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QUARTERLY GROUNDWATER MONITORING REPORT
Martin State Airport: Middle River, Maryland



LOCKHEED MARTIN

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Final
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Quarterly Groundwater Monitoring Report
Martin State Airport
Middle River, Maryland

Prepared for:

Lockheed Martin Corporation

Prepared by:

Tetra Tech, Inc.

Nisha Bansal
Project Manager

Jia-Ling Wu
Project Engineer, Ph.D., P.E.

Michael Martin
Project Hydrogeologist, P.G.

TETRA TECH, INC.
3475 East Foothill Blvd.
Pasadena CA 91107
(626) 351-4664
FAX (626) 351-5291



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1.0 INTRODUCTION

On behalf of Lockheed Martin Corporation (LMC), Tetra Tech, Inc. has prepared the following final quarterly monitoring well sampling report for the southeast portion of Martin State Airport (MSA) in Middle River, Maryland. This report summarizes data collected during the September 2004 sampling event (3rd quarter 2004). The quarterly sampling program was initiated to monitor chlorinated volatile organic compound (VOC) and metal concentrations previously identified in surficial groundwater.

2.0 SITE LOCATION AND DESCRIPTION

The MSA is located at 701 Wilson Point Road in Middle River, Maryland, and is bounded by Frog Mortar Creek to the east and Stansbury Creek to the west. Both creeks join into Chesapeake Bay at the south side of the airport. The area under investigation is located at the southeast portion of the MSA and is bounded by Frog Mortar Creek to the east, and the main airport runway to the west. The location of the investigation area is shown in Figure 1 – *see Appendix A.*

The investigation area was initially identified in July 1991, when the Maryland Aviation Administration (MAA) encountered four drums adjacent to Taxiway Tango during trenching activities for the installation of an electrical cable. Based on the discovery of these buried drums, the surrounding area was investigated for potential impacts to soil and groundwater, as required by MDE in their letters dated January 6, 1992 and January 14, 1997 to MAA.

3.0 SUBSURFACE CONDITIONS

3.1 Geology

Martin State Airport is located in the Western Shore of the Coastal Plain Physiographic Province. Based on geologic mapping of Baltimore County, the property is underlain by the Potomac Group, a Cretaceous age interbedded gravel, sand, silt, and clay unit ranging in thickness from 0 to 800 feet. The Potomac Group is composed of three units: the Raritan and Patapsco Formations, the Arundel Clay, and the Patuxent Formation. The Raritan and Patapsco Formations range up to 400 feet thick and are composed of a gray, brown, and red variegated

silt and clay unit with lenticular lenses of sand and few gravels. The Arundel Clay is composed of dark gray and maroon lignitic clays and ranges in thickness from 0 to 100 feet. The Patuxent Formation is described as a white or light gray to orange brown, moderately sorted sand unit with quartz gravels, silts and clays and ranges up to 250 feet in thickness.

The Potomac Group has not been subdivided in the vicinity of Martin State Airport nor has the unit's total thickness been well mapped in the area.

Based on lithologic logging of soil borings within the investigation area, the subsurface soils are highly heterogeneous, consisting of gravels, sands, silts, and clays. While some soil zones were consistently observed throughout the project area, generally the soil lithology varied considerably between soil borings. The soils consist of an upper layer of fill materials that overlies native soils of the Potomoc Group. The maximum depth of the logged borings (110 feet below ground surface [bgs]) identified interbedded sands, silts, and clays of the Patapsco Formation

3.2 Hydrogeology

The uppermost water-bearing zone in the region is known as the Patapsco Formation. Available regional well log data indicate that the Patapsco Formation may extend to a depth of approximately 120 feet bgs beneath the site. The Patapsco Formation is underlain by the Arundel Formation, a thick red clay aquiclude. Regional lithologic information indicates that the Arundel Formation is approximately 120 feet thick and serves as the aquiclude overlying the water-bearing Patuxent Formation. Based on this information, the Arundel Formation may extend from 120 to 240 feet bgs at the MSA site.

Based on the physiographic setting as a narrow peninsula, surficial groundwater will tend to flow away from topographic rises and toward open water (i.e., toward Chesapeake Bay). The Patapsco aquifer is recharged directly by rainfall in the unpaved portions of the site. Annual precipitation is approximately 42 to 46 inches.

Groundwater supplies in the Baltimore area are obtained primarily from two separate aquifers: the Patuxent and the Patapsco Formations. The Patuxent is generally the major aquifer utilized;

however, the Patapsco is also used in the Middle River Area where the project site is located (Preliminary Assessment, Maryland Air National Guard Base, July 1988).

A total of thirty eight permanent groundwater monitoring wells were located within the investigation area. All wells were screened in the surficial aquifer system (the Patapsco Formation), but at different elevations to understand conditions across the entire water-bearing zone. For data evaluation and correlation, the aquifer was divided into Upper, Intermediate, and Lower zones. Sixteen of the groundwater monitoring wells (DMW-1S through DMW-11S, and MW-3 through MW-7) are screened in the Upper Surficial Aquifer, which is the portion at elevations above -15 feet mean sea level (msl). Thirteen wells (DMW-1A, DMW-2A, DMW-3I through DMW-11I, MW-1, and MW-2) are screened in the Intermediate Surficial Aquifer, which is the portion at elevations between -15 and -45 feet msl. Nine wells (DMW-1B, DMW-2B, and DMW-3D through DMW-9D) are screened in the Lower Surficial Aquifer, which is the portion at elevations below -45 feet msl.

4.0 DESCRIPTION OF HISTORICAL AREAS OF CONCERN

From 1992 through 1996, the Maryland Aviation Administration (MAA) conducted several investigations at the southeast portion of Martin State Airport[1]. Results of the investigations identified four areas of concern. The locations of the four areas of concern are shown in Figure 2 included in Appendix A, and are described as follows:

1) *Taxiway Tango Median Anomaly Area* – After removal of four buried drums in 1991, a geophysical survey was conducted throughout the area adjacent to Taxiway Tango. Several anomalous zones were identified as potentially containing buried metal.

2) *Drum Area* – During a previous investigation conducted at the site in 1996, several drums were uncovered during surface vegetation clearing.

3) *Two Existing Ponds* – Based on historical records, acids may have been discharged during the 1950's and 1960's at the locations where two ponds currently exist.

4) *Petroleum Hydrocarbon Area* – During a previous investigation conducted at the site in 1996, petroleum hydrocarbons were encountered while drilling a soil boring. The petroleum hydrocarbon area is located approximately 200 feet west of the ponds.

[1] The previous investigations included the following: (1) Geophysical Survey of Taxiway Tango (Handex 2/92), (2) Preliminary Site Investigation of Taxiway Tango (MES 5/94), (3) Confirmation Investigation of Taxiway Tango (MES 1/95), and (4) Expanded Investigation of Taxiway Tango (MES 7/96).

5.0 SITE HISTORY

This section provides a brief chronological history of investigation activities that have been conducted at the site by Lockheed Martin Corporation:

- **March 1999: Initial Groundwater Monitoring Well Sampling** – The first evaluation of the site by Lockheed Martin was performed in March 1999 and consisted of sampling six existing groundwater monitoring wells to obtain updated chemical data on groundwater quality, groundwater elevation, and flow direction at the southeast portion of Martin State Airport. Cis-1,2-Dichloroethene, Trichloroethene (TCE) and vinyl chloride were detected in select monitoring wells above the Maximum Contaminant Level (MCL) specified by the U.S. EPA's National Primary Drinking Water Regulations. A detailed description of the groundwater sampling program is provided in the Final Groundwater Monitoring Well Surveying and Sampling Report, dated May 18, 1999. Based on the detection of elevated VOCs in the existing monitoring wells, further investigation of the site to identify potential chemical source areas was initiated.

