	2322	7120	15218	273284	489766					
	877271						LINR	0.03028	7.27547		0.99736
50 Methylcyclohexane	1068	2177	7636	17624	283315	584560					
	954874						LINR	0.03022	6.53745		0.99939
51 Methyl Isobutyl Ketone	3496	7696	24311	60133	906891	2006939					
	3194581						LINR	0.03365	1.94199		0.99825
52 cis-1,3-Dichloropropene	4039	8234	25981	54303	820512	1736510					
	2746688						LINR	0.02458	2.25616		0.99898
53 trans-1,3-Dichloropropene	3007	7348	18649	44334	852746	1865774					
	2986639						LINR	0.03721	2.07678		0.99848
55 Toluene	0.57346	0.60332	0.60331	0.66091	0.82855	0.92169					
	0.87280						AVRG		0.72343		20.18350
56 1,1,2-Trichloroethane	0.24460	0.24515	0.24653	0.24820	0.30242	0.33696					
	0.32405						AVRG		0.27827		14.86404

Report Date : 08-Jul-2014 09:45

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-JUL-2014 14:59
End Cal Date : 07-JUL-2014 17:52
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\070714.b\TO15_188-14.m
Last Edit : 08-Jul-2014 09:45 10airD.i

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
57 Methyl Butyl Ketone	3256	7548	21109	54853	880204	1842668					
	2992296						LINR	0.01426	1.10488		0.99613
58 Dibromochloromethane	0.89950	0.81781	0.88883	0.90452	1.11442	1.21957					
	1.06756						AVRG		0.98746		14.87973
59 1,2-Dibromoethane	0.60541	0.59231	0.64091	0.69643	0.88998	0.99786					
	0.90241						AVRG		0.76076		21.73131
60 Tetrachloroethene	0.65071	0.64597	0.71474	0.77600	0.92262	1.00242					
	0.88315						AVRG		0.79937		17.45244
62 Chlorobenzene	0.90757	0.91833	0.90673	0.91227	1.10436	1.22997					
	1.14323						AVRG		1.01749		13.53285
63 Ethyl Benzene	7498	16136	45596	118122	2002575	3889126					
	6613069						LINR	0.01400	0.50599		0.99887
64 m&p-Xylene	4675	11287	39053	95353	1555078	3052005					
	5274355						LINR	0.01822	0.63744		0.99932

Report Date : 08-Jul-2014 09:45

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-JUL-2014 14:59
End Cal Date : 07-JUL-2014 17:52
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\070714.b\TO15_188-14.m
Last Edit : 08-Jul-2014 09:45 10airD.i

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
65 Bromoform	0.76338	0.75921	0.76962	0.76733	0.98405	0.94437					
	0.95083						AVRG		0.84840		12.36844
66 Styrene	2956	6819	19502	51339	1016950	1897074					
	3552261						LINR	0.03155	0.96476		0.99938
67 o-Xylene	5251	12178	44077	106227	1551052	2920784					
	5152740						LINR	0.01353	0.65679		0.99985
68 1,1,2,2-Tetrachloroethane	0.97332	0.92853	0.89417	0.91026	1.00229	0.99119					
	1.02089						AVRG		0.96009		5.11022
69 Isopropylbenzene	1.24847	1.17319	1.28676	1.31786	1.85721	1.72495					
	1.81462						AVRG		1.48901		19.86699
70 N-Propylbenzene	7973	17694	49643	130161	2101727	3607381					
	7122611						LINR	0.02574	0.48833		0.99739
71 4-Ethyltoluene	6468	14024	39408	106328	1587742	2723550					
	5435444						LINR	0.02621	0.64204		0.99680

Report Date : 08-Jul-2014 09:45

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-JUL-2014 14:59
End Cal Date : 07-JUL-2014 17:52
Quant Method : ISTD
Target Version : 4.14
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Method file : \\192.168.10.12\chem\10airD.i\070714.b\TO15_188-14.m
Last Edit : 08-Jul-2014 09:45 10airD.i

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
72 1,3,5-Trimethylbenzene	5791	15273	42570	106771	1435790	2447520					
	4834857						LINR	0.01957	0.72105		0.99732
73 Tert-Butyl Benzene	0.67029	0.77198	0.85915	1.09206	1.39299	1.29074					
	1.35882						AVRG		1.06229		27.96689
74 1,2,4-Trimethylbenzene	0.72378	0.89423	1.03585	1.24823	1.34449	1.18832					
	1.32475						AVRG		1.10852		21.07757
75 1,3-Dichlorobenzene	0.61563	0.71410	0.72922	0.76464	0.83614	0.74471					
	0.85684						AVRG		0.75161		10.70406
76 Sec- Butylbenzene	1.02314	1.24678	1.34668	1.65245	1.84070	1.57484					
	1.81664						AVRG		1.50018		20.36835
78 Benzyl Chloride	0.69182	0.68361	0.69327	0.72434	0.82721	0.74285					
	0.91665						AVRG		0.75425		11.52349
79 1,4-Dichlorobenzene	0.81234	0.84207	0.81823	0.76448	0.75365	0.68086					
	0.79277						AVRG		0.78063		6.87558

Report Date : 08-Jul-2014 09:45

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-JUL-2014 14:59
End Cal Date : 07-JUL-2014 17:52
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\070714.b\TO15_188-14.m
Last Edit : 08-Jul-2014 09:45 10airD.i

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
80 p-Isopropyltoluene	0.98193	1.09800	1.32574	1.44291	1.44865	1.20384					
	1.38159						AVRG		1.26895		14.18159
81 1,2,3-Trimethylbenzene	0.87733	1.09383	1.06169	1.17602	1.18104	0.94968					
	1.15391						AVRG		1.07050		10.97669
82 1,2-Dichlorobenzene	0.76703	0.76230	0.79577	0.76321	0.71872	0.60148					
	0.71871						AVRG		0.73246		8.73708
83 N-Butylbenzene	0.83149	1.00897	1.46834	1.70149	1.55798	1.27533					
	1.32222						AVRG		1.30940		23.34767
84 1,2,4-Trichlorobenzene	0.33681	0.35388	0.39827	0.42837	0.44162	0.52172					
	0.45437						AVRG		0.41929		15.02916
85 Naphthalene	0.67428	0.62712	0.73725	0.94198	0.83831	0.95588					
	0.80403						AVRG		0.79698		15.83065
86 Hexachlorobutadiene	12349	25414	58760	119026	725070	1425020					
	+++++						QUAD	0.02846	0.62179	0.05572	0.99879

Report Date : 08-Jul-2014 09:45

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-JUL-2014 14:59
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Quant Method : ISTD
Target Version : 4.14
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Method file : \\192.168.10.12\chem\10airD.i\070714.b\TO15_188-14.m
Last Edit : 08-Jul-2014 09:45 10airD.i

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
$ 28 Hexane-d14(S)	0.37776	0.40137	0.38884	0.38477	0.36528	0.36545					
	0.38401						AVRG		0.38107		3.38616
$ 54 Toluene-d8 (S)	0.84878	0.89672	0.88783	0.86100	0.86458	0.86296					
	0.87314						AVRG		0.87071		1.90361
$ 77 1,4-dichlorobenzene-d4 (S)	0.34273	0.36982	0.35579	0.34429	0.36771	0.27773					
	0.38854						AVRG		0.34951		10.13731

Report Date : 08-Jul-2014 09:45

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-JUL-2014 14:59
End Cal Date : 07-JUL-2014 17:52
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\070714.b\TO15_188-14.m
Last Edit : 08-Jul-2014 09:45 10airD.i

Average %RSD Results.	
Calculated Average %RSD =	15.33737
Maximun Average %RSD =	30.00000
* Passed Average %RSD Test.	

Curve	Formula	Units
Averaged	Amt = Rsp/ml	Response
Linear	Amt = b + m1*Rsp	Amount
Quad	Rsp = b + m1*Amt + m2*Amt^2	Amount

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 117-0507599 SSDOem
Pace Project No.: 10271427

QC Batch: AIR/20702
QC Batch Method: TO-15
Associated Lab Samples: 10271427001

Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level

METHOD BLANK: 1726132
Matrix: Air
Associated Lab Samples: 10271427001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	07/03/14 16:10	
1,1,2-Trichloroethane	ug/m3	ND	0.55	07/03/14 16:10	
1,1-Dichloroethane	ug/m3	ND	0.82	07/03/14 16:10	
1,1-Dichloroethene	ug/m3	ND	0.81	07/03/14 16:10	
1,2,3-Trimethylbenzene	ug/m3	ND	1.0	07/03/14 16:10	
1,2,4-Trichlorobenzene	ug/m3	ND	1.5	07/03/14 16:10	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	07/03/14 16:10	
1,2-Dichloroethane	ug/m3	ND	0.41	07/03/14 16:10	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	07/03/14 16:10	
Benzene	ug/m3	ND	0.32	07/03/14 16:10	
Carbon tetrachloride	ug/m3	ND	0.64	07/03/14 16:10	
Chlorodifluoromethane	ug/m3	ND	0.72	07/03/14 16:10	
Chloroform	ug/m3	ND	0.50	07/03/14 16:10	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	07/03/14 16:10	
Dichlorodifluoromethane	ug/m3	ND	1.0	07/03/14 16:10	1M
Ethylbenzene	ug/m3	ND	0.88	07/03/14 16:10	
m&p-Xylene	ug/m3	ND	1.8	07/03/14 16:10	
Methyl-tert-butyl ether	ug/m3	ND	0.73	07/03/14 16:10	
Methylene Chloride	ug/m3	ND	3.5	07/03/14 16:10	
Naphthalene	ug/m3	ND	2.7	07/03/14 16:10	
o-Xylene	ug/m3	ND	0.88	07/03/14 16:10	
Tetrachloroethene	ug/m3	ND	0.69	07/03/14 16:10	
Toluene	ug/m3	ND	0.77	07/03/14 16:10	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	07/03/14 16:10	
Trichloroethene	ug/m3	ND	0.55	07/03/14 16:10	
Vinyl chloride	ug/m3	ND	0.26	07/03/14 16:10	

LABORATORY CONTROL SAMPLE: 1726133

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	60.3	109	72-128	
1,1,2-Trichloroethane	ug/m3	55.5	58.3	105	72-130	
1,1-Dichloroethane	ug/m3	41.2	42.7	104	68-128	
1,1-Dichloroethene	ug/m3	40.3	43.5	108	68-130	
1,2,3-Trimethylbenzene	ug/m3	50	46.3	93	60-140	
1,2,4-Trichlorobenzene	ug/m3	75.5	92.7	123	30-150	
1,2,4-Trimethylbenzene	ug/m3	50	43.3	87	71-140	
1,2-Dichloroethane	ug/m3	41.2	44.1	107	71-132	
1,3,5-Trimethylbenzene	ug/m3	50	53.9	108	73-136	
Benzene	ug/m3	32.5	37.2	114	69-134	

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1700 Elm Street - Suite 200
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QUALITY CONTROL DATA

Project: 117-0507599 SSDOem
Pace Project No.: 10271427

LABORATORY CONTROL SAMPLE: 1726133

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/m3	64	72.5	113	66-134	
Chlorodifluoromethane	ug/m3	36	36.1	100	60-140	
Chloroform	ug/m3	49.7	48.6	98	72-127	
cis-1,2-Dichloroethene	ug/m3	40.3	41.5	103	71-135	
Dichlorodifluoromethane	ug/m3	50.3	57.3	114	69-125	1M
Ethylbenzene	ug/m3	44.2	51.4	116	73-139	
m&p-Xylene	ug/m3	44.2	44.2	100	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	40.9	112	72-132	
Methylene Chloride	ug/m3	35.3	34.5	98	64-134	
Naphthalene	ug/m3	53.3	62.8	118	61-150	
o-Xylene	ug/m3	44.2	49.3	112	71-138	
Tetrachloroethene	ug/m3	69	69.1	100	69-136	
Toluene	ug/m3	38.3	42.1	110	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	40.8	101	70-131	
Trichloroethene	ug/m3	54.6	60.2	110	70-135	
Vinyl chloride	ug/m3	26	27.9	107	69-132	

SAMPLE DUPLICATE: 1726756

Parameter	Units	10271746001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,3-Trimethylbenzene	ug/m3	ND	ND		25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	0.94J		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
Benzene	ug/m3	0.83	0.90	7	25	
Carbon tetrachloride	ug/m3	ND	ND		25	
Chlorodifluoromethane	ug/m3	1.3	1.5	15	25	
Chloroform	ug/m3	0.53	0.61	14	25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	ND	1.0		25	1M
Ethylbenzene	ug/m3	ND	0.60J		25	
m&p-Xylene	ug/m3	2.0	2.2	10	25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	0.81J		25	
Naphthalene	ug/m3	ND	0.97J		25	
o-Xylene	ug/m3	0.89	1.0	12	25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	4.2	4.6	8	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	

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REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 117-0507599 SSDOem
Pace Project No.: 10271427

SAMPLE DUPLICATE: 1726756

Parameter	Units	10271746001 Result	Dup Result	RPD	Max RPD	Qualifiers
Vinyl chloride	ug/m3	ND	ND		25	

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REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALIFIERS

Project: 117-0507599 SSDOem
Pace Project No.: 10271427

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1M	This analyte did not meet the secondary source verification criteria for the initial calibration, with 57% recovery for Dichlorodifluoromethane (acceptance criteria is 60-140%).
A3	The sample was analyzed by serial dilution.

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Data File: \\192.168.10.12\chem\10airD.i\070314.b\18427.d
Report Date: 07-Jul-2014 15:14

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 18427.d
Lab Smp Id: 10271427001 A-INFLUENT
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10airD.i\070314.b\TO15_184-14.m
Misc Info: 20702

Calibration Date: 03-JUL-2014
Calibration Time: 12:53

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	301515	180909	422121	296900	-1.53
61 Chlorobenzene - d	108766	65260	152272	130037	19.56

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.42	6.09	6.75	6.42	-0.00
61 Chlorobenzene - d	10.09	9.76	10.42	10.08	-0.07

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: \\192.168.10.12\chem\10airD.i\070714.b\18823.d
Report Date: 08-Jul-2014 09:55

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airD.i
Lab File ID: 18823.d
Lab Smp Id: 10271427001
Analysis Type: VOA
Quant Type: ISTD
Operator: DR1
Method File: \\192.168.10.12\chem\10airD.i\070714.b\TO15_188-14.m
Misc Info: 20702

A-INFLUENT

Calibration Date: 07-JUL-2014
Calibration Time: 16:51

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.
If Continuing Cal. use Initial Cal. Level 5

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	2041772	1225063	2858481	1627316	-20.30
61 Chlorobenzene - d	1036553	621932	1451174	844743	-18.50

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	6.42	6.09	6.75	6.40	-0.21
61 Chlorobenzene - d	10.09	9.76	10.42	10.08	-0.07

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 MRC	JOB NUMBER SDG 10271427
SUBJECT	
BASED ON Sample Calculation	DRAWING NUMBER
BY Ann Cognetti / CHECKED BY	APPROVED BY / DATE October 7, 2014

Sample A-INFLUENT, (trichloroethene)

$$\frac{10870}{1627316} * \frac{10\ ppbv}{0.26366} * 1075.2 = 272.40\ ppbv$$

$$272.40\ ppbv * \frac{131.4\ g/mole}{24.45\ L/mole} = 1463.9\ ug/m^3$$

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

Sample Calculations

ANALYTICAL RESULTS

Project: 117-0507599 SSDOem
Pace Project No.: 10271427

Sample: A-Influent **Lab ID: 10271427001** Collected: 06/18/14 10:10 Received: 06/20/14 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1040**	ug/m3	10.9	33.6		07/03/14 21:30	71-43-2	
Carbon tetrachloride	ND	ug/m3	21.5	33.6		07/03/14 21:30	56-23-5	
Chlorodifluoromethane	**30.3**	ug/m3	24.2	33.6		07/03/14 21:30	75-45-6	
Chloroform	**136**	ug/m3	16.7	33.6		07/03/14 21:30	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	33.9	33.6		07/03/14 21:30	75-71-8	1M
1,1-Dichloroethane	**565**	ug/m3	27.6	33.6		07/03/14 21:30	75-34-3	
1,2-Dichloroethane	ND	ug/m3	13.8	33.6		07/03/14 21:30	107-06-2	
1,1-Dichloroethene	**2840**	ug/m3	27.2	33.6		07/03/14 21:30	75-35-4	
cis-1,2-Dichloroethene	**3710**	ug/m3	27.2	33.6		07/03/14 21:30	156-59-2	
trans-1,2-Dichloroethene	**51.7**	ug/m3	27.2	33.6		07/03/14 21:30	156-60-5	
Ethylbenzene	ND	ug/m3	29.6	33.6		07/03/14 21:30	100-41-4	
Methylene Chloride	**138**	ug/m3	119	33.6		07/03/14 21:30	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	24.5	33.6		07/03/14 21:30	1634-04-4	
Naphthalene	**34.9J**	ug/m3	89.4	33.6		07/03/14 21:30	91-20-3	
Tetrachloroethene	ND	ug/m3	23.2	33.6		07/03/14 21:30	127-18-4	
Toluene	**199**	ug/m3	25.9	33.6		07/03/14 21:30	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	50.7	33.6		07/03/14 21:30	120-82-1	
1,1,1-Trichloroethane	**1000J**	ug/m3	1190	1075.2		07/08/14 09:16	71-55-6	A3
~~1,1,2-Trichloroethane~~	ND	ug/m3	18.5	33.6		07/03/14 21:30	79-00-5	
Trichloroethene	**1490**	ug/m3	591	1075.2		07/08/14 09:16	79-01-6	A3
1,2,3-Trimethylbenzene	ND	ug/m3	33.6	33.6		07/03/14 21:30	526-73-8	
1,2,4-Trimethylbenzene	**17.6J**	ug/m3	33.6	33.6		07/03/14 21:30	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	33.6	33.6		07/03/14 21:30	108-67-8	
Vinyl chloride	ND	ug/m3	8.7	33.6		07/03/14 21:30	75-01-4	
m&p-Xylene	**25.6J**	ug/m3	59.1	33.6		07/03/14 21:30	179601-23-1	
o-Xylene	ND	ug/m3	29.6	33.6		07/03/14 21:30	95-47-6	

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Data File: \\192.168.10.12\chem\10airD.i\070714.b\18823.d
Report Date: 08-Jul-2014 09:55

Pace Analytical Services, Inc.

TO15 Analysis (UNIX)

Data file : \\192.168.10.12\chem\10airD.i\070714.b\18823.d
Lab Smp Id: 10271427001
Inj Date : 08-JUL-2014 09:16 A-INFLUENT
Operator : DR1 Inst ID: 10airD.i
Smp Info :
Misc Info : 20702
Comment : Volatile Organic COMPOUNDS in Air
Method : \\192.168.10.12\chem\10airD.i\070714.b\TO15_188-14.m
Meth Date : 08-Jul-2014 09:45 dlee Quant Type: ISTD
Cal Date : 07-JUL-2014 14:59 Cal File: 18802.d
Als bottle: 23
Dil Factor: 1075.20000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14
Processing Host: 10AIRPC4

Concentration Formula: Amt * DF * Uf * CpndVariable

Name	Value	Description
DF	1075.200	Dilution Factor
Uf	1.000	ng unit correction factor
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
1 Chlorodifluoromethane	51	Compound Not Detected.					
2 Propylene	41	Compound Not Detected.					
3 Dichlorodifluoromethane	85	Compound Not Detected.					
4 Dichlorotetrafluoroethane	85	Compound Not Detected.					
5 Chloromethane	50	Compound Not Detected.					
6 Vinyl chloride	62	Compound Not Detected.					
7 1,3-Butadiene	54	Compound Not Detected.					
8 Bromomethane	94	Compound Not Detected.					
9 Chloroethane	64	Compound Not Detected.					
10 Ethanol	31	Compound Not Detected.					
11 Vinyl Bromide	106	Compound Not Detected.					
12 Isopentane	43	Compound Not Detected.					
13 Trichlorofluoromethane	101	Compound Not Detected.					
14 Acrolein	56	Compound Not Detected.					
15 Acetone	43	3.957	3.983	(0.618)	12754	0.18054	194(M)
16 Isopropyl Alcohol	45	Compound Not Detected.					
17 1,1-Dichloroethene	61	Compound Not Detected.					
18 Tert Butyl Alcohol	59	Compound Not Detected.					
19 Acrylonitrile	53	Compound Not Detected.					
20 Freon 113	101	Compound Not Detected.					
21 Methylene chloride	49	Compound Not Detected.					
22 Allyl Chloride	76	Compound Not Detected.					
23 Carbon Disulfide	76	Compound Not Detected.					

Data File: \\192.168.10.12\chem\10airD.i\070714.b\18823.d Sample Calculation
Report Date: 08-Jul-2014 09:55

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
	24 trans-1,2-dichloroethene	96	Compound Not Detected.					
	25 Methyl Tert Butyl Ether	73	Compound Not Detected.					
	26 Vinyl Acetate	43	Compound Not Detected.					
	27 1,1-Dichloroethane	63	Compound Not Detected.					
$	28 Hexane-d14(S)	66	4.954	4.964	(0.774)	656344	10.5841	10.6
	29 Methyl Ethyl Ketone	72	Compound Not Detected.					
	30 n-Hexane	57	Compound Not Detected.					
	31 Di-isopropyl Ether	45	Compound Not Detected.					
	32 cis-1,2-Dichloroethene	96	Compound Not Detected.					
	33 Ethyl Acetate	43	Compound Not Detected.					
	34 Chloroform	83	Compound Not Detected.					
	35 Ethyl Tert-Butyl Ether	59	Compound Not Detected.					
	36 Tetrahydrofuran	42	Compound Not Detected.					
	37 1,1,1-Trichloroethane	97	5.895	5.899	(0.921)	15394	0.16839	181
	38 1,2-Dichloroethane	62	Compound Not Detected.					
	39 Benzene	78	Compound Not Detected.					
	40 Carbon tetrachloride	117	Compound Not Detected.					
	41 Cyclohexane	56	Compound Not Detected.					
	42 Tert Amyl Methyl Ether	73	Compound Not Detected.					
*	43 1,4-Difluorobenzene	114	6.404	6.413	(1.000)	1627316	10.0000	
	44 2,2,4-Trimethylpentane	57	Compound Not Detected.					
	45 Heptane	43	Compound Not Detected.					
	46 1,2-Dichloropropane	63	Compound Not Detected.					
	47 Trichloroethene	130	6.859	6.869	(1.071)	10870	0.25335	272
	48 Bromodichloromethane	83	Compound Not Detected.					
	49 1,4-Dioxane	88	Compound Not Detected.					
	50 Methylcyclohexane	98	Compound Not Detected.					
	51 Methyl Isobutyl Ketone	43	Compound Not Detected.					
	52 cis-1,3-Dichloropropene	75	Compound Not Detected.					
	53 trans-1,3-Dichloropropene	75	Compound Not Detected.					
$	54 Toluene-d8 (S)	98	8.204	8.211	(1.281)	1386065	9.78218	9.78
	55 Toluene	91	Compound Not Detected.					
	56 1,1,2-Trichloroethane	97	Compound Not Detected.					
	57 Methyl Butyl Ketone	43	Compound Not Detected.					
	58 Dibromochloromethane	129	Compound Not Detected.					
	59 1,2-Dibromoethane	107	Compound Not Detected.					
	60 Tetrachloroethene	166	Compound Not Detected.					
*	61 Chlorobenzene - d5	117	10.083	10.086	(1.000)	844743	10.0000	
	62 Chlorobenzene	112	Compound Not Detected.					
	63 Ethyl Benzene	91	Compound Not Detected.					
	64 m&p-Xylene	91	Compound Not Detected.					
	65 Bromoform	173	Compound Not Detected.					
	66 Styrene	104	Compound Not Detected.					
	67 o-Xylene	91	Compound Not Detected.					
	68 1,1,2,2-Tetrachloroethane	83	Compound Not Detected.					
	69 Isopropylbenzene	105	Compound Not Detected.					
	70 N-Propylbenzene	91	Compound Not Detected.					
	71 4-Ethyltoluene	105	Compound Not Detected.					
	72 1,3,5-Trimethylbenzene	105	Compound Not Detected.					
	73 Tert-Butyl Benzene	119	Compound Not Detected.					
	74 1,2,4-Trimethylbenzene	105	Compound Not Detected.					
	75 1,3-Dichlorobenzene	146	Compound Not Detected.					
	76 Sec- Butylbenzene	105	Compound Not Detected.					
$	77 1,4-dichlorobenzene-d4 (S)	150	13.874	13.877	(1.376)	292308	9.90038	9.90
	78 Benzyl Chloride	91	Compound Not Detected.					

Report Date : 08-Jul-2014 09:45

Sample Calculation

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-JUL-2014 14:59
End Cal Date : 07-JUL-2014 17:52
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airD.i\070714.b\TO15_188-14.m
Last Edit : 08-Jul-2014 09:45 10airD.i

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
41 Cyclohexane	2521	4651	15625	36864	586512	1322357					
	1977116						LINR	0.02437	3.08387		0.99630
42 Tert Amyl Methyl Ether	35455	39307	61688	96982	1060040	2342209					
	3810343						LINR	0.01402	1.65445		0.99771
44 2,2,4-Trimethylpentane	9911	19374	54821	122776	1827038	3870381					
	6158350						LINR	0.02584	1.00791		0.99902
45 Heptane	2794	6545	18679	45953	641177	1392880					
	2250164						LINR	0.03204	2.77017		0.99860
46 1,2-Dichloropropane	0.17513	0.17941	0.18182	0.18036	0.23946	0.28035					
	0.27533						AVRG		0.21598		22.09200
47 Trichloroethene	0.21621	0.21533	0.22563	0.23341	0.29978	0.33576					
	0.31949						AVRG		0.26366		19.93073
48 Bromodichloromethane	0.53223	0.52126	0.52973	0.52639	0.66632	0.71864					
	0.67444						AVRG		0.59557		14.54546

TETRA TECH **INTERNAL CORRESPONDENCE**

TO:	**P. RICH**	**DATE:**	**OCTOBER 7, 2014**
FROM:	**A. COGNETTI**	**COPIES:**	**DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SAMPLE DELIVERY GROUP (SDG) – 10273199

SAMPLES: 6/Air/VOC

A-EFFLUENT	A-INFLUENT	A-MID GAC
C-EFFLUENT	C-INFLUENT	C-MID GAC

Overview

The sample set for LMC – Middle River, SDG 10273199 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 July 3, 2014 and analyzed by Pace Analytical. 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

Nondetected results were reported to the reporting limit.

Executive Summary

Laboratory Performance: None.

Other Factors Affecting Data Quality: None.

TO: P. Rich
FROM: A. Cognetti
SDG: 10273199
DATE: October 7, 2014

The data for these analyses were reviewed with reference to USEPA National Functional Guidelines for Organic Data Validation (June 2008) 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
Data Validation Manager

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 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate

PROJ_NO: 03265	NSAMPLE	A-EFFLUENT-10273199			A-INFLUENT-10273199			A-MID-GAC-10273199			C-EFFLUENT-10273199		
SDG: 10273199	LAB_ID	10273199003			10273199001			10273199002			10273199006		
FRACTION: OV	SAMP_DATE	7/3/2014			7/3/2014			7/3/2014			7/3/2014		
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		9.3	U		871			178			1.9	U	
1,1,2-TRICHLOROETHANE		4.6	U		18.5	U		9.2	U		0.92	U	
1,1-DICHLOROETHANE		6.9	U		36.5			47.4			1.4	U	
1,1-DICHLOROETHENE		8.6			145			344			1.4	U	
1,2,3-TRIMETHYLBENZENE		8.4	U		33.6	U		16.8	U		1.9		
1,2,4-TRICHLOROBENZENE		12.7	U		50.7	U		25.4	U		2.5	U	
1,2,4-TRIMETHYLBENZENE		7.3	J	P	33.6	U		16.8	U		9.7		
1,2-DICHLOROETHANE		3.4	U		81.2			16.8			0.69	U	
1,3,5-TRIMETHYLBENZENE		6.5	J	P	33.6	U		16.8	U		5.4		
BENZENE		5	J	P	45.1			7.6	J	P	10.6		
CARBON TETRACHLORIDE		5.4	U		21.5	U		10.8	U		1.1	U	
CHLORODIFLUOROMETHANE		3.5	J	P	24.2	U		12.1	U		10.6		
CHLOROFORM		4.2	U		8.4	J	P	8.3	U		1.6		
CIS-1,2-DICHLOROETHENE		4.1	J	P	189			286			4.2		
DICHLORODIFLUOROMETHANE		8.5	U		33.9	U		17	U		1.1	J	P
ETHYLBENZENE		6.8	J	P	29.6	U		14.8	U		4.3		
M+P-XYLENES		8.8	J	P	59.1	U		29.6	U		7.4		
METHYL TERT-BUTYL ETHER		6.1	U		24.5	U		12.3	U		1.2	U	
METHYLENE CHLORIDE		29.7	U		119	U		59.3	U		5.8	J	P
NAPHTHALENE		6.8	J	P	89.4	U		44.7	U		2.4	J	P
O-XYLENE		7.4	J	P	29.6	U		14.8	U		1.8		
TETRACHLOROETHENE		11.6	U		46.3	U		23.2	U		20.5		
TOLUENE		7.2			20.8	J	P	11.7	J	P	4.2		
TRANS-1,2-DICHLOROETHENE		6.8	U		27.2	U		13.6	U		1.4	U	
TRICHLOROETHENE		4.6	U		1250			25.4			1.6		
VINYL CHLORIDE		2.2	U		8.7	U		4.4	U		0.44	U	

PROJ_NO: 03265	NSAMPLE	C-INFLUENT-10273199			C-MID-GAC-10273199		
SDG: 10273199	LAB_ID	10273199004			10273199005		
FRACTION: OV	SAMP_DATE	7/3/2014			7/3/2014		
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		1.9	U		1.9	U	
1,1,2-TRICHLOROETHANE		0.92	U		0.92	U	
1,1-DICHLOROETHANE		1.4	U		1.4	U	
1,1-DICHLOROETHENE		0.88	J	P	1.4	U	
1,2,3-TRIMETHYLBENZENE		2.8			1.7	U	
1,2,4-TRICHLOROBENZENE		2.5	U		2.5	U	
1,2,4-TRIMETHYLBENZENE		7.3			1.6	J	P
1,2-DICHLOROETHANE		0.69	U		0.69	U	
1,3,5-TRIMETHYLBENZENE		4.7			1.5	J	P
BENZENE		14.4			10.2		
CARBON TETRACHLORIDE		0.77	J	P	0.64	J	P
CHLORODIFLUOROMETHANE		11.2			12.3		
CHLOROFORM		5.6			5.1		
CIS-1,2-DICHLOROETHENE		4.1			5.8		
DICHLORODIFLUOROMETHANE		1.4	J	P	1.8		
ETHYLBENZENE		6.3			1.4	J	P
M+P-XYLENES		19.4			1.9	J	P
METHYL TERT-BUTYL ETHER		1.2	U		1.2	U	
METHYLENE CHLORIDE		147			9.7		
NAPHTHALENE		16.9			4.1	J	P
O-XYLENE		9.8			1.6		
TETRACHLOROETHENE		7.1			2.3	U	
TOLUENE		5.7			1.4		
TRANS-1,2-DICHLOROETHENE		0.81	J	P	0.79	J	P
TRICHLOROETHENE		183			3.4		
VINYL CHLORIDE		0.44	U		0.44	U	

Appendix B

Results as Reported by the Laboratory

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 117-0507599 SSDoem
Pace Project No.: 10273199

Sample: A-Effluent **Lab ID: 10273199003** Collected: 07/03/14 13:04 Received: 07/08/14 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**5.0J**	ug/m3	5.5	8.4		07/19/14 23:58	71-43-2	
Carbon tetrachloride	ND	ug/m3	5.4	8.4		07/19/14 23:58	56-23-5	
Chlorodifluoromethane	**3.5J**	ug/m3	6.0	8.4		07/19/14 23:58	75-45-6	
Chloroform	ND	ug/m3	4.2	8.4		07/19/14 23:58	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	8.5	8.4		07/19/14 23:58	75-71-8	
1,1-Dichloroethane	ND	ug/m3	6.9	8.4		07/19/14 23:58	75-34-3	
1,2-Dichloroethane	ND	ug/m3	3.4	8.4		07/19/14 23:58	107-06-2	
1,1-Dichloroethene	**8.6**	ug/m3	6.8	8.4		07/19/14 23:58	75-35-4	
cis-1,2-Dichloroethene	**4.1J**	ug/m3	6.8	8.4		07/19/14 23:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	6.8	8.4		07/19/14 23:58	156-60-5	
Ethylbenzene	**6.8J**	ug/m3	7.4	8.4		07/19/14 23:58	100-41-4	
Methylene Chloride	ND	ug/m3	29.7	8.4		07/19/14 23:58	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	6.1	8.4		07/19/14 23:58	1634-04-4	
Naphthalene	**6.8J**	ug/m3	22.3	8.4		07/19/14 23:58	91-20-3	
Tetrachloroethene	ND	ug/m3	11.6	8.4		07/19/14 23:58	127-18-4	
Toluene	**7.2**	ug/m3	6.5	8.4		07/19/14 23:58	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	12.7	8.4		07/19/14 23:58	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	9.3	8.4		07/19/14 23:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	4.6	8.4		07/19/14 23:58	79-00-5	
Trichloroethene	ND	ug/m3	4.6	8.4		07/19/14 23:58	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	8.4	8.4		07/19/14 23:58	526-73-8	
1,2,4-Trimethylbenzene	**7.3J**	ug/m3	8.4	8.4		07/19/14 23:58	95-63-6	
1,3,5-Trimethylbenzene	**6.5J**	ug/m3	8.4	8.4		07/19/14 23:58	108-67-8	
Vinyl chloride	ND	ug/m3	2.2	8.4		07/19/14 23:58	75-01-4	
m&p-Xylene	**8.8J**	ug/m3	14.8	8.4		07/19/14 23:58	179601-23-1	
o-Xylene	**7.4J**	ug/m3	7.4	8.4		07/19/14 23:58	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599 SSDoem
Pace Project No.: 10273199

Sample: A-Influent **Lab ID: 10273199001** Collected: 07/03/14 13:00 Received: 07/08/14 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**45.1**	ug/m3	21.8	33.6		07/20/14 00:42	71-43-2	
Carbon tetrachloride	ND	ug/m3	21.5	33.6		07/20/14 00:42	56-23-5	
Chlorodifluoromethane	ND	ug/m3	24.2	33.6		07/20/14 00:42	75-45-6	
Chloroform	**8.4J**	ug/m3	16.7	33.6		07/20/14 00:42	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	33.9	33.6		07/20/14 00:42	75-71-8	
1,1-Dichloroethane	**36.5**	ug/m3	27.6	33.6		07/20/14 00:42	75-34-3	
1,2-Dichloroethane	**81.2**	ug/m3	13.8	33.6		07/20/14 00:42	107-06-2	
1,1-Dichloroethene	**145**	ug/m3	27.2	33.6		07/20/14 00:42	75-35-4	
cis-1,2-Dichloroethene	**189**	ug/m3	27.2	33.6		07/20/14 00:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	27.2	33.6		07/20/14 00:42	156-60-5	
Ethylbenzene	ND	ug/m3	29.6	33.6		07/20/14 00:42	100-41-4	
Methylene Chloride	ND	ug/m3	119	33.6		07/20/14 00:42	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	24.5	33.6		07/20/14 00:42	1634-04-4	
Naphthalene	ND	ug/m3	89.4	33.6		07/20/14 00:42	91-20-3	
Tetrachloroethene	ND	ug/m3	46.3	33.6		07/20/14 00:42	127-18-4	
Toluene	**20.8J**	ug/m3	25.9	33.6		07/20/14 00:42	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	50.7	33.6		07/20/14 00:42	120-82-1	
1,1,1-Trichloroethane	**871**	ug/m3	37.3	33.6		07/20/14 00:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	18.5	33.6		07/20/14 00:42	79-00-5	
Trichloroethene	**1250**	ug/m3	18.5	33.6		07/20/14 00:42	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	33.6	33.6		07/20/14 00:42	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	33.6	33.6		07/20/14 00:42	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	33.6	33.6		07/20/14 00:42	108-67-8	
Vinyl chloride	ND	ug/m3	8.7	33.6		07/20/14 00:42	75-01-4	
m&p-Xylene	ND	ug/m3	59.1	33.6		07/20/14 00:42	179601-23-1	
o-Xylene	ND	ug/m3	29.6	33.6		07/20/14 00:42	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599 SSDoem
Pace Project No.: 10273199