- **March 2000: Source Identification and Assessment Program** – The second investigation was identified as a Source Identification and Assessment Program and was performed from March through May 2000. Four specific areas were previously identified by MAA as having the potential to have released chemicals. Each of these areas of potential concern was investigated through a combination of excavations, localized trenching, drilling of soil borings, and sampling and laboratory analysis of soil, sediments, and groundwater. VOCs, petroleum hydrocarbons, and metals were detected in the soil and groundwater during this investigation. Only one VOC (*vinyl chloride*) was detected above the EPA Region III industrial soil risk-based concentrations used by MDE. Selected VOCs were also detected in the groundwater above their MCLs. The results of the investigation activities are documented in the Final Source Identification and Assessment Report, dated September 29, 2000. Results of the source identification and assessment program identified VOCs in excess of published cleanup criteria, therefore delineation of chemicals in the groundwater was initiated.

- **December 2001 through December 2002: Partial Chemical Delineation and Initial Modeling** – The third investigation was performed from December 2001 through December 2002 to further delineate the lateral extent of chemicals in the near surface groundwater at the four source areas of concern. In addition, deep multi-level monitoring wells were installed at two locations to characterize the site geology and vertical extent of groundwater impacts. The deep wells were installed where the highest concentrations of TCE and vinyl chloride were detected in the shallow groundwater investigation. A summary of the activities performed during this investigation program is provided below and documented in the Final Chemical Delineation and Groundwater Modeling Report, dated December 27, 2002.

  Based on the data collected during the groundwater investigation, VOCs *(primarily cis-1,2-dichloroethene, TCE, and vinyl chloride*) and metals *(primarily cadmium)* were detected in the groundwater above their MCLs throughout the investigation area. The lateral and vertical distribution of chemicals in groundwater had not been delineated during this phase of the investigation.

- **July 2003 through March 2004: Data Gap Investigation and Groundwater Modeling** – The fourth investigation was performed from July 2003 through March 2004 to fully delineate and characterize the chemical plumes at the site and perform groundwater modeling. Nine additional multi-level monitoring wells (DMW-3 through DMW-11), three shallow wells (DMW-1S, DMW-2S, and MW-7), and four temporary wells (TT-11 through TT-14) were installed at the site. The lateral and vertical distributions of chemical concentrations in groundwater indicate that three potential source areas are present at the site contributing to three primary groundwater plumes. These source areas and plumes are:

  1) Plume 1, originating from the Drum Area
  2) Plume 2, originating from the Petroleum Hydrocarbon and Pond #1 Area
  3) Plume 3, originating from the Taxiway Tango median area

  Three chlorinated VOCs (*cis-1,2-dichloroethene, TCE, and vinyl chloride*) and one metal *(cadmium)* were reported at the highest concentrations during this investigation. The distribution of VOCs in groundwater suggests that dechlorination of TCE to its daughter

products cis-1,2-DCE and vinyl chloride is occurring. The plumes are migrating along the down-gradient groundwater flow path from west to east toward Frog Mortar Creek. While the three plumes represent the primary source areas, the chemicals have commingled, particularly at areas approaching Frog Mortar Creek, to form larger groundwater plumes. This data gap investigation program adequately completed the vertical and lateral delineation of the existing groundwater chemical plumes.

Site-specific information was used to develop a conceptual model, including regional setting, soil lithology, aquifer characteristics, and historical and current chemical concentration data. Numerical modeling was conducted to predict the groundwater flow and chemical migration in the investigation area. The modeling results will be used in future risk assessments, and remedial feasibility studies. A summary of the investigation and modeling effort is documented in the Final Data Gap Investigation and Modeling Report, dated May 2004.

6.0 MONITORING OBJECTIVES

In accordance with MDE's letter dated November 22, 2002, quarterly groundwater sampling was initiated at the site. Quarterly monitoring has been initiated to track and evaluate chemical trends in the groundwater and potential migration of the plumes. The baseline sampling event (September 2003) and first quarter (December 2003) of monitoring consisted of sampling the 10 existing wells (MW-1 through MW-6, multi-level wells DMW-1 and DMW-2), 28 newly installed permanent wells (DMW-1S, DMW-2S, DMW-3 through DMW-11, and MW-7), and 4 temporary wells (TT-11 through TT-14). The second quarter (March 2004) of monitoring consisted of sampling the 10 existing wells, and 28 newly installed permanent wells. The 4 temporary wells were not sampled and scheduled for abandonment[2].

[2] The temporary wells (TT-11 through TT-14) were used for a maximum of two groundwater sampling events (baseline sampling in September 2003 and first quarter of groundwater sampling in December 2003), and not intended for long-term monitoring. In accordance with the Final Data Gap and Hydrogeologic Work Plan (Tetra Tech, May 2003), the temporary wells were abandoned on June 29, 2004.

Based on Tetra Tech's letter dated May 28, 2004, MDE approved a reduction in sampling 13 wells in the June 2004 monitoring event as documented in an e-mail dated June 15, 2004[3]. The wells excluded from the June 2004 sampling included 7 wells (DMW-1S, DMW-6S, DMW-8S, DMW-10S, MW-4, MW-6, and MW-7) screened in the upper surficial aquifer, 2 wells (DMW-6I and MW-2) screened in the intermediate surficial aquifer, and 4 wells (DMW-3D, DMW-5D, DMW-6D, and DMW-7D) screened in the lower surficial aquifer. Therefore, the remaining 25 wells were scheduled for sampling in the June 2004 monitoring event. However, a total of 24 wells were sampled in the June 2004 monitoring event since MW-1 was severely damaged from airport mowing equipment and could not be sampled.

After MDE's review of the June 2004 monitoring report, MDE approved a reduction in sampling 12 wells in the September and December 2004 monitoring events as documented in an e-mail dated September 16, 2004 with the exception that MW-3 continues to be monitored. The wells excluded from the September 2004 sampling include 3 wells (DMW-3S, DMW-7S, and DMW-11S) screened in the upper surficial aquifer, 7 wells (DMW-3I, DMW-5I, DMW-7I, DMW-8I, DMW-10I, DMW0-11I, and MW-1) screened in the intermediate surficial aquifer, and 2 wells (DMW-2B and DMW-8D) screened in the lower surficial aquifer. The September 2004 monitoring consisted of sampling 13 permanent wells– *see Figure 3 in Appendix A.*

7.0 GROUNDWATER MONITORING PROCEDURES

Groundwater Level Measurements

Water levels in the monitoring wells were measured using a water level meter consisting of a liquid sensor attached to a measuring tape that was lowered down into the well until water was encountered. A buzzer sounded when the probe reached groundwater and the depth was read from the tape relative to the top of the well casing. Water level measurements for each well were recorded on field data logging sheets. The water level measurement data is presented in Tables B-1 and B-2 – *see Appendix B.*

[3] MDE reconsidered Tetra Tech's proposal of sampling only 12 wells for the remaining two quarters of 2004 after review of the June 2004 monitoring report.

Well Purging and Sampling

Prior to collecting the groundwater samples, purging was conducted using a low-flow method intended to comply with USEPA Region III's recommended procedure for low-flow purging and sampling of groundwater monitoring wells (USEPA, 1999). Purging was conducted using dedicated bladder pumps for the thirteen permanent wells. During well purging, groundwater parameters including water temperature, pH, conductivity, dissolved oxygen, and turbidity were measured using a field water quality monitoring system. Stabilization of these parameters served as an indication of water representative of the formation, and their values were recorded on field data logging sheets – *see Appendix C.*

After parameter stabilization was achieved, groundwater samples were collected. Groundwater samples were collected directly from the tubing into sample containers provided by the analytical laboratory. Water samples were placed in a cooler with ice pending shipment to a State-Certified laboratory for analysis.

Laboratory Analysis

Groundwater samples were collected from a total of thirteen permanent wells at the site – *see Figure 3 in Appendix A.* A State of Maryland certified laboratory analyzed the groundwater samples collected. All samples were analyzed for VOCs using EPA Method 8260B, and total and dissolved priority pollutant metals using EPA Method 6020A. Samples analyzed for dissolved metals were filtered in the field using a disposable filter. A sample collected from one well (DMW-9S) was also analyzed for SVOCs using EPA Method 8270C[4]. In addition, perchlorate was added to this sampling event using EPA Method 314.0 with a detection limit of 4 μg/L. Samples that required dilution with detection limits for perchlorate greater than 4 μg/L or if perchlorate was detected, the samples were re-analyzed using EPA Method 8321A with a detection limit of 0.5 μg/L. A completed Chain-of-Custody form accompanied each shipment of samples to the laboratory to insure accountability for the samples from the time of collection to the time they were analyzed.

[4] In accordance with the Final Data Gap and Hydrogeologic Work Plan (Tetra Tech, May 2003), all wells were also analyzed for SVOCs and pesticides in the September 2003 baseline sampling event. In the wells where SVOCs and pesticides were not detected during the baseline sampling, these parameters were not included in subsequent sampling events. In the June 2004 sampling event, SVOCs were only detected in one well (DMW-9S) above the practical quantitation limit, therefore this well was also sampled for SVOCs in September 2004.

Bio-parameters consisting of nitrate, sulfate, iron (III), ethane, and ethene were also analyzed at each of the thirteen wells. Nitrate and sulfate was analyzed using EPA Method 300.0, and iron (III) was analyzed by EPA Method 6020. In addition, ethane and ethene were analyzed by EPA Method 8015 to evaluate the degradation of vinyl chloride.

8.0 PRIMARY CHEMICALS OF CONCERN

Based on the data collected during the well sampling, VOCs, dissolved metals, and SVOCs were detected in the groundwater above the MDE groundwater cleanup standards. A summary of the distribution of chemicals detected above the MDE standards within each groundwater zone is presented in Table 8-1.

Table 8-1
Summary of Chemicals Detected in Groundwater Above MDE Cleanup Standards

Surficial Aquifer	VOCs	Dissolved Metals	SVOCs
Upper	Benzene; Chloroform; 1,2-DCA; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; Ethylbenzene; Naphthalene; PCE; Toluene; 1,2,4-Trichlorobenzene; 1,1,1-TCA; 1,1,2-TCA, TCE; Vinyl Chloride; Xylenes	Beryllium Cadmium Nickel	Naphthalene
Intermediate	Benzene; Chloroform; 1,2-DCA; 1,1-DCE; cis-1,2-DCE; Naphthalene; PCE; 1,2,4-Trichlorobenzene; 1,1,2-TCA; TCE; Vinyl Chloride	Beryllium Cadmium Chromium Nickel	NA
Lower	Benzene; Chloroform; 1,2-DCA; 1,1-DCE; cis-1,2-DCE; 1,1,2-TCA; TCE; Vinyl Chloride	Cadmium Nickel	NA

NA – Not Analyzed

Three primary chlorinated VOCs (cis-1,2-DCE, TCE, and vinyl chloride) were reported at the highest concentrations and frequency of any VOCs detected during the sampling event. The three primary chlorinated VOCs were detected throughout the investigation area with the highest concentrations in the upper and intermediate surficial groundwater. Dissolved Cadmium was detected at the highest concentration of any metal above its MDE cleanup standard and was generally found east of the Petroleum Hydrocarbon and Pond #1 Area, and east of the Taxiway Tango median area. Most samples containing metals above MDE cleanup standards were co-located with the chlorinated VOCs.

9.0 GROUNDWATER ANALYTICAL RESULTS

The analytical results for the groundwater samples collected at the site were compared to the appropriate MDE groundwater cleanup standards. A summary of all detected VOCs, dissolved and total priority pollutant metals, SVOCs, and perchlorate is included in Table B-3 – *see Appendix B*. In addition, Tables B-4a, B-4b, and B-4c in Appendix B summarize the concentrations of the four chemicals of concern (cis-1,2-DCE, TCE, vinyl chloride, and dissolved cadmium). The laboratory analytical data reports are included in Appendix E. A summary of results for the four chemicals of concern detected within each groundwater zone is discussed below.

COC Results in the Upper Surficial Aquifer

A total of six permanent wells installed in the upper surficial aquifer were sampled for VOCs and metals. A summary of the four chemicals of concern detected in the upper surficial aquifer exceeding MDE groundwater cleanup standards is presented in Table 9-1.

Table 9-1
COCs Detected Above MDE Cleanup Standards in the Upper Surficial Aquifer

Monitoring Well	COC Detected	Concentration (µg/L)	MDE Standard (µg/L)
DMW-2S	Cadmium	150	5
	cis-1,2-Dichloroethene	540	70
	Trichloroethene	2,100	5
	Vinyl Chloride	160	2
DMW-4S	cis-1,2-Dichloroethene	140	70
	Trichloroethene	1,000	5
	Vinyl Chloride	36	2
DMW-5S	cis-1,2-Dichloroethene	1,700	70
	Trichloroethene	12,000	5
	Vinyl Chloride	35	2
DMW-9S	cis-1,2-Dichloroethene	47,000	70
	Trichloroethene	390	5
	Vinyl Chloride	21,000	2
MW-3	cis-1,2-Dichloroethene	330	70
	Trichloroethene	120	5
	Vinyl Chloride	29	2
MW-5	Cadmium	5.3	5
	cis-1,2-Dichloroethene	100,000	70
	Trichloroethene	19,000	5
	Vinyl Chloride	E300	2

NA – Not Applicable
E – Estimated Value, Exceeds Calibration Range

As shown in Table 9-1, COCs exceeding MDE standards were detected in the six wells sampled in the upper surficial aquifer. The VOC detected at the highest concentration was cis-1,2-DCE at a maximum concentration of 100,000 µg/L in well MW-5 located near the Drum Area. Dissolved cadmium was detected in only two wells with the highest concentration of 150 µg/L reported in well DMW-2S.

COC Results in the Intermediate Surficial Aquifer

A total of four wells installed in the intermediate surficial aquifer were sampled for VOCs and metals. A summary of the four chemicals of concern detected in the intermediate surficial aquifer exceeding MDE groundwater standards is presented in Table 9-2.

Table 9-2
COCs Detected Above MDE Cleanup Standards in the Intermediate Surficial Aquifer

Monitoring Well	COC Detected	Concentration (µg/L)	MDE Standard (µg/L)
DMW-1A	Cadmium	1,000	5
	cis-1,2-Dichloroethene	8,900	70
	Trichloroethene	6,200	5
	Vinyl Chloride	5,300	2
DMW-2A	Cadmium	770	5
	cis-1,2-Dichloroethene	3,700	70
	Trichloroethene	21,000	5
	Vinyl Chloride	520	2
DMW-4I	cis-1,2-Dichloroethene	1,200	70
	Trichloroethene	7,000	5
	Vinyl Chloride	77	2
DMW-9I	cis-1,2-Dichloroethene	8,100	70
	Trichloroethene	2,100	5
	Vinyl Chloride	3,300	2

NA – Not Applicable

As shown in Table 9-2, COCs exceeding MDE standards were detected in four of the wells sampled in the intermediate surficial aquifer. The VOC detected at the highest concentration was TCE at a maximum concentration of 21,000 µg/L in well DMW-2A. Dissolved cadmium was detected in two of the four wells with the highest concentration of 1,000 µg/L reported in well DMW-1A.

COC Results in the Lower Surficial Aquifer

A total of three wells installed in the lower surficial aquifer were sampled for VOCs. A summary of the four chemicals of concern detected in the lower surficial aquifer exceeding MDE groundwater cleanup standards is presented in Table 9-3.