Sample: A-Mid-Gac **Lab ID: 10273199002** Collected: 07/03/14 13:02 Received: 07/08/14 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**7.6J**	ug/m3	10.9	16.8		07/20/14 00:20	71-43-2	
Carbon tetrachloride	ND	ug/m3	10.8	16.8		07/20/14 00:20	56-23-5	
Chlorodifluoromethane	ND	ug/m3	12.1	16.8		07/20/14 00:20	75-45-6	
Chloroform	ND	ug/m3	8.3	16.8		07/20/14 00:20	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	17.0	16.8		07/20/14 00:20	75-71-8	
1,1-Dichloroethane	**47.4**	ug/m3	13.8	16.8		07/20/14 00:20	75-34-3	
1,2-Dichloroethane	**16.8**	ug/m3	6.9	16.8		07/20/14 00:20	107-06-2	
1,1-Dichloroethene	**344**	ug/m3	13.6	16.8		07/20/14 00:20	75-35-4	
cis-1,2-Dichloroethene	**286**	ug/m3	13.6	16.8		07/20/14 00:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	13.6	16.8		07/20/14 00:20	156-60-5	
Ethylbenzene	ND	ug/m3	14.8	16.8		07/20/14 00:20	100-41-4	
Methylene Chloride	ND	ug/m3	59.3	16.8		07/20/14 00:20	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	12.3	16.8		07/20/14 00:20	1634-04-4	
Naphthalene	ND	ug/m3	44.7	16.8		07/20/14 00:20	91-20-3	
Tetrachloroethene	ND	ug/m3	23.2	16.8		07/20/14 00:20	127-18-4	
Toluene	**11.7J**	ug/m3	12.9	16.8		07/20/14 00:20	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	25.4	16.8		07/20/14 00:20	120-82-1	
1,1,1-Trichloroethane	**178**	ug/m3	18.6	16.8		07/20/14 00:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	9.2	16.8		07/20/14 00:20	79-00-5	
Trichloroethene	**25.4**	ug/m3	9.2	16.8		07/20/14 00:20	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	16.8	16.8		07/20/14 00:20	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	16.8	16.8		07/20/14 00:20	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	16.8	16.8		07/20/14 00:20	108-67-8	
Vinyl chloride	ND	ug/m3	4.4	16.8		07/20/14 00:20	75-01-4	
m&p-Xylene	ND	ug/m3	29.6	16.8		07/20/14 00:20	179601-23-1	
o-Xylene	ND	ug/m3	14.8	16.8		07/20/14 00:20	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599 SSDoem
Pace Project No.: 10273199

Sample: C-Effluent **Lab ID: 10273199006** Collected: 07/03/14 12:04 Received: 07/08/14 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**10.6**	ug/m3	1.1	1.68		07/19/14 22:50	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		07/19/14 22:50	56-23-5	
Chlorodifluoromethane	**10.6**	ug/m3	1.2	1.68		07/19/14 22:50	75-45-6	
Chloroform	**1.6**	ug/m3	0.83	1.68		07/19/14 22:50	67-66-3	
Dichlorodifluoromethane	**1.1J**	ug/m3	1.7	1.68		07/19/14 22:50	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		07/19/14 22:50	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		07/19/14 22:50	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		07/19/14 22:50	75-35-4	
cis-1,2-Dichloroethene	**4.2**	ug/m3	1.4	1.68		07/19/14 22:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		07/19/14 22:50	156-60-5	
Ethylbenzene	**4.3**	ug/m3	1.5	1.68		07/19/14 22:50	100-41-4	
Methylene Chloride	**5.8J**	ug/m3	5.9	1.68		07/19/14 22:50	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		07/19/14 22:50	1634-04-4	
Naphthalene	**2.4J**	ug/m3	4.5	1.68		07/19/14 22:50	91-20-3	
Tetrachloroethene	**20.5**	ug/m3	2.3	1.68		07/19/14 22:50	127-18-4	
Toluene	**4.2**	ug/m3	1.3	1.68		07/19/14 22:50	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.5	1.68		07/19/14 22:50	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		07/19/14 22:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		07/19/14 22:50	79-00-5	
Trichloroethene	**1.6**	ug/m3	0.92	1.68		07/19/14 22:50	79-01-6	
1,2,3-Trimethylbenzene	**1.9**	ug/m3	1.7	1.68		07/19/14 22:50	526-73-8	
1,2,4-Trimethylbenzene	**9.7**	ug/m3	1.7	1.68		07/19/14 22:50	95-63-6	
1,3,5-Trimethylbenzene	**5.4**	ug/m3	1.7	1.68		07/19/14 22:50	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		07/19/14 22:50	75-01-4	
m&p-Xylene	**7.4**	ug/m3	3.0	1.68		07/19/14 22:50	179601-23-1	
o-Xylene	**1.8**	ug/m3	1.5	1.68		07/19/14 22:50	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599 SSDoem
Pace Project No.: 10273199

Sample: C-Influent **Lab ID: 10273199004** Collected: 07/03/14 12:00 Received: 07/08/14 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**14.4**	ug/m3	1.1	1.68		07/19/14 23:37	71-43-2	
Carbon tetrachloride	**0.77J**	ug/m3	1.1	1.68		07/19/14 23:37	56-23-5	
Chlorodifluoromethane	**11.2**	ug/m3	1.2	1.68		07/19/14 23:37	75-45-6	
Chloroform	**5.6**	ug/m3	0.83	1.68		07/19/14 23:37	67-66-3	
Dichlorodifluoromethane	**1.4J**	ug/m3	1.7	1.68		07/19/14 23:37	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		07/19/14 23:37	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		07/19/14 23:37	107-06-2	
1,1-Dichloroethene	**0.88J**	ug/m3	1.4	1.68		07/19/14 23:37	75-35-4	
cis-1,2-Dichloroethene	**4.1**	ug/m3	1.4	1.68		07/19/14 23:37	156-59-2	
trans-1,2-Dichloroethene	**0.81J**	ug/m3	1.4	1.68		07/19/14 23:37	156-60-5	
Ethylbenzene	**6.3**	ug/m3	1.5	1.68		07/19/14 23:37	100-41-4	
Methylene Chloride	**147**	ug/m3	5.9	1.68		07/19/14 23:37	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		07/19/14 23:37	1634-04-4	
Naphthalene	**16.9**	ug/m3	4.5	1.68		07/19/14 23:37	91-20-3	SS
Tetrachloroethene	**7.1**	ug/m3	2.3	1.68		07/19/14 23:37	127-18-4	
Toluene	**5.7**	ug/m3	1.3	1.68		07/19/14 23:37	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.5	1.68		07/19/14 23:37	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		07/19/14 23:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		07/19/14 23:37	79-00-5	
Trichloroethene	**183**	ug/m3	0.92	1.68		07/19/14 23:37	79-01-6	
1,2,3-Trimethylbenzene	**2.8**	ug/m3	1.7	1.68		07/19/14 23:37	526-73-8	
1,2,4-Trimethylbenzene	**7.3**	ug/m3	1.7	1.68		07/19/14 23:37	95-63-6	
1,3,5-Trimethylbenzene	**4.7**	ug/m3	1.7	1.68		07/19/14 23:37	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		07/19/14 23:37	75-01-4	
m&p-Xylene	**19.4**	ug/m3	3.0	1.68		07/19/14 23:37	179601-23-1	
o-Xylene	**9.8**	ug/m3	1.5	1.68		07/19/14 23:37	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599 SSDoem
Pace Project No.: 10273199

Sample: C-Mid-Gac **Lab ID: 10273199005** Collected: 07/03/14 12:02 Received: 07/08/14 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**10.2**	ug/m3	1.1	1.68		07/19/14 23:13	71-43-2	
Carbon tetrachloride	**0.64J**	ug/m3	1.1	1.68		07/19/14 23:13	56-23-5	
Chlorodifluoromethane	**12.3**	ug/m3	1.2	1.68		07/19/14 23:13	75-45-6	
Chloroform	**5.1**	ug/m3	0.83	1.68		07/19/14 23:13	67-66-3	
Dichlorodifluoromethane	**1.8**	ug/m3	1.7	1.68		07/19/14 23:13	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		07/19/14 23:13	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		07/19/14 23:13	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		07/19/14 23:13	75-35-4	
cis-1,2-Dichloroethene	**5.8**	ug/m3	1.4	1.68		07/19/14 23:13	156-59-2	
trans-1,2-Dichloroethene	**0.79J**	ug/m3	1.4	1.68		07/19/14 23:13	156-60-5	
Ethylbenzene	**1.4J**	ug/m3	1.5	1.68		07/19/14 23:13	100-41-4	
Methylene Chloride	**9.7**	ug/m3	5.9	1.68		07/19/14 23:13	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		07/19/14 23:13	1634-04-4	
Naphthalene	**4.1J**	ug/m3	4.5	1.68		07/19/14 23:13	91-20-3	
Tetrachloroethene	ND	ug/m3	2.3	1.68		07/19/14 23:13	127-18-4	
Toluene	**1.4**	ug/m3	1.3	1.68		07/19/14 23:13	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.5	1.68		07/19/14 23:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		07/19/14 23:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		07/19/14 23:13	79-00-5	
Trichloroethene	**3.4**	ug/m3	0.92	1.68		07/19/14 23:13	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		07/19/14 23:13	526-73-8	
1,2,4-Trimethylbenzene	**1.6J**	ug/m3	1.7	1.68		07/19/14 23:13	95-63-6	
1,3,5-Trimethylbenzene	**1.5J**	ug/m3	1.7	1.68		07/19/14 23:13	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		07/19/14 23:13	75-01-4	
m&p-Xylene	**1.9J**	ug/m3	3.0	1.68		07/19/14 23:13	179601-23-1	
o-Xylene	**1.6**	ug/m3	1.5	1.68		07/19/14 23:13	95-47-6	

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Appendix C

Support Documentation

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PROJECT NARRATIVE

Project: 117-0507599 SSDoem
Pace Project No.: 10273199

Method: TO-15
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: July 24, 2014

General Information:
6 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/20822

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- C-Influent (Lab ID: 10273199004)
  - Naphthalene
- LCS (Lab ID: 1736848)
  - Naphthalene

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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10273199

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

18717

Page: 1 of 1

Section A Required Client Information:

Company: Tetra Tech
Address: 51 Franklin St 400, Annapolis, MD 21401
Email To:
Phone: 410-990-4607 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Peter.Rich@tetratech.com
Copy To: Dawn.Monroe@tetratech.com
Purchase Order No.:
Project Name: SSD oem
Project Number: 117-0507599

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST / Superfund / Emissions / Clean Air Act / X Voluntary Clean Up / Dry Clean / RCRA / Other

Location of Sampling by State: MD

Reporting Units: ug/m³ X / mg/m³ / PPBV / PPMV / Other

Report Level: II. III. IV. X Other

Method: PM10, 3C- Fixed Gas (%), TO-3, TO-3M (Methane), TO-4 (PCBs), TO-13 (PAH), TO-14, TO-15, TO15 Short List*

Valid Media Codes: MEDIA / CODE — Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	Section D Required Client Information: AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED: COMPOSITE START END/GRAB DATE	TIME	COMPOSITE - DATE	TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	TO-14	Pace Lab ID
1	A-INFLUENT	1LC		7/3/14	1300			N/A		1324	N/A	X	001
2	A-MID-GAC	↓		↓	1302			↓		1318	↓	X	002
3	A-EFFLUENT	↓		↓	1304			↓		1790	↓	X	003
4	C-INFLUENT	↓		↓	~~1365~~ 1200			↓		~~[illegible]~~	1776	X	004
5	C-MID-GAC	↓		↓	~~1355~~ 1202			↓		~~[illegible]~~	1161	X	005
6	C-EFFLUENT	↓		↓	~~1354~~ 1204			↓		~~[illegible]~~	1333	X	006
7													
8													
9													
10													
11													
12													

Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Dawn Monroe	7/6/14	1515	[signature]	7/8/14	1000

SAMPLE CONDITIONS

AMB	2	3	0
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dawn L. Monroe

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 7/6/14

ORIGINAL

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: tetra tech

Project #: WO#: 10273199

10273199

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 8022 3268 9393

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: _____ **Temp Blank rec:** ☐ Yes ☑ No

Temp. (TO17 and TO13 samples only) (°C): — **Corrected Temp (°C):** —

Thermom. Used: ☐ B88A912167504 ☐ B88A9132521491 ☐ 72337080 ☐ 80512447

Temp should be above freezing to 6°C **Correction Factor:** _____

Date & Initials of Person Examining Contents: 7814

Type of ice Received ☐ Blue ☐ Wet ☑ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: air can				11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
A - influent	1324				
A - mid-gac	1318				
A - effluent	1790				
C - influent	1776				
C - mid-gac	1161				
C - effluent	1333				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** 7-8-14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 117-0507599 SSDoem
Pace Project No.: 10273199

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10273199001	**A-Influent**	Air	07/03/14 13:00	07/08/14 10:00
10273199002	**A-Mid-Gac**	Air	07/03/14 13:02	07/08/14 10:00
10273199003	**A-Effluent**	Air	07/03/14 13:04	07/08/14 10:00
10273199004	**C-Influent**	Air	07/03/14 12:00	07/08/14 10:00
10273199005	**C-Mid-Gac**	Air	07/03/14 12:02	07/08/14 10:00
10273199006	**C-Effluent**	Air	07/03/14 12:04	07/08/14 10:00

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without the written consent of Pace Analytical Services, Inc..

HOLDTIME

SDG 10273199

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/M3	C-MID-GAC	10273199005	NM	07/03/2014	07/19/2014	07/19/2014	16	0	16
OV	UG/M3	C-INFLUENT	10273199004	NM	07/03/2014	07/19/2014	07/19/2014	16	0	16
OV	UG/M3	C-EFFLUENT	10273199006	NM	07/03/2014	07/19/2014	07/19/2014	16	0	16
OV	UG/M3	A-MID-GAC	10273199002	NM	07/03/2014	07/20/2014	07/20/2014	17	0	17
OV	UG/M3	A-INFLUENT	10273199001	NM	07/03/2014	07/20/2014	07/20/2014	17	0	17
OV	UG/M3	A-EFFLUENT	10273199003	NM	07/03/2014	07/19/2014	07/19/2014	16	0	16

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10273199
Lab File ID: 20006BFB.D BFB Injection Date: 07/19/2014
Instrument ID: 10AIR7 BFB Injection Time: 13:00
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	22.93	
75	30.00 - 66.00% of mass 95	62.82	
96	5.00 - 9.00% of mass 95	6.47	
173	Less than 2.00% of mass 174	0.91	(0.93)
174	50.00 - 120.00% of mass 95	97.30	
175	4.00 - 9.00% of mass 174	6.70	(6.88)
176	93.00 - 101.00% of mass 174	93.69	(96.29)
177	5.00 - 9.00% of mass 176	5.32	(5.68)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CAL4	CAL4	20007.D	07/19/2014	13:22
2	CAL6	CAL6	20009.D	07/19/2014	14:06
3	CAL7	CAL7	20010.D	07/19/2014	14:31
4	CAL1	CAL1	20012.D	07/19/2014	15:48
5	CAL2	CAL2	20013.D	07/19/2014	16:09
6	CAL3	CAL3	20014.D	07/19/2014	16:31
7	CAL5	CAL5	20015.D	07/19/2014	16:52
8	ICVADDL (LCS)	ICVADDL	20016.D	07/19/2014	17:54
9	ICV (LCS)	ICV	20017.D	07/19/2014	18:15
10	LCS for HBN 308095 [AIR/	1736848	20022_20822.D	07/19/2014	21:18
11	BLANK for HBN 308095 [Al	1736847	20024_20822.D	07/19/2014	22:04
12	C-Effluent	10273199006	20026.D	07/19/2014	22:50
13	C-Mid-Gac	10273199005	20027.D	07/19/2014	23:13
14	C-Influent	10273199004	20028.D	07/19/2014	23:37
15	A-Effluent	10273199003	20029.D	07/19/2014	23:58
16	A-Mid-Gac	10273199002	20030.D	07/20/2014	00:20
17	A-Influent	10273199001	20031.D	07/20/2014	00:42
18	K1748070414(1729467DU	1737848-DUP	20033.D	07/20/2014	01:28

Report Date : 20-Jul-2014 16:51

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-JUL-2014 13:22
End Cal Date : 19-JUL-2014 16:52
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air7.i\071914.b\TO15_200-14.m
Last Edit : 20-Jul-2014 16:48 10air7.i

Calibration File Names:
Level 1: \\192.168.10.12\chem\10air7.i\071914.b\20012.D
Level 2: \\192.168.10.12\chem\10air7.i\071914.b\20013.D
Level 3: \\192.168.10.12\chem\10air7.i\071914.b\20014.D
Level 4: \\192.168.10.12\chem\10air7.i\071914.b\20007.D
Level 5: \\192.168.10.12\chem\10air7.i\071914.b\20015.D
Level 6: \\192.168.10.12\chem\10air7.i\071914.b\20009.D

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
1 Chlorodifluoromethane	0.36876	0.55144	0.41709	0.38978	0.37779	0.38687	AVRG		0.41529		16.53296
2 Propylene	158	726	905	2452	44480	136504	QUAD	-0.00056	0.06184	0.01935	0.99988
3 Dichlorodifluoromethane	0.89355	1.23034	1.18095	1.05445	1.07505	0.80415	AVRG		1.03975		15.78046
4 Dichlorotetrafluoroethane	0.66033	0.89457	0.82168	0.79974	0.85549	0.84388	AVRG		0.81262		9.99283
5 Chloromethane	0.27792	0.29801	0.26909	0.25464	0.27968	0.28174	AVRG		0.27685		5.19588
6 Vinyl chloride	327	1234	3173	9221	104348	284423	QUAD	-0.00067	0.17155	0.01881	1.00000
7 1,3-Butadiene	353	714	2129	5625	65797	180778	QUAD	-0.00032	0.10689	0.01301	0.99999
8 Bromomethane	0.26404	0.30872	0.27976	0.27924	0.25263	0.27530	AVRG		0.27662		6.82595
9 Chloroethane	0.06919	0.10737	0.09782	0.09167	0.08272	0.08987	AVRG		0.08977		14.53779
10 Ethanol	238	199	1399	4007	38315	94661	LINR	0.00262	14.35689		0.99996
11 Vinyl Bromide	585	1876	5021	12294	150197	417265	QUAD	-0.00067	0.24039	0.03317	0.99998
12 Isopentane	481	1654	3573	9046	102276	283550	QUAD	0.00025	0.16323	0.02242	0.99998
13 Acrolein	52.00000	166	528	2449	30441	84930	QUAD	-0.00067	0.04929	0.00671	0.99997
14 Trichlorofluoromethane	0.84625	1.38497	1.41316	1.29494	1.26330	1.19444	AVRG		1.23284		16.67757

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Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air7.i\071914.b\TO15_200-14.m
Last Edit : 20-Jul-2014 16:48 10air7.i

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
15 Acetone	4026	6313	13168	31845	250190	625459	LINR	-0.01698	2.20339		0.99988
16 Isopropyl Alcohol	1048	1472	4235	11749	160179	416899	QUAD	-0.00300	0.27936	0.01417	0.99991
17 Acrylonitrile	+++++	0.08876	0.10799	0.10332	0.13906	0.15800	AVRG		0.11943		23.69839
18 1,1-Dichloroethene	713	3272	8234	20816	245276	605457	LINR	0.00609	2.24016		0.99994
19 Tert Butyl Alcohol (TBA)	1709	4273	9108	22282	309192	796685	QUAD	-0.00471	0.54307	0.02222	0.99987
20 Freon 113	1302	5051	12408	33714	340872	861509	LINR	0.00422	1.58319		0.99991
21 Methylene chloride	0.27698	0.35839	0.32806	0.27726	0.28875	0.28896	AVRG		0.30307		10.87940
22 Allyl Chloride	54.00000	724	2142	4218	58197	157288	QUAD	-0.00061	0.09667	0.00957	0.99989
23 Carbon Disulfide	0.57397	0.74677	0.77347	0.70527	0.75102	0.80634	AVRG		0.72614		11.24022
24 trans-1,2-dichloroethene	610	2112	4899	13394	153300	407590	QUAD	-0.00089	0.25912	0.02031	0.99999
25 Methyl Tert Butyl Ether	1658	3890	11517	31381	399559	1030173	QUAD	-0.00677	0.70402	0.02796	0.99995
26 Vinyl Acetate	645	2318	6218	18482	286970	766918	LINR	0.02598	1.77452		0.99885
27 1,1-Dichloroethane	0.29440	0.51704	0.53458	0.48011	0.50564	0.50575	AVRG		0.47292		18.87010
29 Methyl Ethyl Ketone	98.00000	430	1343	4373	56858	163803	QUAD	-0.00086	0.08765	0.01653	0.99999
30 n-Hexane	820	1790	5982	14827	186722	476681	LINR	0.01294	2.85242		0.99978
31 Di-isopropyl Ether	1710	4020	10082	27425	384097	988516	QUAD	-0.00807	0.67906	0.02550	0.99989
32 Ethyl Acetate	1350	3142	9015	22250	300583	748916	LINR	0.01146	1.80874		0.99988
33 cis-1,2-Dichloroethene	670	2087	4808	13656	167347	437469	QUAD	-0.00212	0.28957	0.01638	0.99996
34 Ethyl Tert-Butyl Ether	1606	3505	9744	28960	400874	1029383	QUAD	-0.00951	0.71234	0.02423	0.99991
35 Chloroform	0.49043	0.83968	0.90655	0.79951	0.86167	0.81961	AVRG		0.78624		19.01994
36 Tetrahydrofuran	39.00000	468	1709	5500	86105	243171	QUAD	-0.00234	0.13741	0.02117	0.99995
37 1,1,1-Trichloroethane	0.59350	0.81612	0.89036	0.84935	0.89821	0.89794	AVRG		0.82425		14.27415

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Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air7.i\071914.b\TO15_200-14.m
Last Edit : 20-Jul-2014 16:48 10air7.i

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
38 1,2-Dichloroethane	0.40430	0.51971	0.57388	0.53668	0.61194	0.59683	AVRG		0.54056		13.93971
39 Benzene	1511	3437	9073	30112	415731	1132641	QUAD	-0.00877	0.69028	0.07296	0.99995
40 Carbon tetrachloride	0.64810	0.98882	0.97969	0.96940	1.04893	1.02626	AVRG		0.94353		15.66721
41 Cyclohexane	220	616	3656	10410	164336	446351	QUAD	-0.00489	0.27569	0.02729	0.99992
42 Tert Amyl Methyl Ether	8898	11284	19414	40468	414503	1081644	QUAD	0.01194	0.69226	0.04806	0.99994
44 2,2,4-Trimethylpentane	1551	3635	11765	35577	507583	1409028	QUAD	-0.01055	0.82355	0.10825	0.99996
45 Heptane	615	866	3933	13444	170484	472546	QUAD	-0.00316	0.27723	0.03567	0.99999
46 1,2-Dichloropropane	524	1540	4018	12814	149388	416052	QUAD	-0.00133	0.23961	0.03327	1.00000
47 Trichloroethene	745	1745	4934	16361	199423	565491	QUAD	-0.00226	0.31305	0.05165	1.00000
48 1,4-Dioxane	+++++	64.00000	974	4429	84760	215671	LINR	0.03586	6.21369		0.99981
49 Bromodichloromethane	2325	6147	16528	46652	548619	1334861	LINR	0.00571	1.01340		0.99986
50 Methylcyclohexane	69.00000	664	1649	5948	85450	244650	QUAD	-0.00188	0.13344	0.02358	0.99997
51 Methyl Isobutyl Ketone	540	1631	4976	18053	281141	744780	QUAD	-0.00916	0.48617	0.03272	0.99988
52 cis-1,3-Dichloropropene	906	1732	6257	21388	279489	718341	LINR	0.01903	1.88834		0.99973
53 trans-1,3-Dichloropropene	609	1736	5065	15124	300530	805860	LINR	0.03158	1.68430		0.99867
55 1,1,2-Trichloroethane	0.30922	0.37687	0.43029	0.40975	0.47150	0.48299	AVRG		0.41343		15.56436
56 Toluene	2452	5743	15145	48011	635831	1680985	QUAD	-0.01287	1.09261	0.07417	0.99995
57 Methyl Butyl Ketone	286	1592	5133	15297	278482	746040	LINR	0.02758	1.02104		0.99911
58 Dibromochloromethane	2211	4389	12219	38834	499858	1296744	QUAD	-0.01565	1.60341	0.05039	0.99996
59 1,2-Dibromoethane	1236	3371	9383	29880	393165	1042319	QUAD	-0.01268	1.23284	0.06850	0.99996
60 Tetrachloroethene	1586	3330	9455	29323	388688	1030210	QUAD	-0.01201	1.21796	0.06787	0.99996
62 Chlorobenzene	1.09151	1.61615	1.35042	1.34849	1.54102	1.67233	AVRG		1.43665		15.02568

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
63 Ethyl Benzene	2519	4910	15274	49776	797976	2157520	QUAD	-0.03980	2.46126	0.19069	0.99989
64 m&p-Xylene	2265	4629	12516	49209	690475	1804793	QUAD	-0.03330	2.21206	0.08286	0.99992
65 Bromoform	1610	5288	14282	44197	617983	1615044	QUAD	-0.02442	1.97237	0.07635	0.99993
66 Styrene	1177	2201	5875	21345	443506	1229548	LINR	0.03424	0.62097		0.99805
67 o-Xylene	1367	4073	13145	54927	763966	1912602	LINR	0.01629	0.39575		0.99989
68 1,1,2,2-Tetrachloroethane	1.11124	1.64274	1.62653	1.57326	1.84261	1.85086	AVRG		1.60787		16.77046
69 Isopropylbenzene	3601	9017	21823	71987	946210	2341815	LINR	0.00936	0.32383		0.99984
70 N-Propylbenzene	2501	6292	18140	72006	1188440	2949752	LINR	0.01856	0.25585		0.99970
71 4-Ethyltoluene	1702	4304	14631	56606	874529	2135294	LINR	0.01529	0.35295		0.99956
72 1,3,5-Trimethylbenzene	1613	4904	17769	65322	867754	2143300	LINR	0.01250	0.35300		0.99983
73 Tert-Butyl Benzene	1599	4362	13812	44912	766028	1904411	LINR	0.01804	0.39655		0.99971
74 1,2,4-Trimethylbenzene	1993	5032	17623	62717	864056	2064535	LINR	0.00885	0.36483		0.99920
75 1,3-Dichlorobenzene	1301	4212	13677	42034	565305	1421877	LINR	0.01270	0.53397		0.99993
76 Sec- Butylbenzene	2098	6173	22226	85116	1147390	2753572	LINR	0.00975	0.27363		0.99932
78 Benzyl Chloride	2915	6023	18393	54866	682918	1748227	LINR	0.01129	0.43614		0.99991
79 1,4-Dichlorobenzene	1.25385	1.51786	1.64216	1.67787	1.94044	1.92098	AVRG		1.65886		15.54654
80 p-Isopropyltoluene	1970	4595	16200	61446	774788	2037926	LINR	0.01865	0.37442		0.99961
81 1,2,3-Trimethylbenzene	1774	5096	18481	64063	772327	1854756	LINR	0.00526	0.40734		0.99943
82 1,2-Dichlorobenzene	1277	3260	10857	31458	502554	1291712	QUAD	-0.02716	1.63960	0.03203	0.99985
83 N-Butylbenzene	1.88615	3.16329	3.56558	2.88256	3.13630	3.07150	AVRG		2.95090		19.23108
84 1,2,4-Trichlorobenzene	1.40138	1.47060	1.39196	1.05483	1.05028	0.98530	AVRG		1.22572		17.73392
85 Naphthalene	1.56910	1.58258	1.48857	1.36228	1.51496	+++++	AVRG		1.50350		5.84143

Report Date : 20-Jul-2014 16:51

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-JUL-2014 13:22
End Cal Date : 19-JUL-2014 16:52
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air7.i\071914.b\TO15_200-14.m
Last Edit : 20-Jul-2014 16:48 10air7.i

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
86 Hexachlorobutadiene	3553	8078	20003	45751	416118	702233	QUAD	-0.00131	1.80980	-0.44519	0.99976
$ 28 Hexane-d14(S)	0.37091	0.39474	0.37797	0.30008	0.31283	0.28616	AVRG		0.34045		13.53834
$ 54 Toluene-d8 (S)	0.87506	0.91248	0.91795	0.92036	0.90520	0.86114	AVRG		0.89870		2.74447
$ 77 1,4-dichlorobenzene-d4 (S)	0.44091	0.54595	0.55831	0.61189	0.74360	0.67983	AVRG		0.59675		17.89846

Report Date : 20-Jul-2014 16:51

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-JUL-2014 13:22
End Cal Date : 19-JUL-2014 16:52
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air7.i\071914.b\TO15_200-14.m
Last Edit : 20-Jul-2014 16:48 10air7.i

Average %RSD Results.	
Calculated Average %RSD =	14.44675
Maximun Average %RSD =	30.00000
* Passed Average %RSD Test.	

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + m1*Rsp	Amount
Quad	Rsp = b + m1*Amt + m2*Amt^2	Amount

Data File: \\192.168.10.12\chem\10air7.i\071914.b\20017.D
Report Date: 20-Jul-2014 16:54

Pace Analytical Services, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: GAS
Lab Smp Id: ICV
Level: LOW
Data Type: MS DATA
SpikeList File: SSV_new.spk
Sublist File: all.sub
Method File: \\192.168.10.12\chem\10air7.i\071914.b\TO15_200-14.m
Misc Info:

Client SDG: 071914.b
Fraction: VOA

Operator: DL1
SampleType: LCS
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ppbv	CONC RECOVERED ppbv	% RECOVERED	LIMITS
2 Propylene	10.6	11.9	112.44	60-140
3 Dichlorodifluorome	9.60	11.0	114.26	60-140
4 Dichlorotetrafluor	11.0	11.2	102.29	60-140
5 Chloromethane	11.0	11.9	107.92	60-140
6 Vinyl chloride	9.70	11.4	117.90	60-140
7 1,3-Butadiene	10.0	11.8	117.62	60-140
8 Bromomethane	7.20	8.02	111.35	60-140
9 Chloroethane	7.70	8.39	108.96	60-140
10 Ethanol	8.30	12.2	146.82*	60-140
11 Vinyl Bromide	9.90	10.3	104.12	60-140
14 Trichlorofluoromet	9.70	10.7	110.13	60-140
15 Acetone	9.60	10.4	108.38	60-140
16 Isopropyl Alcohol	10.3	11.8	114.14	60-140
18 1,1-Dichloroethene	11.7	14.7	125.61	60-140
20 Freon 113	9.40	11.6	123.95	60-140
21 Methylene chloride	10.1	11.8	116.89	60-140
23 Carbon Disulfide	10.0	8.21	82.15	60-140
24 trans-1,2-dichloro	10.4	11.8	112.99	60-140
25 Methyl Tert Butyl	9.80	10.4	106.53	60-140
27 1,1-Dichloroethane	10.4	12.8	122.66	60-140
26 Vinyl Acetate	10.5	11.5	109.99	60-140
29 Methyl Ethyl Keton	10.4	11.2	107.61	60-140
30 n-Hexane	10.3	9.74	94.57	60-140
33 cis-1,2-Dichloroet	10.2	11.4	111.31	60-140
32 Ethyl Acetate	10.8	11.0	101.97	60-140
35 Chloroform	11.0	12.2	110.90	60-140
36 Tetrahydrofuran	11.0	11.9	108.34	60-140
37 1,1,1-Trichloroeth	10.0	12.1	120.66	60-140
38 1,2-Dichloroethane	11.1	13.7	123.40	60-140
39 Benzene	10.8	11.8	109.55	60-140
40 Carbon tetrachlori	10.4	12.4	119.51	60-140
41 Cyclohexane	10.7	11.8	110.60	60-140
44 2,2,4-Trimethylpen	10.2	10.8	105.63	60-140
45 Heptane	11.5	12.4	108.10	60-140
46 1,2-Dichloropropan	10.3	11.4	111.14	60-140
47 Trichloroethene	9.70	11.3	116.62	60-140
49 Bromodichlorometha	10.0	11.2	111.78	60-140
48 1,4-Dioxane	9.90	9.36	94.59	60-140
51 Methyl Isobutyl Ke	10.0	10.7	106.75	60-140
52 cis-1,3-Dichloropr	11.9	11.9	100.38	60-140

Data File: \\192.168.10.12\chem\10air7.i\071914.b\20017.D
Report Date: 20-Jul-2014 16:54

SPIKE COMPOUND	CONC ADDED ppbv	CONC RECOVERED ppbv	% RECOVERED	LIMITS
53 trans-1,3-Dichloro	10.1	9.52	94.23	60-140
56 Toluene	10.6	10.6	99.76	60-140
55 1,1,2-Trichloroeth	9.80	11.0	112.17	60-140
57 Methyl Butyl Keton	10.0	9.02	90.20	60-140
58 Dibromochlorometha	9.60	8.72	90.86	60-140
59 1,2-Dibromoethane	9.80	8.99	91.75	60-140
60 Tetrachloroethene	9.80	9.10	92.86	60-140
62 Chlorobenzene	10.4	10.2	97.75	60-140
63 Ethyl Benzene	10.1	9.30	92.14	60-140
64 m&p-Xylene	20.3	19.5	95.88	60-140
65 Bromoform	10.0	10.0	100.57	60-140
66 Styrene	11.6	11.0	94.80	60-140
67 o-Xylene	9.30	8.02	86.30	60-140
68 1,1,2,2-Tetrachlor	9.30	11.1	119.22	60-140
69 Isopropylbenzene	9.50	9.49	99.93	60-140
70 N-Propylbenzene	9.00	9.00	100.02	60-140
71 4-Ethyltoluene	8.40	8.41	100.09	60-140
72 1,3,5-Trimethylben	9.60	9.24	96.26	60-140
74 1,2,4-Trimethylben	9.30	8.37	89.97	60-140
76 Sec- Butylbenzene	9.70	10.1	103.77	60-140
75 1,3-Dichlorobenzen	10.1	9.91	98.08	60-140
78 Benzyl Chloride	9.70	10.4	107.39	60-140
79 1,4-Dichlorobenzen	9.90	11.6	117.34	60-140
82 1,2-Dichlorobenzen	9.70	9.90	102.11	60-140
83 N-Butylbenzene	9.50	10.3	108.06	60-140
84 1,2,4-Trichloroben	8.90	10.4	116.40	60-140
85 Naphthalene	9.00	12.7	141.63*	60-140
86 Hexachlorobutadien	8.50	10.7	125.96	60-140

SURROGATE COMPOUND	CONC ADDED ppbv	CONC RECOVERED ppbv	% RECOVERED	LIMITS
$ 28 Hexane-d14(S)	10.0	10.6	105.99	70-130
$ 54 Toluene-d8 (S)	10.0	11.4	113.64	70-130
$ 77 1,4-dichlorobenzen	10.0	11.1	110.67	70-130

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 117-0507599 SSDoem
Pace Project No.: 10273199

QC Batch: AIR/20822 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10273199001, 10273199002, 10273199003, 10273199004, 10273199005, 10273199006

METHOD BLANK: 1736847 Matrix: Air
Associated Lab Samples: 10273199001, 10273199002, 10273199003, 10273199004, 10273199005, 10273199006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	07/19/14 22:04	
1,1,2-Trichloroethane	ug/m3	ND	0.55	07/19/14 22:04	
1,1-Dichloroethane	ug/m3	ND	0.82	07/19/14 22:04	
1,1-Dichloroethene	ug/m3	ND	0.81	07/19/14 22:04	
1,2,3-Trimethylbenzene	ug/m3	ND	1.0	07/19/14 22:04	
1,2,4-Trichlorobenzene	ug/m3	ND	1.5	07/19/14 22:04	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	07/19/14 22:04	
1,2-Dichloroethane	ug/m3	ND	0.41	07/19/14 22:04	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	07/19/14 22:04	
Benzene	ug/m3	ND	0.65	07/19/14 22:04	
Carbon tetrachloride	ug/m3	ND	0.64	07/19/14 22:04	
Chlorodifluoromethane	ug/m3	ND	0.72	07/19/14 22:04	
Chloroform	ug/m3	ND	0.50	07/19/14 22:04	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	07/19/14 22:04	
Dichlorodifluoromethane	ug/m3	ND	1.0	07/19/14 22:04	
Ethylbenzene	ug/m3	ND	0.88	07/19/14 22:04	
m&p-Xylene	ug/m3	ND	1.8	07/19/14 22:04	
Methyl-tert-butyl ether	ug/m3	ND	0.73	07/19/14 22:04	
Methylene Chloride	ug/m3	ND	3.5	07/19/14 22:04	
Naphthalene	ug/m3	ND	2.7	07/19/14 22:04	
o-Xylene	ug/m3	ND	0.88	07/19/14 22:04	
Tetrachloroethene	ug/m3	ND	1.4	07/19/14 22:04	
Toluene	ug/m3	ND	0.77	07/19/14 22:04	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	07/19/14 22:04	
Trichloroethene	ug/m3	ND	0.55	07/19/14 22:04	
Vinyl chloride	ug/m3	ND	0.26	07/19/14 22:04	

LABORATORY CONTROL SAMPLE: 1736848

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	61.1	110	72-128	
1,1,2-Trichloroethane	ug/m3	55.5	63.0	114	72-130	
1,1-Dichloroethane	ug/m3	41.2	42.3	103	68-128	
1,1-Dichloroethene	ug/m3	40.3	39.8	99	68-130	
1,2,3-Trimethylbenzene	ug/m3	50	50.9	102	60-140	
1,2,4-Trichlorobenzene	ug/m3	75.5	63.5	84	30-150	
1,2,4-Trimethylbenzene	ug/m3	50	52.7	105	71-140	
1,2-Dichloroethane	ug/m3	41.2	47.8	116	71-132	
1,3,5-Trimethylbenzene	ug/m3	50	50.6	101	73-136	
Benzene	ug/m3	32.5	32.1	99	69-134	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 117-0507599 SSDoem
Pace Project No.: 10273199

LABORATORY CONTROL SAMPLE: 1736848

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/m3	64	71.3	111	66-134	
Chlorodifluoromethane	ug/m3	36	32.2	90	60-140	
Chloroform	ug/m3	49.7	53.8	108	72-127	
cis-1,2-Dichloroethene	ug/m3	40.3	40.4	100	71-135	
Dichlorodifluoromethane	ug/m3	50.3	51.5	102	69-125	
Ethylbenzene	ug/m3	44.2	45.8	104	73-139	
m&p-Xylene	ug/m3	44.2	43.3	98	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	36.2	99	72-132	
Methylene Chloride	ug/m3	35.3	32.7	92	64-134	
Naphthalene	ug/m3	53.3	52.1	98	61-150	SS
o-Xylene	ug/m3	44.2	44.7	101	71-138	
Tetrachloroethene	ug/m3	69	70.2	102	69-136	
Toluene	ug/m3	38.3	37.8	99	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	39.4	98	70-131	
Trichloroethene	ug/m3	54.6	54.3	99	70-135	
Vinyl chloride	ug/m3	26	25.6	98	69-132	

SAMPLE DUPLICATE: 1737848

Parameter	Units	10273477001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,3-Trimethylbenzene	ug/m3	ND	ND		25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	0.52J	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
Benzene	ug/m3	0.61J	0.66		25	
Carbon tetrachloride	ug/m3	0.54J	0.63J		25	
Chlorodifluoromethane	ug/m3	1.4	1.2	17	25	
Chloroform	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.4	2.3	5	25	
Ethylbenzene	ug/m3	0.81J	ND		25	
m&p-Xylene	ug/m3	0.87J	0.84J		25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	0.36J	0.40J		25	
Naphthalene	ug/m3	ND	ND		25	
o-Xylene	ug/m3	0.79J	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	0.93	0.98	5	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	

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(612)607-1700

QUALITY CONTROL DATA

Project: 117-0507599 SSDoem
Pace Project No.: 10273199

SAMPLE DUPLICATE: 1737848

Parameter	Units	10273477001 Result	Dup Result	RPD	Max RPD	Qualifiers
Vinyl chloride	ug/m3	ND	ND		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALIFIERS

Project: 117-0507599 SSDoem
Pace Project No.: 10273199

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

SS This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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Data File: \\192.168.10.12\chem\10air7.i\071914.b\20029.D
Report Date: 20-Jul-2014 16:56

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 20029.D
Lab Smp Id: 10273199003 A- Effluent
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10air7.i\071914.b\TO15_200-14.m
Misc Info: 20822

Calibration Date: 19-JUL-2014
Calibration Time: 16:52

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	549944	329966	769922	597784	8.70
61 Chlorobenzene - d	304611	182767	426455	362161	18.89

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.67	4.34	5.00	4.66	-0.07
61 Chlorobenzene - d	7.49	7.16	7.82	7.49	-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: \\192.168.10.12\chem\10air7.i\071914.b\20031.D
Report Date: 20-Jul-2014 16:56

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 20031.D
Lab Smp Id: 10273199001 A-INFLUENT
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10air7.i\071914.b\TO15_200-14.m
Misc Info: 20822

Calibration Date: 19-JUL-2014
Calibration Time: 16:52
Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	549944	329966	769922	388242	-29.40
61 Chlorobenzene - d	304611	182767	426455	221053	-27.43

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.67	4.34	5.00	4.66	-0.14
61 Chlorobenzene - d	7.49	7.16	7.82	7.49	-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: \\192.168.10.12\chem\10air7.i\071914.b\20030.D
Report Date: 20-Jul-2014 16:56

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 20030.D
Lab Smp Id: 10273199002 A-MIDGAC
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10air7.i\071914.b\TO15_200-14.m
Misc Info: 20822

Calibration Date: 19-JUL-2014
Calibration Time: 16:52

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	549944	329966	769922	451739	-17.86
61 Chlorobenzene - d	304611	182767	426455	244179	-19.84

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.67	4.34	5.00	4.66	-0.07
61 Chlorobenzene - d	7.49	7.16	7.82	7.49	-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: \\192.168.10.12\chem\10air7.i\071914.b\20026.D
Report Date: 20-Jul-2014 16:56

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 20026.D
Lab Smp Id: 10273199006 C- Effluent
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10air7.i\071914.b\TO15_200-14.m
Misc Info: 20822

Calibration Date: 19-JUL-2014
Calibration Time: 16:52

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	549944	329966	769922	445441	-19.00
61 Chlorobenzene - d	304611	182767	426455	326769	7.27

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.67	4.34	5.00	4.66	-0.07
61 Chlorobenzene - d	7.49	7.16	7.82	7.49	-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: \\192.168.10.12\chem\10air7.i\071914.b\20027.D
Report Date: 20-Jul-2014 16:56

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 20027.D
Lab Smp Id: 10273199005 C-MID-GAC
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10air7.i\071914.b\TO15_200-14.m
Misc Info: 20822

Calibration Date: 19-JUL-2014
Calibration Time: 16:52

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	549944	329966	769922	477847	-13.11
61 Chlorobenzene - d	304611	182767	426455	337343	10.75

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.67	4.34	5.00	4.66	-0.07
61 Chlorobenzene - d	7.49	7.16	7.82	7.49	-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: \\192.168.10.12\chem\10air7.i\071914.b\20028.D
Report Date: 20-Jul-2014 16:56

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 20028.D
Lab Smp Id: 10273199004 G INFLUENT
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10air7.i\071914.b\TO15_200-14.m
Misc Info: 20822

Calibration Date: 19-JUL-2014
Calibration Time: 16:52

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	549944	329966	769922	541245	-1.58
61 Chlorobenzene - d	304611	182767	426455	391705	28.59

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.67	4.34	5.00	4.67	0.07
61 Chlorobenzene - d	7.49	7.16	7.82	7.49	-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 NUS, INC. **CALCULATION WORKSHEET** PAGE 1 OF 1

CLIENT MRC	JOB NUMBER SDG 10273199
SUBJECT Sample Calculation	
BASED ON	DRAWING NUMBER
BY Edm Cognetti / CHECKED BY	APPROVED BY / DATE Oct 7 2014

Sample A-Influent; 1,2-dichloroethane

$$\frac{12327}{388242} * \frac{10\ ppbv}{0.54056} * 33.6 = 19.74\ ppbv$$

$$19.74\ ppbv * \frac{98.96\ g/mole}{24.45\ L/mole} = 79.88\ ug/m^3$$

Pace Analytical®
www.pacelabs.com

Sample Calc.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 117-0507599 SSDoem
Pace Project No.: 10273199

Sample: A-Influent **Lab ID: 10273199001** Collected: 07/03/14 13:00 Received: 07/08/14 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**45.1**	ug/m3	21.8	33.6		07/20/14 00:42	71-43-2	
Carbon tetrachloride	ND	ug/m3	21.5	33.6		07/20/14 00:42	56-23-5	
Chlorodifluoromethane	ND	ug/m3	24.2	33.6		07/20/14 00:42	75-45-6	
Chloroform	**8.4J**	ug/m3	16.7	33.6		07/20/14 00:42	67-66-3	
Dichlorodifluoromethane	ND	ug/m3	33.9	33.6		07/20/14 00:42	75-71-8	
1,1-Dichloroethane	**36.5**	ug/m3	27.6	33.6		07/20/14 00:42	75-34-3	
1,2-Dichloroethane	**81.2**	ug/m3	13.8	33.6		07/20/14 00:42	107-06-2	
1,1-Dichloroethene	**145**	ug/m3	27.2	33.6		07/20/14 00:42	75-35-4	
cis-1,2-Dichloroethene	**189**	ug/m3	27.2	33.6		07/20/14 00:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	27.2	33.6		07/20/14 00:42	156-60-5	
Ethylbenzene	ND	ug/m3	29.6	33.6		07/20/14 00:42	100-41-4	
Methylene Chloride	ND	ug/m3	119	33.6		07/20/14 00:42	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	24.5	33.6		07/20/14 00:42	1634-04-4	
Naphthalene	ND	ug/m3	89.4	33.6		07/20/14 00:42	91-20-3	
Tetrachloroethene	ND	ug/m3	46.3	33.6		07/20/14 00:42	127-18-4	
Toluene	**20.8J**	ug/m3	25.9	33.6		07/20/14 00:42	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	50.7	33.6		07/20/14 00:42	120-82-1	
1,1,1-Trichloroethane	**871**	ug/m3	37.3	33.6		07/20/14 00:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	18.5	33.6		07/20/14 00:42	79-00-5	
Trichloroethene	**1250**	ug/m3	18.5	33.6		07/20/14 00:42	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	33.6	33.6		07/20/14 00:42	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	33.6	33.6		07/20/14 00:42	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	33.6	33.6		07/20/14 00:42	108-67-8	
Vinyl chloride	ND	ug/m3	8.7	33.6		07/20/14 00:42	75-01-4	
m&p-Xylene	ND	ug/m3	59.1	33.6		07/20/14 00:42	179601-23-1	
o-Xylene	ND	ug/m3	29.6	33.6		07/20/14 00:42	95-47-6	

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Data File: \\192.168.10.12\chem\10air7.i\071914.b\20031.D
Report Date: 20-Jul-2014 16:56

Sample Calc.

Pace Analytical Services, Inc.

TO15 Analysis (UNIX)

Data file : \\192.168.10.12\chem\10air7.i\071914.b\20031.D
Lab Smp Id: 10273199001
Inj Date : 20-JUL-2014 00:42
Operator : DL1 Inst ID: 10air7.i
Smp Info : A-Influent
Misc Info : 20822
Comment : Volatile Organic COMPOUNDS in Air
Method : \\192.168.10.12\chem\10air7.i\071914.b\TO15_200-14.m
Meth Date : 20-Jul-2014 16:52 10air7.i Quant Type: ISTD
Cal Date : 19-JUL-2014 16:52 Cal File: 20015.D
Als bottle: 31
Dil Factor: 33.60000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14
Processing Host: VIRTUALXP-77637

Concentration Formula: Amt * DF * Uf * CpndVariable

Name	Value	Description
DF	33.600	Dilution Factor
Uf	1.000	ng unit correction factor
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
1 Chlorodifluoromethane	51	Compound Not Detected.					
2 Propylene	41	Compound Not Detected.					
3 Dichlorodifluoromethane	85	Compound Not Detected.					
4 Dichlorotetrafluoroethane	85	Compound Not Detected.					
5 Chloromethane	50	Compound Not Detected.					
6 Vinyl chloride	62	Compound Not Detected.					
7 1,3-Butadiene	54	Compound Not Detected.					
8 Bromomethane	94	Compound Not Detected.					
9 Chloroethane	64	Compound Not Detected.					
10 Ethanol	31	2.893	2.874	(0.621)	1525	0.59009	19.8(M)
11 Vinyl Bromide	106	Compound Not Detected.					
12 Isopentane	43	Compound Not Detected.					
13 Acrolein	56	Compound Not Detected.					
14 Trichlorofluoromethane	101	Compound Not Detected.					
15 Acetone	43	3.027	3.021	(0.650)	64128	3.46967	116
16 Isopropyl Alcohol	45	Compound Not Detected.					
17 Acrylonitrile	53	Compound Not Detected.					
18 1,1-Dichloroethene	61	3.197	3.194	(0.686)	17564	1.07439	36.1(M)
19 Tert Butyl Alcohol (TBA)	59	Compound Not Detected.					
20 Freon 113	101	Compound Not Detected.					
21 Methylene chloride	49	Compound Not Detected.					
22 Allyl Chloride	76	Compound Not Detected.					
23 Carbon Disulfide	76	3.377	3.374	(0.725)	13436	0.47659	16.0(M)
24 trans-1,2-dichloroethene	96	Compound Not Detected.					

Data File: \\192.168.10.12\chem\10air7.i\071914.b\20031.D
Report Date: 20-Jul-2014 16:56

Sample Calc.

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
	25 Methyl Tert Butyl Ether	73	Compound Not Detected.					
	26 Vinyl Acetate	43	Compound Not Detected.					
	27 1,1-Dichloroethane	63	3.599	3.602	(0.773)	4853	0.26431	8.88(M)
$	28 Hexane-d14(S)	66	3.674	3.674	(0.789)	147501	11.1594	11.2
	29 Methyl Ethyl Ketone	72	3.746	3.730	(0.804)	1136	0.42799	14.4(Q)
	30 n-Hexane	57	Compound Not Detected.					
	31 Di-isopropyl Ether	45	Compound Not Detected.					
	32 Ethyl Acetate	43	Compound Not Detected.					
	33 cis-1,2-Dichloroethene	96	3.877	3.874	(0.832)	14990	1.39555	46.9(QM)
	34 Ethyl Tert-Butyl Ether	59	Compound Not Detected.					
	35 Chloroform	83	3.965	3.972	(0.851)	1546	0.05065	1.70(M)
	36 Tetrahydrofuran	42	4.145	4.112	(0.890)	1205	0.39370	13.2(QM)
	37 1,1,1-Trichloroethane	97	4.315	4.318	(0.926)	149645	4.67629	157
	38 1,2-Dichloroethane	62	4.312	4.325	(0.926)	12327	0.58737	19.7
	39 Benzene	78	4.524	4.531	(0.971)	7721	0.41329	13.9(M)
	40 Carbon tetrachloride	117	Compound Not Detected.					
	41 Cyclohexane	56	Compound Not Detected.					
	42 Tert Amyl Methyl Ether	73	Compound Not Detected.					
*	43 1,4-Difluorobenzene	114	4.658	4.665	(1.000)	388242	10.0000	
	44 2,2,4-Trimethylpentane	57	Compound Not Detected.					
	45 Heptane	43	Compound Not Detected.					
	46 1,2-Dichloropropane	63	Compound Not Detected.					
	47 Trichloroethene	130	4.998	5.001	(1.073)	91149	6.80702	229
	48 1,4-Dioxane	88	Compound Not Detected.					
	49 Bromodichloromethane	83	Compound Not Detected.					
	50 Methylcyclohexane	98	Compound Not Detected.					
	51 Methyl Isobutyl Ketone	43	Compound Not Detected.					
	52 cis-1,3-Dichloropropene	75	Compound Not Detected.					
	53 trans-1,3-Dichloropropene	75	Compound Not Detected.					
$	54 Toluene-d8 (S)	98	6.002	6.008	(1.288)	367243	10.5253	10.5
	55 1,1,2-Trichloroethane	97	Compound Not Detected.					
	56 Toluene	91	6.064	6.077	(1.302)	1865	0.16157	5.43(M)
	57 Methyl Butyl Ketone	43	Compound Not Detected.					
	58 Dibromochloromethane	129	Compound Not Detected.					
	59 1,2-Dibromoethane	107	Compound Not Detected.					
	60 Tetrachloroethene	166	Compound Not Detected.					
*	61 Chlorobenzene - d5	117	7.485	7.489	(1.000)	221053	10.0000	
	62 Chlorobenzene	112	Compound Not Detected.					
	63 Ethyl Benzene	91	Compound Not Detected.					
	64 m&p-Xylene	91	Compound Not Detected.					
	65 Bromoform	173	Compound Not Detected.					
	66 Styrene	104	Compound Not Detected.					
	67 o-Xylene	91	Compound Not Detected.					
	68 1,1,2,2-Tetrachloroethane	83	Compound Not Detected.					
	69 Isopropylbenzene	105	Compound Not Detected.					
	70 N-Propylbenzene	91	Compound Not Detected.					
	71 4-Ethyltoluene	105	Compound Not Detected.					
	72 1,3,5-Trimethylbenzene	105	Compound Not Detected.					
	73 Tert-Butyl Benzene	119	Compound Not Detected.					
	74 1,2,4-Trimethylbenzene	105	Compound Not Detected.					
	75 1,3-Dichlorobenzene	146	Compound Not Detected.					
	76 Sec- Butylbenzene	105	Compound Not Detected.					
$	77 1,4-dichlorobenzene-d4 (S)	150	10.676	10.679	(1.426)	90212	6.83875	6.84(R)
	78 Benzyl Chloride	91	Compound Not Detected.					

Report Date : 20-Jul-2014 16:51

Sample Calc.

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-JUL-2014 13:22
End Cal Date : 19-JUL-2014 16:52
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air7.i\071914.b\TO15_200-14.m
Last Edit : 20-Jul-2014 16:48 10air7.i

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
38 1,2-Dichloroethane	0.40430	0.51971	0.57388	0.53668	0.61194	0.59683	AVRG		0.54056		13.93971
39 Benzene	1511	3437	9073	30112	415731	1132641	QUAD	-0.00877	0.69028	0.07296	0.99995
40 Carbon tetrachloride	0.64810	0.98882	0.97969	0.96940	1.04893	1.02626	AVRG		0.94353		15.66721
41 Cyclohexane	220	616	3656	10410	164336	446351	QUAD	-0.00489	0.27569	0.02729	0.99992
42 Tert Amyl Methyl Ether	8898	11284	19414	40468	414503	1081644	QUAD	0.01194	0.69226	0.04806	0.99994
44 2,2,4-Trimethylpentane	1551	3635	11765	35577	507583	1409028	QUAD	-0.01055	0.82355	0.10825	0.99996
45 Heptane	615	866	3933	13444	170484	472546	QUAD	-0.00316	0.27723	0.03567	0.99999
46 1,2-Dichloropropane	524	1540	4018	12814	149388	416052	QUAD	-0.00133	0.23961	0.03327	1.00000
47 Trichloroethene	745	1745	4934	16361	199423	565491	QUAD	-0.00226	0.31305	0.05165	1.00000
48 1,4-Dioxane	+++++	64.00000	974	4429	84760	215671	LINR	0.03586	6.21369		0.99981
49 Bromodichloromethane	2325	6147	16528	46652	548619	1334861	LINR	0.00571	1.01340		0.99986
50 Methylcyclohexane	69.00000	664	1649	5948	85450	244650	QUAD	-0.00188	0.13344	0.02358	0.99997
51 Methyl Isobutyl Ketone	540	1631	4976	18053	281141	744780	QUAD	-0.00916	0.48617	0.03272	0.99988
52 cis-1,3-Dichloropropene	906	1732	6257	21388	279489	718341	LINR	0.01903	1.88834		0.99973
53 trans-1,3-Dichloropropene	609	1736	5065	15124	300530	805860	LINR	0.03158	1.68430		0.99867
55 1,1,2-Trichloroethane	0.30922	0.37687	0.43029	0.40975	0.47150	0.48299	AVRG		0.41343		15.56436
56 Toluene	2452	5743	15145	48011	635831	1680985	QUAD	-0.01287	1.09261	0.07417	0.99995
57 Methyl Butyl Ketone	286	1592	5133	15297	278482	746040	LINR	0.02758	1.02104		0.99911
58 Dibromochloromethane	2211	4389	12219	38834	499858	1296744	QUAD	-0.01565	1.60341	0.05039	0.99996
59 1,2-Dibromoethane	1236	3371	9383	29880	393165	1042319	QUAD	-0.01268	1.23284	0.06850	0.99996
60 Tetrachloroethene	1586	3330	9455	29323	388688	1030210	QUAD	-0.01201	1.21796	0.06787	0.99996
62 Chlorobenzene	1.09151	1.61615	1.35042	1.34849	1.54102	1.67233	AVRG		1.43665		15.02568

TETRA TECH **INTERNAL CORRESPONDENCE**

TO:	**P. RICH**	**DATE:**	**OCTOBER 28, 2014**
FROM:	**A. COGNETTI**	**COPIES:**	**DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SAMPLE DELIVERY GROUP (SDG) – 10278070

SAMPLES: 3/Air/VOC

C-EFFLUENT C-INFLUENT C-MID GAC

Overview

The sample set for LMC – Middle River, SDG 10278070 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 August 13, 2014 and analyzed by Pace Analytical. 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

- The analyte concentrations of acetone and isopropanol exceeded instrument calibration range in sample C-Influent. The detected acetone and isopropanol results were qualified as estimated (J).
- The internal standard areas of 1,4-difluorobenzene and chlorobenzene-d5 were outside quality limits in sample C-Influent analyzed on August 30, 2014 for acetone and ethanol. The detected acetone and ethanol results were qualified as estimated (J).
- The analyte concentration of acetone exceeded instrument calibration range in sample C-MID GAC. The detected acetone result was qualified as estimated (J).
- The internal standard area of 1,4-difluorobenzene was outside quality control limit in sample C-Effluent. The analytes quantitated using this internal standard were qualified as estimated (J) and (UJ).
- The analyte concentration of ethanol exceeded instrument calibration range in sample C-Effluent. The detected ethanol result was qualified as estimated (J).

Notes

Nondetected results were reported to the reporting limit.

The analyte list associated with samples in this SDG contains 61 compounds. This list differs from previous monthly samples and from samples collected in September 2014. The list for September 2014 and months prior to August 2014 contained 26 compounds.

Executive Summary

Laboratory Performance: The analyte concentrations of acetone, ethanol, and isopropanol exceeded instrument calibration ranges in several samples. Internal standard noncompliances were noted in samples C-Influent and C-Effluent.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to USEPA National Functional Guidelines for Organic Data Validation (June 2008) 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
Data Validation Manager

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 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate

PROJ_NO: 03265	NSAMPLE	C-Effluent-10278070			C-Influent-10278070			C-Mid GAC		
SDG: 10278070	LAB_ID	10278070003			10278070001			10278070002		
FRACTION: OV	SAMP_DATE	8/13/2014			8/13/2014			8/13/2014		
MEDIA: AIR	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		2.9	UJ	N	33.6			4.4		
1,1,2,2-TETRACHLOROETHANE		1.8	U		1.7	U		2		
1,1,2-TRICHLOROETHANE		1.5	UJ	N	1.4	U		1.5	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		23.9			13			16.3		
1,1-DICHLOROETHANE		2.1	J	NP	7.6			5.1		
1,1-DICHLOROETHENE		2.1	UJ	N	4.8			2.1	U	
1,2,4-TRICHLOROBENZENE		4	U		3.7	U		5.4		
1,2,4-TRIMETHYLBENZENE		8.3			7.8			14.4		
1,2-DIBROMOETHANE		4.1	U		3.8	U		4.1	U	
1,2-DICHLOROBENZENE		3.2	U		3	U		2	J	P
1,2-DICHLOROETHANE		1.1	UJ	N	1	U		0.69	J	P
1,2-DICHLOROPROPANE		2.5	UJ	N	2.3	U		2.5	U	
1,2-DICHLOROTETRAFLUOROETHANE		3.7	U		3.5	U		3.7	U	
1,3,5-TRIMETHYLBENZENE		4.4			3.9			6.3		
1,3-BUTADIENE		3	UJ	N	2.8	U		3	U	
1,3-DICHLOROBENZENE		3.2	U		3	U		3.2	U	
1,4-DICHLOROBENZENE		3.2	U		3	U		1.7	J	P
1-ETHYL-4-METHYL BENZENE		6.2			5.9			8.4		
2-BUTANONE		16.9	J	N	65.4			23.5		
2-HEXANONE		3.8			6.4			5.6		
4-METHYL-2-PENTANONE		2.2	U		3.7			2.2	U	
ACETONE		200	J	N	2170	J	LN	904	J	L
BENZENE		6.1	J	N	10.8			11.4		
BENZYL CHLORIDE		2.8	U		2.6	U		2.8	U	
BROMODICHLOROMETHANE		3.6	UJ	N	7			3.6	U	
BROMOFORM		5.5	U		5.2	U		5.5	U	
BROMOMETHANE		2.1	UJ	N	1.9	U		2.1	U	
CARBON DISULFIDE		11.5	J	N	11.2			8.2		
CARBON TETRACHLORIDE		1.7	UJ	N	1.7			1.8		
CHLOROBENZENE		2.5	U		2.3	U		2.5	U	
CHLORODIBROMOMETHANE		4.6	U		4.3	U		4.6	U	
CHLOROETHANE		1.4	UJ	N	1.3	U		1.4	U	
CHLOROFORM		31.1	J	N	66.2			60.1		
CHLOROMETHANE		1.5	J	N	1.5			1.6		
CIS-1,2-DICHLOROETHENE		4.5	J	N	4.7			5.8		
CIS-1,3-DICHLOROPROPENE		2.4	UJ	N	2.3	U		2.4	U	

PROJ_NO: 03265	NSAMPLE	C-Effluent-10278070			C-Influent-10278070			C-Mid GAC		
SDG: 10278070	LAB_ID	10278070003			10278070001			10278070002		
FRACTION: OV	SAMP_DATE	8/13/2014			8/13/2014			8/13/2014		
MEDIA: AIR	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
CYCLOHEXANE		1.3	J	NP	8.6	U		95.2		
DICHLORODIFLUOROMETHANE		2.7	UJ	N	2.5	U		1.6	J	P
ETHANOL		406	J	LN	498	J	N	19.1		
ETHYL ACETATE		3.9	J	N	1.8	U		1.9	U	
ETHYLBENZENE		2.3	U		7.5			6		
HEXACHLOROBUTADIENE		14.3	U		13.3	U		14.3	U	
HEXANE		2.8	J	N	1.8	U		10.5		
ISOPROPANOL		138	J	N	219	J	L	3.3	U	
M+P-XYLENES		3.4	J	P	30.2			18.7		
METHYL TERT-BUTYL ETHER		4.8	UJ	N	4.5	U		4.8	U	
METHYLENE CHLORIDE		9.3	UJ	N	8.7	U		1.3	J	P
NAPHTHALENE		1.8	J	P	20.6			5	J	P
N-HEPTANE		5.5	UJ	N	14.6			5.5	U	
O-XYLENE		2	J	P	16			6.4		
PROPYLENE		0.92	UJ	N	0.86	U		0.92	U	
STYRENE		4.4	J	P	4.2	J	P	5.7	U	
TETRACHLOROETHENE		1.8	U		7			2.6		
TETRAHYDROFURAN		11.9	J	N	4.6			1.6	U	
TOLUENE		3			5			10.8		
TRANS-1,2-DICHLOROETHENE		2.1	UJ	N	2	U		2.1	U	
TRANS-1,3-DICHLOROPROPENE		6.1	UJ	N	5.7	U		6.1	U	
TRICHLOROETHENE		1.5	UJ	N	289			20.1		
TRICHLOROFLUOROMETHANE		1.9	J	NP	1.6	J	P	2.4	J	P
VINYL ACETATE		1.9	UJ	N	1.8	U		1.9	U	
VINYL CHLORIDE		0.69	UJ	N	0.64	U		0.69	U	

Appendix B

Results as Reported by the Laboratory

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

Sample: C-Effluent **Lab ID: 10278070003** Collected: 08/13/14 16:50 Received: 08/18/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	**200**	ug/m3	6.4	3.2	2.64		08/29/14 14:50	67-64-1	
Benzene	**6.1**	ug/m3	0.86	0.31	2.64		08/29/14 14:50	71-43-2	
Benzyl chloride	ND	ug/m3	2.8	1.4	2.64		08/29/14 14:50	100-44-7	
Bromodichloromethane	ND	ug/m3	3.6	0.48	2.64		08/29/14 14:50	75-27-4	
Bromoform	ND	ug/m3	5.5	0.85	2.64		08/29/14 14:50	75-25-2	
Bromomethane	ND	ug/m3	2.1	0.71	2.64		08/29/14 14:50	74-83-9	
1,3-Butadiene	ND	ug/m3	3.0	0.22	2.64		08/29/14 14:50	106-99-0	
2-Butanone (MEK)	**16.9**	ug/m3	1.6	0.72	2.64		08/29/14 14:50	78-93-3	
Carbon disulfide	**11.5**	ug/m3	1.7	0.19	2.64		08/29/14 14:50	75-15-0	
Carbon tetrachloride	ND	ug/m3	1.7	0.84	2.64		08/29/14 14:50	56-23-5	
Chlorobenzene	ND	ug/m3	2.5	0.28	2.64		08/29/14 14:50	108-90-7	
Chloroethane	ND	ug/m3	1.4	0.43	2.64		08/29/14 14:50	75-00-3	
Chloroform	**31.1**	ug/m3	1.3	0.47	2.64		08/29/14 14:50	67-66-3	
Chloromethane	**1.5**	ug/m3	1.1	0.51	2.64		08/29/14 14:50	74-87-3	
Cyclohexane	**1.3J**	ug/m3	9.2	0.33	2.64		08/29/14 14:50	110-82-7	
Dibromochloromethane	ND	ug/m3	4.6	2.3	2.64		08/29/14 14:50	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	4.1	0.62	2.64		08/29/14 14:50	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	3.2	0.37	2.64		08/29/14 14:50	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	3.2	0.61	2.64		08/29/14 14:50	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	3.2	0.52	2.64		08/29/14 14:50	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	2.7	0.29	2.64		08/29/14 14:50	75-71-8	
1,1-Dichloroethane	**2.1J**	ug/m3	2.2	0.37	2.64		08/29/14 14:50	75-34-3	
1,2-Dichloroethane	ND	ug/m3	1.1	0.31	2.64		08/29/14 14:50	107-06-2	
1,1-Dichloroethene	ND	ug/m3	2.1	0.27	2.64		08/29/14 14:50	75-35-4	
cis-1,2-Dichloroethene	**4.5**	ug/m3	2.1	0.52	2.64		08/29/14 14:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	2.1	0.43	2.64		08/29/14 14:50	156-60-5	
1,2-Dichloropropane	ND	ug/m3	2.5	0.40	2.64		08/29/14 14:50	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	2.4	0.36	2.64		08/29/14 14:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	6.1	0.40	2.64		08/29/14 14:50	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	3.7	0.66	2.64		08/29/14 14:50	76-14-2	
Ethanol	**406**	ug/m3	2.5	0.83	2.64		08/29/14 14:50	64-17-5	E
Ethyl acetate	**3.9**	ug/m3	1.9	0.33	2.64		08/29/14 14:50	141-78-6	
Ethylbenzene	ND	ug/m3	2.3	0.47	2.64		08/29/14 14:50	100-41-4	
4-Ethyltoluene	**6.2**	ug/m3	2.6	0.46	2.64		08/29/14 14:50	622-96-8	
n-Heptane	ND	ug/m3	5.5	0.43	2.64		08/29/14 14:50	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	14.3	1.1	2.64		08/29/14 14:50	87-68-3	
n-Hexane	**2.8**	ug/m3	1.9	0.27	2.64		08/29/14 14:50	110-54-3	
2-Hexanone	**3.8**	ug/m3	2.2	0.56	2.64		08/29/14 14:50	591-78-6	
Methylene Chloride	ND	ug/m3	9.3	0.61	2.64		08/29/14 14:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	2.2	0.45	2.64		08/29/14 14:50	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	4.8	0.23	2.64		08/29/14 14:50	1634-04-4	
Naphthalene	**1.8J**	ug/m3	7.0	0.68	2.64		08/29/14 14:50	91-20-3	
2-Propanol	**138**	ug/m3	3.3	0.25	2.64		08/29/14 14:50	67-63-0	
Propylene	ND	ug/m3	0.92	0.29	2.64		08/29/14 14:50	115-07-1	
Styrene	**4.4J**	ug/m3	5.7	0.36	2.64		08/29/14 14:50	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.8	0.62	2.64		08/29/14 14:50	79-34-5	

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ANALYTICAL RESULTS

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

Sample: C-Effluent **Lab ID: 10278070003** Collected: 08/13/14 16:50 Received: 08/18/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Tetrachloroethene	ND	ug/m3	1.8	0.50	2.64		08/29/14 14:50	127-18-4	
Tetrahydrofuran	**11.9**	ug/m3	1.6	0.37	2.64		08/29/14 14:50	109-99-9	
Toluene	**3.0**	ug/m3	2.0	0.36	2.64		08/29/14 14:50	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	4.0	0.96	2.64		08/29/14 14:50	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.9	0.37	2.64		08/29/14 14:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.5	0.64	2.64		08/29/14 14:50	79-00-5	
Trichloroethene	ND	ug/m3	1.5	0.47	2.64		08/29/14 14:50	79-01-6	
Trichlorofluoromethane	**1.9J**	ug/m3	3.0	0.36	2.64		08/29/14 14:50	75-69-4	
1,1,2-Trichlorotrifluoroethane	**23.9**	ug/m3	4.2	0.42	2.64		08/29/14 14:50	76-13-1	
1,2,4-Trimethylbenzene	**8.3**	ug/m3	2.6	0.32	2.64		08/29/14 14:50	95-63-6	
1,3,5-Trimethylbenzene	**4.4**	ug/m3	2.6	0.55	2.64		08/29/14 14:50	108-67-8	
Vinyl acetate	ND	ug/m3	1.9	0.92	2.64		08/29/14 14:50	108-05-4	
Vinyl chloride	ND	ug/m3	0.69	0.25	2.64		08/29/14 14:50	75-01-4	
m&p-Xylene	**3.4J**	ug/m3	4.6	0.37	2.64		08/29/14 14:50	179601-23-1	
o-Xylene	**2.0J**	ug/m3	2.3	1.2	2.64		08/29/14 14:50	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

Sample: C-Influent **Lab ID: 10278070001** Collected: 08/13/14 16:30 Received: 08/18/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	**2170**	ug/m3	59.5	29.8	24.65		08/30/14 22:06	67-64-1	E,IS
Benzene	**10.8**	ug/m3	0.80	0.29	2.46		08/29/14 14:03	71-43-2	
Benzyl chloride	ND	ug/m3	2.6	1.3	2.46		08/29/14 14:03	100-44-7	
Bromodichloromethane	**7.0**	ug/m3	3.3	0.45	2.46		08/29/14 14:03	75-27-4	
Bromoform	ND	ug/m3	5.2	0.79	2.46		08/29/14 14:03	75-25-2	
Bromomethane	ND	ug/m3	1.9	0.66	2.46		08/29/14 14:03	74-83-9	
1,3-Butadiene	ND	ug/m3	2.8	0.21	2.46		08/29/14 14:03	106-99-0	
2-Butanone (MEK)	**65.4**	ug/m3	1.5	0.67	2.46		08/29/14 14:03	78-93-3	
Carbon disulfide	**11.2**	ug/m3	1.5	0.18	2.46		08/29/14 14:03	75-15-0	
Carbon tetrachloride	**1.7**	ug/m3	1.6	0.79	2.46		08/29/14 14:03	56-23-5	
Chlorobenzene	ND	ug/m3	2.3	0.26	2.46		08/29/14 14:03	108-90-7	
Chloroethane	ND	ug/m3	1.3	0.40	2.46		08/29/14 14:03	75-00-3	
Chloroform	**66.2**	ug/m3	1.2	0.44	2.46		08/29/14 14:03	67-66-3	
Chloromethane	**1.5**	ug/m3	1.0	0.47	2.46		08/29/14 14:03	74-87-3	
Cyclohexane	ND	ug/m3	8.6	0.31	2.46		08/29/14 14:03	110-82-7	
Dibromochloromethane	ND	ug/m3	4.3	2.1	2.46		08/29/14 14:03	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	3.8	0.58	2.46		08/29/14 14:03	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	3.0	0.35	2.46		08/29/14 14:03	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	3.0	0.57	2.46		08/29/14 14:03	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	3.0	0.49	2.46		08/29/14 14:03	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	2.5	0.27	2.46		08/29/14 14:03	75-71-8	
1,1-Dichloroethane	**7.6**	ug/m3	2.0	0.34	2.46		08/29/14 14:03	75-34-3	
1,2-Dichloroethane	ND	ug/m3	1.0	0.29	2.46		08/29/14 14:03	107-06-2	
1,1-Dichloroethene	**4.8**	ug/m3	2.0	0.25	2.46		08/29/14 14:03	75-35-4	
cis-1,2-Dichloroethene	**4.7**	ug/m3	2.0	0.48	2.46		08/29/14 14:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	2.0	0.40	2.46		08/29/14 14:03	156-60-5	
1,2-Dichloropropane	ND	ug/m3	2.3	0.37	2.46		08/29/14 14:03	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	2.3	0.33	2.46		08/29/14 14:03	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	5.7	0.37	2.46		08/29/14 14:03	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	3.5	0.61	2.46		08/29/14 14:03	76-14-2	
Ethanol	**498**	ug/m3	23.7	7.8	24.65		08/30/14 22:06	64-17-5	IS
Ethyl acetate	ND	ug/m3	1.8	0.31	2.46		08/29/14 14:03	141-78-6	
Ethylbenzene	**7.5**	ug/m3	2.2	0.44	2.46		08/29/14 14:03	100-41-4	
4-Ethyltoluene	**5.9**	ug/m3	2.5	0.43	2.46		08/29/14 14:03	622-96-8	
n-Heptane	**14.6**	ug/m3	5.1	0.40	2.46		08/29/14 14:03	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	13.3	1.0	2.46		08/29/14 14:03	87-68-3	
n-Hexane	ND	ug/m3	1.8	0.25	2.46		08/29/14 14:03	110-54-3	
2-Hexanone	**6.4**	ug/m3	2.0	0.52	2.46		08/29/14 14:03	591-78-6	
Methylene Chloride	ND	ug/m3	8.7	0.57	2.46		08/29/14 14:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	**3.7**	ug/m3	2.0	0.42	2.46		08/29/14 14:03	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	4.5	0.22	2.46		08/29/14 14:03	1634-04-4	
Naphthalene	**20.6**	ug/m3	6.5	0.63	2.46		08/29/14 14:03	91-20-3	
2-Propanol	**219**	ug/m3	3.1	0.23	2.46		08/29/14 14:03	67-63-0	E
Propylene	ND	ug/m3	0.86	0.27	2.46		08/29/14 14:03	115-07-1	
Styrene	**4.2J**	ug/m3	5.3	0.33	2.46		08/29/14 14:03	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.7	0.57	2.46		08/29/14 14:03	79-34-5	