Table 9-3
COCs Detected Above MDE Cleanup Standards in the Lower Surficial Aquifer

Monitoring Well	COC Detected	Concentration (µg/L)	MDE Standard (µg/L)
DMW-1B	Cadmium	88	5
	cis-1,2-Dichloroethene	4,900	70
	Trichloroethene	260	5
	Vinyl Chloride	7,700	2
DMW-4D	Cadmium	18	5
	cis-1,2-Dichloroethene	230	70
	Trichloroethene	3,100	5
	Vinyl Chloride	21	2
DMW-9D	cis-1,2-Dichloroethene	470	70
	Trichloroethene	4,000	5
	Vinyl Chloride	28	2

NA – Not Applicable

As shown in Table 9-3, VOCs exceeding MDE cleanup standards were detected in three of the wells sampled in the lower surficial aquifer. The VOC detected at the highest concentration was Vinyl Chloride at a maximum concentration of 7,700 µg/L in well DMW-1B. Dissolved cadmium was detected in two wells with the highest concentration of 88 µg/L also reported in well DMW-1B.

Bio-Parameter Results in the Surficial Aquifer

Bio-parameters consisting of ferric iron, nitrate, sulfate, ethane, and ethene were analyzed at each of the thirteen well locations. A summary of the bio-parameter data is presented in Table 9-4.

Table 9-4
Summary of Bio-Parameter Data

Monitoring Well	Bio-Parameters (mg/L)				
	Ferric Iron (Fe^{3+})	Nitrate	Total Sulfate	Ethane	Ethene
DMW-1A	3.70	0.60	79	0.022	0.244
DMW-1B	ND	ND	69	0.092	0.611
DMW-2S	ND	3.7	84	ND	0.026
DMW-2A	1.10	ND	560	ND	0.048
DMW-4S	ND	ND	635	ND	0.012
DMW-4I	ND	ND	850	ND	0.021
DMW-4D	ND	2.1	490	ND	ND
DMW-5S	ND	ND	630	ND	ND
DMW-9S	1.10	ND	89	0.051	0.978
DMW-9I	ND	ND	225	0.012	0.183
DMW-9D	ND	ND	96	ND	ND
MW-3	ND	ND	69	ND	ND
MW-5	4.50	50	2,600	ND	0.018

Additional bio-parameter data may be collected during successive groundwater quarterly monitoring events to support remedial action plan development. Following collection of additional bio-parameter data, a comprehensive evaluation will be incorporated into the remedial action plan.

10.0 DATA EVALUATION

10.1 Evaluation of Groundwater Flow Data

Groundwater flow direction in the surficial aquifer is northeast toward Frog Mortar Creek. Horizontal groundwater gradients were calculated at 0.0025 in the Upper Surficial Aquifer, 0.0013 in Intermediate Surficial Aquifer, and 0.0017 in the Lower Surficial Aquifer. Figures 4 through 6 in Appendix A are groundwater elevation (head) contours for the Upper Surficial Aquifer, Intermediate Surficial Aquifer and Lower Surficial Aquifer, respectively. Groundwater contours

are based on field measurements taken in September 2004. Table B-2 in Appendix B lists well groups and groundwater data used for contouring upper, intermediate and lower surficial groundwater. Some well groundwater elevation data were not used because of unusually high groundwater elevations that suggest isolated mounding. The groundwater flow patterns are consistent with all previous data except the groundwater gradients are lower than the previous quarters.

10.2 Evaluation of Groundwater Chemical Trends

The analytical data from the September 2004 monitoring event is generally consistent with the baseline sampling data, December 2003, March 2004, and June 2004 monitoring events. This sampling event confirmed that TCE, cis-1,2-DCE, vinyl chloride, and dissolved cadmium are the primary chemicals of concern. As previously documented, delineation of the three chemical plumes has been completed, and therefore thirteen wells were selected to monitor the plumes for evaluation of chemical trends. For each of primary chemicals of concern, graphs have been prepared to depict the concentration trends (i.e., concentration vs. time) for the thirteen monitoring wells sampled in September 2004 – *see Appendix D.* In accordance with MDE's e-mail dated October 4, 2004, trend charts (i.e., graphs) were required for inclusion in this report and not plume maps since the sampling event only consisted of thirteen wells.

A summary of the analytical results for the four primary chemicals of concern detected in each groundwater zone during the previous sampling events is presented in Tables B-5a, B-5b, and B-5c in Appendix B. Graphs for the thirteen wells were prepared using all historical data available for each well as shown in Tables B-5a, B-5b, and B-5c. A summary of the VOC trends is presented in Section 10.1 and dissolved cadmium trends is presented in Section 10.2.

10.2.1 VOC Concentration Trends

Based on the concentration ranges of the three primary VOCs (TCE, cis-1,2-DCE, and vinyl chloride), the thirteen permanent groundwater monitoring wells were divided into three groups as shown in Table 10-1.

Table 10-1
Summary of VOC Concentration Ranges

Well Group	3 Primary VOCs Concentration Range	Number of Wells	Monitoring Well ID
Group 1	1,000 µg/L to 5,000 µg/L	2	MW-3, DMW-4S
Group 2	5,000 µg/L to 10,000 µg/L	4	DMW-2S, DMW-1B, DMW-4D, DMW-9D
Group 3	Above 10,000 µg/L	7	MW-5, DMW-5S, DMW-9S, DMW-1A, DMW-2A, DMW-4I, DMW-9I

Group 1 – VOC Concentration Range from 1,000 µg/L to 5,000 µg/L

- ✓ As presented in Table 10-1, there are two groundwater monitoring wells with concentrations of VOCs were between 1,000 µg/L to 5,000 µg/L.
- ✓ TCE in well MW-3 depicts decreasing concentration trends, while cis-1,2-DCE and vinyl chloride do not show clear trends.
- ✓ The TCE concentrations in well DMW-4S show high fluctuations between 1,000 µg/L to 4000 µg/L, while cis-1,2-DCE and vinyl chloride concentrations were generally consistent throughout the sampling events.

Group 2 – VOC Concentration Range from 5,000 µg/L to 10,000 µg/L

- ✓ As presented in Table 10-1, there are four groundwater monitoring wells with concentrations of VOCs between 5,000 µg/L to 10,000 µg/L.
- ✓ TCE concentrations in well DMW-1B decreased significantly from the first sampling event.
- ✓ The VOCs concentrations in well DMW-2S depict fluctuations over the first three quarters of monitoring. However, VOC concentrations were relatively consistent in the March, June, and September 2004 sampling events.
- ✓ TCE concentrations in well DMW-4D show high fluctuations between 3,100 µg/L to 8,400 µg/L, while cis-1,2-DCE and vinyl chloride concentrations were relatively consistent.
- ✓ VOC concentrations in well DMW-9D do not show clear trends.

Group 3 – VOC Concentrations Above 10,000 µg/L

- ✓ As presented in Table 10-1, there are seven groundwater monitoring wells with concentrations of the VOCs above 10,000 µg/L.
- ✓ These wells show consistently elevated VOC concentrations. Some of the data was reported as estimated values, and therefore the trends may not be representative of the actual concentrations.

10.2.2 Dissolved Cadmium Concentration Trends

Based on the concentration ranges of dissolved cadmium, the thirteen permanent groundwater monitoring wells were divided into four groups as shown in Table 10-2.

Table 10-2
Summary of Dissolved Cadmium Concentration Ranges

Well Group	Cadmium Concentration Range	Number of Wells	Monitoring Well ID
Group 1	ND	7	MW-3, DMW-4S, DMW-5S, DMW-9S, DMW-4I, DMW-9I, and DMW-9D
Group 2	1 µg/L to 100 µg/L	2	MW-5 and DMW-4D
Group 3	100 µg/L to 1,000 µg/L	2	DMW-2S and DMW-1B
Group 4	Above 1,000 µg/L	2	DMW-1A and DMW-2A

Group 1 – Dissolved Cadmium Non-Detectable Concentrations

- ✓ As presented in Table 10-2, the groundwater monitoring data indicate that seven of the thirteen groundwater monitoring wells do not have detectable concentrations of dissolved cadmium.