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ANALYTICAL RESULTS

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

Sample: C-Influent **Lab ID: 10278070001** Collected: 08/13/14 16:30 Received: 08/18/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Tetrachloroethene	**7.0**	ug/m3	1.7	0.46	2.46		08/29/14 14:03	127-18-4	
Tetrahydrofuran	**4.6**	ug/m3	1.5	0.34	2.46		08/29/14 14:03	109-99-9	
Toluene	**5.0**	ug/m3	1.9	0.33	2.46		08/29/14 14:03	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	3.7	0.90	2.46		08/29/14 14:03	120-82-1	
1,1,1-Trichloroethane	**33.6**	ug/m3	2.7	0.34	2.46		08/29/14 14:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.4	0.60	2.46		08/29/14 14:03	79-00-5	
Trichloroethene	**289**	ug/m3	1.4	0.44	2.46		08/29/14 14:03	79-01-6	
Trichlorofluoromethane	**1.6J**	ug/m3	2.8	0.34	2.46		08/29/14 14:03	75-69-4	
1,1,2-Trichlorotrifluoroethane	**13.0**	ug/m3	3.9	0.39	2.46		08/29/14 14:03	76-13-1	
1,2,4-Trimethylbenzene	**7.8**	ug/m3	2.5	0.30	2.46		08/29/14 14:03	95-63-6	
1,3,5-Trimethylbenzene	**3.9**	ug/m3	2.5	0.51	2.46		08/29/14 14:03	108-67-8	
Vinyl acetate	ND	ug/m3	1.8	0.86	2.46		08/29/14 14:03	108-05-4	
Vinyl chloride	ND	ug/m3	0.64	0.23	2.46		08/29/14 14:03	75-01-4	
m&p-Xylene	**30.2**	ug/m3	4.3	0.34	2.46		08/29/14 14:03	179601-23-1	
o-Xylene	**16.0**	ug/m3	2.2	1.1	2.46		08/29/14 14:03	95-47-6	

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

Sample: C-Mid GAC **Lab ID: 10278070002** Collected: 08/13/14 16:40 Received: 08/18/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	**904**	ug/m3	6.4	3.2	2.64		08/29/14 23:29	67-64-1	E
Benzene	**11.4**	ug/m3	0.86	0.31	2.64		08/29/14 23:29	71-43-2	
Benzyl chloride	ND	ug/m3	2.8	1.4	2.64		08/29/14 23:29	100-44-7	
Bromodichloromethane	ND	ug/m3	3.6	0.48	2.64		08/29/14 23:29	75-27-4	
Bromoform	ND	ug/m3	5.5	0.85	2.64		08/29/14 23:29	75-25-2	
Bromomethane	ND	ug/m3	2.1	0.71	2.64		08/29/14 23:29	74-83-9	
1,3-Butadiene	ND	ug/m3	3.0	0.22	2.64		08/29/14 23:29	106-99-0	
2-Butanone (MEK)	**23.5**	ug/m3	1.6	0.72	2.64		08/29/14 23:29	78-93-3	
Carbon disulfide	**8.2**	ug/m3	1.7	0.19	2.64		08/29/14 23:29	75-15-0	
Carbon tetrachloride	**1.8**	ug/m3	1.7	0.84	2.64		08/29/14 23:29	56-23-5	
Chlorobenzene	ND	ug/m3	2.5	0.28	2.64		08/29/14 23:29	108-90-7	
Chloroethane	ND	ug/m3	1.4	0.43	2.64		08/29/14 23:29	75-00-3	
Chloroform	**60.1**	ug/m3	1.3	0.47	2.64		08/29/14 23:29	67-66-3	
Chloromethane	**1.6**	ug/m3	1.1	0.51	2.64		08/29/14 23:29	74-87-3	
Cyclohexane	**95.2**	ug/m3	9.2	0.33	2.64		08/29/14 23:29	110-82-7	
Dibromochloromethane	ND	ug/m3	4.6	2.3	2.64		08/29/14 23:29	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	4.1	0.62	2.64		08/29/14 23:29	106-93-4	
1,2-Dichlorobenzene	**2.0J**	ug/m3	3.2	0.37	2.64		08/29/14 23:29	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	3.2	0.61	2.64		08/29/14 23:29	541-73-1	
1,4-Dichlorobenzene	**1.7J**	ug/m3	3.2	0.52	2.64		08/29/14 23:29	106-46-7	
Dichlorodifluoromethane	**1.6J**	ug/m3	2.7	0.29	2.64		08/29/14 23:29	75-71-8	
1,1-Dichloroethane	**5.1**	ug/m3	2.2	0.37	2.64		08/29/14 23:29	75-34-3	
1,2-Dichloroethane	**0.69J**	ug/m3	1.1	0.31	2.64		08/29/14 23:29	107-06-2	
1,1-Dichloroethene	ND	ug/m3	2.1	0.27	2.64		08/29/14 23:29	75-35-4	
cis-1,2-Dichloroethene	**5.8**	ug/m3	2.1	0.52	2.64		08/29/14 23:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	2.1	0.43	2.64		08/29/14 23:29	156-60-5	
1,2-Dichloropropane	ND	ug/m3	2.5	0.40	2.64		08/29/14 23:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	2.4	0.36	2.64		08/29/14 23:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	6.1	0.40	2.64		08/29/14 23:29	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	3.7	0.66	2.64		08/29/14 23:29	76-14-2	
Ethanol	**19.1**	ug/m3	2.5	0.83	2.64		08/29/14 23:29	64-17-5	
Ethyl acetate	ND	ug/m3	1.9	0.33	2.64		08/29/14 23:29	141-78-6	
Ethylbenzene	**6.0**	ug/m3	2.3	0.47	2.64		08/29/14 23:29	100-41-4	
4-Ethyltoluene	**8.4**	ug/m3	2.6	0.46	2.64		08/29/14 23:29	622-96-8	
n-Heptane	ND	ug/m3	5.5	0.43	2.64		08/29/14 23:29	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	14.3	1.1	2.64		08/29/14 23:29	87-68-3	
n-Hexane	**10.5**	ug/m3	1.9	0.27	2.64		08/29/14 23:29	110-54-3	
2-Hexanone	**5.6**	ug/m3	2.2	0.56	2.64		08/29/14 23:29	591-78-6	
Methylene Chloride	**1.3J**	ug/m3	9.3	0.61	2.64		08/29/14 23:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	2.2	0.45	2.64		08/29/14 23:29	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	4.8	0.23	2.64		08/29/14 23:29	1634-04-4	
Naphthalene	**5.0J**	ug/m3	7.0	0.68	2.64		08/29/14 23:29	91-20-3	
2-Propanol	ND	ug/m3	3.3	0.25	2.64		08/29/14 23:29	67-63-0	
Propylene	ND	ug/m3	0.92	0.29	2.64		08/29/14 23:29	115-07-1	
Styrene	ND	ug/m3	5.7	0.36	2.64		08/29/14 23:29	100-42-5	
1,1,2,2-Tetrachloroethane	**2.0**	ug/m3	1.8	0.62	2.64		08/29/14 23:29	79-34-5	

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ANALYTICAL RESULTS

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

Sample: C-Mid GAC **Lab ID: 10278070002** Collected: 08/13/14 16:40 Received: 08/18/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Tetrachloroethene	**2.6**	ug/m3	1.8	0.50	2.64		08/29/14 23:29	127-18-4	
Tetrahydrofuran	ND	ug/m3	1.6	0.37	2.64		08/29/14 23:29	109-99-9	
Toluene	**10.8**	ug/m3	2.0	0.36	2.64		08/29/14 23:29	108-88-3	
1,2,4-Trichlorobenzene	**5.4**	ug/m3	4.0	0.96	2.64		08/29/14 23:29	120-82-1	
1,1,1-Trichloroethane	**4.4**	ug/m3	2.9	0.37	2.64		08/29/14 23:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.5	0.64	2.64		08/29/14 23:29	79-00-5	
Trichloroethene	**20.1**	ug/m3	1.5	0.47	2.64		08/29/14 23:29	79-01-6	
Trichlorofluoromethane	**2.4J**	ug/m3	3.0	0.36	2.64		08/29/14 23:29	75-69-4	
1,1,2-Trichlorotrifluoroethane	**16.3**	ug/m3	4.2	0.42	2.64		08/29/14 23:29	76-13-1	
1,2,4-Trimethylbenzene	**14.4**	ug/m3	2.6	0.32	2.64		08/29/14 23:29	95-63-6	
1,3,5-Trimethylbenzene	**6.3**	ug/m3	2.6	0.55	2.64		08/29/14 23:29	108-67-8	
Vinyl acetate	ND	ug/m3	1.9	0.92	2.64		08/29/14 23:29	108-05-4	
Vinyl chloride	ND	ug/m3	0.69	0.25	2.64		08/29/14 23:29	75-01-4	
m&p-Xylene	**18.7**	ug/m3	4.6	0.37	2.64		08/29/14 23:29	179601-23-1	
o-Xylene	**6.4**	ug/m3	2.3	1.2	2.64		08/29/14 23:29	95-47-6	

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Appendix C

Support Documentation

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PROJECT NARRATIVE

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: September 02, 2014

General Information:
3 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

QC Batch: AIR/21178

IQ: The internal standard recoveries associated with this sample exceed the lower control limit. The reported results should be considered estimated values.

- C-Effluent (Lab ID: 10278070003)

IS: The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value.

- C-Influent (Lab ID: 10278070001)
  - Acetone
  - Ethanol

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/21178

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- C-Effluent (Lab ID: 10278070003)
  - Ethanol
- C-Influent (Lab ID: 10278070001)
  - 2-Propanol
  - Acetone
- C-Mid GAC (Lab ID: 10278070002)
  - Acetone

This data package has been reviewed for quality and completeness and is approved for release.

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102780 IC

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

19145

Page: of

Section A Required Client Information:
Company: Tetra Tech Geo
Address: 51 Franklin St Suite 400 Annapolis, MD 21401
Email To:
Phone: 410-990-4607 Fax:
Requested Due Date/TAT:

Section B Required Project Information:
Report To:
Copy To:
Purchase Order No.:
Project Name: SSD OEM
Project Number: 117-0507599

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST Superfund Emissions Clean Air Act Voluntary Clean Up Dry Clean RCRA Other____

Location of Sampling by State MD

Reporting Units: ug/m³ X mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level II.___ III.___ IV. X Other____

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	*Section D Required Client Information AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START END/GRAB DATE	TIME	COMPOSITE - DATE	TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	C-INFLUENT	1LC		8/13/14	1630					2790								X			001
2	C-MID GAC	1LC		8/13/14	1640					2795								X			002
3	C-EFFLUENT	1LC		8/13/14	1650					2793								X			
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Chris Leahy/TetraTech	8/13/14	17:30	[illegible]	8/18/14	09:30

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Chris Leahy
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 8/13/14

ORIGINAL

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: Tetra Tech

Project #: WO# : 10278070

10278070

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 8047 5992 5626

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: **Temp Blank rec:** ☐ Yes ☐ No

Temp. (TO17 and TO13 samples only) (°C): _____ **Corrected Temp (°C):** _____ **Thermom. Used:** ☐ B88A912167504 ☐ B88A9132521491 ☐ 72337080 ☐ 80512447

Temp should be above freezing to 6°C **Correction Factor:** _____ **Date & Initials of Person Examining Contents:** JA 8-18-14

Type of ice Received ☐ Blue ☐ Wet ☒ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: Cans				11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
C Influent	2790				
C Mid Gac	2795				
C Effluent	2793				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** 8-18-14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
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(612)607-1700

September 02, 2014

Dawn Monico
Tetra Tech GEO
51 Franklin Street
Suite 400
Annapolis, MD 21401

RE: Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

Dear Dawn Monico:
Enclosed are the analytical results for sample(s) received by the laboratory on August 18, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nathan Boberg
nathan.boberg@pacelabs.com
Project Manager

Enclosures

cc: Belssi Chang Lee, Tetra Tech, Inc.
Peter Rich
Joe Samchuck, Tetra Tech GEO

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10278070001	**C-Influent**	TO-15	AIR/21178		
10278070002	**C-Mid GAC**	TO-15	AIR/21178		
10278070003	**C-Effluent**	TO-15	AIR/21178		

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CERTIFICATIONS

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

Minnesota Certification IDs
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Certification #40770
Alabama Certification #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #: Pace
Georgia Certification #: 959
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nebraska Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
Wisconsin Certification #: 999407970
West Virginia Certification #: 382
West Virginia DHHR #:9952C

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SAMPLE SUMMARY

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10278070001	**C-Influent**	Air	08/13/14 16:30	08/18/14 09:30
10278070002	**C-Mid GAC**	Air	08/13/14 16:40	08/18/14 09:30
10278070003	**C-Effluent**	Air	08/13/14 16:50	08/18/14 09:30

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SAMPLE ANALYTE COUNT

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10278070001	**C-Influent**	TO-15	DL1, JAM	61	PASI-M
10278070002	**C-Mid GAC**	TO-15	DL1	61	PASI-M
10278070003	**C-Effluent**	TO-15	JAM	61	PASI-M

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5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10278070
Lab File ID: 23701BFB.D BFB Injection Date: 08/25/2014
Instrument ID: 10AIR7 BFB Injection Time: 11:14
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	19.49	
75	30.00 - 66.00% of mass 95	58.46	
96	5.00 - 9.00% of mass 95	6.42	
173	Less than 2.00% of mass 174	0.66	(0.62)
174	50.00 - 120.00% of mass 95	105.51	
175	4.00 - 9.00% of mass 174	8.22	(7.79)
176	93.00 - 101.00% of mass 174	102.09	(96.76)
177	5.00 - 9.00% of mass 176	6.90	(6.76)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CAL1	CAL1	23704.D	08/25/2014	13:10
2	CAL2	CAL2	23705.D	08/25/2014	13:31
3	CAL3	CAL3	23706.D	08/25/2014	13:53
4	CAL4	CAL4	23707.D	08/25/2014	14:14
5	CAL5	CAL5	23708.D	08/25/2014	14:47
6	CAL6	CAL6	23709.D	08/25/2014	15:10
7	CAL7	CAL7	23710.D	08/25/2014	15:34
8	ICV+ADD (LCS)	ICV+ADD	23712.D	08/25/2014	16:17
9	LCS (LCS)	LCS	23713LCS.D	08/25/2014	16:45
10	BLANK (BLK)	BLANK	23715.D	08/25/2014	17:32

Report Date : 26-Aug-2014 08:52

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2014 13:10
End Cal Date : 25-AUG-2014 15:34
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air7.i\082514.b\TO15_237-14.m
Last Edit : 26-Aug-2014 08:51 dlee

Calibration File Names:
Level 1: \\192.168.10.12\chem\10air7.i\082514.b\23704.D
Level 2: \\192.168.10.12\chem\10air7.i\082514.b\23705.D
Level 3: \\192.168.10.12\chem\10air7.i\082514.b\23706.D
Level 4: \\192.168.10.12\chem\10air7.i\082514.b\23707.D
Level 5: \\192.168.10.12\chem\10air7.i\082514.b\23708.D
Level 6: \\192.168.10.12\chem\10air7.i\082514.b\23709.D
Level 7: \\192.168.10.12\chem\10air7.i\082514.b\23710.D

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
1 Chlorodifluoromethane	0.31023	0.34145	0.37965	0.36948	0.36596	0.31912					
	0.31006						AVRG		0.34228		8.68280
2 Propylene	78.00000	271	1728	3214	78363	148177					
	236800						LINR	0.00774	11.43544		0.99894
3 Dichlorodifluoromethane	0.89557	0.96162	1.03994	0.97178	0.90879	0.77245					
	0.57966						AVRG		0.87569		17.65282
4 Dichlorotetrafluoroethane	0.49481	0.67976	0.73026	0.76383	0.74146	0.68062					
	0.64306						AVRG		0.67626		13.34893

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Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

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End Cal Date : 25-AUG-2014 15:34
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air7.i\082514.b\TO15_237-14.m
Last Edit : 26-Aug-2014 08:51 dlee

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
5 Chloromethane	0.19921	0.23243	0.22300	0.24782	0.21974	0.19946					
	0.18992						AVRG		0.21594		9.60408
6 Vinyl chloride	569	1163	3824	9831	164425	300555					
	485775						QUAD	-0.00055	0.18709	-0.00322	0.99852
7 1,3-Butadiene	106	695	2871	6663	103794	196439					
	308975						LINR	-0.00687	8.76859		0.99901
8 Bromomethane	0.22575	0.20605	0.25882	0.26748	0.26165	0.24244					
	0.24683						AVRG		0.24414		8.95221
9 Chloroethane	#####	0.07545	0.08071	0.08676	0.08612	0.07858					
	0.07845						AVRG		0.08101		5.59652
10 Ethanol	0.06927	0.07259	0.05931	0.07390	0.05970	0.05717					
	0.05714						AVRG		0.06415		11.62130
11 Vinyl Bromide	798	2158	6692	15955	238097	461064					
	738613						LINR	-0.00159	3.69007		0.99951

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
12 Isopentane	0.11687	0.18603	0.14848	0.15914	0.16169	0.14400					
	0.13738						AVRG		0.15051		14.38320
13 Acrolein	+++++	+++++	0.03163	0.03583	0.04572	0.04633					
	0.04410						AVRG		0.04072		16.22132
14 Trichloroflucromethane	1.01303	1.12571	1.30231	1.35520	1.15630	1.03109					
	0.95921						AVRG		1.13469		13.15064
15 Acetone	+++++	++++-	19799	42472	314901	579007					
	885389						LINR	-0.11949	3.16715		0.99847
16 Isopropyl Alcohol	+++++	0.17404	0.20637	0.22430	0.26444	0.24815					
	0.23420						AVRG		0.22525		14.20590
17 Acrylonitrile	+++++	0.09020	0.08369	0.10201	0.10898	0.10921					
	0.10565						AVRG		0.09996		10.61913
18 1,1-Dichloroethene	0.24096	0.27559	0.35339	0.37529	0.36842	0.33594					
	0.32400						AVRG		0.32480		15.31392

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
19 Tert Butyl Alcohol (TBA)	0.35101	0.36949	0.36604	0.43261	0.46352	0.42870					
	0.39827						AVRG		0.40138		10.37103
20 Freon 113	0.40525	0.52859	0.55353	0.62516	0.57702	0.52914					
	0.51571						AVRG		0.53349		12.69128
21 Methylene chloride	2152	3659	7796	15611	192671	368257					
	538618						LINR	-0.04283	4.97639		0.99688
22 Allyl Chloride	++++	0.06733	0.07488	0.09311	0.09826	0.09026					
	0.09005						AVRG		0.08565		13.88360
23 Carbon Disulfide	0.55100	0.58319	0.60364	0.65452	0.68801	0.63793					
	0.64268						AVRG		0.62300		7.46406
24 trans-1,2-dichloroethene	0.15102	0.23123	0.25001	0.25415	0.26735	0.24992					
	0.25683						AVRG		0.23721		16.65962
25 Methyl Tert Butyl Ether	2438	4390	13554	37065	555633	1086599					
	1669508						LINR	-0.00798	1.61390		0.99920

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
26 Vinyl Acetate	+++++	0.28297	0.30097	0.38176	0.44456	0.40836					
	0.40058						AVRG		0.36987		17.28791
27 1,1-Dichloroethane	0.31140	0.39439	0.40971	0.44515	0.42711	0.39959					
	0.38536						AVRG		0.39610		10.73944
29 Methyl Ethyl Ketone	+++++	0.05091	0.08255	0.08045	0.09320	0.09177					
	0.09439						AVRG		0.08221		19.93698
30 n-Hexane	0.21560	0.22090	0.27830	0.27369	0.27728	0.24916					
	0.24562						AVRG		0.25151		10.44483
31 Di-isopropyl Ether	0.30925	0.41717	0.48218	0.53495	0.51953	0.46757					
	0.44863						AVRG		0.45418		16.61379
32 Ethyl Acetate	0.25052	0.28869	0.39145	0.40315	0.40011	0.38012					
	0.36303						AVRG		0.35387		16.98676
33 cis-1,2-Dichloroethene	0.15999	0.19867	0.25633	0.27201	0.27930	0.26130					
	0.26578						AVRG		0.24191		18.51585

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
34 Ethyl Tert-Butyl Ether	0.35647	0.41938	0.50396	0.57118	0.61662	0.57023					
	0.55726						AVRG		0.51359		18.24824
35 Chloroform	0.55783	0.62645	0.71360	0.79336	0.70084	0.63789					
	0.61020						AVRG		0.66288		11.81476
36 Tetrahydrofuran	+++++	712	3002	8076	128304	256766					
	409256						LINR	0.00796	6.63665		0.99981
37 1,1,1-Trichloroethane	0.62534	0.71444	0.82597	0.85090	0.81323	0.74763					
	0.72362						AVRG		0.75730		10.38112
38 1,2-Dichloroethane	0.45383	0.46393	0.52617	0.55948	0.51570	0.46222					
	0.43841						AVRG		0.48854		9.23096
39 Benzene	1581	4813	14263	35745	558298	1143127					
	1804632						LINR	0.00680	1.50317		0.99997
40 Carbon tetrachloride	0.65460	0.77024	0.82693	0.89433	0.94695	0.87269					
	0.81627						AVRG		0.82600		11.49168

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Compound	0.100000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
41 Cyclohexane	329	1607	4502	13239	198440	382548					
	587255						LINR	-0.00905	4.58379		0.99889
42 Tert Amyl Methyl Ether	8860	14059	24121	42210	511786	1041639					
	1654130						LINR	-0.01859	1.66052		0.99993
44 2,2,4-Trimethylpentane	2481	5090	18071	43035	656294	1327217					
	2092173						LINR	0.00319	1.29676		0.99992
45 Heptane	404	1561	5915	13422	215277	420632					
	652556						LINR	-0.00430	4.13675		0.99939
46 1,2-Dichloropropane	0.15726	0.17709	0.20981	0.22509	0.22125	0.21265					
	0.21491						AVRG		0.20258		12.52777
47 Trichloroethene	0.24448	0.21361	0.28455	0.32457	0.35115	0.35830					
	0.37422						AVRG		0.30727		19.94837
48 1,4-Dioxane	+++++	+++++	1609	5512	100897	205636					
	360775						LINR	0.05802	7.62075		0.99568

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
49 Bromodichloromethane	0.56446	0.63733	0.70340	0.79204	0.75028	0.70724					
	0.68958						AVRG		0.69205		10.72062
50 Methylcyclohexane	82.00000	778	2462	6961	115612	245699					
	391768						LINR	0.01891	6.93038		0.99988
51 Methyl Isobutyl Ketone	248	1788	7657	19585	319970	651002					
	1025243						LINR	0.00854	2.64046		0.99993
52 cis-1,3-Dichloropropene	+++++	0.23160	0.28899	0.36893	0.38027	0.38914					
	0.39133						AVRG		0.34171		19.34245
53 trans-1,3-Dichloropropene	401	1605	6910	17717	363042	762032					
	1219555						LINR	0.02260	2.22389		0.99987
55 1,1,2-Trichloroethane	0.28994	0.31470	0.34070	0.40034	0.33096	0.33909					
	0.33953						AVRG		0.33647		9.99315
56 Toluene	0.60661	0.72883	0.79825	0.89374	0.87275	0.91079					
	0.90548						AVRG		0.81663		13.96310

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
57 Methyl Butyl Ketone	329	1601	5762	15914	297017	629043					
	995854						LINR	0.01972	1.83780		0.99993
58 Dibromochloromethane	+++++	0.74422	0.88961	0.99272	1.08731	1.11576					
	1.11627						AVRG		0.99098		15.08372
59 1,2-Dibromoethane	+++++	0.60600	0.73589	0.82897	0.79669	0.84017					
	0.85215						AVRG		0.77665		12.03116
60 Tetrachloroethene	1459	5364	16358	39559	490422	1031229					
	1671740						LINR	0.00969	1.10803		0.99983
62 Chlorobenzene	0.67611	0.84851	0.96070	1.00946	0.99338	1.04753					
	1.07025						AVRG		0.94370		14.64102
63 Ethyl Benzene	2344	6578	22795	64128	947214	2042748					
	3252431						LINR	0.01750	0.56504		0.99988
64 m&p-Xylene	2033	4793	20128	58093	791613	1728228					
	2714004						LINR	0.01474	0.67518		0.99979

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
65 Bromoform	+++++	0.83996	1.06436	1.10101	1.28456	1.36578					
	1.37783						AVRG		1.17225		17.87208
66 Styrene	823	2852	10626	31855	508951	1127599					
	1880504						LINR	0.03400	0.98780		0.99870
67 o-Xylene	1867	4727	23952	66549	812974	1767789					
	2779825						LINR	0.01106	0.66034		0.99980
68 1,1,2,2-Tetrachloroethane	0.52810	0.68081	0.89313	0.93453	0.84177	0.89474					
	0.90850						AVRG		0.81165		18.57967
69 Isopropylbenzene	1.28701	1.33896	1.75793	1.96432	1.85180	1.94785					
	1.95982						AVRG		1.72967		17.01937
70 N-Propylbenzene	3324	7123	29246	90020	1215924	2628159					
	4237969						LINR	0.01908	0.43533		0.99976
71 4-Ethyltoluene	1991	5785	26831	76217	960843	2117237					
	3423137						LINR	0.02023	0.53986		0.99951

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
72 1,3,5-Trimethylbenzene	2447	6643	29464	82964	964153	2139703					
	3346866						LINR	0.01128	0.54812		0.99959
73 Tert-Butyl Benzene	2059	5164	21695	65038	818294	1882670					
	3057533						LINR	0.02773	0.60506		0.99879
74 1,2,4-Trimethylbenzene	1865	5793	28963	78406	892819	1991126					
	3208985						LINR	0.01774	0.57629		0.99936
75 1,3-Dichlorobenzene	+++++	0.67189	0.96022	1.18891	1.05554	1.17637					
	1.18738						AVRG		1.04005		19.44984
76 Sec- Butylbenzene	+++++	1.11862	1.81319	2.34620	2.12651	2.22795					
	2.21872						AVRG		1.97520		23.13074
78 Benzyl Chloride	+++++	0.73778	1.01591	1.14057	1.10104	1.22572					
	1.25677						AVRG		1.07963		17.46714
79 1,4-Dichlorobenzene	0.81903	0.94350	1.17305	1.40693	1.10329	1.20289					
	1.23257						AVRG		1.12589		17.25523

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
80 p-Isopropyltoluene	2196	6204	29828	77490	886524	2017370					
	3231474						LINR	0.01905	0.57148		0.99916
81 1,2,3-Trimethylbenzene	+++++	0.83042	1.61262	1.68700	1.51139	1.62555					
	1.66823						AVRG		1.48920		22.05712
82 1,2-Dichlorobenzene	++++-	0.59449	0.85911	1.14685	0.94704	1.03884					
	1.05146						AVRG		0.93963		20.79784
83 N-Butylbenzene	1.13518	1.51371	2.00764	1.88503	1.71519	1.75668					
	1.68840						AVRG		1.67169		16.92969
84 1,2,4-Trichlorobenzene	0.49855	0.47460	0.68474	0.46463	0.59633	0.63763					
	0.65722						AVRG		0.57339		16.12135
85 Naphthalene	+++++	+++++	0.78256	0.54320	0.82364	0.92088					
	0.95490						AVRG		0.80503		20.15323
86 Hexachlorobutadiene	2428	7226	23138	48402	394634	796786					
	1265327						LINR	-0.02591	1.47103		0.99969

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
$ 28 Hexane-d14(S)	0.04539	0.04708	0.04859	0.04822	0.04864	0.04436					
	0.04637						AVRG		0.04695		3.54839
$ 54 Toluene-d8 (S)	1.07478	1.05049	1.08404	1.07251	0.98407	0.96831					
	0.96161						AVRG		1.02797		5.28599
$ 77 1,4-dichlorobenzene-d4 (S)	0.43006	0.46880	0.50903	0.56181	0.57181	0.65593					
	0.66214						AVRG		0.55137		16.06202

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Average %RSD Results.

Calculated Average %RSD = 14.97355
Maximum Average %RSD = 30.00000
* Passed Average %RSD Test.

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + m1*Rsp	Amount
Quad	Rsp = b + m1*Amt + m2*Amt^2	Amount

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10278070
Lab File ID: 24101BFB.D BFB Injection Date: 08/29/2014
Instrument ID: 10AIR7 BFB Injection Time: 08:49
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	17.98	
75	30.00 - 66.00% of mass 95	52.96	
96	5.00 - 9.00% of mass 95	6.35	
173	Less than 2.00% of mass 174	0.39	(0.36)
174	50.00 - 120.00% of mass 95	109.17	
175	4.00 - 9.00% of mass 174	8.00	(7.33)
176	93.00 - 101.00% of mass 174	107.20	(98.19)
177	5.00 - 9.00% of mass 176	7.05	(6.58)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	
1	LCS (LCS)	LCS	24102_LCS.D	08/29/2014	09:11	
2	CCV	CCV	24102.D	08/29/2014	09:11	
3	LCS for HBN 315426 [AIR/	1774784	24102_21178.D	08/29/2014	09:11	
4	BLANK for HBN 315426 [AI	1774783	24104_21178.D	08/29/2014	10:14	
5	BLANK (BLK)	BLANK	24104.D	08/29/2014	10:14	
6	C-Influent	10278070001	24114.D	08/29/2014	14:03	
7	C-Mid GAC	10278070002	24115.D	08/29/2014	14:27	NOT USED
8	C-Effluent	10278070003	24116.D	08/29/2014	14:50	
9	C-Mid GAC	10278070002	24138.D	08/29/2014	23:29	

Data File: \\192.168.10.12\chem\10air7.i\082914.b\24102.D
Report Date: 29-Aug-2014 09:34

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10air7.i Injection Date: 29-AUG-2014 09:11
Lab File ID: 24102.D Init. Cal. Date(s): 25-AUG-2014 25-AUG-2014
Analysis Type: AIR Init. Cal. Times: 13:10 15:34
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10air7.i\082914.b\TO15_237-14.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Chlorodifluoromethane	0.34228	0.33852	0.33852	0.010	-1.09988	30.00000	Averaged
2 Propylene	10.00000	12.01620	9.57837	0.010	20.16203	30.00000	Linear
3 Dichlorodifluoromethane	0.87569	0.69650	0.69650	0.010	-20.46237	30.00000	Averaged
4 Dichlorotetrafluoroethane	0.67626	0.68543	0.68543	0.010	1.35696	30.00000	Averaged
5 Chloromethane	0.21594	0.22026	0.22026	0.010	2.00020	30.00000	Averaged
6 Vinyl chloride	10.00000	11.18410	4.88604	0.010	11.84104	30.00000	Quadratic
7 1,3-Butadiene	10.00000	11.43876	7.61989	0.010	14.38761	30.00000	Linear
8 Bromomethane	0.24414	0.24864	0.24864	0.010	1.84089	30.00000	Averaged
9 Chloroethane	0.08101	0.08803	0.08803	0.010	8.66745	30.00000	Averaged
10 Ethanol	0.06415	0.05853	0.05853	0.005	-8.76702	30.00000	Averaged
11 Vinyl Bromide	10.00000	9.78108	3.76655	0.010	-2.18921	30.00000	Linear
12 Isopentane	0.15051	0.15763	0.15763	0.010	4.72590	30.00000	Averaged
13 Acrolein	0.04072	0.04379	0.04379	0.010	7.52837	30.00000	Averaged
14 Trichlorofluoromethane	1.13469	0.89263	0.89263	0.010	-21.33255	30.00000	Averaged
15 Acetone	10.00000	9.72315	2.90084	0.010	-2.76846	30.00000	Linear
16 Isopropyl Alcohol	0.22525	0.26894	0.26894	0.010	19.39879	30.00000	Averaged
17 Acrylonitrile	0.09996	0.10905	0.10905	0.010	9.09725	30.00000	Averaged
18 1,1-Dichloroethene	0.32480	0.32600	0.32600	0.010	0.36882	30.00000	Averaged
19 Tert Butyl Alcohol (TBA)	0.40138	0.48541	0.48541	0.010	20.93617	30.00000	Averaged
20 Freon 113	0.53349	0.50343	0.50343	0.010	-5.63325	30.00000	Averaged
21 Methylene chloride	10.00000	9.88886	4.82343	0.010	-1.11136	30.00000	Linear
22 Allyl Chloride	0.08565	0.09506	0.09506	0.010	10.99090	30.00000	Averaged
23 Carbon Disulfide	0.62300	0.64378	0.64378	0.010	3.33634	30.00000	Averaged
24 trans-1,2-dichloroethene	0.23721	0.24493	0.24493	0.010	3.25288	30.00000	Averaged
25 Methyl Tert Butyl Ether	10.00000	10.53851	1.51993	0.010	5.38513	30.00000	Linear
26 Vinyl Acetate	0.36987	0.41189	0.41189	0.010	11.36188	30.00000	Averaged
27 1,1-Dichloroethane	0.39610	0.38903	0.38903	0.010	-1.78591	30.00000	Averaged
$ 28 Hexane-d14(S)	0.04695	0.04905	0.04905	0.010	4.48196	30.00000	Averaged
29 Methyl Ethyl Ketone	0.08221	0.09049	0.09049	0.010	10.06678	30.00000	Averaged
30 n-Hexane	0.25151	0.25821	0.25821	0.010	2.66643	30.00000	Averaged
31 Di-isopropyl Ether	0.45418	0.50153	0.50153	0.010	10.42565	30.00000	Averaged
32 Ethyl Acetate	0.35387	0.37912	0.37912	0.010	7.13627	30.00000	Averaged
33 cis-1,2-Dichloroethene	0.24191	0.24254	0.24254	0.010	0.25840	30.00000	Averaged
34 Ethyl Tert-Butyl Ether	0.51359	0.63833	0.63833	0.010	24.28804	30.00000	Averaged
35 Chloroform	0.66288	0.58448	0.58448	0.010	-11.82674	30.00000	Averaged
36 Tetrahydrofuran	10.00000	11.19968	5.96815	0.010	11.99677	30.00000	Linear
37 1,1,1-Trichloroethane	0.75730	0.70156	0.70156	0.010	-7.36070	30.00000	Averaged
38 1,2-Dichloroethane	0.48854	0.44976	0.44976	0.010	-7.93671	30.00000	Averaged
39 Benzene	10.00000	10.83855	1.39563	0.010	8.38548	30.00000	Linear
40 Carbon tetrachloride	0.82600	0.75769	0.75769	0.010	-8.26984	30.00000	Averaged
41 Cyclohexane	10.00000	11.67105	3.89728	0.010	16.71052	30.00000	Linear
42 Tert Amyl Methyl Ether	10.00000	11.49682	1.42135	0.010	14.96820	30.00000	Linear

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10air7.i Injection Date: 29-AUG-2014 09:11
Lab File ID: 24102.D Init. Cal. Date(s): 25-AUG-2014 25-AUG-2014
Analysis Type: AIR Init. Cal. Times: 13:10 15:34
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10air7.i\082914.b\TO15_237-14.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
44 2,2,4-Trimethylpentane	10.00000	11.25589	1.15534	0.010	12.55889	30.00000	Linear
45 Heptane	10.00000	10.88908	3.78406	0.010	8.89080	30.00000	Linear
46 1,2-Dichloropropane	0.20258	0.23363	0.23363	0.010	15.32524	30.00000	Averaged
47 Trichloroethene	0.30727	0.35282	0.35282	0.010	14.82410	30.00000	Averaged
48 1,4-Dioxane	10.00000	11.53476	6.95671	0.010	15.34763	30.00000	Linear
49 Bromodichloromethane	0.69205	0.67520	0.67520	0.010	-2.43441	30.00000	Averaged
50 Methylcyclohexane	10.00000	10.48272	6.73267	0.010	4.82723	30.00000	Linear
51 Methyl Isobutyl Ketone	10.00000	10.52167	2.53008	0.010	5.21673	30.00000	Linear
52 cis-1,3-Dichloropropene	0.34171	0.40777	0.40777	0.010	19.33383	30.00000	Averaged
53 trans-1,3-Dichloropropene	10.00000	9.99683	2.27605	0.010	-0.03168	30.00000	Linear
$ 54 Toluene-d8 (S)	1.02797	0.98724	0.98724	0.010	-3.96255	30.00000	Averaged
55 1,1,2-Trichloroethane	0.33647	0.32483	0.32483	0.010	-3.45691	30.00000	Averaged
56 Toluene	0.81663	0.90410	0.90410	0.010	10.71010	30.00000	Averaged
57 Methyl Butyl Ketone	10.00000	10.46334	1.79014	0.010	4.63338	30.00000	Linear
58 Dibromochloromethane	0.99098	1.02378	1.02378	0.010	3.30927	30.00000	Averaged
59 1,2-Dibromoethane	0.77665	0.82811	0.82811	0.010	6.62658	30.00000	Averaged
60 Tetrachloroethene	10.00000	9.80616	1.14122	0.010	-1.93841	30.00000	Linear
62 Chlorobenzene	0.94370	1.09936	1.09936	0.010	16.49405	30.00000	Averaged
63 Ethyl Benzene	10.00000	10.46406	0.54917	0.010	4.64056	30.00000	Linear
64 m&p-Xylene	10.00000	10.18365	0.67274	0.010	1.83648	30.00000	Linear
65 Bromoform	1.17225	1.20411	1.20411	0.010	2.71800	30.00000	Averaged
66 Styrene	10.00000	10.08229	1.01393	0.010	0.82293	30.00000	Linear
67 o-Xylene	10.00000	9.99930	0.66778	0.010	-0.00698	30.00000	Linear
68 1,1,2,2-Tetrachloroethane	0.81165	0.91033	0.91033	0.010	12.15765	30.00000	Averaged
69 Isopropylbenzene	1.72967	1.82719	1.82719	0.010	5.63799	30.00000	Averaged
70 N-Propylbenzene	10.00000	10.07110	0.44061	0.010	0.71101	30.00000	Linear
71 4-Ethyltoluene	10.00000	9.80936	0.56194	0.010	-1.90641	30.00000	Linear
72 1,3,5-Trimethylbenzene	10.00000	9.65887	0.57418	0.010	-3.41130	30.00000	Linear
73 Tert-Butyl Benzene	10.00000	9.05710	0.68915	0.010	-9.42900	30.00000	Linear
74 1,2,4-Trimethylbenzene	10.00000	9.49809	0.61829	0.010	-5.01914	30.00000	Linear
75 1,3-Dichlorobenzene	1.04005	1.05569	1.05569	0.010	1.50362	30.00000	Averaged
76 Sec- Butylbenzene	1.97520	2.07581	2.07581	0.010	5.09388	30.00000	Averaged
$ 77 1,4-dichlorobenzene-d4 (S)	0.55137	0.50981	0.50981	0.010	-7.53731	30.00000	Averaged
78 Benzyl Chloride	1.07963	1.12061	1.12061	0.010	3.79592	30.00000	Averaged
79 1,4-Dichlorobenzene	1.12589	1.10411	1.10411	0.010	-1.93450	30.00000	Averaged
80 p-Isopropyltoluene	10.00000	9.30193	0.62721	0.010	-6.98072	30.00000	Linear
81 1,2,3-Trimethylbenzene	1.48920	1.39378	1.39378	0.010	-6.40787	30.00000	Averaged
82 1,2-Dichlorobenzene	0.93963	0.97774	0.97774	0.010	4.05645	30.00000	Averaged
83 N-Butylbenzene	1.67169	1.60280	1.60280	0.010	-4.12076	30.00000	Averaged
84 1,2,4-Trichlorobenzene	0.57339	0.59806	0.59806	0.010	4.30341	30.00000	Averaged
85 Naphthalene	0.80503	0.82147	0.82147	0.010	2.04110	30.00000	Averaged
86 Hexachlorobutadiene	10.00000	10.63378	1.35045	0.010	6.33778	30.00000	Linear

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10air7.i Injection Date: 29-AUG-2014 09:11
Lab File ID: 24102.D Init. Cal. Date(s): 25-AUG-2014 25-AUG-2014
Analysis Type: AIR Init. Cal. Times: 13:10 15:34
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10air7.i\082914.b\TO15_237-14.m

Average %D / Drift Results.	
Calculated Average %D/Drift =	7.39166
Maximun Average %D/Drift =	30.00000
* Passed Average %D/Drift Test.	

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1700 Elm Street - Suite 200
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(612)607-1700

QUALITY CONTROL DATA

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

METHOD BLANK: 1774783 Matrix: Air
Associated Lab Samples: 10278070001, 10278070002, 10278070003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/m3	ND	0.88	08/29/14 10:14	
Hexachloro-1,3-butadiene	ug/m3	ND	5.4	08/29/14 10:14	
m&p-Xylene	ug/m3	ND	1.8	08/29/14 10:14	
Methyl-tert-butyl ether	ug/m3	ND	1.8	08/29/14 10:14	
Methylene Chloride	ug/m3	ND	3.5	08/29/14 10:14	
n-Heptane	ug/m3	ND	2.1	08/29/14 10:14	
n-Hexane	ug/m3	ND	0.72	08/29/14 10:14	
Naphthalene	ug/m3	ND	2.7	08/29/14 10:14	
o-Xylene	ug/m3	ND	0.88	08/29/14 10:14	
Propylene	ug/m3	ND	0.35	08/29/14 10:14	
Styrene	ug/m3	ND	2.2	08/29/14 10:14	
Tetrachloroethene	ug/m3	ND	0.69	08/29/14 10:14	
Tetrahydrofuran	ug/m3	ND	0.60	08/29/14 10:14	
Toluene	ug/m3	ND	0.77	08/29/14 10:14	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	08/29/14 10:14	
trans-1,3-Dichloropropene	ug/m3	ND	2.3	08/29/14 10:14	
Trichloroethene	ug/m3	ND	0.55	08/29/14 10:14	
Trichlorofluoromethane	ug/m3	ND	1.1	08/29/14 10:14	
Vinyl acetate	ug/m3	ND	0.72	08/29/14 10:14	
Vinyl chloride	ug/m3	ND	0.26	08/29/14 10:14	

LABORATORY CONTROL SAMPLE: 1774784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	51.4	93	72-128	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	78.3	112	72-136	
1,1,2-Trichloroethane	ug/m3	55.5	53.5	96	72-130	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	73.5	94	68-126	
1,1-Dichloroethane	ug/m3	41.2	40.4	98	68-128	
1,1-Dichloroethene	ug/m3	40.3	40.5	100	68-130	
1,2,4-Trichlorobenzene	ug/m3	75.5	78.7	104	30-150	
1,2,4-Trimethylbenzene	ug/m3	50	47.5	95	71-140	
1,2-Dibromoethane (EDB)	ug/m3	78.1	83.3	107	73-136	
1,2-Dichlorobenzene	ug/m3	61.2	63.6	104	63-150	
1,2-Dichloroethane	ug/m3	41.2	37.9	92	71-132	
1,2-Dichloropropane	ug/m3	47	54.2	115	72-130	
1,3,5-Trimethylbenzene	ug/m3	50	48.3	97	73-136	
1,3-Butadiene	ug/m3	22.5	25.7	114	72-130	
1,3-Dichlorobenzene	ug/m3	61.2	62.0	101	69-142	
1,4-Dichlorobenzene	ug/m3	61.2	59.9	98	65-142	
2-Butanone (MEK)	ug/m3	30	33.0	110	71-135	
2-Hexanone	ug/m3	41.7	43.6	105	75-133	
2-Propanol	ug/m3	25	29.8	119	68-135	
4-Ethyltoluene	ug/m3	50	49.0	98	73-134	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

LABORATORY CONTROL SAMPLE: 1774784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Methyl-2-pentanone (MIBK)	ug/m3	41.7	43.8	105	72-137	
Acetone	ug/m3	24.2	23.5	97	68-136	
Benzene	ug/m3	32.5	35.2	108	69-134	
Benzyl chloride	ug/m3	52.5	54.6	104	71-136	
Bromodichloromethane	ug/m3	68.2	66.5	98	74-129	
Bromoform	ug/m3	105	108	103	69-138	
Bromomethane	ug/m3	39.5	40.2	102	68-127	
Carbon disulfide	ug/m3	31.7	32.7	103	68-130	
Carbon tetrachloride	ug/m3	64	58.7	92	66-134	
Chlorobenzene	ug/m3	46.8	54.5	116	72-137	
Chloroethane	ug/m3	26.8	29.1	109	69-128	
Chloroform	ug/m3	49.7	43.8	88	72-127	
Chloromethane	ug/m3	21	21.4	102	69-125	
cis-1,2-Dichloroethene	ug/m3	40.3	40.4	100	71-135	
cis-1,3-Dichloropropene	ug/m3	46.2	55.1	119	74-134	
Cyclohexane	ug/m3	35	40.8	117	72-130	
Dibromochloromethane	ug/m3	86.6	89.5	103	73-133	
Dichlorodifluoromethane	ug/m3	50.3	40.0	79	69-125	
Dichlorotetrafluoroethane	ug/m3	71.1	72.0	101	68-128	
Ethanol	ug/m3	19.2	17.5	91	70-134	
Ethyl acetate	ug/m3	36.6	39.2	107	71-134	
Ethylbenzene	ug/m3	44.2	46.2	105	73-139	
Hexachloro-1,3-butadiene	ug/m3	108	115	106	30-150	
m&p-Xylene	ug/m3	44.2	44.9	102	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	38.6	105	72-132	
Methylene Chloride	ug/m3	35.3	34.9	99	64-134	
n-Heptane	ug/m3	41.7	45.4	109	70-130	
n-Hexane	ug/m3	35.8	36.8	103	69-128	
Naphthalene	ug/m3	53.3	54.4	102	61-150	
o-Xylene	ug/m3	44.2	44.1	100	71-138	
Propylene	ug/m3	17.5	21.0	120	69-133	
Styrene	ug/m3	43.3	43.7	101	74-136	
Tetrachloroethene	ug/m3	69	67.6	98	69-136	
Tetrahydrofuran	ug/m3	30	33.6	112	73-131	
Toluene	ug/m3	38.3	42.4	111	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	41.6	103	70-131	
trans-1,3-Dichloropropene	ug/m3	46.2	46.1	100	72-135	
Trichloroethene	ug/m3	54.6	62.7	115	70-135	
Trichlorofluoromethane	ug/m3	57.1	44.9	79	67-125	
Vinyl acetate	ug/m3	35.8	39.9	111	72-133	
Vinyl chloride	ug/m3	26	29.1	112	69-132	

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Minneapolis, MN 55414
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QUALIFIERS

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 10278070003

[1] The internal standard recoveries associated with this sample exceed the lower control limit. The reported results should be considered estimated values.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

IS The internal standard recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated value.

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Data File: \\192.168.10.12\chem\10air7.i\082914.b\24114.D
Report Date: 31-Aug-2014 14:41

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 24114.D
Lab Smp Id: 10278070001 C-Influent
Analysis Type: VOA
Quant Type: ISTD
Operator: JAM
Method File: \\192.168.10.12\chem\10air7.i\082914.b\TO15_237-14.m
Misc Info: 21178

Calibration Date: 29-AUG-2014
Calibration Time: 09:11

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	833673	500204	1167142	511254	-38.67
61 Chlorobenzene - d	560776	336466	785086	358131	-36.14

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.67	4.34	5.00	4.67	-0.00
61 Chlorobenzene - d	7.49	7.16	7.82	7.49	-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: \\192.168.10.12\chem\10air7.i\082914.b\24138.D
Report Date: 02-Sep-2014 15:09

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 24138.D
Lab Smp Id: 10278070002 C-MIDEAC
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10air7.i\082914.b\TO15_237-14.m
Misc Info: 21178

Calibration Date: 29-AUG-2014
Calibration Time: 09:11

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	833673	500204	1167142	527671	-36.71
61 Chlorobenzene - d	560776	336466	785086	371130	-33.82

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.67	4.34	5.00	4.67	-0.14
61 Chlorobenzene - d	7.49	7.16	7.82	7.49	-0.09

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: \\192.168.10.12\chem\10air7.i\082914.b\24115.D
Report Date: 31-Aug-2014 14:41

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 24115.D
Lab Smp Id: 10278070002
Analysis Type: VOA
Quant Type: ISTD
Operator: JAM
Method File: \\192.168.10.12\chem\10air7.i\082914.b\TO15_237-14.m non reported
Misc Info: 21178

C-MID-GA C

Calibration Date: 29-AUG-2014
Calibration Time: 09:11

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	833673	500204	1167142	489521	-41.28
61 Chlorobenzene - d	560776	336466	785086	352016	-37.23

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.67	4.34	5.00	4.66	-0.21
61 Chlorobenzene - d	7.49	7.16	7.82	7.49	-0.09

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: \\192.168.10.12\chem\10air7.i\082914.b\24116.D
Report Date: 31-Aug-2014 14:41

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 24116.D
Lab Smp Id: 10278070003
Analysis Type: VOA
Quant Type: ISTD
Operator: JAM
Method File: \\192.168.10.12\chem\10air7.i\082914.b\TO15_237-14.m
Misc Info: 21178

C-Effluent

Calibration Date: 29-AUG-2014
Calibration Time: 09:11

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	833673	500204	1167142	480958	-42.31
61 Chlorobenzene - d	560776	336466	785086	336701	-39.96

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.67	4.34	5.00	4.67	-0.14
61 Chlorobenzene - d	7.49	7.16	7.82	7.49	-0.09

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.

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10278070
Lab File ID: 24201BFB.D BFB Injection Date: 08/30/2014
Instrument ID: 10AIR7 BFB Injection Time: 10:44
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	17.43	
75	30.00 - 66.00% of mass 95	54.74	
96	5.00 - 9.00% of mass 95	6.46	
173	Less than 2.00% of mass 174	0.58	(0.53)
174	50.00 - 120.00% of mass 95	109.48	
175	4.00 - 9.00% of mass 174	7.61	(6.95)
176	93.00 - 101.00% of mass 174	106.09	(96.91)
177	5.00 - 9.00% of mass 176	6.76	(6.38)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	0	0	24202.D	08/30/2014	11:05
2	CCV	CCV	24203C.D	08/30/2014	11:27
3	LCS (LCS)	LCS	24203LCS.D	08/30/2014	11:27
4	BLANK (BLK)	BLANK	24205BLANK.D	08/30/2014	12:32
5	CERT9908	CERT9908	24205.D	08/30/2014	12:32
6	C-Influent	10278070001	24229.D	08/30/2014	22:06

Data File: \\192.168.10.12\chem\10air7.i\083014.b\24203c.D
Report Date: 30-Aug-2014 11:46

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10air7.i Injection Date: 30-AUG-2014 11:27
Lab File ID: 24203c.D Init. Cal. Date(s): 25-AUG-2014 25-AUG-2014
Analysis Type: AIR Init. Cal. Times: 13:10 15:34
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10air7.i\083014.b\TO15_237-14.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Chlorodifluoromethane	0.34228	0.34327	0.34327	0.010	0.28985	30.00000	Averaged
2 Propylene	10.00000	10.48710	10.98537	0.010	4.87096	30.00000	Linear
3 Dichlorodifluoromethane	0.87569	0.85919	0.85919	0.010	-1.88417	30.00000	Averaged
4 Dichlorotetrafluoroethane	0.67626	0.72259	0.72259	0.010	6.85123	30.00000	Averaged
5 Chloromethane	0.21594	0.21498	0.21498	0.010	-0.44598	30.00000	Averaged
6 Vinyl chloride	10.00000	10.60786	5.14699	0.010	6.07861	30.00000	Quadratic
7 1,3-Butadiene	10.00000	10.80764	8.06205	0.010	8.07644	30.00000	Linear
8 Bromomethane	0.24414	0.26194	0.26194	0.010	7.29087	30.00000	Averaged
9 Chloroethane	0.08101	0.08640	0.08640	0.010	6.64780	30.00000	Averaged
10 Ethanol	0.06415	0.06341	0.06341	0.005	-1.15440	30.00000	Averaged
11 Vinyl Bromide	10.00000	10.45328	3.52471	0.010	4.53284	30.00000	Linear
12 Isopentane	0.15051	0.16250	0.16250	0.010	7.96607	30.00000	Averaged
13 Acrolein	0.04072	0.04458	0.04458	0.010	9.47126	30.00000	Averaged
14 Trichlorofluoromethane	1.13469	1.09265	1.09265	0.010	-3.70500	30.00000	Averaged
15 Acetone	10.00000	10.80044	2.64032	0.010	8.00436	30.00000	Linear
16 Isopropyl Alcohol	0.22525	0.26833	0.26833	0.010	19.12769	30.00000	Averaged
17 Acrylonitrile	0.09996	0.11064	0.11064	0.010	10.68611	30.00000	Averaged
18 1,1-Dichloroethene	0.32480	0.36118	0.36118	0.010	11.20140	30.00000	Averaged
19 Tert Butyl Alcohol (TBA)	0.40138	0.47008	0.47008	0.010	17.11587	30.00000	Averaged
20 Freon 113	0.53349	0.57329	0.57329	0.010	7.46125	30.00000	Averaged
21 Methylene chloride	10.00000	10.75139	4.45130	0.010	7.51390	30.00000	Linear
22 Allyl Chloride	0.08565	0.09776	0.09776	0.010	14.13979	30.00000	Averaged
23 Carbon Disulfide	0.62300	0.68729	0.68729	0.010	10.32028	30.00000	Averaged
24 trans-1,2-dichloroethene	0.23721	0.26595	0.26595	0.010	12.11381	30.00000	Averaged
25 Methyl Tert Butyl Ether	10.00000	10.78690	1.48518	0.010	7.86902	30.00000	Linear
26 Vinyl Acetate	0.36987	0.42634	0.42634	0.010	15.26800	30.00000	Averaged
27 1,1-Dichloroethane	0.39610	0.41858	0.41858	0.010	5.67603	30.00000	Averaged
$ 28 Hexane-d14(S)	0.04695	0.04611	0.04611	0.010	-1.77909	30.00000	Averaged
29 Methyl Ethyl Ketone	0.08221	0.09773	0.09773	0.010	18.87346	30.00000	Averaged
30 n-Hexane	0.25151	0.26997	0.26997	0.010	7.34288	30.00000	Averaged
31 Di-isopropyl Ether	0.45418	0.51990	0.51990	0.010	14.46935	30.00000	Averaged
32 Ethyl Acetate	0.35387	0.40143	0.40143	0.010	13.44158	30.00000	Averaged
33 cis-1,2-Dichloroethene	0.24191	0.27199	0.27199	0.010	12.43389	30.00000	Averaged
34 Ethyl Tert-Butyl Ether	0.51359	0.63618	0.63618	0.010	23.87023	30.00000	Averaged
35 Chloroform	0.66288	0.68072	0.68072	0.010	2.69126	30.00000	Averaged
36 Tetrahydrofuran	10.00000	10.46406	6.39092	0.010	4.64061	30.00000	Linear
37 1,1,1-Trichloroethane	0.75730	0.79470	0.79470	0.010	4.93801	30.00000	Averaged
38 1,2-Dichloroethane	0.48854	0.49666	0.49666	0.010	1.66248	30.00000	Averaged
39 Benzene	10.00000	10.23691	1.47820	0.010	2.36911	30.00000	Linear
40 Carbon tetrachloride	0.82600	0.87544	0.87544	0.010	5.98500	30.00000	Averaged
41 Cyclohexane	10.00000	11.21021	4.05621	0.010	12.10208	30.00000	Linear
42 Tert Amyl Methyl Ether	10.00000	10.32768	1.57940	0.010	3.27677	30.00000	Linear

Data File: \\192.168.10.12\chem\10air7.i\083014.b\24203c.D
Report Date: 30-Aug-2014 11:46

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10air7.i Injection Date: 30-AUG-2014 11:27
Lab File ID: 24203c.D Init. Cal. Date(s): 25-AUG-2014 25-AUG-2014
Analysis Type: AIR Init. Cal. Times: 13:10 15:34
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10air7.i\083014.b\TO15_237-14.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
44 2,2,4-Trimethylpentane	10.00000	11.00800	1.18143	0.010	10.08003	30.00000	Linear
45 Heptane	10.00000	10.63119	3.87548	0.010	6.31193	30.00000	Linear
46 1,2-Dichloropropane	0.20258	0.22428	0.22428	0.010	10.71397	30.00000	Averaged
47 Trichloroethene	0.30727	0.36020	0.36020	0.010	17.22485	30.00000	Averaged
48 1,4-Dioxane	10.00000	11.53854	6.95431	0.010	15.38544	30.00000	Linear
49 Bromodichloromethane	0.69205	0.74908	0.74908	0.010	8.24145	30.00000	Averaged
50 Methylcyclohexane	10.00000	9.92154	7.12088	0.010	-0.78456	30.00000	Linear
51 Methyl Isobutyl Ketone	10.00000	10.90580	2.44026	0.010	9.05804	30.00000	Linear
52 cis-1,3-Dichloropropene	0.34171	0.40841	0.40841	0.010	19.52101	30.00000	Averaged
53 trans-1,3-Dichloropropene	10.00000	10.11955	2.24782	0.010	1.19546	30.00000	Linear
$ 54 Toluene-d8 (S)	1.02797	0.99988	0.99988	0.010	-2.73297	30.00000	Averaged
55 1,1,2-Trichloroethane	0.33647	0.34965	0.34965	0.010	3.91986	30.00000	Averaged
56 Toluene	0.81663	0.94118	0.94118	0.010	15.25112	30.00000	Averaged
57 Methyl Butyl Ketone	10.00000	10.67224	1.75444	0.010	6.72242	30.00000	Linear
58 Dibromochloromethane	0.99098	1.14890	1.14890	0.010	15.93586	30.00000	Averaged
59 1,2-Dibromoethane	0.77665	0.86862	0.86862	0.010	11.84308	30.00000	Averaged
60 Tetrachloroethene	10.00000	10.36075	1.07955	0.010	3.60754	30.00000	Linear
62 Chlorobenzene	0.94370	1.10935	1.10935	0.010	17.55235	30.00000	Averaged
63 Ethyl Benzene	10.00000	10.71870	0.53590	0.010	7.18700	30.00000	Linear
64 m&p-Xylene	10.00000	10.73162	0.63791	0.010	7.31621	30.00000	Linear
65 Bromoform	1.17225	1.36619	1.36619	0.010	16.54426	30.00000	Averaged
66 Styrene	10.00000	10.49375	0.97285	0.010	4.93752	30.00000	Linear
67 o-Xylene	10.00000	10.96145	0.60856	0.010	9.61445	30.00000	Linear
68 1,1,2,2-Tetrachloroethane	0.81165	0.97603	0.97603	0.010	20.25232	30.00000	Averaged
69 Isopropylbenzene	1.72967	2.07433	2.07433	0.010	19.92612	30.00000	Averaged
70 N-Propylbenzene	10.00000	10.74180	0.41260	0.010	7.41799	30.00000	Linear
71 4-Ethyltoluene	10.00000	10.76797	0.51095	0.010	7.67971	30.00000	Linear
72 1,3,5-Trimethylbenzene	10.00000	10.66117	0.51962	0.010	6.61173	30.00000	Linear
73 Tert-Butyl Benzene	10.00000	10.50314	0.59170	0.010	5.03136	30.00000	Linear
74 1,2,4-Trimethylbenzene	10.00000	10.77180	0.54396	0.010	7.71804	30.00000	Linear
75 1,3-Dichlorobenzene	1.04005	1.20847	1.20847	0.010	16.19350	30.00000	Averaged
76 Sec- Butylbenzene	1.97520	2.33377	2.33377	0.010	18.15341	30.00000	Averaged
$ 77 1,4-dichlorobenzene-d4 (S)	0.55137	0.55186	0.55186	0.010	0.08921	30.00000	Averaged
78 Benzyl Chloride	1.07963	1.24960	1.24960	0.010	15.74306	30.00000	Averaged
79 1,4-Dichlorobenzene	1.12589	1.25165	1.25165	0.010	11.16990	30.00000	Averaged
80 p-Isopropyltoluene	10.00000	10.36463	0.56170	0.010	3.64635	30.00000	Linear
81 1,2,3-Trimethylbenzene	1.48920	1.69220	1.69220	0.010	13.63155	30.00000	Averaged
82 1,2-Dichlorobenzene	0.93963	1.06624	1.06624	0.010	13.47431	30.00000	Averaged
83 N-Butylbenzene	1.67169	1.81275	1.81275	0.010	8.43827	30.00000	Averaged
84 1,2,4-Trichlorobenzene	0.57339	0.63237	0.63237	0.010	10.28707	30.00000	Averaged
85 Naphthalene	0.80503	0.86276	0.86276	0.010	7.17094	30.00000	Averaged
86 Hexachlorobutadiene	10.00000	11.93303	1.20654	0.010	19.33035	30.00000	Linear

Data File: \\192.168.10.12\chem\10air7.i\083014.b\24203c.D
Report Date: 30-Aug-2014 11:46

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10air7.i Injection Date: 30-AUG-2014 11:27
Lab File ID: 24203c.D Init. Cal. Date(s): 25-AUG-2014 25-AUG-2014
Analysis Type: AIR Init. Cal. Times: 13:10 15:34
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10air7.i\083014.b\TO15_237-14.m

Average %D / Drift Results.	
Calculated Average %D/Drift =	9.27721
Maximun Average %D/Drift =	30.00000
* Passed Average %D/Drift Test.	

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www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

QC Batch: AIR/21178 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10278070001, 10278070002, 10278070003

METHOD BLANK: 1774783 Matrix: Air
Associated Lab Samples: 10278070001, 10278070002, 10278070003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	08/29/14 10:14	
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.70	08/29/14 10:14	
1,1,2-Trichloroethane	ug/m3	ND	0.55	08/29/14 10:14	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	1.6	08/29/14 10:14	
1,1-Dichloroethane	ug/m3	ND	0.82	08/29/14 10:14	
1,1-Dichloroethene	ug/m3	ND	0.81	08/29/14 10:14	
1,2,4-Trichlorobenzene	ug/m3	ND	1.5	08/29/14 10:14	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	08/29/14 10:14	
1,2-Dibromoethane (EDB)	ug/m3	ND	1.6	08/29/14 10:14	
1,2-Dichlorobenzene	ug/m3	ND	1.2	08/29/14 10:14	
1,2-Dichloroethane	ug/m3	ND	0.41	08/29/14 10:14	
1,2-Dichloropropane	ug/m3	ND	0.94	08/29/14 10:14	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	08/29/14 10:14	
1,3-Butadiene	ug/m3	ND	1.1	08/29/14 10:14	
1,3-Dichlorobenzene	ug/m3	ND	1.2	08/29/14 10:14	
1,4-Dichlorobenzene	ug/m3	ND	1.2	08/29/14 10:14	
2-Butanone (MEK)	ug/m3	ND	0.60	08/29/14 10:14	
2-Hexanone	ug/m3	ND	0.83	08/29/14 10:14	
2-Propanol	ug/m3	ND	1.2	08/29/14 10:14	
4-Ethyltoluene	ug/m3	ND	1.0	08/29/14 10:14	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	0.83	08/29/14 10:14	
Acetone	ug/m3	ND	2.4	08/29/14 10:14	
Benzene	ug/m3	ND	0.32	08/29/14 10:14	
Benzyl chloride	ug/m3	ND	1.0	08/29/14 10:14	
Bromodichloromethane	ug/m3	ND	1.4	08/29/14 10:14	
Bromoform	ug/m3	ND	2.1	08/29/14 10:14	
Bromomethane	ug/m3	ND	0.79	08/29/14 10:14	
Carbon disulfide	ug/m3	ND	0.63	08/29/14 10:14	
Carbon tetrachloride	ug/m3	ND	0.64	08/29/14 10:14	
Chlorobenzene	ug/m3	ND	0.94	08/29/14 10:14	
Chloroethane	ug/m3	ND	0.54	08/29/14 10:14	
Chloroform	ug/m3	ND	0.50	08/29/14 10:14	
Chloromethane	ug/m3	ND	0.42	08/29/14 10:14	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	08/29/14 10:14	
cis-1,3-Dichloropropene	ug/m3	ND	0.92	08/29/14 10:14	
Cyclohexane	ug/m3	ND	3.5	08/29/14 10:14	
Dibromochloromethane	ug/m3	ND	1.7	08/29/14 10:14	
Dichlorodifluoromethane	ug/m3	ND	1.0	08/29/14 10:14	
Dichlorotetrafluoroethane	ug/m3	ND	1.4	08/29/14 10:14	
Ethanol	ug/m3	ND	0.96	08/29/14 10:14	
Ethyl acetate	ug/m3	ND	0.73	08/29/14 10:14	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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Data File: \\192.168.10.12\chem\10air7.i\083014.b\24229.D
Report Date: 02-Sep-2014 09:26

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

C-INFLUENT

Instrument ID: 10air7.i
Lab File ID: 24229.D
Lab Smp Id: 10278070001
Analysis Type: VOA
Quant Type: ISTD
Operator: DL1
Method File: \\192.168.10.12\chem\10air7.i\083014.b\TO15_237-14.m
Misc Info: 21178

Calibration Date: 30-AUG-2014
Calibration Time: 11:27

Level: LOW
Sample Type: AIR

Acetone
Ethanol

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF	
43 1,4-Difluorobenze	833673	500204	1167142	390829	-53.12	<-
61 Chlorobenzene - d	560776	336466	785086	257469	-54.09	<-

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.67	4.34	5.00	4.67	-0.14
61 Chlorobenzene - d	7.49	7.16	7.82	7.49	-0.09

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: \\192.168.10.12\chem\10air7.i\082914.b\24102.D
Report Date: 29-Aug-2014 09:34

Internal Std Reference

Pace Analytical Services, Inc.

TO15 Analysis (UNIX)

Data file : \\192.168.10.12\chem\10air7.i\082914.b\24102.D
Lab Smp Id: CCV
Inj Date : 29-AUG-2014 09:11
Operator : JAM Inst ID: 10air7.i
Smp Info :
Misc Info :
Comment : Volatile Organic COMPOUNDS in Air
Method : \\192.168.10.12\chem\10air7.i\082914.b\TO15_237-14.m
Meth Date : 29-Aug-2014 09:29 jmasterman Quant Type: ISTD
Cal Date : 25-AUG-2014 15:34 Cal File: 23710.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14
Processing Host: VIRTUALXP-27221

Concentration Formula: Amt * DF * Uf * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppbv)	AMOUNTS ON-COL (ppbv)
1 Chlorodifluoromethane	51	2.517	2.520	(0.539)	263762	10.0000	9.89
2 Propylene	41	2.527	2.527	(0.541)	81347	10.0000	12.0
3 Dichlorodifluoromethane	85	2.547	2.546	(0.546)	542694	10.0000	7.95
4 Dichlorotetrafluoroethane	85	2.612	2.612	(0.560)	534070	10.0000	10.1
5 Chloromethane	50	2.612	2.615	(0.560)	171619	10.0000	10.2
6 Vinyl chloride	62	2.674	2.674	(0.573)	159469	10.0000	11.2
7 1,3-Butadiene	54	2.703	2.703	(0.579)	102255	10.0000	11.4
8 Bromomethane	94	2.808	2.811	(0.602)	193732	10.0000	10.2
9 Chloroethane	64	2.844	2.847	(0.609)	68593	10.0000	10.9(M)
10 Ethanol	31	2.883	2.883	(0.618)	45605	10.0000	9.12(M)
11 Vinyl Bromide	106	2.939	2.939	(0.630)	206866	10.0000	9.78
12 Isopentane	43	2.949	2.949	(0.632)	122817	10.0000	10.5
13 Acrolein	56	2.998	3.001	(0.642)	34118	10.0000	10.8
14 Trichlorofluoromethane	101	3.011	3.011	(0.645)	695514	10.0000	7.87
15 Acetone	43	3.027	3.030	(0.649)	268602	10.0000	9.72
16 Isopropyl Alcohol	45	3.043	3.060	(0.652)	209554	10.0000	11.9
17 Acrylonitrile	53	3.200	3.200	(0.686)	84969	10.0000	10.9
18 1,1-Dichloroethene	61	3.200	3.203	(0.686)	254008	10.0000	10.0(M)
19 Tert Butyl Alcohol (TBA)	59	3.197	3.217	(0.685)	378218	10.0000	12.1(M)
20 Freon 113	101	3.230	3.233	(0.692)	392262	10.0000	9.44
21 Methylene chloride	49	3.272	3.275	(0.701)	161539	10.0000	9.89
22 Allyl Chloride	76	3.279	3.285	(0.702)	74070	10.0000	11.1
23 Carbon Disulfide	76	3.380	3.383	(0.724)	501616	10.0000	10.3

Data File: \\192.168.10.12\chem\10air7.i\082914.b\24102.D
Report Date: 29-Aug-2014 09:34

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppbv)	AMOUNTS ON-COL (ppbv)
	24 trans-1,2-dichloroethene	96	3.498	3.501	(0.749)	190843	10.0000	10.3(M)
	25 Methyl Tert Butyl Ether	73	3.514	3.521	(0.753)	512638	10.0000	10.5(M)
	26 Vinyl Acetate	43	3.589	3.596	(0.769)	320933	10.0000	11.1
	27 1,1-Dichloroethane	63	3.606	3.612	(0.772)	303119	10.0000	9.82
$	28 Hexane-d14(S)	66	3.677	3.684	(0.788)	38221	10.0000	10.4
	29 Methyl Ethyl Ketone	72	3.733	3.743	(0.800)	70507	10.0000	11.0(M)
	30 n-Hexane	57	3.762	3.766	(0.806)	201192	10.0000	10.3(M)
	31 Di-isopropyl Ether	45	3.769	3.779	(0.807)	390782	10.0000	11.0
	32 Ethyl Acetate	43	3.874	3.887	(0.830)	295399	10.0000	10.7(M)
	33 cis-1,2-Dichloroethene	96	3.877	3.883	(0.831)	188978	10.0000	10.0
	34 Ethyl Tert-Butyl Ether	59	3.968	3.978	(0.850)	497367	10.0000	12.4
	35 Chloroform	83	3.975	3.988	(0.852)	455414	10.0000	8.82
	36 Tetrahydrofuran	42	4.115	4.122	(0.882)	130555	10.0000	11.2(M)
	37 1,1,1-Trichloroethane	97	4.321	4.328	(0.926)	546637	10.0000	9.26
	38 1,2-Dichloroethane	62	4.331	4.341	(0.928)	350442	10.0000	9.21
	39 Benzene	78	4.531	4.540	(0.971)	558293	10.0000	10.8
	40 Carbon tetrachloride	117	4.547	4.557	(0.974)	590373	10.0000	9.17
	41 Cyclohexane	56	4.553	4.557	(0.975)	199927	10.0000	11.7(M)
	42 Tert Amyl Methyl Ether	73	4.658	4.668	(0.998)	548193	10.0000	11.5
*	43 1,4-Difluorobenzene	114	4.668	4.678	(1.000)	779172	10.0000	
	44 2,2,4-Trimethylpentane	57	4.805	4.815	(1.029)	674408	10.0000	11.2
	45 Heptane	43	4.920	4.929	(1.054)	205909	10.0000	10.9
	46 1,2-Dichloropropane	63	4.985	4.995	(1.068)	182035	10.0000	11.5(M)
	47 Trichloroethene	130	5.005	5.014	(1.072)	274907	10.0000	11.5
	48 1,4-Dioxane	88	5.093	5.103	(1.091)	112003	10.0000	11.5(M)
	49 Bromodichloromethane	83	5.093	5.103	(1.091)	526096	10.0000	9.76
	50 Methylcyclohexane	98	5.407	5.413	(1.158)	115730	10.0000	10.5
	51 Methyl Isobutyl Ketone	43	5.514	5.534	(1.181)	307963	10.0000	10.5
	52 cis-1,3-Dichloropropene	75	5.560	5.570	(1.191)	317726	10.0000	11.9
	53 trans-1,3-Dichloropropene	75	5.936	5.949	(1.272)	342335	10.0000	10.0
$	54 Toluene-d8 (S)	98	6.008	6.021	(1.287)	769230	10.0000	9.60
	55 1,1,2-Trichloroethane	97	6.080	6.093	(1.302)	253102	10.0000	9.65
	56 Toluene	91	6.080	6.090	(1.302)	704447	10.0000	11.1
	57 Methyl Butyl Ketone	43	6.309	6.328	(0.842)	289708	10.0000	10.5
	58 Dibromochloromethane	129	6.573	6.587	(0.878)	530950	10.0000	10.3
	59 1,2-Dibromoethane	107	6.789	6.806	(0.907)	429474	10.0000	10.7
	60 Tetrachloroethene	166	6.861	6.871	(0.916)	454443	10.0000	9.81
*	61 Chlorobenzene - d5	117	7.489	7.505	(1.000)	518619	10.0000	
	62 Chlorobenzene	112	7.531	7.544	(1.006)	570149	10.0000	11.6
	63 Ethyl Benzene	91	7.776	7.789	(1.038)	944373	10.0000	10.5
	64 m&p-Xylene	91	7.917	7.933	(1.057)	770901	10.0000	10.2
	65 Bromoform	173	8.293	8.309	(1.107)	624475	10.0000	10.3
	66 Styrene	104	8.325	8.348	(1.112)	511492	10.0000	10.1(M)
	67 o-Xylene	91	8.394	8.410	(1.121)	776637	10.0000	10.0
	68 1,1,2,2-Tetrachloroethane	83	8.652	8.678	(1.155)	472116	10.0000	11.2
	69 Isopropylbenzene	105	8.963	8.979	(1.197)	947615	10.0000	10.6
	70 N-Propylbenzene	91	9.528	9.545	(1.272)	1177054	10.0000	10.1(M)
	71 4-Ethyltoluene	105	9.698	9.718	(1.295)	922912	10.0000	9.81
	72 1,3,5-Trimethylbenzene	105	9.787	9.819	(1.307)	903232	10.0000	9.66
	73 Tert-Butyl Benzene	119	10.283	10.313	(1.373)	752551	10.0000	9.06
	74 1,2,4-Trimethylbenzene	105	10.303	10.336	(1.376)	838794	10.0000	9.50
	75 1,3-Dichlorobenzene	146	10.610	10.643	(1.417)	547501	10.0000	10.2
	76 Sec- Butylbenzene	105	10.630	10.656	(1.419)	1076557	10.0000	10.5
$	77 1,4-dichlorobenzene-d4 (S)	150	10.679	10.721	(1.426)	264397	10.0000	9.25(MH)

Data File: \\192.168.10.12\chem\10air7.i\082914.b\24102.D
Report Date: 29-Aug-2014 09:34

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppbv)	AMOUNTS ON-COL (ppbv)
78 Benzyl Chloride	91	10.699	10.741	(1.429)	581172	10.0000	10.4
79 1,4-Dichlorobenzene	146	10.718	10.757	(1.431)	572614	10.0000	9.81
80 p-Isopropyltoluene	119	10.849	10.885	(1.449)	826864	10.0000	9.30(M)
81 1,2,3-Trimethylbenzene	105	10.895	10.934	(1.455)	722839	10.0000	9.36
82 1,2-Dichlorobenzene	146	11.189	11.225	(1.494)	507077	10.0000	10.4
83 N-Butylbenzene	91	11.431	11.460	(1.526)	831244	10.0000	9.59
84 1,2,4-Trichlorobenzene	180	13.196	13.205	(1.762)	310166	10.0000	10.4
85 Naphthalene	128	13.330	13.343	(1.780)	426028	10.0000	10.2
86 Hexachlorobutadiene	225	13.617	13.630	(1.818)	384033	10.0000	10.6

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

TETRA TECH NUS, INC. **CALCULATION WORKSHEET** PAGE 1 OF 1

CLIENT LMRC-Middle River		JOB NUMBER SDG 10278070	
SUBJECT Sample Calculation			
BASED ON		DRAWING NUMBER	
BY Ann Cognetta	CHECKED BY	APPROVED BY	DATE 10/13/14

Sample C-Effluent; Carbon disulfide

$$\frac{41313}{480958} * \frac{10\ ppbv}{0.62300} * 2.638 = 3.637\ ppbv$$

$$3.637\ ppbv * \frac{76.14\ g/mole}{24.45\ L/mole} = 11.3\ ug/m^3$$

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

Sample Calculation

ANALYTICAL RESULTS

Project: 117-0507599 SSD O&M
Pace Project No.: 10278070

Sample: C-Effluent **Lab ID: 10278070003** Collected: 08/13/14 16:50 Received: 08/18/14 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	**200**	ug/m3	6.4	3.2	2.64		08/29/14 14:50	67-64-1	
Benzene	**6.1**	ug/m3	0.86	0.31	2.64		08/29/14 14:50	71-43-2	
Benzyl chloride	ND	ug/m3	2.8	1.4	2.64		08/29/14 14:50	100-44-7	
Bromodichloromethane	ND	ug/m3	3.6	0.48	2.64		08/29/14 14:50	75-27-4	
Bromoform	ND	ug/m3	5.5	0.85	2.64		08/29/14 14:50	75-25-2	
Bromomethane	ND	ug/m3	2.1	0.71	2.64		08/29/14 14:50	74-83-9	
1,3-Butadiene	ND	ug/m3	3.0	0.22	2.64		08/29/14 14:50	106-99-0	
2-Butanone (MEK)	**16.9**	ug/m3	1.6	0.72	2.64		08/29/14 14:50	78-93-3	
Carbon disulfide	**11.5**	ug/m3	1.7	0.19	2.64		08/29/14 14:50	75-15-0	
Carbon tetrachloride	ND	ug/m3	1.7	0.84	2.64		08/29/14 14:50	56-23-5	
Chlorobenzene	ND	ug/m3	2.5	0.28	2.64		08/29/14 14:50	108-90-7	
Chloroethane	ND	ug/m3	1.4	0.43	2.64		08/29/14 14:50	75-00-3	
Chloroform	**31.1**	ug/m3	1.3	0.47	2.64		08/29/14 14:50	67-66-3	
Chloromethane	**1.5**	ug/m3	1.1	0.51	2.64		08/29/14 14:50	74-87-3	
Cyclohexane	**1.3J**	ug/m3	9.2	0.33	2.64		08/29/14 14:50	110-82-7	
Dibromochloromethane	ND	ug/m3	4.6	2.3	2.64		08/29/14 14:50	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	4.1	0.62	2.64		08/29/14 14:50	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	3.2	0.37	2.64		08/29/14 14:50	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	3.2	0.61	2.64		08/29/14 14:50	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	3.2	0.52	2.64		08/29/14 14:50	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	2.7	0.29	2.64		08/29/14 14:50	75-71-8	
1,1-Dichloroethane	**2.1J**	ug/m3	2.2	0.37	2.64		08/29/14 14:50	75-34-3	
1,2-Dichloroethane	ND	ug/m3	1.1	0.31	2.64		08/29/14 14:50	107-06-2	
1,1-Dichloroethene	ND	ug/m3	2.1	0.27	2.64		08/29/14 14:50	75-35-4	
cis-1,2-Dichloroethene	**4.5**	ug/m3	2.1	0.52	2.64		08/29/14 14:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	2.1	0.43	2.64		08/29/14 14:50	156-60-5	
1,2-Dichloropropane	ND	ug/m3	2.5	0.40	2.64		08/29/14 14:50	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	2.4	0.36	2.64		08/29/14 14:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	6.1	0.40	2.64		08/29/14 14:50	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	3.7	0.66	2.64		08/29/14 14:50	76-14-2	
Ethanol	**406**	ug/m3	2.5	0.83	2.64		08/29/14 14:50	64-17-5	E
Ethyl acetate	**3.9**	ug/m3	1.9	0.33	2.64		08/29/14 14:50	141-78-6	
Ethylbenzene	ND	ug/m3	2.3	0.47	2.64		08/29/14 14:50	100-41-4	
4-Ethyltoluene	**6.2**	ug/m3	2.6	0.46	2.64		08/29/14 14:50	622-96-8	
n-Heptane	ND	ug/m3	5.5	0.43	2.64		08/29/14 14:50	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	14.3	1.1	2.64		08/29/14 14:50	87-68-3	
n-Hexane	**2.8**	ug/m3	1.9	0.27	2.64		08/29/14 14:50	110-54-3	
2-Hexanone	**3.8**	ug/m3	2.2	0.56	2.64		08/29/14 14:50	591-78-6	
Methylene Chloride	ND	ug/m3	9.3	0.61	2.64		08/29/14 14:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	2.2	0.45	2.64		08/29/14 14:50	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	4.8	0.23	2.64		08/29/14 14:50	1634-04-4	
Naphthalene	**1.8J**	ug/m3	7.0	0.68	2.64		08/29/14 14:50	91-20-3	
2-Propanol	**138**	ug/m3	3.3	0.25	2.64		08/29/14 14:50	67-63-0	
Propylene	ND	ug/m3	0.92	0.29	2.64		08/29/14 14:50	115-07-1	
Styrene	**4.4J**	ug/m3	5.7	0.36	2.64		08/29/14 14:50	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.8	0.62	2.64		08/29/14 14:50	79-34-5	

REPORT OF LABORATORY ANALYSIS

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Data File: \\192.168.10.12\chem\10air7.i\082914.b\24116.D
Report Date: 31-Aug-2014 14:41

Sample Calculation

Pace Analytical Services, Inc.