Group 2 – Dissolved Cadmium Concentration Range from 1 µg/L to 100 µg/L

- ✓ As presented in Table 10-2, there are two groundwater monitoring wells with dissolved cadmium concentrations between 1 µg/L to 100 µg/L.
- ✓ At least one of the sampling events indicates that dissolved cadmium was not detected in wells MW-5 and DMW-4D.

Group 3 – Dissolved Cadmium Concentration Range from 100 µg/L to 1,000 µg/L

- ✓ As presented in Table 10-2, there are two groundwater monitoring wells with dissolved cadmium concentrations between 100 µg/L to 1,000 µg/L.

- ✓ Dissolved cadmium concentrations in well DMW-2S ranged from not detected to 10 µg/L in the first two sampling events, and were above 100 µg/L in the last three sampling events.

- ✓ Dissolved cadmium concentration in well DMW-1B was near 400 µg/L in the first sampling event, however, the concentrations were near 100 µg/L in all subsequent sampling events.

Group 4 – Dissolved Cadmium Concentration Above 1,000 µg/L

- ✓ As presented in Table 10-2, there are two groundwater monitoring wells with dissolved cadmium concentrations above 1,000 µg/L.

- ✓ Dissolved cadmium concentrations in DMW-1A were relatively consistent throughout the sampling events.

- ✓ Dissolved cadmium was not detected in well DMW-2A in the first sampling event, however, the concentrations were above 750 µg/L in all subsequent sampling events.