TO15 Analysis (UNIX)

Data file : \\192.168.10.12\chem\10air7.i\082914.b\24116.D
Lab Smp Id: 10278070003 C-Effluent
Inj Date : 29-AUG-2014 14:50
Operator : JAM Inst ID: 10air7.i
Smp Info :
Misc Info : 21178
Comment : Volatile Organic COMPOUNDS in Air
Method : \\192.168.10.12\chem\10air7.i\082914.b\TO15_237-14.m
Meth Date : 30-Aug-2014 11:26 dlee Quant Type: ISTD
Cal Date : 25-AUG-2014 15:34 Cal File: 23710.D
Als bottle: 16
Dil Factor: 2.63760
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14
Processing Host: VIRTUALXP-77637

Concentration Formula: Amt * DF * Uf * CpndVariable

Name	Value	Description
DF	2.638	Dilution Factor
Uf	1.000	ng unit correction factor
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
1 Chlorodifluoromethane	51	2.517	2.520	(0.540)	13545	0.82279	2.17
2 Propylene	41	Compound Not Detected.					
3 Dichlorodifluoromethane	85	Compound Not Detected.					
4 Dichlorotetrafluoroethane	85	Compound Not Detected.					
5 Chloromethane	50	2.615	2.615	(0.561)	2777	0.26739	0.705(M)
6 Vinyl chloride	62	Compound Not Detected.					
7 1,3-Butadiene	54	Compound Not Detected.					
8 Bromomethane	94	Compound Not Detected.					
9 Chloroethane	64	Compound Not Detected.					
10 Ethanol	31	2.864	2.883	(0.614)	248009	80.3772	212(AM)
11 Vinyl Bromide	106	Compound Not Detected.					
12 Isopentane	43	2.945	2.949	(0.631)	5805	0.80191	2.12(QM)
13 Acrolein	56	3.001	3.001	(0.643)	2682	1.36938	3.61(M)
14 Trichlorofluoromethane	101	3.008	3.011	(0.645)	6756	0.12380	0.326
15 Acetone	43	3.021	3.030	(0.648)	494072	31.3402	82.7(A)
16 Isopropyl Alcohol	45	3.043	3.060	(0.652)	227275	20.9789	55.3(Q)
17 Acrylonitrile	53	Compound Not Detected.					
18 1,1-Dichloroethene	61	Compound Not Detected.					
19 Tert Butyl Alcohol (TBA)	59	3.204	3.217	(0.687)	52747	2.73236	7.21(M)
20 Freon 113	101	3.230	3.233	(0.692)	29780	1.16063	3.06
21 Methylene chloride	49	Compound Not Detected.					
22 Allyl Chloride	76	Compound Not Detected.					
23 Carbon Disulfide	76	3.380	3.383	(0.725)	41313	1.37878	3.64
24 trans-1,2-dichloroethene	96	Compound Not Detected.					

Data File: \\192.168.10.12\chem\10air7.i\082914.b\24116.D
Report Date: 31-Aug-2014 14:41

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
	25 Methyl Tert Butyl Ether	73	Compound Not Detected.					
	26 Vinyl Acetate	43	Compound Not Detected.					
	27 1,1-Dichloroethane	63	3.606	3.612	(0.773)	3752	0.19695	0.519(M)
$	28 Hexane-d14(S)	66	3.678	3.684	(0.788)	25318	11.2123	11.2
	29 Methyl Ethyl Ketone	72	3.733	3.743	(0.800)	8422	2.12993	5.62(QM)
	30 n-Hexane	57	3.743	3.766	(0.802)	3562	0.29447	0.777(QM)
	31 Di-isopropyl Ether	45	Compound Not Detected.					
	32 Ethyl Acetate	43	3.877	3.887	(0.831)	6781	0.39843	1.05(QM)
	33 cis-1,2-Dichloroethene	96	3.874	3.883	(0.830)	4973	0.42742	1.13
	34 Ethyl Tert-Butyl Ether	59	Compound Not Detected.					
	35 Chloroform	83	3.972	3.988	(0.851)	75727	2.37524	6.26
	36 Tetrahydrofuran	42	4.122	4.122	(0.884)	10363	1.50953	3.98(M)
	37 1,1,1-Trichloroethane	97	Compound Not Detected.					
	38 1,2-Dichloroethane	62	Compound Not Detected.					
	39 Benzene	78	4.527	4.540	(0.971)	20489	0.70837	1.87(M)
	40 Carbon tetrachloride	117	Compound Not Detected.					
	41 Cyclohexane	56	4.554	4.557	(0.976)	2425	0.14066	0.371(QM)
	42 Tert Amyl Methyl Ether	73	Compound Not Detected.					
*	43 1,4-Difluorobenzene	114	4.665	4.678	(1.000)	480958	10.0000	
	44 2,2,4-Trimethylpentane	57	Compound Not Detected.					
	45 Heptane	43	Compound Not Detected.					
	46 1,2-Dichloropropane	63	Compound Not Detected.					
	47 Trichloroethene	130	Compound Not Detected.					
	48 1,4-Dioxane	88	Compound Not Detected.					
	49 Bromodichloromethane	83	Compound Not Detected.					
	50 Methylcyclohexane	98	Compound Not Detected.					
	51 Methyl Isobutyl Ketone	43	Compound Not Detected.					
	52 cis-1,3-Dichloropropene	75	Compound Not Detected.					
	53 trans-1,3-Dichloropropene	75	Compound Not Detected.					
$	54 Toluene-d8 (S)	98	6.005	6.021	(1.287)	476810	9.64397	9.64
	55 1,1,2-Trichloroethane	97	Compound Not Detected.					
	56 Toluene	91	6.080	6.090	(1.303)	11805	0.30056	0.793(M)
	57 Methyl Butyl Ketone	43	6.328	6.328	(0.845)	2799	0.34993	0.923(M)
	58 Dibromochloromethane	129	Compound Not Detected.					
	59 1,2-Dibromoethane	107	Compound Not Detected.					
	60 Tetrachloroethene	166	Compound Not Detected.					
*	61 Chlorobenzene - d5	117	7.486	7.505	(1.000)	336701	10.0000	
	62 Chlorobenzene	112	Compound Not Detected.					
	63 Ethyl Benzene	91	Compound Not Detected.					
	64 m&p-Xylene	91	7.910	7.933	(1.057)	7337	0.29455	0.777(M)
	65 Bromoform	173	Compound Not Detected.					
	66 Styrene	104	8.326	8.348	(1.112)	1386	0.38070	1.00(M)
	67 o-Xylene	91	8.394	8.410	(1.121)	3289	0.17514	0.462(M)
	68 1,1,2,2-Tetrachloroethane	83	Compound Not Detected.					
	69 Isopropylbenzene	105	8.960	8.979	(1.197)	86215	1.48039	3.90
	70 N-Propylbenzene	91	9.522	9.545	(1.272)	8180	0.29660	0.782(M)
	71 4-Ethyltoluene	105	9.692	9.718	(1.295)	16570	0.46796	1.23(M)
	72 1,3,5-Trimethylbenzene	105	9.780	9.819	(1.307)	13642	0.33491	0.883(M)
	73 Tert-Butyl Benzene	119	Compound Not Detected.					
	74 1,2,4-Trimethylbenzene	105	10.297	10.336	(1.375)	26319	0.62791	1.66(M)
	75 1,3-Dichlorobenzene	146	Compound Not Detected.					
	76 Sec- Butylbenzene	105	Compound Not Detected.					
$	77 1,4-dichlorobenzene-d4 (S)	150	10.676	10.721	(1.426)	155584	8.38067	8.38(H)
	78 Benzyl Chloride	91	Compound Not Detected.					

Report Date : 26-Aug-2014 08:52

Sample Calculation

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-AUG-2014 13:10
End Cal Date : 25-AUG-2014 15:34
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air7.i\082514.b\TO15_237-14.m
Last Edit : 26-Aug-2014 08:51 dlee

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
19 Tert Butyl Alcohol (TBA)	0.35101	0.36949	0.36604	0.43261	0.46352	0.42870					
	0.39827						AVRG		0.40138		10.37103
20 Freon 113	0.40525	0.52859	0.55353	0.62516	0.57702	0.52914					
	0.51571						AVRG		0.53349		12.69128
21 Methylene chloride	2152	3659	7796	15611	192671	368257					
	538618						LINR	-0.04283	4.97639		0.99698
22 Allyl Chloride	+++++	0.06733	0.07488	0.09311	0.09826	0.09026					
	0.09005						AVRG		0.08565		13.88360
23 Carbon Disulfide	0.55100	0.58319	0.60364	0.65452	0.68801	0.63793					
	0.64268						AVRG		0.62300		7.46406
24 trans-1,2-dichloroethene	0.15102	0.23123	0.25001	0.25415	0.26735	0.24992					
	0.25683						AVRG		0.23721		16.65962
25 Methyl Tert Butyl Ether	2438	4390	13554	37065	555633	1086599					
	1669508						LINR	-0.00798	1.61390		0.99920

TETRA TECH **INTERNAL CORRESPONDENCE**

TO:	**P. RICH**	**DATE:**	**OCTOBER 14, 2014**
FROM:	**A. COGNETTI**	**COPIES:**	**DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER
SAMPLE DELIVERY GROUP (SDG) – 10281702

SAMPLES: 6/Air/VOC

A-EFFLUENT	A-INFLUENT	A-MID GAC
C-EFFLUENT	C-INFLUENT	C-MID GAC

Overview

The sample set for LMC – Middle River, SDG 10281702 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 September 12 and 16, 2014 and analyzed by Pace Analytical. 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

- The continuing calibration percent difference (%D) for 1,2,4-trichlorobenzene was greater than the 30% quality control limit on September 19, 2014 @ 11:42 on instrument 10AAIRB. The nondetected 1,2,4-trichlorobenzene results were qualified as estimated (UJ).

Notes

The laboratory control sample (LCS) percent recovery (%R) of 1,2,4-trichlorobenzne was greater than the upper quality control limit in batch 1794654. No action was taken on the nondetected 1,2,4-trichlorobenzene results in the affected samples.

Nondetected results were reported to the reporting limit.

Executive Summary

Laboratory Performance: The continuing calibration %D for 1,2,4-trichlorobenzene was greater than the 30% quality control limit.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to USEPA National Functional Guidelines for Organic Data Validation (June 2008) 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
Data Validation Manager

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 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate

PROJ_NO: 03265	NSAMPLE	A-Effluent-10281702			A-Effluent-RE			A-Influent-10281702			A-Mid Gac		
SDG: 10281702	LAB_ID	10281702003			10281702003			10281702001			10281702002		
FRACTION: OV	SAMP_DATE	9/16/2014			9/16/2014			9/16/2014			9/16/2014		
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		8.7						1290			76		
1,1,2-TRICHLOROETHANE		0.92	U					0.92	U		0.92	U	
1,1-DICHLOROETHANE		3.5						104			53.9		
1,1-DICHLOROETHENE					209			323			179		
1,2,3-TRIMETHYLBENZENE		0.79	J	P				1.7	U		1.7	U	
1,2,4-TRICHLOROBENZENE		127	UJ	C				127	UJ	C	127	UJ	C
1,2,4-TRIMETHYLBENZENE		2						2.3			2.4		
1,2-DICHLOROETHANE		0.69	U					0.69	U		0.69	U	
1,3,5-TRIMETHYLBENZENE		0.75	J	P				0.83	J	P	0.71	J	P
BENZENE		0.42	J	P				51.1			1.1	U	
CARBON TETRACHLORIDE		1.1	U					1.1			1.1	U	
CHLORODIFLUOROMETHANE		1.2	U					1	J	P	1.9		
CHLOROFORM		0.83	U					54			3.6		
CIS-1,2-DICHLOROETHENE		6.5						416			294		
DICHLORODIFLUOROMETHANE		3.3						4.7			3		
ETHYLBENZENE		1.5	U					1.5	U		0.4	J	P
M+P-XYLENES		1.2	J	P				1.5	J	P	1.2	J	P
METHYL TERT-BUTYL ETHER		1.2	U					1.2	U		1.2	U	
METHYLENE CHLORIDE		1.4	J	P				0.67	J	P	5.9	U	
NAPHTHALENE		4.5						4.5	U		4.5	U	
O-XYLENE		0.86	J	P				1.1	J	P	1.5	U	
TETRACHLOROETHENE		0.89	J	P				2.3			0.88	J	P
TOLUENE		58.2						8.8			4.6		
TRANS-1,2-DICHLOROETHENE		1.4	U					8.1			1.4	U	
TRICHLOROETHENE		19.4						3250			43.6		
VINYL CHLORIDE		0.44	U					1.5			0.44	U	

PROJ_NO: 03265	NSAMPLE	C-Effluent-10281702			C-Influent-10281702			C-Mid Gac-10281702		
SDG: 10281702	LAB_ID	10281702006			10281702004			10281702005		
FRACTION: OV	SAMP_DATE	9/12/2014			9/12/2014			9/12/2014		
MEDIA: AIR	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		3.9			37.9			25.3		
1,1,2-TRICHLOROETHANE		0.92	U		0.86	U		0.86	U	
1,1-DICHLOROETHANE		7.3			7			9.4		
1,1-DICHLOROETHENE		3.9			1.3	U		1.3	U	
1,2,3-TRIMETHYLBENZENE		1.4	J	P	2.1			1.6	U	
1,2,4-TRICHLOROBENZENE		127	UJ	C	118	UJ	C	118	UJ	C
1,2,4-TRIMETHYLBENZENE		8			5.4			1.6	U	
1,2-DICHLOROETHANE		0.69	U		0.64	U		0.64	U	
1,3,5-TRIMETHYLBENZENE		1.7	U		2.1			1.6	U	
BENZENE		4			8			7.4		
CARBON TETRACHLORIDE		0.89	J	P	1.1			2.1		
CHLORODIFLUOROMETHANE		5.9			5.6			5.9		
CHLOROFORM		59.4			0.78	U		31.4		
CIS-1,2-DICHLOROETHENE		3.8			5.3			5.4		
DICHLORODIFLUOROMETHANE		3.6			2.9			2.4		
ETHYLBENZENE		1.5	U		2.9			0.41	J	P
M+P-XYLENES		0.95	J	P	17.2			0.96	J	P
METHYL TERT-BUTYL ETHER		1.2	U		1.1	U		1.1	U	
METHYLENE CHLORIDE		0.8	J	P	0.76	J	P	1.1	J	P
NAPHTHALENE		1.6	J	P	31.2			4.2	U	
O-XYLENE		1.5	U		10.8			1.4	U	
TETRACHLOROETHENE		0.62	J	P	2.1			0.62	J	P
TOLUENE		2.2			3.4			1.3		
TRANS-1,2-DICHLOROETHENE		1.4	U		1.3	U		1.3	U	
TRICHLOROETHENE		6.7			124			50.2		
VINYL CHLORIDE		0.44	U		0.41	U		0.41	U	

Appendix B

Results as Reported by the Laboratory

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

Sample: A-Effluent **Lab ID: 10281702003** Collected: 09/16/14 15:00 Received: 09/17/14 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.42J**	ug/m3	1.1	1.68		09/19/14 23:23	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/19/14 23:23	56-23-5	
Chlorodifluoromethane	ND	ug/m3	1.2	1.68		09/19/14 23:23	75-45-6	
Chloroform	ND	ug/m3	0.83	1.68		09/19/14 23:23	67-66-3	
Dichlorodifluoromethane	**3.3**	ug/m3	1.7	1.68		09/19/14 23:23	75-71-8	
1,1-Dichloroethane	**3.5**	ug/m3	1.4	1.68		09/19/14 23:23	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/19/14 23:23	107-06-2	
1,1-Dichloroethene	**209**	ug/m3	1.4	1.68		09/21/14 15:37	75-35-4	
cis-1,2-Dichloroethene	**6.5**	ug/m3	1.4	1.68		09/19/14 23:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/19/14 23:23	156-60-5	
Ethylbenzene	ND	ug/m3	1.5	1.68		09/19/14 23:23	100-41-4	
Methylene Chloride	**1.4J**	ug/m3	5.9	1.68		09/19/14 23:23	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/19/14 23:23	1634-04-4	
Naphthalene	**4.5**	ug/m3	4.5	1.68		09/19/14 23:23	91-20-3	SS
Tetrachloroethene	**0.89J**	ug/m3	1.2	1.68		09/19/14 23:23	127-18-4	
Toluene	**58.2**	ug/m3	1.3	1.68		09/19/14 23:23	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/19/14 23:23	120-82-1	
1,1,1-Trichloroethane	**8.7**	ug/m3	1.9	1.68		09/19/14 23:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/19/14 23:23	79-00-5	
Trichloroethene	**19.4**	ug/m3	1.8	1.68		09/19/14 23:23	79-01-6	
1,2,3-Trimethylbenzene	**0.79J**	ug/m3	1.7	1.68		09/19/14 23:23	526-73-8	
1,2,4-Trimethylbenzene	**2.0**	ug/m3	1.7	1.68		09/19/14 23:23	95-63-6	
1,3,5-Trimethylbenzene	**0.75J**	ug/m3	1.7	1.68		09/19/14 23:23	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		09/19/14 23:23	75-01-4	
m&p-Xylene	**1.2J**	ug/m3	3.0	1.68		09/19/14 23:23	179601-23-1	
o-Xylene	**0.86J**	ug/m3	1.5	1.68		09/19/14 23:23	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

Sample: A-Influent **Lab ID: 10281702001** Collected: 09/16/14 15:00 Received: 09/17/14 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**51.1**	ug/m3	1.1	1.68		09/19/14 22:33	71-43-2	
Carbon tetrachloride	**1.1**	ug/m3	1.1	1.68		09/19/14 22:33	56-23-5	
Chlorodifluoromethane	**1.0J**	ug/m3	1.2	1.68		09/19/14 22:33	75-45-6	
Chloroform	**54.0**	ug/m3	0.83	1.68		09/19/14 22:33	67-66-3	
Dichlorodifluoromethane	**4.7**	ug/m3	1.7	1.68		09/19/14 22:33	75-71-8	
1,1-Dichloroethane	**104**	ug/m3	1.4	1.68		09/19/14 22:33	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/19/14 22:33	107-06-2	
1,1-Dichloroethene	**323**	ug/m3	109	134.4		09/21/14 16:46	75-35-4	A3
cis-1,2-Dichloroethene	**416**	ug/m3	109	134.4		09/21/14 16:46	156-59-2	A3
trans-1,2-Dichloroethene	**8.1**	ug/m3	1.4	1.68		09/19/14 22:33	156-60-5	
Ethylbenzene	ND	ug/m3	1.5	1.68		09/19/14 22:33	100-41-4	
Methylene Chloride	**0.67J**	ug/m3	5.9	1.68		09/19/14 22:33	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/19/14 22:33	1634-04-4	
Naphthalene	ND	ug/m3	4.5	1.68		09/19/14 22:33	91-20-3	
Tetrachloroethene	**2.3**	ug/m3	1.2	1.68		09/19/14 22:33	127-18-4	
Toluene	**8.8**	ug/m3	1.3	1.68		09/19/14 22:33	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/19/14 22:33	120-82-1	
1,1,1-Trichloroethane	**1290**	ug/m3	149	134.4		09/21/14 16:46	71-55-6	A3
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/19/14 22:33	79-00-5	
Trichloroethene	**3250**	ug/m3	73.9	134.4		09/21/14 16:46	79-01-6	A3
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/19/14 22:33	526-73-8	
1,2,4-Trimethylbenzene	**2.3**	ug/m3	1.7	1.68		09/19/14 22:33	95-63-6	
1,3,5-Trimethylbenzene	**0.83J**	ug/m3	1.7	1.68		09/19/14 22:33	108-67-8	
Vinyl chloride	**1.5**	ug/m3	0.44	1.68		09/19/14 22:33	75-01-4	
m&p-Xylene	**1.5J**	ug/m3	3.0	1.68		09/19/14 22:33	179601-23-1	
o-Xylene	**1.1J**	ug/m3	1.5	1.68		09/19/14 22:33	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

Sample: A-Mid Gac **Lab ID: 10281702002** Collected: 09/16/14 15:00 Received: 09/17/14 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.68		09/19/14 22:57	71-43-2	
Carbon tetrachloride	ND	ug/m3	1.1	1.68		09/19/14 22:57	56-23-5	
Chlorodifluoromethane	**1.9**	ug/m3	1.2	1.68		09/19/14 22:57	75-45-6	
Chloroform	**3.6**	ug/m3	0.83	1.68		09/19/14 22:57	67-66-3	
Dichlorodifluoromethane	**3.0**	ug/m3	1.7	1.68		09/19/14 22:57	75-71-8	
1,1-Dichloroethane	**53.9**	ug/m3	1.4	1.68		09/19/14 22:57	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/19/14 22:57	107-06-2	
1,1-Dichloroethene	**179**	ug/m3	1.4	1.68		09/19/14 22:57	75-35-4	
cis-1,2-Dichloroethene	**294**	ug/m3	13.6	16.8		09/21/14 16:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/19/14 22:57	156-60-5	
Ethylbenzene	**0.40J**	ug/m3	1.5	1.68		09/19/14 22:57	100-41-4	
Methylene Chloride	ND	ug/m3	5.9	1.68		09/19/14 22:57	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/19/14 22:57	1634-04-4	
Naphthalene	ND	ug/m3	4.5	1.68		09/19/14 22:57	91-20-3	
Tetrachloroethene	**0.88J**	ug/m3	1.2	1.68		09/19/14 22:57	127-18-4	
Toluene	**4.6**	ug/m3	1.3	1.68		09/19/14 22:57	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/19/14 22:57	120-82-1	
1,1,1-Trichloroethane	**76.0**	ug/m3	1.9	1.68		09/19/14 22:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/19/14 22:57	79-00-5	
Trichloroethene	**43.6**	ug/m3	1.8	1.68		09/19/14 22:57	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/19/14 22:57	526-73-8	
1,2,4-Trimethylbenzene	**2.4**	ug/m3	1.7	1.68		09/19/14 22:57	95-63-6	
1,3,5-Trimethylbenzene	**0.71J**	ug/m3	1.7	1.68		09/19/14 22:57	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		09/19/14 22:57	75-01-4	
m&p-Xylene	**1.2J**	ug/m3	3.0	1.68		09/19/14 22:57	179601-23-1	
o-Xylene	ND	ug/m3	1.5	1.68		09/19/14 22:57	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

Sample: C-Effluent **Lab ID: 10281702006** Collected: 09/12/14 16:45 Received: 09/17/14 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**4.0**	ug/m3	1.1	1.68		09/20/14 00:37	71-43-2	
Carbon tetrachloride	**0.89J**	ug/m3	1.1	1.68		09/20/14 00:37	56-23-5	
Chlorodifluoromethane	**5.9**	ug/m3	1.2	1.68		09/20/14 00:37	75-45-6	
Chloroform	**59.4**	ug/m3	0.83	1.68		09/20/14 00:37	67-66-3	
Dichlorodifluoromethane	**3.6**	ug/m3	1.7	1.68		09/20/14 00:37	75-71-8	
1,1-Dichloroethane	**7.3**	ug/m3	1.4	1.68		09/20/14 00:37	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/20/14 00:37	107-06-2	
1,1-Dichloroethene	**3.9**	ug/m3	1.4	1.68		09/20/14 00:37	75-35-4	
cis-1,2-Dichloroethene	**3.8**	ug/m3	1.4	1.68		09/20/14 00:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		09/20/14 00:37	156-60-5	
Ethylbenzene	ND	ug/m3	1.5	1.68		09/20/14 00:37	100-41-4	
Methylene Chloride	**0.80J**	ug/m3	5.9	1.68		09/20/14 00:37	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/20/14 00:37	1634-04-4	
Naphthalene	**1.6J**	ug/m3	4.5	1.68		09/20/14 00:37	91-20-3	SS
Tetrachloroethene	**0.62J**	ug/m3	1.2	1.68		09/20/14 00:37	127-18-4	
Toluene	**2.2**	ug/m3	1.3	1.68		09/20/14 00:37	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/20/14 00:37	120-82-1	
1,1,1-Trichloroethane	**3.9**	ug/m3	1.9	1.68		09/20/14 00:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/20/14 00:37	79-00-5	
Trichloroethene	**6.7**	ug/m3	1.8	1.68		09/20/14 00:37	79-01-6	
1,2,3-Trimethylbenzene	**1.4J**	ug/m3	1.7	1.68		09/20/14 00:37	526-73-8	
1,2,4-Trimethylbenzene	**8.0**	ug/m3	1.7	1.68		09/20/14 00:37	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/20/14 00:37	108-67-8	
Vinyl chloride	ND	ug/m3	0.44	1.68		09/20/14 00:37	75-01-4	
m&p-Xylene	**0.95J**	ug/m3	3.0	1.68		09/20/14 00:37	179601-23-1	
o-Xylene	ND	ug/m3	1.5	1.68		09/20/14 00:37	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

Sample: C-Influent **Lab ID: 10281702004** Collected: 09/12/14 16:45 Received: 09/17/14 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**8.0**	ug/m3	1.0	1.57		09/19/14 23:47	71-43-2	
Carbon tetrachloride	**1.1**	ug/m3	1.0	1.57		09/19/14 23:47	56-23-5	
Chlorodifluoromethane	**5.6**	ug/m3	1.1	1.57		09/19/14 23:47	75-45-6	
Chloroform	ND	ug/m3	0.78	1.57		09/19/14 23:47	67-66-3	
Dichlorodifluoromethane	**2.9**	ug/m3	1.6	1.57		09/19/14 23:47	75-71-8	
1,1-Dichloroethane	**7.0**	ug/m3	1.3	1.57		09/19/14 23:47	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.64	1.57		09/19/14 23:47	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.57		09/19/14 23:47	75-35-4	
cis-1,2-Dichloroethene	**5.3**	ug/m3	1.3	1.57		09/19/14 23:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.57		09/19/14 23:47	156-60-5	
Ethylbenzene	**2.9**	ug/m3	1.4	1.57		09/19/14 23:47	100-41-4	
Methylene Chloride	**0.76J**	ug/m3	5.5	1.57		09/19/14 23:47	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.57		09/19/14 23:47	1634-04-4	
Naphthalene	**31.2**	ug/m3	4.2	1.57		09/19/14 23:47	91-20-3	SS
Tetrachloroethene	**2.1**	ug/m3	1.1	1.57		09/19/14 23:47	127-18-4	
Toluene	**3.4**	ug/m3	1.2	1.57		09/19/14 23:47	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	118	1.57		09/19/14 23:47	120-82-1	
1,1,1-Trichloroethane	**37.9**	ug/m3	1.7	1.57		09/19/14 23:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.86	1.57		09/19/14 23:47	79-00-5	
Trichloroethene	**124**	ug/m3	1.7	1.57		09/19/14 23:47	79-01-6	
1,2,3-Trimethylbenzene	**2.1**	ug/m3	1.6	1.57		09/19/14 23:47	526-73-8	
1,2,4-Trimethylbenzene	**5.4**	ug/m3	1.6	1.57		09/19/14 23:47	95-63-6	
1,3,5-Trimethylbenzene	**2.1**	ug/m3	1.6	1.57		09/19/14 23:47	108-67-8	
Vinyl chloride	ND	ug/m3	0.41	1.57		09/19/14 23:47	75-01-4	
m&p-Xylene	**17.2**	ug/m3	2.8	1.57		09/19/14 23:47	179601-23-1	
o-Xylene	**10.8**	ug/m3	1.4	1.57		09/19/14 23:47	95-47-6	

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ANALYTICAL RESULTS

Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

Sample: C-Mid Gac **Lab ID: 10281702005** Collected: 09/12/14 16:45 Received: 09/17/14 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**7.4**	ug/m3	1.0	1.57		09/20/14 00:12	71-43-2	
Carbon tetrachloride	**2.1**	ug/m3	1.0	1.57		09/20/14 00:12	56-23-5	
Chlorodifluoromethane	**5.9**	ug/m3	1.1	1.57		09/20/14 00:12	75-45-6	
Chloroform	**31.4**	ug/m3	0.78	1.57		09/20/14 00:12	67-66-3	
Dichlorodifluoromethane	**2.4**	ug/m3	1.6	1.57		09/20/14 00:12	75-71-8	
1,1-Dichloroethane	**9.4**	ug/m3	1.3	1.57		09/20/14 00:12	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.64	1.57		09/20/14 00:12	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.57		09/20/14 00:12	75-35-4	
cis-1,2-Dichloroethene	**5.4**	ug/m3	1.3	1.57		09/20/14 00:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.57		09/20/14 00:12	156-60-5	
Ethylbenzene	**0.41J**	ug/m3	1.4	1.57		09/20/14 00:12	100-41-4	
Methylene Chloride	**1.1J**	ug/m3	5.5	1.57		09/20/14 00:12	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.57		09/20/14 00:12	1634-04-4	
Naphthalene	ND	ug/m3	4.2	1.57		09/20/14 00:12	91-20-3	
Tetrachloroethene	**0.62J**	ug/m3	1.1	1.57		09/20/14 00:12	127-18-4	
Toluene	**1.3**	ug/m3	1.2	1.57		09/20/14 00:12	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	118	1.57		09/20/14 00:12	120-82-1	
1,1,1-Trichloroethane	**25.3**	ug/m3	1.7	1.57		09/20/14 00:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.86	1.57		09/20/14 00:12	79-00-5	
Trichloroethene	**50.2**	ug/m3	1.7	1.57		09/20/14 00:12	79-01-6	
1,2,3-Trimethylbenzene	ND	ug/m3	1.6	1.57		09/20/14 00:12	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.6	1.57		09/20/14 00:12	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.6	1.57		09/20/14 00:12	108-67-8	
Vinyl chloride	ND	ug/m3	0.41	1.57		09/20/14 00:12	75-01-4	
m&p-Xylene	**0.96J**	ug/m3	2.8	1.57		09/20/14 00:12	179601-23-1	
o-Xylene	ND	ug/m3	1.4	1.57		09/20/14 00:12	95-47-6	

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Appendix C

Support Documentation

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PROJECT NARRATIVE

Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: September 25, 2014

General Information:
6 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/21369

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- A-Effluent (Lab ID: 10281702003)
  - Naphthalene
- C-Effluent (Lab ID: 10281702006)
  - Naphthalene
- C-Influent (Lab ID: 10281702004)
  - Naphthalene
- LCS (Lab ID: 1794654)
  - 1,2,4-Trichlorobenzene
  - Naphthalene

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/21369

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 1794654)
  - 1,2,4-Trichlorobenzene

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: AIR/21369

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- LCS (Lab ID: 1794654)
  - 1,2,4-Trichlorobenzene

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PROJECT NARRATIVE

Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech NUS
Date: September 25, 2014

Additional Comments:

Analyte Comments:

QC Batch: AIR/21369

A3: The sample was analyzed by serial dilution.

- A-Influent (Lab ID: 10281702001)
  - 1,1-Dichloroethene
  - 1,1,1-Trichloroethane
  - cis-1,2-Dichloroethene
  - Trichloroethene

This data package has been reviewed for quality and completeness and is approved for release.

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1028170L

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

09885

Page: of

Section A Required Client Information:

Company: Tetra Tech
Address: 51 Franklin St Suite 400 Annapolis, MD 21401
Email To: dawn.monico@tetratech.com
Phone: 410-990-4607 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To:
Copy To:
Purchase Order No.:
Project Name: SSD-Lakewood Motor
Project Number: 117-0507599

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST Superfund Emissions Clean Air Act ☒ Voluntary Clean Up Dry Clean RCRA Other:

Location of Sampling by State: MD

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level: II. III. IV. Other

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	'Section D Required Client Information AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Composite Start End/Grab DATE	TIME	Composite - DATE	TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	PM10	3C, Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	A-INFLUENT	1LC		9/16/14	3:00pm					2626								X			001
2	A-MID GAC	1LC		9/16/14	3:00pm					2452								X			002
3	A-EFFLUENT	1LC		9/16/14	3:00pm					2402								X			003
4	C-INFLUENT	1LC		9/12/14	4:45pm					2605								X			004
5	C-MID GAC	1LC		9/12/14	4:45pm					2793								X			005
6	C-EFFLUENT	1LC		9/12/14	4:45pm					2795								X			006
7																					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Chris Leahy / Tetra Tech	9/16	4:45pm	Pace	9/17/14	1000

SAMPLE CONDITIONS: AMB (9/17/14) Y/N Y/N Y/N; Temp in °C; Received on Ice Y/N; Custody Sealed Cooler Y/N; Samples Intact Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chris Leahy

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9/16/14

ORIGINAL

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: Tetra Tech

Project #: WO#: 10281702

10281702

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 8043 6069 0359

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other: **Temp Blank rec:** ☐ Yes ☑ No

Temp. (TO17 and TO13 samples only) (°C): ____ **Corrected Temp (°C):** ____ **Thermom. Used:** ☐ B88A912167504 ☐ B88A9132521491 ☐ 72337080 ☐ 80512447

Temp should be above freezing to 6°C **Correction Factor:** ✓ **Date & Initials of Person Examining Contents:** 9/17/14

Type of ice Received ☐ Blue ☐ Wet ☑ None

Comments:

Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: air can				11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
A- influent	2626				
A- mid gac	2452				
A- effluent	2402				
C- influent	2605				
C- mid gac	2743				
C- effluent	2795				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: ____ Date/Time: ____

Comments/Resolution: ____

Project Manager Review: ____ **Date:** 9/17/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

September 25, 2014

Dawn Monico
Tetra Tech GEO
51 Franklin Street
Suite 400
Annapolis, MD 21401

RE: Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

Dear Dawn Monico:
Enclosed are the analytical results for sample(s) received by the laboratory on September 17, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nathan Boberg
nathan.boberg@pacelabs.com
Project Manager

Enclosures

cc: Belssi Chang Lee, Tetra Tech, Inc.
Peter Rich
Joe Samchuck, Tetra Tech GEO

1700 Elm Street, Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ACKNOWLEDGMENT

Samples Submitted By: Tetra Tech NUS
Client Project ID: 117-0507599 SSD-Lockheed Marti
Client PO#:

Pace Project Manager: Nathan Boberg
Phone (612)607-1700
nathan.boberg@pacelabs.com
Pace Analytical Project ID: 10281702
Samples Received: September 17, 2014 10:00 AM
Estimated Completion: September 24, 2014

CC: Belssi Chang Lee,Dawn Monico,Joe Samchuck

Customer Sample ID	Pace Analytical Lab ID	Matrix	Date/Time Collected	Method
A-Influent	10281702001	Air	09/16/14 15:00	TO15 MSV AIR
A-Mid Gac	10281702002	Air	09/16/14 15:00	TO15 MSV AIR
A-Effluent	10281702003	Air	09/16/14 15:00	TO15 MSV AIR
C-Influent	10281702004	Air	09/12/14 16:45	TO15 MSV AIR
C-Mid Gac	10281702005	Air	09/12/14 16:45	TO15 MSV AIR
C-Effluent	10281702006	Air	09/12/14 16:45	TO15 MSV AIR

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.

Thank you for choosing Pace Analytical Services, Inc.

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10281702001	**A-Influent**	Air	09/16/14 15:00	09/17/14 10:00
10281702002	**A-Mid Gac**	Air	09/16/14 15:00	09/17/14 10:00
10281702003	**A-Effluent**	Air	09/16/14 15:00	09/17/14 10:00
10281702004	**C-Influent**	Air	09/12/14 16:45	09/17/14 10:00
10281702005	**C-Mid Gac**	Air	09/12/14 16:45	09/17/14 10:00
10281702006	**C-Effluent**	Air	09/12/14 16:45	09/17/14 10:00

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SAMPLE ANALYTE COUNT

Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10281702001	**A-Influent**	TO-15	DR1	26
10281702002	**A-Mid Gac**	TO-15	DR1	26
10281702003	**A-Effluent**	TO-15	DR1	26
10281702004	**C-Influent**	TO-15	DR1	26
10281702005	**C-Mid Gac**	TO-15	DR1	26
10281702006	**C-Effluent**	TO-15	DR1	26

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5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10281702
Lab File ID: 23901BFB.D BFB Injection Date: 08/27/2014
Instrument ID: 10AIRB BFB Injection Time: 09:58
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	17.26	
75	30.00 - 66.00% of mass 95	53.99	
96	5.00 - 9.00% of mass 95	7.08	
173	Less than 2.00% of mass 174	0.28	(0.33)
174	50.00 - 120.00% of mass 95	84.66	
175	4.00 - 9.00% of mass 174	6.89	(8.14)
176	93.00 - 101.00% of mass 174	80.33	(94.88)
177	5.00 - 9.00% of mass 176	5.47	(6.81)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	ICAL5	ICAL5	23902.D	08/27/2014	10:19
2	ICAL6	ICAL6	23903.D	08/27/2014	10:42
3	ICAL7	ICAL7	23904.D	08/27/2014	11:09
4	ICAL1	ICAL1	23906.D	08/27/2014	11:52
5	ICAL2	ICAL2	23907.D	08/27/2014	12:14
6	ICAL3	ICAL3	23908.D	08/27/2014	12:35
7	ICAL4	ICAL4	23909.D	08/27/2014	12:57
8	ICV (LCS)	ICV	23910.D	08/27/2014	13:19
9	LCS (LCS)	LCS	23911LCS.D	08/27/2014	13:41
10	LCS (LCS)	LCS	23911.D	08/27/2014	13:41
11	CERT	CERT	23914.D	08/27/2014	14:53

Report Date : 28-Aug-2014 15:43

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INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Calibration File Names:
Level 1: \\192.168.10.12\chem\10airB.i\082714.b\23906.D
Level 2: \\192.168.10.12\chem\10airB.i\082714.b\23907.D
Level 3: \\192.168.10.12\chem\10airB.i\082714.b\23908.D
Level 4: \\192.168.10.12\chem\10airB.i\082714.b\23909.D
Level 5: \\192.168.10.12\chem\10airB.i\082714.b\23902.D
Level 6: \\192.168.10.12\chem\10airB.i\082714.b\23903.D
Level 7: \\192.168.10.12\chem\10airB.i\082714.b\23904.D

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
1 Propylene	0.01592	0.01395	0.01362	0.01490	0.01393	0.01419	0.01421	AVRG		0.01439		5.42173
2 Dichlorodifluoromethane	0.10035	0.10077	0.09846	0.10573	0.10999	0.10660	0.10384	AVRG		0.10368		3.92409
3 Chlorodifluoromethane	0.03930	0.04032	0.03954	0.03647	0.04054	0.03717	0.03295	AVRG		0.03804		7.15033
4 Dichlorotetrafluoroethane	0.14744	0.10191	0.09615	0.10071	0.10528	0.10538	0.10028	AVRG		0.10816		16.27645

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Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
5 Chloromethane	0.02522	0.02955	0.02431	0.02155	0.01948	0.01777					
	0.01582						AVRG		0.02196		21.63461
6 Vinyl chloride	0.02723	0.02443	0.02392	0.02581	0.02792	0.02749					
	0.02802						AVRG		0.02640		6.41914
7 1,3-Butadiene	0.01971	0.01357	0.01789	0.01372	0.01753	0.01781					
	0.01743						AVRG		0.01681		13.63628
8 Bromomethane	0.02442	0.01936	0.02483	0.02659	0.02733	0.02531					
	0.02339						AVRG		0.02446		10.65587
9 Chloroethane	0.02195	0.01003	0.01347	0.01142	0.01437	0.01369					
	0.01398						AVRG		0.01413		26.79726
10 Isopentane	+++++	3247	5105	8627	87022	182560					
	282202						LINR	-0.01208	40.70659		0.99989
11 Vinyl Bromide	0.04404	0.02881	0.03029	0.02916	0.03363	0.03394					
	0.03350						AVRG		0.03334		15.59788

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	30.0000 Level 7											
12 Trichlorofluoromethane	0.20326	0.14550	0.13292	0.12710	0.12814	0.12717						
	0.12179						AVRG		0.14084		20.24982	
13 Ethanol	+++++	748	1569	2822	15185	36394						
	63667						QUAD	0.00029	0.00346	0.00067	0.99960	
14 Acrolein	0.00781	0.00378	0.00570	0.00553	0.00687	0.00721						
	0.00773						AVRG		0.00638		22.84978	<-
15 Freon 113	0.10294	0.07733	0.07303	0.07060	0.07263	0.07172						
	0.07032						AVRG		0.07694		15.20492	
16 Acetone	8827	11511	20076	33204	195973	414591						
	642472						LINR	-0.04817	18.17711		0.99962	
17 Isopropyl Alcohol	0.05513	0.04051	0.03787	0.03697	0.02806	0.03491						
	0.03804						AVRG		0.03878		21.18116	
18 1,1-Dichloroethene	0.06142	0.04249	0.03771	0.04160	0.04663	0.04770						
	0.04628						AVRG		0.04626		16.29969	

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
19 Carbon Disulfide	0.18461	0.12534	0.10543	0.09483	0.10617	0.10648	0.10463	AVRG		0.11821		25.92920
20 Allyl Chloride	0.18461	0.12534	0.10544	0.09483	0.10617	0.10648	0.10463	AVRG		0.11821		25.92866
21 Tert Butyl Alcohol	0.07541	0.04994	0.05361	0.05624	0.05468	0.06565	0.06938	AVRG		0.06070		15.61051
22 Methylene chloride	8358	8650	11020	13789	96745	192843	292044	LINR	-0.08334	40.08144		0.99973
23 Acrylonitrile	0.01551	0.01197	0.01459	0.01745	0.01827	0.01808	0.01837	AVRG		0.01632		14.78248
24 Methyl Tert Butyl Ether	0.11615	0.08748	0.08202	0.08310	0.10638	0.10910	0.10780	AVRG		0.09886		14.31629
25 trans-1,2-dichloroethene	0.04895	0.03623	0.03230	0.03194	0.03581	0.03642	0.03701	AVRG		0.03695		15.34387

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
26 n-Hexane	12347	12179	14838	20041	144664	299174					
	462025						LINR	-0.06293	25.36805		0.99985
27 Vinyl Acetate	+++++	7439	15013	30972	380463	807422					
	1264213						LINR	0.01093	9.04614		0.99994
28 Di-isopropyl Ether	0.08033	0.06361	0.06243	0.06640	0.07932	0.08045					
	0.07988						AVRG		0.07320		11.69330
29 1,1-Dichloroethane	0.08087	0.06232	0.05300	0.05573	0.05699	0.05821					
	0.05644						AVRG		0.06051		15.55154
30 Ethyl Tert-Butyl Ether	0.08846	0.06673	0.07678	0.07653	0.09574	0.09981					
	0.10049						AVRG		0.08636		15.29414
31 Ethyl Acetate	0.14956	0.11818	0.10427	0.10002	0.10944	0.11307					
	0.11275						AVRG		0.11533		14.08451
32 Methyl Ethyl Ketone	0.01617	0.01669	0.01368	0.01354	0.01540	0.01630					
	0.01688						AVRG		0.01553		8.94610

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
33 cis-1,2-Dichloroethene	0.04645	0.03725	0.03323	0.03219	0.03625	0.03735					
	0.03715						AVRG		0.03712		12.41356
34 Tetrahydrofuran	0.04028	0.02925	0.02254	0.02385	0.02441	0.02561					
	0.02616						AVRG		0.02744		22.01802
35 Chloroform	5203	7220	15422	27395	300317	613164					
	939648						LINR	-0.01109	12.15880		0.99973
36 1,1,1-Trichloroethane	0.12572	0.10764	0.09094	0.09632	0.09982	0.09896					
	0.09597						AVRG		0.10219		11.29298
37 Cyclohexane	8912	9064	11622	17637	146886	298576					
	464584						LINR	-0.04237	25.04904		0.99996
38 Carbon tetrachloride	0.14037	0.11220	0.10447	0.10085	0.10967	0.11071					
	0.10656						AVRG		0.11212		11.64255
39 Benzene	13517	14818	23665	40100	372098	783703					
	1223810						QUAD	0.00198	0.10432	0.00059	0.99993

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
40 1,2-Dichloroethane	0.07579	0.07071	0.05523	0.05970	0.05970	0.05855					
	0.05688						AVRG		0.06237		12.41092
41 Tert Amyl Methyl Ether	0.09368	0.08128	0.08627	0.08684	0.10765	0.11126					
	0.11107						AVRG		0.09687		13.26837
42 2,2,4-Trimethylpentane	43677	45479	57316	74808	480394	964739					
	1502730						LINR	-0.08066	7.86446		0.99997
43 Heptane	7170	7023	10470	17231	141622	305468					
	477533						LINR	-0.02275	24.30799		0.99966
45 Trichloroethene	3081	4317	9035	17530	198658	433845					
	655718						LINR	0.00186	17.44074		0.99986
46 Methylcyclohexane	+++++	0.03995	0.03021	0.02620	0.03023	0.03166					
	0.03155						AVRG		0.03163		14.32307
47 1,2-Dichloropropane	0.04867	0.02695	0.03074	0.03185	0.03399	0.03380					
	0.03358						AVRG		0.03422		19.95747

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
48 1,4-Dioxane	0.02356	0.02249	0.01900	0.02055	0.01638	0.02058					
	0.02206						AVRG		0.02066		11.65325
49 Bromodichloromethane	0.12121	0.09257	0.08780	0.08574	0.09015	0.09154					
	0.08935						AVRG		0.09405		12.95993
50 cis-1,3-Dichloropropene	0.06530	0.04561	0.04740	0.05289	0.05686	0.05896					
	0.05923						AVRG		0.05518		12.66882
51 Methyl Isobutyl Ketone	0.07283	0.05084	0.04615	0.05016	0.05632	0.05848					
	0.05943						AVRG		0.05632		15.51931
52 Toluene	11148	12592	22542	43287	459554	980423					
	1526843						LINR	-0.00220	7.52080		0.99988
53 trans-1,3-Dichloropropene	0.05499	0.04312	0.04740	0.05299	0.06112	0.06578					
	0.06550						AVRG		0.05584		15.71607
54 1,1,2-Trichloroethane	0.06295	0.05450	0.04264	0.04483	0.04563	0.04677					
	0.04645						AVRG		0.04911		14.52911

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	30.0000 Level 7											
55 Tetrachloroethene	7136	8915	15390	26713	264444	549762						
	852716						LINR	-0.01498	11.91466		0.99997	
56 Methyl Butyl Ketone	0.05265	0.04314	0.03872	0.04299	0.06001	0.06421						
	0.06485						AVRG		0.05237		20.82553	
57 Dibromochloromethane	0.13322	0.10530	0.09472	0.10268	0.11081	0.10990						
	0.10842						AVRG		0.10929		10.87825	
58 1,2-Dibromoethane	0.07853	0.07546	0.07299	0.07408	0.08241	0.08399						
	0.08373						AVRG		0.07874		5.94350	
60 Chlorobenzene	25579	29593	40367	57351	395815	837980						
	1298356						LINR	-0.05222	7.95563		0.99983	
61 Ethyl Benzene	0.28960	0.20831	0.17412	0.17918	0.19507	0.20032						
	0.19828						AVRG		0.20641		18.70054	
62 m&p-Xylene	0.19402	0.14911	0.13648	0.13693	0.14824	0.15861						
	0.15745						AVRG		0.15441		12.65041	<-

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	30.0000 Level 7											
63 o-Xylene	0.13099	0.11040	0.11671	0.13264	0.15370	0.16020						
	0.15825						AVRG		0.13755		14.66130	<-
64 Styrene	0.07380	0.07486	0.08448	0.08975	0.11206	0.12144						
	0.11993						AVRG		0.09662		21.48820	
65 Bromoform	0.08386	0.08045	0.09012	0.09191	0.09843	0.09931						
	0.09620						AVRG		0.09147		7.90597	
66 Isopropylbenzene	0.15953	0.14585	0.16951	0.17521	0.21864	0.22089						
	0.21604						AVRG		0.18651		16.79329	
67 1,1,2,2-Tetrachloroethane	0.11680	0.08722	0.09126	0.09309	0.09061	0.09132						
	0.09044						AVRG		0.09439		10.63375	
68 N-Propylbenzene	0.25242	0.21214	0.21472	0.21765	0.22856	0.23948						
	0.23543						AVRG		0.22863		6.47687	
69 4-Ethyltoluene	0.15845	0.13982	0.16173	0.17055	0.18377	0.19874						
	0.19558						AVRG		0.17266		12.36219	

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Integrator : HP RTE
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Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
70 1,3,5-Trimethylbenzene	0.16364	0.14714	0.15096	0.16642	0.17688	0.18702					
	0.18466						AVRG		0.16810		9.29601
71 Tert Butyl Benzene	0.17040	0.13099	0.14370	0.14188	0.17546	0.17900					
	0.17719						AVRG		0.15980		12.61550
72 1,2,4-Trimethylbenzene	0.19113	0.14242	0.14189	0.16338	0.16009	0.17476					
	0.17310						AVRG		0.16382		10.87492
73 Sec- Butylbenzene	0.22848	0.17942	0.19733	0.20946	0.23702	0.24303					
	0.23692						AVRG		0.21881		10.94268
74 p-isopropyltoluene	4393	9507	22602	49644	598046	1357600					
	2106840						LINR	0.01746	4.78529		0.99947
75 1,3-Dichlorobenzene	0.16383	0.12860	0.12972	0.13135	0.09503	0.11205					
	0.11024						AVRG		0.12440		17.56451
76 1,4-Dichlorobenzene	0.15776	0.12878	0.11869	0.12637	0.08728	0.10471					
	0.10489						AVRG		0.11835		19.07766

Report Date : 28-Aug-2014 15:43

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
77 1,2,3-Trimethylbenzene	0.15011	0.11533	0.12181	0.14195	0.15478	0.16763					
	0.16535						AVRG		0.14528		13.98080
78 Benzyl Chloride	0.12058	0.12141	0.11694	0.11849	0.11281	0.12907					
	0.12902						AVRG		0.12119		4.98936
79 N-Butylbenzene	0.16475	0.11896	0.13522	0.15245	0.14093	0.15954					
	0.16009						AVRG		0.14742		11.19412
80 1,2-Dichlorobenzene	0.14685	0.11808	0.11724	0.12004	0.09109	0.10204					
	0.10110						AVRG		0.11378		15.95283
81 1,2,4-Trichlorobenzene	+++++	4446	11057	20176	52816	190362					
	319308						QUAD	0.00250	0.01452	0.00557	0.99031
82 Hexachlorobutadiene	0.07338	0.06277	0.06927	0.06498	0.03326	0.04062					
	0.04030						AVRG		0.05494		29.69683
83 Naphthalene	+++++	9160	21810	41034	187340	577361					
	930256						QUAD	0.00306	0.06020	0.01064	0.99395

Report Date : 28-Aug-2014 15:43

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2014 10:19
End Cal Date : 27-AUG-2014 12:57
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10airB.i\082714.b\TO15_239-14_Markes.m
Last Edit : 28-Aug-2014 14:14 mlytle

Average %RSD Results.	
Calculated Average %RSD =	14.55013
Maximum Average %RSD =	30.00000
* Passed Average %RSD Test.	

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + m1*Rsp	Amount
Quad	Rsp = b + m1*Amt + m2*Amt^2	Amount

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10281702
Lab File ID: 26201BFB.D BFB Injection Date: 09/19/2014
Instrument ID: 10AIRB BFB Injection Time: 11:19
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	19.68	
75	30.00 - 66.00% of mass 95	58.79	
96	5.00 - 9.00% of mass 95	7.00	
173	Less than 2.00% of mass 174	0.75	(0.95)
174	50.00 - 120.00% of mass 95	78.28	
175	4.00 - 9.00% of mass 174	6.04	(7.71)
176	93.00 - 101.00% of mass 174	73.26	(93.59)
177	5.00 - 9.00% of mass 176	5.03	(6.87)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	LCS for HBN 319280 [AIR/	1794654	26202L.D	09/19/2014	11:42
2	CCV	CCV	26202.D	09/19/2014	11:42
3	CERT	CERT	26204.D	09/19/2014	12:53
4	BLANK for HBN 319280 [AI	1794653	26204L.D	09/19/2014	12:53
5	A-Influent	10281702001	26226.D	09/19/2014	22:33
6	A-Mid Gac	10281702002	26227.D	09/19/2014	22:57
7	A-Effluent	10281702003	26228.D	09/19/2014	23:23
8	C-Influent	10281702004	26229.D	09/19/2014	23:47
9	C-Mid Gac	10281702005	26230.D	09/20/2014	00:12
10	C-Effluent	10281702006	26231.D	09/20/2014	00:37

Data File: \\192.168.10.12\chem\10airB.i\091914.b\26202.D
Report Date: 19-Sep-2014 11:15

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 19-SEP-2014 11:42
Lab File ID: 26202.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091914.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
1 Propylene	0.01439	0.01141	0.01141	0.010	-20.70235	30.00000	Averaged	
2 Dichlorodifluoromethane	0.10368	0.11434	0.11434	0.010	10.28432	30.00000	Averaged	
3 Chlorodifluoromethane	0.03804	0.04064	0.04064	0.010	6.81655	30.00000	Averaged	
4 Dichlorotetrafluoroethane	0.10816	0.11801	0.11801	0.010	9.10637	30.00000	Averaged	
5 Chloromethane	0.02196	0.01795	0.01795	0.010	-18.26427	30.00000	Averaged	
6 Vinyl chloride	0.02640	0.02469	0.02469	0.010	-6.49809	30.00000	Averaged	
7 1,3-Butadiene	0.01681	0.01474	0.01474	0.010	-12.30438	30.00000	Averaged	
8 Bromomethane	0.02446	0.02538	0.02538	0.010	3.75522	30.00000	Averaged	
9 Chloroethane	0.01413	0.01244	0.01244	0.010	-11.96447	30.00000	Averaged	
10 Isopentane	10.00000	7.89965	50.75383	0.010	-21.00354	30.00000	Linear	
11 Vinyl Bromide	0.03334	0.02844	0.02844	0.010	-14.70327	30.00000	Averaged	
12 Trichlorofluoromethane	0.14084	0.13956	0.13956	0.010	-0.90551	30.00000	Averaged	
13 Ethanol	10.00000	11.99700	185	0.010	19.96997	30.00000	Quadratic	
14 Acrolein	0.00638	0.00422	0.00422	0.010	-33.80891	30.00000	Averaged	<-
15 Freon 113	0.07694	0.06691	0.06691	0.010	-13.03033	30.00000	Averaged	
16 Acetone	10.00000	11.35177	15.36083	0.010	13.51766	30.00000	Linear	
17 Isopropyl Alcohol	0.03878	0.03614	0.03614	0.010	-6.80531	30.00000	Averaged	
18 1,1-Dichloroethene	0.04626	0.04765	0.04765	0.010	2.99666	30.00000	Averaged	
19 Carbon Disulfide	0.11821	0.09498	0.09498	0.010	-19.65700	30.00000	Averaged	
20 Allyl Chloride	0.11821	0.09498	0.09498	0.010	-19.65758	30.00000	Averaged	
21 Tert Butyl Alcohol	0.06070	0.06535	0.06535	0.010	7.66416	30.00000	Averaged	
22 Methylene chloride	10.00000	9.12054	40.26672	0.010	-8.79459	30.00000	Linear	
23 Acrylonitrile	0.01632	0.01568	0.01568	0.010	-3.92395	30.00000	Averaged	
24 Methyl Tert Butyl Ether	0.09886	0.10193	0.10193	0.010	3.10940	30.00000	Averaged	
25 trans-1,2-dichloroethene	0.03695	0.03275	0.03275	0.010	-11.37602	30.00000	Averaged	
26 n-Hexane	10.00000	7.78275	30.15691	0.010	-22.17253	30.00000	Linear	
27 Vinyl Acetate	10.00000	9.41988	9.71596	0.010	-5.80115	30.00000	Linear	
28 Di-isopropyl Ether	0.07320	0.07001	0.07001	0.010	-4.35801	30.00000	Averaged	
29 1,1-Dichloroethane	0.06051	0.05619	0.05619	0.010	-7.13555	30.00000	Averaged	
30 Ethyl Tert-Butyl Ether	0.08636	0.08677	0.08677	0.010	0.47348	30.00000	Averaged	
31 Ethyl Acetate	0.11533	0.10432	0.10432	0.010	-9.54535	30.00000	Averaged	
32 Methyl Ethyl Ketone	0.01553	0.01500	0.01500	0.010	-3.40114	30.00000	Averaged	
33 cis-1,2-Dichloroethene	0.03712	0.03197	0.03197	0.010	-13.88531	30.00000	Averaged	
34 Tetrahydrofuran	0.02744	0.02283	0.02283	0.010	-16.82683	30.00000	Averaged	
35 Chloroform	10.00000	10.45107	11.51190	0.010	4.51074	30.00000	Linear	
36 1,1,1-Trichloroethane	0.10219	0.10699	0.10699	0.010	4.68968	30.00000	Averaged	
37 Cyclohexane	10.00000	8.41291	28.34717	0.010	-15.87194	30.00000	Linear	
38 Carbon tetrachloride	0.11212	0.11992	0.11992	0.010	6.95252	30.00000	Averaged	
39 Benzene	10.00000	9.08965	10.27974	0.300	-9.10354	30.00000	Quadratic	
40 1,2-Dichloroethane	0.06237	0.06851	0.06851	0.010	9.85001	30.00000	Averaged	
41 Tert Amyl Methyl Ether	0.09687	0.09858	0.09858	0.010	1.76455	30.00000	Averaged	
42 2,2,4-Trimethylpentane	10.00000	9.03121	7.99409	0.010	-9.68793	30.00000	Linear	
43 Heptane	10.00000	9.02849	26.26185	0.010	-9.71509	30.00000	Linear	

Data File: \\192.168.10.12\chem\10airB.i\091914.b\26202.D
Report Date: 19-Sep-2014 11:15

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 19-SEP-2014 11:42
Lab File ID: 26202.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091914.b\TO15_239-14_Markes.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
45 Trichloroethene	10.00000	8.59222	20.34233	0.010	-14.07775	30.00000	Linear
46 Methylcyclohexane	0.03163	0.02590	0.02590	0.010	-18.13014	30.00000	Averaged
47 1,2-Dichloropropane	0.03422	0.03124	0.03124	0.010	-8.72254	30.00000	Averaged
48 1,4-Dioxane	0.02066	0.02260	0.02260	0.010	9.37153	30.00000	Averaged
49 Bromodichloromethane	0.09405	0.09484	0.09484	0.010	0.84308	30.00000	Averaged
50 cis-1,3-Dichloropropene	0.05518	0.05267	0.05267	0.010	-4.54538	30.00000	Averaged
51 Methyl Isobutyl Ketone	0.05632	0.05335	0.05335	0.010	-5.26734	30.00000	Averaged
52 Toluene	10.00000	8.72187	8.60121	0.010	-12.78129	30.00000	Linear
53 trans-1,3-Dichloropropene	0.05584	0.06464	0.06464	0.010	15.76368	30.00000	Averaged
54 1,1,2-Trichloroethane	0.04911	0.04235	0.04235	0.010	-13.76426	30.00000	Averaged
55 Tetrachloroethene	10.00000	8.44487	13.86288	0.010	-15.55130	30.00000	Linear
56 Methyl Butyl Ketone	0.05237	0.05746	0.05746	0.010	9.72414	30.00000	Averaged
57 Dibromochloromethane	0.10929	0.10249	0.10249	0.010	-6.22847	30.00000	Averaged
58 1,2-Dibromoethane	0.07874	0.07458	0.07458	0.010	-5.29085	30.00000	Averaged
60 Chlorobenzene	10.00000	9.21029	8.17429	0.010	-7.89708	30.00000	Linear
61 Ethyl Benzene	0.20641	0.18410	0.18410	0.030	-10.81105	30.00000	Averaged
62 m&p-Xylene	0.15441	0.14131	0.14131	0.300	-8.48292	30.00000	Averaged<-
63 o-Xylene	0.13755	0.14159	0.14159	0.300	2.93405	30.00000	Averaged<-
64 Styrene	0.09662	0.10852	0.10852	0.010	12.31784	30.00000	Averaged
65 Bromoform	0.09147	0.08475	0.08475	0.010	-7.34507	30.00000	Averaged
66 Isopropylbenzene	0.18651	0.19349	0.19349	0.010	3.74190	30.00000	Averaged
67 1,1,2,2-Tetrachloroethane	0.09439	0.08628	0.08628	0.010	-8.59726	30.00000	Averaged
68 N-Propylbenzene	0.22863	0.22576	0.22576	0.010	-1.25390	30.00000	Averaged
69 4-Ethyltoluene	0.17266	0.18954	0.18954	0.010	9.77481	30.00000	Averaged
70 1,3,5-Trimethylbenzene	0.16810	0.18081	0.18081	0.010	7.56021	30.00000	Averaged
71 Tert Butyl Benzene	0.15980	0.15130	0.15130	0.010	-5.32298	30.00000	Averaged
72 1,2,4-Trimethylbenzene	0.16382	0.17480	0.17480	0.010	6.69753	30.00000	Averaged
73 Sec- Butylbenzene	0.21881	0.22203	0.22203	0.010	1.47118	30.00000	Averaged
74 p-isopropyltoluene	10.00000	9.46565	5.15043	0.010	-5.34350	30.00000	Linear
75 1,3-Dichlorobenzene	0.12440	0.11677	0.11677	0.010	-6.13606	30.00000	Averaged
76 1,4-Dichlorobenzene	0.11835	0.11307	0.11307	0.010	-4.46274	30.00000	Averaged
77 1,2,3-Trimethylbenzene	0.14528	0.16360	0.16360	0.010	12.61053	30.00000	Averaged
78 Benzyl Chloride	0.12119	0.12486	0.12486	0.010	3.02769	30.00000	Averaged
79 N-Butylbenzene	0.14742	0.16842	0.16842	0.010	14.24400	30.00000	Averaged
80 1,2-Dichlorobenzene	0.11378	0.09986	0.09986	0.010	-12.23467	30.00000	Averaged
81 1,2,4-Trichlorobenzene	10.00000	17.82952	21.70310	0.010	78.29516	30.00000	Quadratic<-
82 Hexachlorobutadiene	0.05494	0.04289	0.04289	0.010	-21.92534	30.00000	Averaged
83 Naphthalene	10.00000	12.61434	10.42410	0.010	26.14337	30.00000	Quadratic

Data File: \\192.168.10.12\chem\10airB.i\091914.b\26202.D
Report Date: 19-Sep-2014 11:15

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10airB.i Injection Date: 19-SEP-2014 11:42
Lab File ID: 26202.D Init. Cal. Date(s): 27-AUG-2014 27-AUG-2014
Analysis Type: AIR Init. Cal. Times: 10:19 12:57
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10airB.i\091914.b\TO15_239-14_Markes.m

Average %D / Drift Results.	
Calculated Average %D/Drift =	10.80318
Maximun Average %D/Drift =	30.00000
* Passed Average %D/Drift Test.	

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10281702
Lab File ID: 26203BFB.D BFB Injection Date: 09/19/2014
Instrument ID: 10AIR7 BFB Injection Time: 11:26
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	18.49	
75	30.00 - 66.00% of mass 95	55.35	
96	5.00 - 9.00% of mass 95	6.40	
173	Less than 2.00% of mass 174	0.33	(0.30)
174	50.00 - 120.00% of mass 95	110.44	
175	4.00 - 9.00% of mass 174	8.31	(7.52)
176	93.00 - 101.00% of mass 174	108.48	(98.22)
177	5.00 - 9.00% of mass 176	6.47	(5.97)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CAL1	CAL1	26204.D	09/19/2014	11:47
2	CAL2	CAL2	26205.D	09/19/2014	12:08
3	CAL3	CAL3	26206.D	09/19/2014	12:30
4	CAL4	CAL4	26207.D	09/19/2014	12:51
5	CAL5	CAL5	26208.D	09/19/2014	13:12
6	CAL6	CAL6	26209.D	09/19/2014	13:36
7	CAL7	CAL7	26210.D	09/19/2014	14:01
8	ICV+ICVADDL (LCS)	ICV+ICVADDL	26211.D	09/19/2014	14:22

Report Date : 22-Sep-2014 09:24

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-SEP-2014 11:47
End Cal Date : 19-SEP-2014 14:01
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air7.i\091914.b\TO15_262-14.m
Last Edit : 21-Sep-2014 14:23 dlee

Calibration File Names:
Level 1: \\192.168.10.12\chem\10air7.i\091914.b\26204.D
Level 2: \\192.168.10.12\chem\10air7.i\091914.b\26205.D
Level 3: \\192.168.10.12\chem\10air7.i\091914.b\26206.D
Level 4: \\192.168.10.12\chem\10air7.i\091914.b\26207.D
Level 5: \\192.168.10.12\chem\10air7.i\091914.b\26208.D
Level 6: \\192.168.10.12\chem\10air7.i\091914.b\26209.D
Level 7: \\192.168.10.12\chem\10air7.i\091914.b\26210.D

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
1 Chlorodifluoromethane	0.33527	0.31917	0.41141	0.38244	0.37255	0.35018					
	0.34514						AVRG		0.35945		8.72219
2 Propylene	168	559	2073	3601	59336	143430					
	237140						LINR	0.02436	10.24037		0.99957
3 Dichlorodifluoromethane	0.76891	0.96032	1.03716	1.10704	1.04122	0.79919					
	*****						AVRG		0.95231		14.56490
4 Dichlorotetrafluoroethane	0.56304	0.60394	0.74339	0.76327	0.77751	0.74107					
	0.72721						AVRG		0.70278		11.94083

Report Date : 22-Sep-2014 09:24

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-SEP-2014 11:47
End Cal Date : 19-SEP-2014 14:01
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air7.i\091914.b\TO15_262-14.m
Last Edit : 21-Sep-2014 14:23 dlee

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
5 Chloromethane	0.17385	0.19684	0.24198	0.26851	0.23973	0.22633					
	0.21399						AVRG		0.22303		14.06328
6 Vinyl chloride	586	1401	3584	9878	131243	291181					
	480085						LINR	0.00792	5.05890		0.99968
7 1,3-Butadiene	347	957	2082	6522	83765	188891					
	310602						LINR	0.00986	7.81449		0.99981
8 Bromomethane	0.22545	0.20900	0.24789	0.24996	0.25917	0.26161					
	0.26736						AVRG		0.24578		8.60534
9 Chloroethane	352	684	2124	5357	57799	128424					
	209935						LINR	-0.00160	11.58142		0.99977
10 Ethanol	++++-	+++++	1476	3356	40243	100193					
	151347						LINR	-0.00021	15.73180		0.99811
11 Vinyl Bromide	1144	2085	6468	15173	187318	442282					
	725083						LINR	0.01293	3.35020		0.99986

Report Date : 22-Sep-2014 09:24

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-SEP-2014 11:47
End Cal Date : 19-SEP-2014 14:01
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air7.i\091914.b\TO15_262-14.m
Last Edit : 21-Sep-2014 14:23 dlee

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
12 Isopentane	0.13852	0.15319	0.15283	0.17403	0.17428	0.16373					
	0.15658						AVRG		0.15902		8.03306
13 Acrolein	+++++	+++++	0.03412	0.03746	0.04860	0.04742					
	0.04956						AVRG		0.04343		16.38378
14 Trichlorofluoromethane	1.08079	1.17331	1.28448	1.36678	1.25923	1.16726					
	1.08170						AVRG		1.20179		8.87857
15 Acetone	5662	11492	28877	60861	267252	594985					
	905337						LINR	-0.09177	2.71640		0.99712
16 Isopropyl Alcohol	244	1945	5795	14657	177988	422206					
	639589						LINR	-0.00235	3.71726		0.99870
17 Acrylonitrile	+++++	524	2668	7462	79150	183921					
	293805						LINR	0.00248	8.21976		0.99993
18 1,1-Dichloroethene	+++++	0.34031	0.30823	0.40108	0.39216	0.36957					
	0.36131						AVRG		0.36211		9.45162

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Method file : \\192.168.10.12\chem\10air7.i\091914.b\TO15_262-14.m
Last Edit : 21-Sep-2014 14:23 dlee

Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
19 Tert Butyl Alcohol (TBA)	1493	3567	10460	24827	331347	710281					
	+++++						LINR	-0.00072	2.08657		0.99823
20 Freon 113	0.50929	0.54060	0.57731	0.64189	0.62177	0.58173					
	0.58059						AVRG		0.57903		7.76578
21 Methylene chloride	0.28185	0.28260	0.26723	0.28151	0.25378	0.23889					
	0.22392						AVRG		0.26140		8.93837
22 Allyl Chloride	335	818	1915	4589	64619	153673					
	243474						LINR	0.01019	9.87435		0.99987
23 Carbon Disulfide	0.57233	0.58824	0.62785	0.66585	0.68013	0.69180					
	0.71126						AVRG		0.64821		8.20544
24 trans-1,2-dichloroethene	0.16141	0.24094	0.22980	0.24049	0.27064	0.26913					
	0.27610						AVRG		0.24122		16.37546
25 Methyl Tert Butyl Ether	1992	5413	15529	33171	459780	1032815					
	1652335						LINR	0.00207	1.45923		0.99977

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Last Edit : 21-Sep-2014 14:23 dlee

Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
26 Vinyl Acetate	1658	2465	9149	18285	289660	675668					
	1092519						LINR	0.01398	2.21002		0.99996
27 1,1-Dichloroethane	0.35036	0.36554	0.43313	0.45550	0.45223	0.42944					
	0.43340						AVRG		0.41709		10.02802
29 Methyl Ethyl Ketone	153	657	2386	5148	60074	146292					
	242648						LINR	0.01679	10.04694		0.99942
30 n-Hexane	841	2347	7258	17550	180988	430540					
	688293						LINR	0.00309	3.51443		0.99994
31 Di-isopropyl Ether	2062	3842	12681	29135	351621	775538					
	1236186						LINR	-0.00555	1.95153		0.99956
32 Ethyl Acetate	1959	3082	10256	24718	277159	607637					
	964873						LINR	-0.00986	2.80026		0.99943
33 cis-1,2-Dichloroethene	1108	1599	5954	14260	178635	425148					
	703889						LINR	0.01744	3.45808		0.99967