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APPENDIX A
FIGURES

FIGURE 1
SITE LOCATION MAP

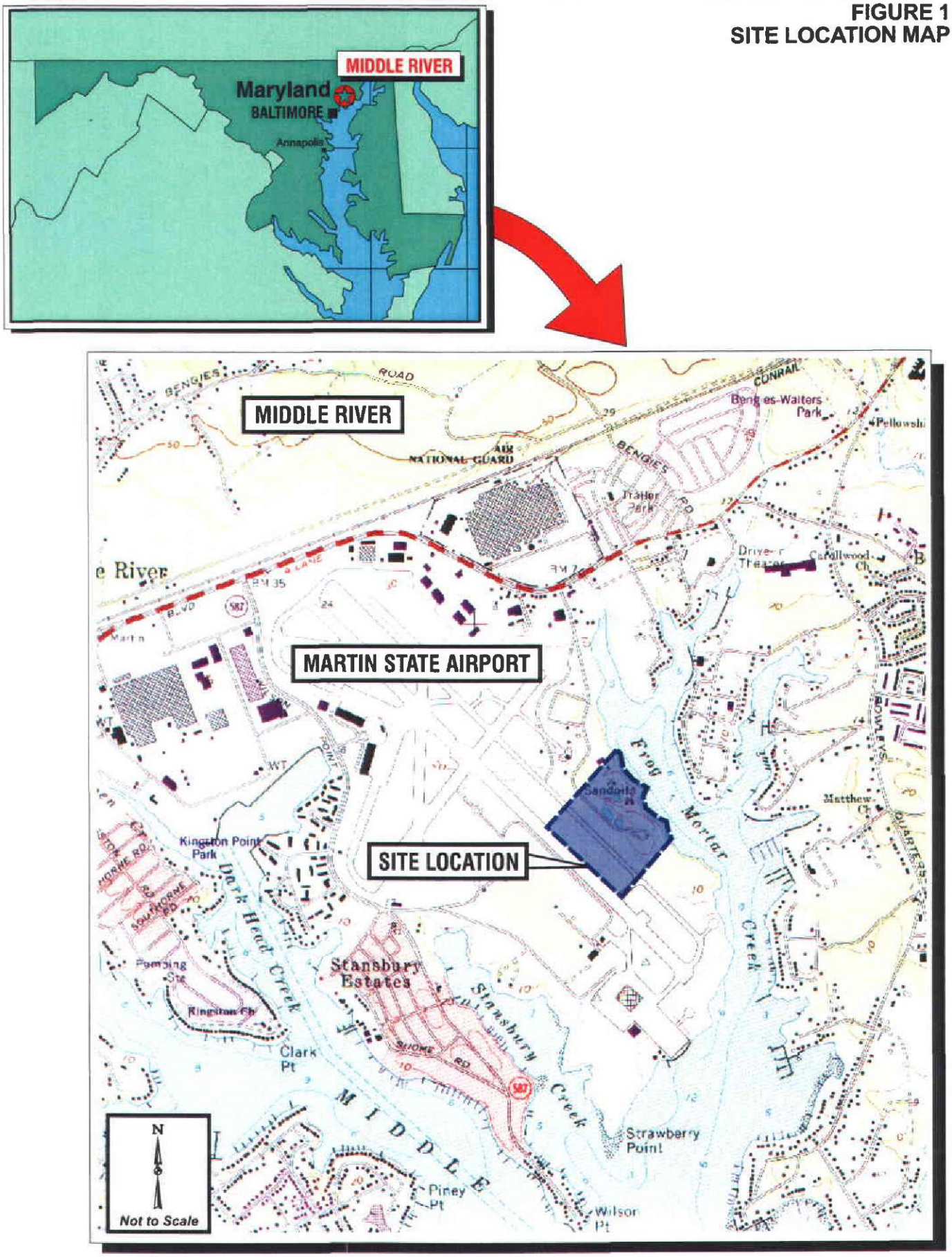


FIGURE 2
LOCATION OF AREAS OF CONCERN



FIGURE 3
GROUNDWATER MONITORING WELL LOCATIONS

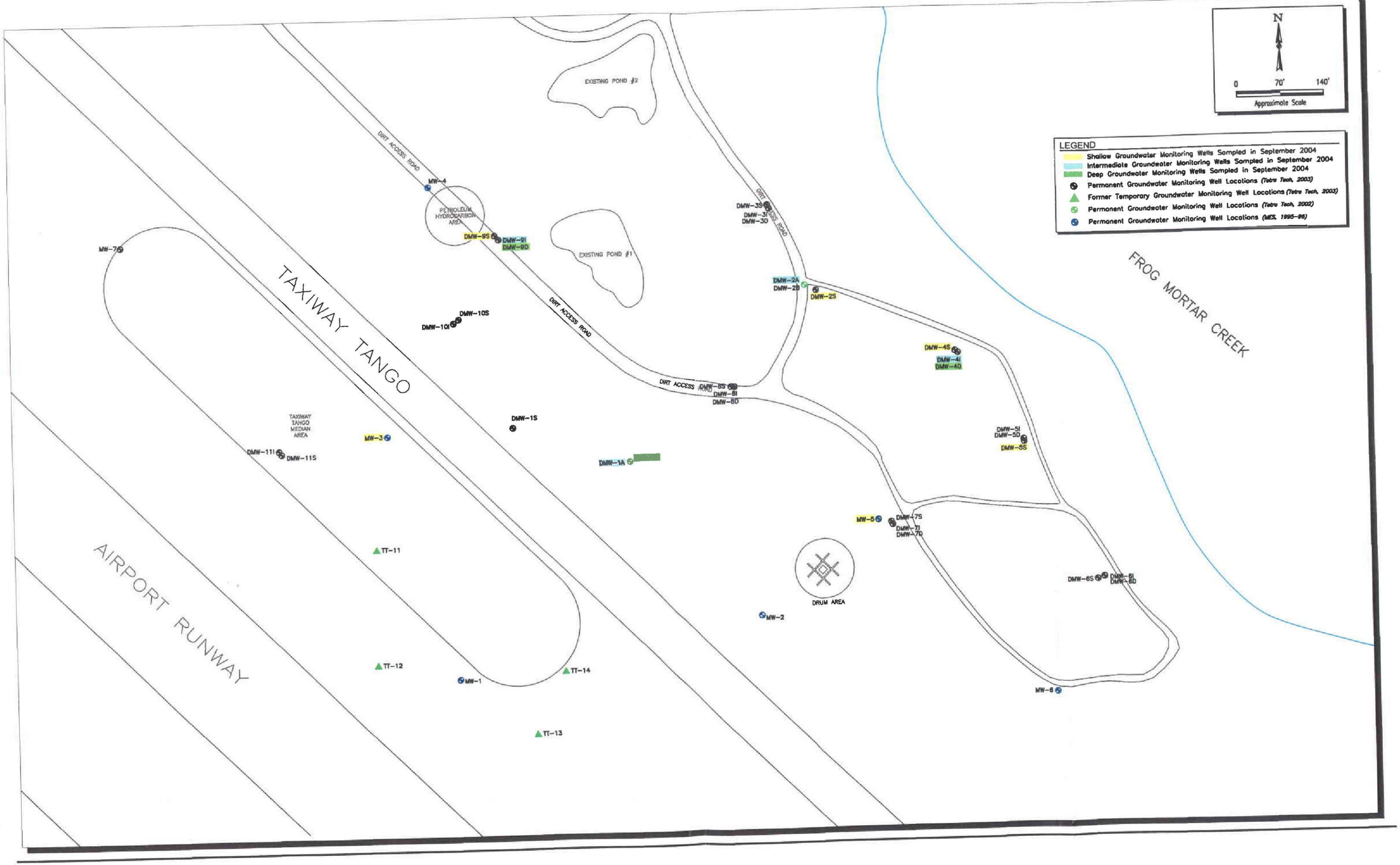


FIGURE 4
GROUNDWATER ELEVATION CONTOURS FOR THE UPPER SURFICIAL AQUIFER
(SEPTEMBER 2004)

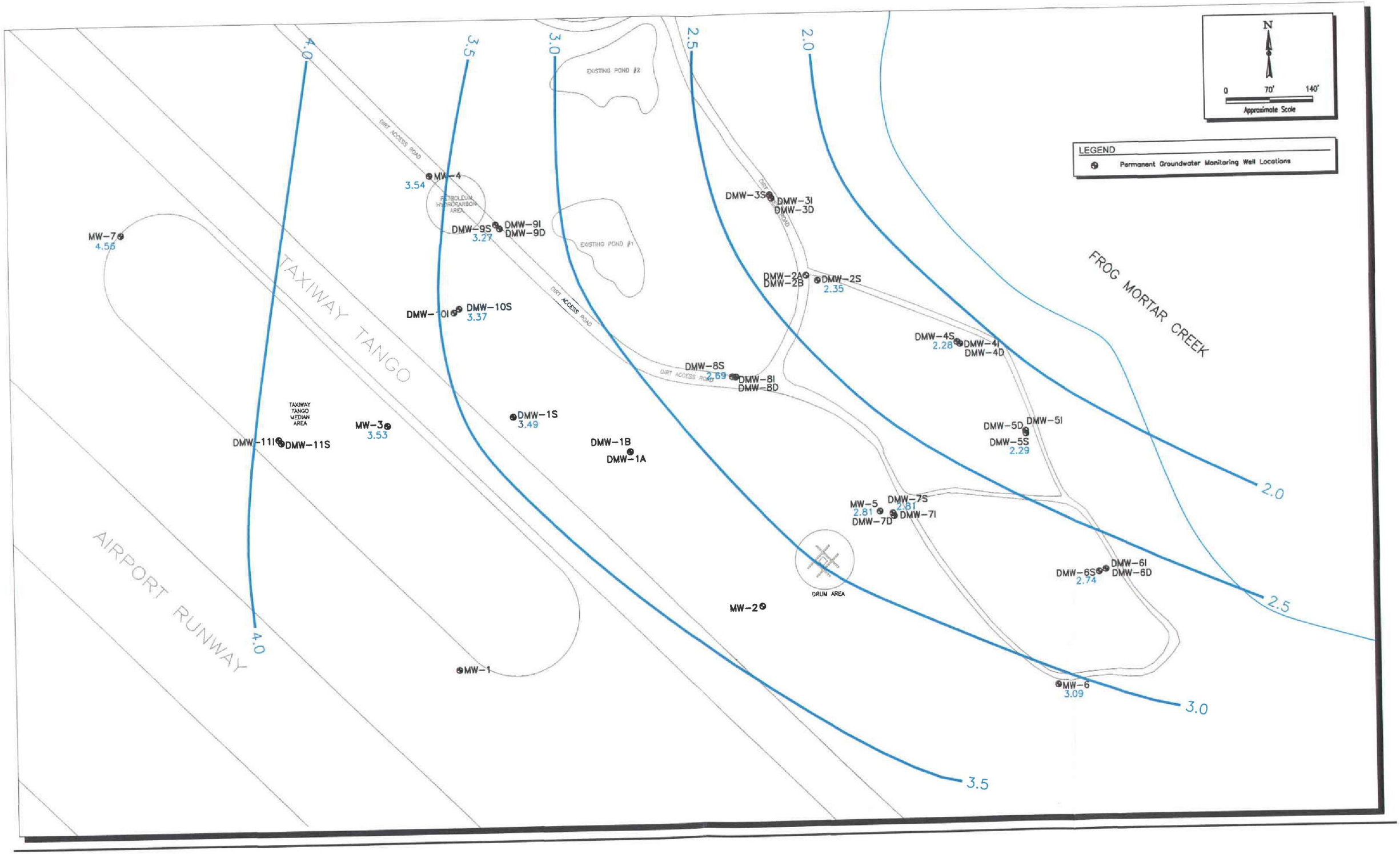


FIGURE 5
GROUNDWATER ELEVATION CONTOURS FOR THE INTERMEDIATE SURFICIAL AQUIFER
(SEPTEMBER 2004)