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Method file : \\192.168.10.12\chem\10air7.i\091914.b\TO15_262-14.m
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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
34 Ethyl Tert-Butyl Ether	1748	4859	14752	33599	425770	956669					
	1529842						LINR	0.00016	1.57708		0.99979
35 Chloroform	0.55325	0.65113	0.66607	0.77943	0.73959	0.70090					
	0.67633						AVRG		0.68096		10.55141
36 Tetrahydrofuran	167	385	2612	6928	102763	239846					
	404339						LINR	0.02568	6.02850		0.99937
37 1,1,1-Trichloroethane	0.64632	0.69669	0.77623	0.87471	0.84638	0.82002					
	0.79845						AVRG		0.77983		10.48919
38 1,2-Dichloroethane	0.38686	0.42970	0.47014	0.51077	0.53686	0.49750					
	0.47548						AVRG		0.47247		10.72701
39 Benzene	2612	4434	13571	32697	431980	1032690					
	1707498						QUAD	-0.00587	0.65464	0.01717	0.99999
40 Carbon tetrachloride	2490	4461	13881	29386	663748	1448990					
	+++++						LINR	0.01478	1.01761		0.99839

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
41 Cyclohexane	556	1322	5098	11465	165781	365737					
	563395						LINR	-0.00654	4.23129		0.99852
42 Tert Amyl Methyl Ether	+++++	1.08791	0.83161	0.71820	0.66119	0.65995					
	0.66427						AVRG		0.77052		21.92316
44 2,2,4-Trimethylpentane	2277	4815	16300	39073	540129	1243485					
	1997519						LINR	0.00877	1.20748		0.99995
45 Heptane	+++++	1357	5127	13852	173213	397762					
	632228						LINR	0.00425	3.80716		0.99984
46 1,2-Dichloropropane	834	1960	5567	12383	152020	334974					
	547633						LINR	-0.00018	4.43474		0.99970
47 Trichloroethene	986	2304	7525	18513	235198	563359					
	948578						QUAD	-0.00246	0.34750	0.01473	0.99998
48 1,4-Dioxane	+++++	534	2038	4943	92391	220320					
	344810						LINR	0.01965	6.91511		0.99958

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
49 Bromodichloromethane	2879	6168	18432	40675	527041	1152895					
	1803533						LINR	-0.00965	1.33008		0.99899
50 Methylcyclohexane	101	934	2450	6192	93084	225062					
	377917						LINR	0.02859	6.44834		0.99922
51 Methyl Isobutyl Ketone	++++++	1694	6481	17722	274511	609760					
	990352						LINR	0.01132	2.43612		0.99967
52 cis-1,3-Dichloropropene	1115	2230	8069	19822	271069	620041					
	1023187						LINR	0.01372	2.37362		0.99982
53 trans-1,3-Dichloropropene	++++++	1698	5893	13754	301190	706490					
	1147349						LINR	0.02990	2.09407		0.99991
55 1,1,2-Trichloroethane	0.26642	0.29458	0.32112	0.32570	0.38065	0.37172					
	0.36828						AVRG		0.33264		12.94034
56 Toluene	2896	6690	20971	46094	648315	1491711					
	2397133						LINR	0.00805	1.00659		0.99995

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Compound	0.1000000 Level 1 / 30.0000 Level 7	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
57 Methyl Butyl Ketone	79.00000	1214	4090	13004	265943	606686					
	977253						LINR	0.03398	1.82086		0.99953
58 Dibromochloromethane	2017	4601	15118	34304	538550	1231517					
	1997162						LINR	0.02754	0.89568		0.99945
59 1,2-Dibromoethane	1980	4576	14461	32507	398634	925725					
	1513457						LINR	0.02457	1.18789		0.99908
60 Tetrachloroethene	2089	4826	16382	36975	453480	1039475					
	1682603						QUAD	-0.01035	0.87995	0.02119	0.99970
62 Chlorobenzene	0.69755	0.76011	0.82828	0.84784	0.97911	1.05843					
	1.07575						AVRG		0.89244		16.51049
63 Ethyl Benzene	2837	5516	19639	51384	872208	++++					
	+++++						LINR	0.01949	0.59514		0.99929
64 m&p-Xylene	2175	4524	16874	47898	726554	+++++					
	+++++						LINR	0.01756	0.71552		0.99960

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
65 Bromoform	2249	5282	16227	36871	655518	1572172					
	2535391						LINR	0.03563	0.70384		0.99875
66 Styrene	988	2899	8811	23551	491148	1135074					
	1831965						LINR	0.03499	0.97239		0.99934
67 o-Xylene	1747	4776	19940	55826	797818	1758526					
	2743733						QUAD	-0.03324	1.61954	-0.02517	0.99968
68 1,1,2,2-Tetrachloroethane	2439	5322	16049	34211	469738	1042909					
	1660307						QUAD	-0.01281	0.92578	0.00185	0.99978
69 Isopropylbenzene	5333	10536	31062	71013	1031226	2292061					
	3632965						LINR	0.01609	0.48992		0.99973
70 N-Propylbenzene	2790	6310	22411	66210	1209379	2662202					
	4230685						LINR	0.02344	0.41951		0.99976
71 4-Ethyltoluene	2424	4804	18434	57625	979465	2159419					
	3390098						LINR	0.02013	0.52204		0.99961

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
72 1,3,5-Trimethylbenzene	1887	5054	25127	62993	945682	2099151					
	3354169						LINR	0.02107	0.53097		0.99980
73 Tert-Butyl Benzene	2061	4049	19434	50501	837559	1911452					
	3031313						LINR	0.02584	0.58584		0.99951
74 1,2,4-Trimethylbenzene	2170	4806	23964	63820	934696	2077004					
	3261623						LINR	0.01739	0.54356		0.99963
75 1,3-Dichlorobenzene	1935	4532	15871	38401	613764	1381522					
	2222836						LINR	0.02486	0.80263		0.99968
76 Sec- Butylbenzene	3026	7305	26700	78495	1215519	2676857					
	4232323						LINR	0.01900	0.41938		0.99975
78 Benzyl Chloride	3317	5283	17029	37992	628798	1463828					
	2266608						LINR	0.02122	0.77940		0.99894
79 1,4-Dichlorobenzene	3870	6956	19051	46347	633900	1446247					
	2335799						LINR	0.02260	0.76623		0.99950

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	30.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
80 p-Isopropyltoluene	3259	6772	20360	57058	913185	2080245	3354201	LINR	0.02779	0.53205		0.99955
81 1,2,3-Trimethylbenzene	2709	6491	23189	57731	875316	1950637	3067463	LINR	0.01766	0.57831		0.99962
82 1,2-Dichlorobenzene	2041	4317	13337	43982	549264	1239119	1986678	LINR	0.02057	0.89865		0.99967
83 N-Butylbenzene	5213	9357	30518	67131	1018482	2144626	3305260	LINR	0.00252	0.53418		0.99909
84 1,2,4-Trichlorobenzene	2960	4006	8838	19933	359560	840983	1341476	LINR	0.02831	1.32730		0.99916
85 Naphthalene	3865	4006	12517	25787	446867	1156608	1912563	LINR	0.04807	0.94030		0.99637
86 Hexachlorobutadiene	3242	5784	16271	34279	373079	895116	1450697	LINR	0.02183	1.23948		0.99854

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Compound	0.1000000 Level 1	0.2000000 Level 2	0.5000000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	30.0000 Level 7										
S 28 Hexane-d14(S)	0.04605	0.04096	0.03916	0.04228	0.03671	0.03894					
	0.03984						AVRG		0.04056		7.33843
S 54 Toluene-d8 (S)	1.06357	1.09428	1.11739	1.15456	1.10832	1.02282					
	0.99631						AVRG		1.07961		5.14426
S 77 1,4-dichlorobenzene-d4 (S)	0.48695	0.49981	0.54028	0.54473	0.66096	0.69245					
	0.77665						AVRG		0.60026		18.36396

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Average %RSD Results.	
Calculated Average %RSD =	11.56282
Maximun Average %RSD =	30.00000
* Passed Average %RSD Test.	

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + m1*Rsp	Amount
Quad	Rsp = b + m1*Amt + m2*Amt^2	Amount

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB

Lab Name: Pace Analytical Contract:
Lab Code: PASI Case No.: SAS No.: SDG No.: 10281702
Lab File ID: 26401BFB.D BFB Injection Date: 09/21/2014
Instrument ID: 10AIR7 BFB Injection Time: 09:27
GC Column: J&W DB-5 ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.00	
50	8.00 - 40.00% of mass 95	19.12	
75	30.00 - 66.00% of mass 95	56.17	
96	5.00 - 9.00% of mass 95	6.33	
173	Less than 2.00% of mass 174	0.91	(0.83)
174	50.00 - 120.00% of mass 95	109.41	
175	4.00 - 9.00% of mass 174	8.19	(7.48)
176	93.00 - 101.00% of mass 174	103.50	(94.60)
177	5.00 - 9.00% of mass 176	7.58	(7.32)

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	LCS (LCS)	LCS	26402LCS.D	09/21/2014	09:49
2	CCV	CCV	26402C.D	09/21/2014	09:49
3	CERT10005	CERT10005	26410.D	09/21/2014	13:23
4	A-Effluent	10281702003	26416.D	09/21/2014	15:37
5	A-Mid Gac	10281702002	26418.D	09/21/2014	16:25
6	A-Influent	10281702001	26419.D	09/21/2014	16:46

Data File: \\192.168.10.12\chem\10air7.i\092114.b\26402c.D
Report Date: 22-Sep-2014 09:48

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10air7.i Injection Date: 21-SEP-2014 09:49
Lab File ID: 26402c.D Init. Cal. Date(s): 19-SEP-2014 19-SEP-2014
Analysis Type: AIR Init. Cal. Times: 11:47 14:01
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10air7.i\092114.b\TO15_262-14.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Chlorodifluoromethane	0.35945	0.41792	0.41792	0.010	16.26689	30.00000	Averaged
2 Propylene	10.00000	11.28450	9.27492	0.010	12.84505	30.00000	Linear
3 Dichlorodifluoromethane	0.95231	1.13790	1.13790	0.010	19.48867	30.00000	Averaged
4 Dichlorotetrafluoroethane	0.70278	0.86590	0.86590	0.010	23.21174	30.00000	Averaged
5 Chloromethane	0.22303	0.27317	0.27317	0.010	22.47804	30.00000	Averaged
6 Vinyl chloride	10.00000	11.85835	4.29481	0.010	18.58351	30.00000	Linear
7 1,3-Butadiene	10.00000	11.94261	6.59786	0.010	19.42607	30.00000	Linear
8 Bromomethane	0.24578	0.29246	0.29246	0.010	18.99538	30.00000	Averaged
9 Chloroethane	10.00000	11.69318	9.89085	0.010	16.93176	30.00000	Linear
10 Ethanol	10.00000	12.02523	13.08007	0.005	20.25231	30.00000	Linear
11 Vinyl Bromide	10.00000	10.72817	3.16090	0.010	7.28169	30.00000	Linear
12 Isopentane	0.15902	0.20084	0.20084	0.010	26.29576	30.00000	Averaged
13 Acrolein	0.04343	0.05424	0.05424	0.010	24.89931	30.00000	Averaged
14 Trichlorofluoromethane	1.20179	1.38483	1.38483	0.010	15.23060	30.00000	Averaged
15 Acetone	10.00000	12.18544	2.07309	0.010	21.85445	30.00000	Linear
16 Isopropyl Alcohol	10.00000	11.90407	3.11653	0.010	19.04069	30.00000	Linear
17 Acrylonitrile	10.00000	11.48683	7.17128	0.010	14.86825	30.00000	Linear
18 1,1-Dichloroethene	0.36211	0.44523	0.44523	0.010	22.95275	30.00000	Averaged
19 Tert Butyl Alcohol (TBA)	10.00000	11.57657	1.80129	0.010	15.76574	30.00000	Linear
20 Freon 113	0.57903	0.67345	0.67345	0.010	16.30770	30.00000	Averaged
21 Methylene chloride	0.26140	0.28343	0.28343	0.010	8.42997	30.00000	Averaged
22 Allyl Chloride	10.00000	10.99909	9.06136	0.010	9.99087	30.00000	Linear
23 Carbon Disulfide	0.64821	0.77702	0.77702	0.010	19.87209	30.00000	Averaged
24 trans-1,2-dichloroethene	0.24122	0.29907	0.29907	0.010	23.98309	30.00000	Averaged
25 Methyl Tert Butyl Ether	10.00000	11.42080	1.28002	0.010	14.20802	30.00000	Linear
26 Vinyl Acetate	10.00000	11.68124	1.91486	0.010	16.81236	30.00000	Linear
27 1,1-Dichloroethane	0.41709	0.50194	0.50194	0.010	20.34399	30.00000	Averaged
$ 28 Hexane-d14(S)	0.04056	0.04252	0.04252	0.010	4.81879	30.00000	Averaged
29 Methyl Ethyl Ketone	10.00000	11.03422	9.26297	0.010	10.34221	30.00000	Linear
30 n-Hexane	10.00000	11.61211	3.03460	0.010	16.12107	30.00000	Linear
31 Di-isopropyl Ether	10.00000	12.37309	1.57019	0.010	23.73091	30.00000	Linear
32 Ethyl Acetate	10.00000	12.08508	2.05213	0.010	20.85080	30.00000	Linear
33 cis-1,2-Dichloroethene	10.00000	11.01493	3.18997	0.010	10.14931	30.00000	Linear
34 Ethyl Tert-Butyl Ether	10.00000	11.79074	1.33774	0.010	17.90738	30.00000	Linear
35 Chloroform	0.68096	0.80975	0.80975	0.010	18.91380	30.00000	Averaged
36 Tetrahydrofuran	10.00000	11.61025	5.30982	0.010	16.10246	30.00000	Linear
37 1,1,1-Trichloroethane	0.77983	0.92797	0.92797	0.010	18.99632	30.00000	Averaged
38 1,2-Dichloroethane	0.47247	0.60150	0.60150	0.010	27.30924	30.00000	Averaged
39 Benzene	10.00000	11.05909	1.35298	0.010	10.59089	30.00000	Quadratic
40 Carbon tetrachloride	10.00000	11.02859	0.93524	0.010	10.28586	30.00000	Linear
41 Cyclohexane	10.00000	11.89703	3.53715	0.010	18.97030	30.00000	Linear
42 Tert Amyl Methyl Ether	0.77052	0.72184	0.72184	0.010	-6.31811	30.00000	Averaged

Data File: \\192.168.10.12\chem\10air7.i\092114.b\26402c.D
Report Date: 22-Sep-2014 09:48

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10air7.i Injection Date: 21-SEP-2014 09:49
Lab File ID: 26402c.D Init. Cal. Date(s): 19-SEP-2014 19-SEP-2014
Analysis Type: AIR Init. Cal. Times: 11:47 14:01
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10air7.i\092114.b\TO15_262-14.m

COMPOUND	RRF / AMOUNT	RF10	CCAL RRF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
44 2,2,4-Trimethylpentane	10.00000	11.43763	1.06386	0.010	14.37627	30.00000	Linear
45 Heptane	10.00000	11.66651	3.27527	0.010	16.66510	30.00000	Linear
46 1,2-Dichloropropane	10.00000	11.13094	3.98352	0.010	11.30937	30.00000	Linear
47 Trichloroethene	10.00000	10.76963	2.57151	0.010	7.69631	30.00000	Quadratic
48 1,4-Dioxane	10.00000	11.16960	6.30189	0.010	11.69596	30.00000	Linear
49 Bromodichloromethane	10.00000	11.38009	1.15896	0.010	13.80091	30.00000	Linear
50 Methylcyclohexane	10.00000	10.65093	6.22125	0.010	6.50935	30.00000	Linear
51 Methyl Isobutyl Ketone	10.00000	11.59542	2.12164	0.010	15.95424	30.00000	Linear
52 cis-1,3-Dichloropropene	10.00000	10.99322	2.18646	0.010	9.93219	30.00000	Linear
53 trans-1,3-Dichloropropene	10.00000	10.82422	1.98956	0.010	8.24216	30.00000	Linear
$ 54 Toluene-d8 (S)	1.07961	1.09063	1.09063	0.010	1.02113	30.00000	Averaged
55 1,1,2-Trichloroethane	0.33264	0.40488	0.40488	0.010	21.71901	30.00000	Averaged
56 Toluene	10.00000	11.00180	0.92168	0.010	10.01796	30.00000	Linear
57 Methyl Butyl Ketone	10.00000	10.81804	1.73775	0.010	8.18045	30.00000	Linear
58 Dibromochloromethane	10.00000	10.35036	0.88902	0.010	3.50357	30.00000	Linear
59 1,2-Dibromoethane	10.00000	10.40035	1.16980	0.010	4.00347	30.00000	Linear
60 Tetrachloroethene	10.00000	10.60994	1.05584	0.010	6.09942	30.00000	Quadratic
62 Chlorobenzene	0.89244	1.10022	1.10022	0.010	23.28244	30.00000	Averaged
63 Ethyl Benzene	10.00000	11.58928	0.52231	0.010	15.89278	30.00000	Linear
64 m&p-Xylene	10.00000	11.32550	0.64173	0.010	13.25502	30.00000	Linear
65 Bromoform	10.00000	10.25066	0.71135	0.010	2.50661	30.00000	Linear
66 Styrene	10.00000	10.69358	0.94008	0.010	6.93578	30.00000	Linear
67 o-Xylene	10.00000	11.04333	0.57985	0.010	10.43334	30.00000	Quadratic
68 1,1,2,2-Tetrachloroethane	10.00000	11.04824	0.98788	0.010	10.48237	30.00000	Quadratic
69 Isopropylbenzene	10.00000	10.94526	0.45428	0.010	9.45260	30.00000	Linear
70 N-Propylbenzene	10.00000	11.14305	0.38456	0.010	11.43047	30.00000	Linear
71 4-Ethyltoluene	10.00000	10.99382	0.48370	0.010	9.93820	30.00000	Linear
72 1,3,5-Trimethylbenzene	10.00000	10.95034	0.49440	0.010	9.50340	30.00000	Linear
73 Tert-Butyl Benzene	10.00000	10.96061	0.54740	0.010	9.60608	30.00000	Linear
74 1,2,4-Trimethylbenzene	10.00000	11.10849	0.49710	0.010	11.08489	30.00000	Linear
75 1,3-Dichlorobenzene	10.00000	10.59604	0.77568	0.010	5.96038	30.00000	Linear
76 Sec- Butylbenzene	10.00000	11.05477	0.38600	0.010	10.54768	30.00000	Linear
$ 77 1,4-dichlorobenzene-d4 (S)	0.60026	0.60447	0.60447	0.010	0.70177	30.00000	Averaged
78 Benzyl Chloride	10.00000	10.42732	0.76299	0.010	4.27315	30.00000	Linear
79 1,4-Dichlorobenzene	10.00000	10.44384	0.74989	0.010	4.43840	30.00000	Linear
80 p-Isopropyltoluene	10.00000	10.70375	0.51031	0.010	7.03749	30.00000	Linear
81 1,2,3-Trimethylbenzene	10.00000	10.66979	0.55113	0.010	6.69788	30.00000	Linear
82 1,2-Dichlorobenzene	10.00000	10.33443	0.88723	0.010	3.34428	30.00000	Linear
83 N-Butylbenzene	10.00000	10.41231	0.51427	0.010	4.12315	30.00000	Linear
84 1,2,4-Trichlorobenzene	10.00000	9.63666	1.41904	0.010	-3.63345	30.00000	Linear
85 Naphthalene	10.00000	9.46140	1.04703	0.010	-5.38598	30.00000	Linear
86 Hexachlorobutadiene	10.00000	11.54167	1.09462	0.010	15.41669	30.00000	Linear

Data File: \\192.168.10.12\chem\10air7.i\092114.b\26402c.D
Report Date: 22-Sep-2014 09:48

Pace Analytical Services, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: 10air7.i Injection Date: 21-SEP-2014 09:49
Lab File ID: 26402c.D Init. Cal. Date(s): 19-SEP-2014 19-SEP-2014
Analysis Type: AIR Init. Cal. Times: 11:47 14:01
Lab Sample ID: CCV Quant Type: ISTD
Method: \\192.168.10.12\chem\10air7.i\092114.b\TO15_262-14.m

Average %D / Drift Results.	
Calculated Average %D/Drift =	13.14423
Maximun Average %D/Drift =	30.00000
* Passed Average %D/Drift Test.	

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

QC Batch: AIR/21369 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10281702001, 10281702002, 10281702003, 10281702004, 10281702005, 10281702006

METHOD BLANK: 1794653 Matrix: Air
Associated Lab Samples: 10281702001, 10281702002, 10281702003, 10281702004, 10281702005, 10281702006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	09/19/14 12:53	
1,1,2-Trichloroethane	ug/m3	ND	0.55	09/19/14 12:53	
1,1-Dichloroethane	ug/m3	ND	0.82	09/19/14 12:53	
1,1-Dichloroethene	ug/m3	ND	0.81	09/19/14 12:53	
1,2,3-Trimethylbenzene	ug/m3	ND	1.0	09/19/14 12:53	
1,2,4-Trichlorobenzene	ug/m3	ND	75.4	09/19/14 12:53	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	09/19/14 12:53	
1,2-Dichloroethane	ug/m3	ND	0.41	09/19/14 12:53	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	09/19/14 12:53	
Benzene	ug/m3	ND	0.65	09/19/14 12:53	
Carbon tetrachloride	ug/m3	ND	0.64	09/19/14 12:53	
Chlorodifluoromethane	ug/m3	ND	0.72	09/19/14 12:53	
Chloroform	ug/m3	ND	0.50	09/19/14 12:53	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	09/19/14 12:53	
Dichlorodifluoromethane	ug/m3	ND	1.0	09/19/14 12:53	
Ethylbenzene	ug/m3	ND	0.88	09/19/14 12:53	
m&p-Xylene	ug/m3	ND	1.8	09/19/14 12:53	
Methyl-tert-butyl ether	ug/m3	ND	0.73	09/19/14 12:53	
Methylene Chloride	ug/m3	ND	3.5	09/19/14 12:53	
Naphthalene	ug/m3	ND	2.7	09/19/14 12:53	
o-Xylene	ug/m3	ND	0.88	09/19/14 12:53	
Tetrachloroethene	ug/m3	ND	0.69	09/19/14 12:53	
Toluene	ug/m3	ND	0.77	09/19/14 12:53	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	09/19/14 12:53	
Trichloroethene	ug/m3	ND	0.55	09/19/14 12:53	
Vinyl chloride	ug/m3	ND	0.26	09/19/14 12:53	

LABORATORY CONTROL SAMPLE: 1794654

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	58.1	105	72-128	
1,1,2-Trichloroethane	ug/m3	55.5	47.8	86	72-130	
1,1-Dichloroethane	ug/m3	41.2	38.2	93	68-128	
1,1-Dichloroethene	ug/m3	40.3	41.5	103	68-130	
1,2,3-Trimethylbenzene	ug/m3	50	56.3	113	60-140	
1,2,4-Trichlorobenzene	ug/m3	75.5	135	178	30-150	CH,L3,SS
1,2,4-Trimethylbenzene	ug/m3	50	53.3	107	71-140	
1,2-Dichloroethane	ug/m3	41.2	45.2	110	71-132	
1,3,5-Trimethylbenzene	ug/m3	50	53.7	107	73-136	
Benzene	ug/m3	32.5	29.5	91	69-134	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

LABORATORY CONTROL SAMPLE: 1794654

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/m3	64	68.4	107	66-134	
Chlorodifluoromethane	ug/m3	36	38.4	107	60-140	
Chloroform	ug/m3	49.7	51.9	104	72-127	
cis-1,2-Dichloroethene	ug/m3	40.3	34.7	86	71-135	
Dichlorodifluoromethane	ug/m3	50.3	55.4	110	69-125	
Ethylbenzene	ug/m3	44.2	39.4	89	73-139	
m&p-Xylene	ug/m3	44.2	40.4	91	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	37.8	103	72-132	
Methylene Chloride	ug/m3	35.3	32.2	91	64-134	
Naphthalene	ug/m3	53.3	67.2	126	61-150	SS
o-Xylene	ug/m3	44.2	45.4	103	71-138	
Tetrachloroethene	ug/m3	69	58.2	84	69-136	
Toluene	ug/m3	38.3	33.4	87	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	35.7	89	70-131	
Trichloroethene	ug/m3	54.6	46.9	86	70-135	
Vinyl chloride	ug/m3	26	24.3	93	69-132	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

A3	The sample was analyzed by serial dilution.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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Data File: \\192.168.10.12\chem\10air7.i\092114.b\26419.D
Report Date: 22-Sep-2014 10:54

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 26419.D
Lab Smp Id: 10281702001 A-Influent
Analysis Type: VOA
Quant Type: ISTD
Operator: DR1
Method File: \\192.168.10.12\chem\10air7.i\092114.b\TO15_262-14.m
Misc Info: 21369

Calibration Date: 21-SEP-2014
Calibration Time: 09:49

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	647451	388471	906431	507147	-21.67
61 Chlorobenzene - d	528522	317113	739931	419966	-20.54

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.67	4.34	5.00	4.67	-0.14
61 Chlorobenzene - d	7.49	7.16	7.82	7.49	-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: \\192.168.10.12\chem\10airB.i\091914.b\26226.D
Report Date: 22-Sep-2014 08:50

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 26226.D
Lab Smp Id: 10281702001 A-Influent
Analysis Type: VOA
Quant Type: ISTD
Operator: DR1
Method File: \\192.168.10.12\chem\10airB.i\091914.b\TO15_239-14_Markes.m
Misc Info: 21369

Calibration Date: 19-SEP-2014
Calibration Time: 11:42
Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	3750726	6.13
59 Chlorobenzene - d	3095570	1857342	4333798	3311847	6.99

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10air7.i\092114.b\26418.D
Report Date: 22-Sep-2014 10:53

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 26418.D
Lab Smp Id: 10281702002 A-MID GAC
Analysis Type: VOA
Quant Type: ISTD
Operator: DR1
Method File: \\192.168.10.12\chem\10air7.i\092114.b\TO15_262-14.m
Misc Info: 21369

Calibration Date: 21-SEP-2014
Calibration Time: 09:49

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	647451	388471	906431	482501	-25.48
61 Chlorobenzene - d	528522	317113	739931	385426	-27.07

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.67	4.34	5.00	4.67	-0.14
61 Chlorobenzene - d	7.49	7.16	7.82	7.49	-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: \\192.168.10.12\chem\10airB.i\091914.b\26227.D
Report Date: 22-Sep-2014 08:50

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 26227.D
Lab Smp Id: 10281702002 A-MID GAC
Analysis Type: VOA
Quant Type: ISTD
Operator: DR1
Method File: \\192.168.10.12\chem\10airB.i\091914.b\TO15_239-14_Markes.m
Misc Info: 21369

Calibration Date: 19-SEP-2014
Calibration Time: 11:42
Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	3681682	4.17
59 Chlorobenzene - d	3095570	1857342	4333798	3227681	4.27

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10air7.i\092114.b\26416.D
Report Date: 22-Sep-2014 15:27

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10air7.i
Lab File ID: 26416.D A-Effluent
Lab Smp Id: 10281702003
Analysis Type: VOA
Quant Type: ISTD
Operator: DR1
Method File: \\192.168.10.12\chem\10air7.i\092114.b\TO15_262-14.m
Misc Info: 21369

Calibration Date: 21-SEP-2014
Calibration Time: 09:49

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	647451	388471	906431	567787	-12.30
61 Chlorobenzene - d	528522	317113	739931	494139	-6.51

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
43 1,4-Difluorobenze	4.67	4.34	5.00	4.67	-0.07
61 Chlorobenzene - d	7.49	7.16	7.82	7.49	-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: \\192.168.10.12\chem\10airB.i\091914.b\26228.D
Report Date: 22-Sep-2014 08:50

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 26228.D
Lab Smp Id: 10281702003 A-Effluent
Analysis Type: VOA
Quant Type: ISTD
Operator: DR1
Method File: \\192.168.10.12\chem\10airB.i\091914.b\TO15_239-14_Markes.m
Misc Info: 21369

Calibration Date: 19-SEP-2014
Calibration Time: 11:42

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	3500153	-0.96
59 Chlorobenzene - d	3095570	1857342	4333798	3002297	-3.01

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091914.b\26229.D
Report Date: 22-Sep-2014 08:50

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 26229.D
Lab Smp Id: 10281702004 C-Influent
Analysis Type: VOA
Quant Type: ISTD
Operator: DR1
Method File: \\192.168.10.12\chem\10airB.i\091914.b\TO15_239-14_Markes.m
Misc Info: 21369

Calibration Date: 19-SEP-2014
Calibration Time: 11:42

Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	3518708	-0.44
59 Chlorobenzene - d	3095570	1857342	4333798	3092966	-0.08

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091914.b\26230.D
Report Date: 22-Sep-2014 08:50

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 26230.D
Lab Smp Id: 10281702005 C-Mid GAC
Analysis Type: VOA
Quant Type: ISTD
Operator: DR1
Method File: \\192.168.10.12\chem\10airB.i\091914.b\TO15_239-14_Markes.m
Misc Info: 21369

Calibration Date: 19-SEP-2014
Calibration Time: 11:42
Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	3700980	4.72
59 Chlorobenzene - d	3095570	1857342	4333798	3276433	5.84

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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: \\192.168.10.12\chem\10airB.i\091914.b\26231.D
Report Date: 22-Sep-2014 08:50

Pace Analytical Services, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: 10airB.i
Lab File ID: 26231.D
Lab Smp Id: 10281702006 C-Effluent
Analysis Type: VOA
Quant Type: ISTD
Operator: DR1
Method File: \\192.168.10.12\chem\10airB.i\091914.b\TO15_239-14_Markes.m
Misc Info: 21369

Calibration Date: 19-SEP-2014
Calibration Time: 11:42
Level: LOW
Sample Type: AIR

Test Mode:
Use Initial Calibration Level 5.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	3534196	2120518	4947874	3430475	-2.93
59 Chlorobenzene - d	3095570	1857342	4333798	3013602	-2.65

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
44 1,4-Difluorobenze	6.77	6.44	7.10	6.77	-0.00
59 Chlorobenzene - d	10.08	9.75	10.41	10.08	-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 NUS, INC. **CALCULATION WORKSHEET** PAGE 1 OF 1

CLIENT LMC-Middle River		JOB NUMBER SDG 10281702	
SUBJECT Sample Calculation			
BASED ON		DRAWING NUMBER	
BY Ann Cognetti	CHECKED BY	APPROVED BY	DATE Oct 14, 2014

Sample A-Influent, 1,1,1-dichloroethane

$$\frac{68474}{507147} * \frac{10\,ppbv}{0.17983} * 134.4 = 232.70\,ppbv$$

$$232.70\,ppbv * \frac{133.4\,g/mole}{24.45\,L/mole} = 1269.6\,\mu g/m^3$$

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www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

Sample Calculation

ANALYTICAL RESULTS

Project: 117-0507599 SSD-Lockheed Marti
Pace Project No.: 10281702

Sample: A-Influent **Lab ID: 10281702001** Collected: 09/16/14 15:00 Received: 09/17/14 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**51.1**	ug/m3	1.1	1.68		09/19/14 22:33	71-43-2	
Carbon tetrachloride	**1.1**	ug/m3	1.1	1.68		09/19/14 22:33	56-23-5	
Chlorodifluoromethane	**1.0J**	ug/m3	1.2	1.68		09/19/14 22:33	75-45-6	
Chloroform	**54.0**	ug/m3	0.83	1.68		09/19/14 22:33	67-66-3	
Dichlorodifluoromethane	**4.7**	ug/m3	1.7	1.68		09/19/14 22:33	75-71-8	
1,1-Dichloroethane	**104**	ug/m3	1.4	1.68		09/19/14 22:33	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		09/19/14 22:33	107-06-2	
1,1-Dichloroethene	**323**	ug/m3	109	134.4		09/21/14 16:46	75-35-4	A3
cis-1,2-Dichloroethene	**416**	ug/m3	109	134.4		09/21/14 16:46	156-59-2	A3
trans-1,2-Dichloroethene	**8.1**	ug/m3	1.4	1.68		09/19/14 22:33	156-60-5	
Ethylbenzene	ND	ug/m3	1.5	1.68		09/19/14 22:33	100-41-4	
Methylene Chloride	**0.67J**	ug/m3	5.9	1.68		09/19/14 22:33	75-09-2	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.68		09/19/14 22:33	1634-04-4	
Naphthalene	ND	ug/m3	4.5	1.68		09/19/14 22:33	91-20-3	
Tetrachloroethene	**2.3**	ug/m3	1.2	1.68		09/19/14 22:33	127-18-4	
Toluene	**8.8**	ug/m3	1.3	1.68		09/19/14 22:33	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	1.68		09/19/14 22:33	120-82-1	
1,1,1-Trichloroethane	**1290**	ug/m3	149	134.4		09/21/14 16:46	71-55-6	A3
1,1,2-Trichloroethane	ND	ug/m3	0.92	1.68		09/19/14 22:33	79-00-5	
Trichloroethene	**3250**	ug/m3	73.9	134.4		09/21/14 16:46	79-01-6	A3
1,2,3-Trimethylbenzene	ND	ug/m3	1.7	1.68		09/19/14 22:33	526-73-8	
1,2,4-Trimethylbenzene	**2.3**	ug/m3	1.7	1.68		09/19/14 22:33	95-63-6	
1,3,5-Trimethylbenzene	**0.83J**	ug/m3	1.7	1.68		09/19/14 22:33	108-67-8	
Vinyl chloride	**1.5**	ug/m3	0.44	1.68		09/19/14 22:33	75-01-4	
m&p-Xylene	**1.5J**	ug/m3	3.0	1.68		09/19/14 22:33	179601-23-1	
o-Xylene	**1.1J**	ug/m3	1.5	1.68		09/19/14 22:33	95-47-6	

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Data File: \\192.168.10.12\chem\10air7.i\092114.b\26419.D
Report Date: 22-Sep-2014 10:54

Sample Calculation

Pace Analytical Services, Inc.

TO15 Analysis (UNIX)

Data file : \\192.168.10.12\chem\10air7.i\092114.b\26419.D
Lab Smp Id: 10281702001 A-Influent
Inj Date : 21-SEP-2014 16:46
Operator : DR1 Inst ID: 10air7.i
Smp Info :
Misc Info : 21369
Comment : Volatile Organic COMPOUNDS in Air
Method : \\192.168.10.12\chem\10air7.i\092114.b\TO15_262-14.m
Meth Date : 22-Sep-2014 09:48 10air7.i Quant Type: ISTD
Cal Date : 19-SEP-2014 14:01 Cal File: 26210.D
Als bottle: 19
Dil Factor: 134.40000
Integrator: HP RTE Compound Sublist: TetraTech.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * CpndVariable

Name	Value	Description
DF	134.400	Dilution Factor
Uf	1.000	ng unit correction factor
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
3 Dichlorodifluoromethane	85	Compound Not Detected.					
5 Chloromethane	50	Compound Not Detected.					
6 Vinyl chloride	62	Compound Not Detected.					
8 Bromomethane	94	Compound Not Detected.					
9 Chloroethane	64	Compound Not Detected.					
14 Trichlorofluoromethane	101	Compound Not Detected.					
15 Acetone	43	Compound Not Detected.					
18 1,1-Dichloroethene	61	3.204	3.204	(0.687)	10942	0.59583	80.1
20 Freon 113	101	Compound Not Detected.					
21 Methylene chloride	49	Compound Not Detected.					
23 Carbon Disulfide	76	Compound Not Detected.					
24 trans-1,2-dichloroethene	96	Compound Not Detected.					
25 Methyl Tert Butyl Ether	73	Compound Not Detected.					
27 1,1-Dichloroethane	63	Compound Not Detected.					
$ 28 Hexane-d14(S)	66	3.684	3.687	(0.790)	18610	9.04656	9.05(M)
29 Methyl Ethyl Ketone	72	Compound Not Detected.					
33 cis-1,2-Dichloroethene	96	3.883	3.887	(0.833)	8695	0.76733	103(QM)
35 Chloroform	83	Compound Not Detected.					
37 1,1,1-Trichloroethane	97	4.318	4.331	(0.926)	68474	1.73138	233
38 1,2-Dichloroethane	62	4.321	4.341	(0.926)	4660	0.19448	26.1(M)
39 Benzene	78	Compound Not Detected.					
40 Carbon tetrachloride	117	Compound Not Detected.					
41 Cyclohexane	56	Compound Not Detected.					
* 43 1,4-Difluorobenzene	114	4.665	4.678	(1.000)	507147	10.0000	
46 1,2-Dichloropropane	63	Compound Not Detected.					

Report Date : 22-Sep-2014 09:24

Sample Calculation

Pace Analytical Services, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-SEP-2014 11:47
End Cal Date : 19-SEP-2014 14:01
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\192.168.10.12\chem\10air7.i\091914.b\TO15_262-14.m
Last Edit : 21-Sep-2014 14:23 dlee

Compound	0.100000 Level 1 / 30.0000 Level 7	0.200000 Level 2	0.500000 Level 3	1.0000 Level 4	10.0000 Level 5	20.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
34 Ethyl Tert-Butyl Ether	1748	4859	14752	33599	425770	956669					
	1529842						LINR	0.00016	1.57708		0.99979
35 Chloroform	0.55325	0.65113	0.66607	0.77943	0.73959	0.70090					
	0.67633						AVRG		0.68096		10.55141
36 Tetrahydrofuran	167	385	2612	6928	102763	239846					
	404339						LINR	0.02568	6.02850		0.99937
37 1,1,1-Trichloroethane	0.64632	0.69669	0.77623	0.87471	0.84638	0.82002					
	0.79845						AVRG		0.77983		10.48919
38 1,2-Dichloroethane	0.38686	0.42970	0.47014	0.51077	0.53686	0.49750					
	0.47548						AVRG		0.47247		10.72701
39 Benzene	2612	4434	13571	32697	431980	1032690					
	1707498						QUAD	-0.00587	0.65464	0.01717	0.99999
40 Carbon tetrachloride	2490	4461	13881	29396	663748	1448990					
	+++++						LINR	0.01478	1.01761		0.99839