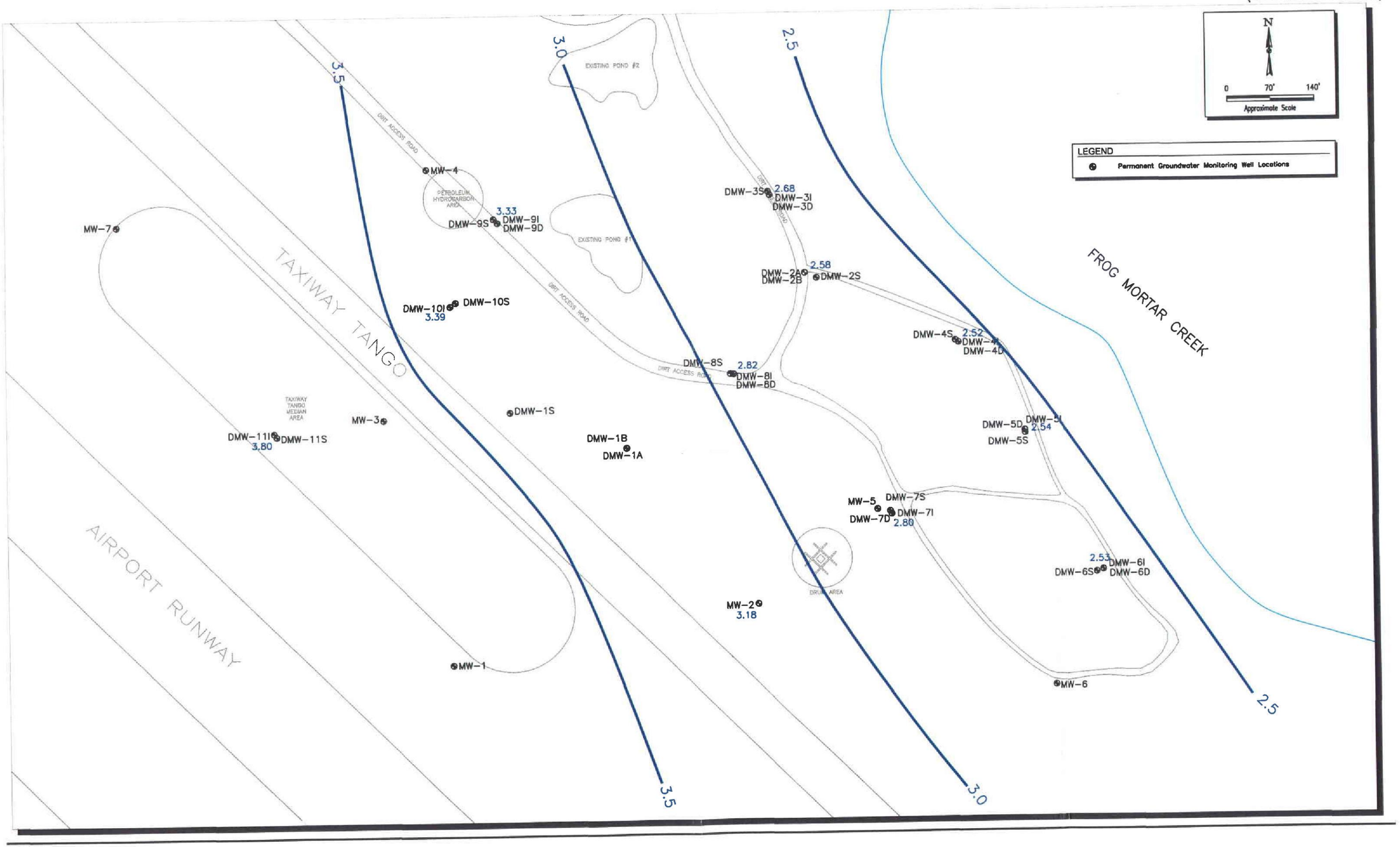
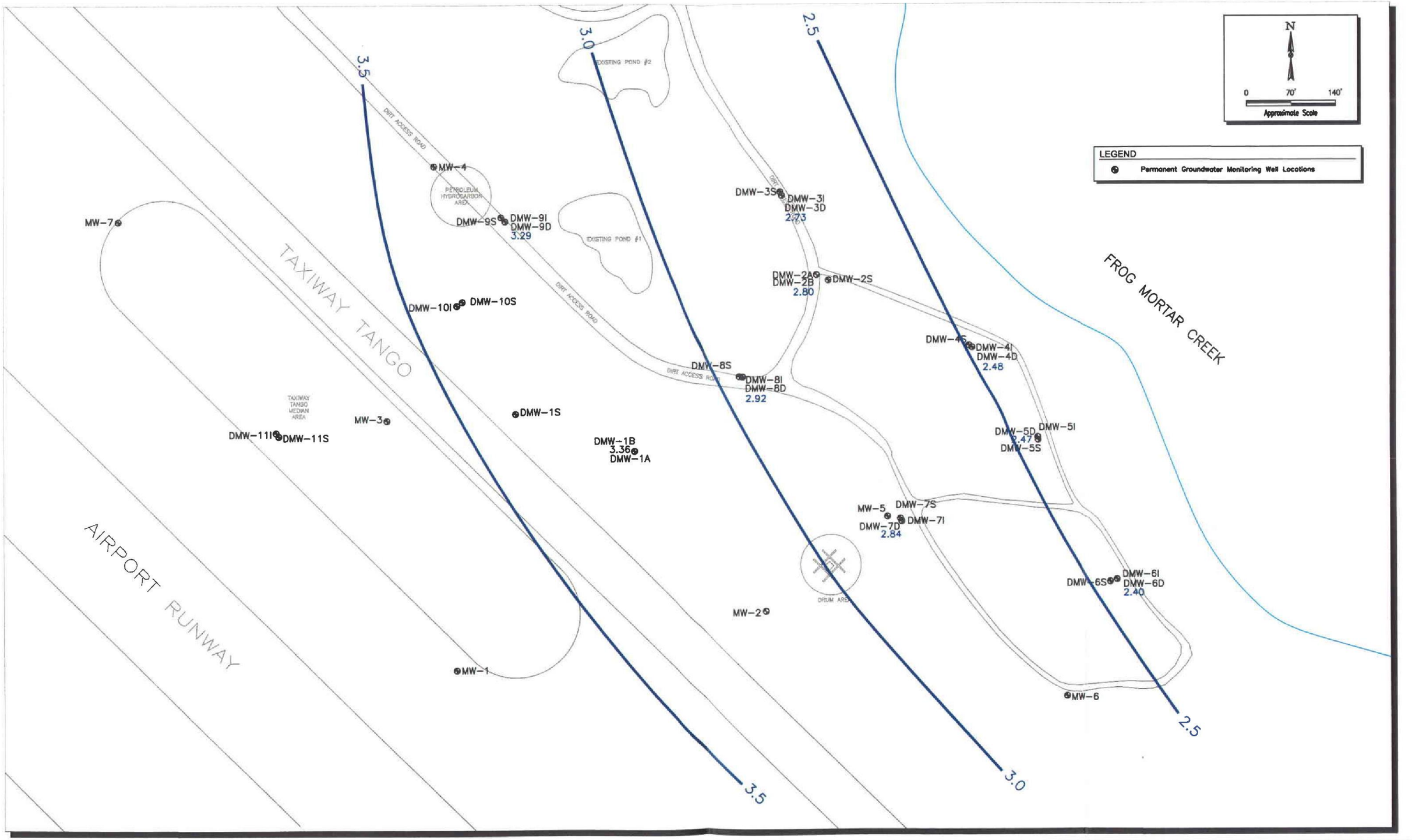


FIGURE 6
GROUNDWATER ELEVATION CONTOURS FOR THE LOWER SURFICIAL AQUIFER
(SEPTEMBER 2004)



APPENDIX B
TABLES

Table B-1
Summary of Groundwater Elevation Data
(Based on Field Measurements 9/30/2004)

Well ID	Well Screen Elevation (feet) msl	TOC Elevation (feet) msl	TOC to Groundwater (feet)	Groundwater Elevation (feet) msl
DMW-1S	3.33 to -6.67	11.99	8.50	3.49
DMW-1A	-34 to -44	13.02	9.50	3.52
DMW-1B	-72 to -77	13.01	9.65	3.36
DMW-2S	2.35 to -7.65	22.95	20.60	2.35
DMW-2A	-30 to -40	22.71	20.13	2.58
DMW-2B	-65 to -75	22.70	19.90	2.80
DMW-3S	0.65 to -9.35	17.61	10.51	7.10
DMW-3I	-30.73 to -40.73	17.53	14.85	2.68
DMW-3D	-57.71 to -67.71	17.55	14.82	2.73
DMW-4S	1.58 to -8.42	21.53	19.25	2.28
DMW-4I	-25.16 to -35.16	21.47	18.95	2.52
DMW-4D	-49.04 to -59.04	21.48	19.00	2.48
DMW-5S	1.96 to -8.04	22.41	20.12	2.29
DMW-5I	-23.96 to -33.96	22.49	19.95	2.54
DMW-5D	-48.56 to -58.56	22.49	20.02	2.47
DMW-6S	4.29 to -5.71	19.83	17.09	2.74
DMW-6I	-21.62 to -31.62	19.68	17.15	2.53
DMW-6D	-40.40 to -50.40	19.65	17.25	2.40
DMW-7S	3.02 to -6.98	22.79	19.98	2.81
DMW-7I	-21.11 to -31.11	23.00	20.20	2.80
DMW-7D	-46.20 to -56.20	22.95	20.11	2.84
DMW-8S	6.94 to -3.06	16.89	14.20	2.69
DMW-8I	-17.85 to -27.85	17.19	14.37	2.82
DMW-8D	-42.47 to -52.47	17.23	14.31	2.92
DMW-9S	3.04 to -6.96	12.49	9.22	3.27
DMW-9I	-22.21 to -32.21	12.49	9.16	3.33
DMW-9D	-47.71 to -57.71	12.49	9.20	3.29
DMW-10S	0.49 to -9.51	11.17	7.80	3.37
DMW-10I	-24.27 to -34.27	11.09	7.70	3.39
DMW-11S	0.17 to -9.83	10.18	3.30	6.88
DMW-11I	-20.46 to -30.46	10.10	6.30	3.80
MW-1	-24 to -34	10.69	NA	NA
MW-2	-22 to -32	9.38	6.20	3.18
MW-3	-7 to -17	12.18	8.65	3.53
MW-4	7 to -20	11.39	7.85	3.54
MW-5	6 to -14	23.77	20.96	2.81
MW-6	3 to -17	16.79	13.70	3.09
MW-7	0.14 to -10.14	11.92	7.36	4.56

TOC – Top of Casing
NA – Not Available, Well MW-1Was Damaged

Table B-2
Groundwater Contour Data
(Based on Field Measurements 9/30/2004)

Upper Surficial Aquifer		Intermediate Surficial Aquifer		Lower Surficial Aquifer	
Well ID	**Groundwater Elevation (feet) msl**	**Well ID**	**Groundwater Elevation (feet) msl**	**Well ID**	**Groundwater Elevation (feet) msl**
DMW-1S	3.49	**DMW-1A**	3.52*	**DMW-1B**	3.36
DMW-2S	2.35	**DMW-2A**	2.58	**DMW-2B**	2.80
DMW-3S	7.10*	**DMW-3I**	2.68	**DMW-3D**	2.73
DMW-4S	2.28	**DMW-4I**	2.52	**DMW-4D**	2.48
DMW-5S	2.29	**DMW-5I**	2.54	**DMW-5D**	2.47
DMW-6S	2.74	**DMW-6I**	2.53	**DMW-6D**	2.40
DMW-7S	2.81	**DMW-7I**	2.80	**DMW-7D**	2.84
DMW-8S	2.69	**DMW-8I**	2.82	**DMW-8D**	2.92
DMW-9S	3.27	**DMW-9I**	3.33	**DMW-9D**	3.29
DMW-10S	3.37	**DMW-10I**	3.39		
DMW-11S	6.88*	**DMW-11I**	3.80		
MW-3	3.53	**MW-1**	NA		
MW-4	3.54	**MW-2**	3.18		
MW-5	2.81				
MW-6	3.09				
MW-7	4.56				

*Data not used to in generation of groundwater contours

Table B-3
Summary of Chemical Analytical Results from Monitoring Wells (September 2004)

Well Number	Results of Chemical Analyses				
	VOCs (ug/L)	Dissolved Metals (ug/L)	Total Metals (ug/L)	SVOCs (ug/L)	Perchlorate (ug/L)
DMW-1A	**Benzene: 25** Carbon Tetrachloride: 2 Chlorobenzene: 7 Chloroform: 11 **1,2-Dichloroethane: 45** **1,1-Dichloroethene: 28** **cis-1,2-Dichloroethene: 8,900** trans-1,2-Dichloroethene: 62 Ethylbenzene: 2 Methylene Chloride: E,b220 Naphthalene: 1 **Tetrachloroethene: 7** Toluene: 180 1,2,3-Trichlorobenzene: 3 1,2,4-Trichlorobenzene: 19 1,1,2-Trichloroethane: 4 **Trichloroethene: 6,200** 1,2,4-Trimethylbenzene: 3 1,3,5-Trimethylbenzene: 1 **Vinyl Chloride: 5,300** m&p-Xylene: 9 o-Xylene: 10	As: 5.7 **Cd: 1,000** **Cr: 350** Cu: 19 **Ni: 110** Zn: 400	As: 6.4 Cd: 930 Cr: 420 Cu: 22 Hg: 1.5 Ni: 110 Se: 5.9 Zn: 390	NA	314.0 = ND 8321A = ND
DMW-1B	**Benzene: 42** Chlorobenzene: 9 Chloroform: 3 **1,2-Dichloroethane: 39** **1,1-Dichloroethene: 14** **cis-1,2-Dichloroethene: 4,900** trans-1,2-Dichloroethene: 24 Toluene: 17 1,2,4-Trichlorobenzene: 2 **Trichloroethene: E260** **Vinyl Chloride: 7,700** m&p-Xylene: 4 o-Xylene: 9	As: 18 **Cd: 88** Cr: 15 Cu: 21 Ni: 25 Zn: 160	As: 20 Cd: 98 Cr: 39 Cu: 28 Hg: 3.8 Ni: 28 Zn: 160	NA	314.0 = ND 8321A = ND

Table B-3
Summary of Chemical Analytical Results from Monitoring Wells (September 2004)

Well Number	Results of Chemical Analyses				
	VOCs (ug/L)	Dissolved Metals (ug/L)	Total Metals (ug/L)	SVOCs (ug/L)	Perchlorate (ug/L)
DMW-2S	Benzene: 5 Carbon Tetrachloride: 2 Chloroform: 7 **1,2-Dichloroethane: 17** **cis-1,2-Dichloroethene: 540** trans-1,2-Dichloroethene: 5 Methylene Chloride: b12 Tetrachloroethene: 3 1,2,4-Trichlorobenzene: 2 **Trichloroethene: 2,100** **Vinyl Chloride: 160**	**Be: 4.5** **Cd: 150** Cu: 11 **Ni: 88** Se: 19 Zn: 270	Be: 4.1 Cd: 200 Cu: 54 Ni: 93 Se: 19 Zn: 250	NA	314.0 = ND
DMW-2A	**Benzene: 30** sec-Butylbenzene: 2 Carbon Tetrachloride: 3 Chlorobenzene: 8 **Chlorofrom: 89** 1,2-Dichlorobenzene: 7 1,4-Dichlorobenzene: 6 **1,2-Dichloroethane: 170** **1,1-Dichloroethene: 43** **cis-1,2-Dichloroethene: 3,700** trans-1,2-Dichloroethene: 26 Ethylbenzene: 19 Isopropylbenzene: 3 p-Isopropylbenzene: 2 Methylene Chloride: b100 Naphthalene: 9 n-Propylbenzene: 5 **Tetrachloroethene: 54** Toluene: 460 1,2,3 -Trichlorobenzene: 140 **1,2,4-Trichlorobenzene: 790** **1,1,2-Trichloroethane: 9** **Trichloroethene: 21,000** 1,2,4-Trimethylbenzene: 36 1,3,5-Trimethylbenzene: 13 **Vinyl Chloride: 520** m&p-Xylene: 89 o-Xylene: 35	**Cd: 770** Cr: 11 Cu: 42 **Ni: 130** Se: 11 Zn: 600	Cd: 760 Cr: 11 Cu: 110 Pb: 5.9 Ni: 150 Se: 14 Zn: 500	NA	314.0 = ND 8321A = ND

Table B-3
Summary of Chemical Analytical Results from Monitoring Wells (September 2004)

Well Number	Results of Chemical Analyses				
	VOCs (ug/L)	Dissolved Metals (ug/L)	Total Metals (ug/L)	SVOCs (ug/L)	Perchlorate (ug/L)
DMW-4S	Benzene: 2 1,1-Dichloroethane: 5 **1,2-Dichloroethane: 16** **1,1-Dichloroethene: 15** **cis-1,2-Dichloroethene: 140** trans-1,2-Dichloroethene: 2 Tetrachloroethene: 2 1,1,2-Trichloroethane: 1 **Trichloroethene: 1,000** **Vinyl Chloride: 36**	Cr: 7.0 Cu: 7.0 Ni: 54 Se: 6.1 Zn: 130	Cd: 5.3 Cr: 50 Cu: 17 Ni: 59 Se: 8.0 Zn: 120	NA	314.0 = ND
DMW-4I	1,1-Dichloroethane: 52 **1,2-Dichloroethane: 19** **1,1-Dichloroethene: 100** **cis-1,2-Dichloroethene: 1,200** trans-1,2-Dichloroethene: 16 **Naphthalene: 16** 1,2,3 -Trichlorobenzene: 270 **1,2,4-Trichlorobenzene: 590** **Trichloroethene: 7,000** **Vinyl Chloride: 77**	**Be: 5.7** Cr: 15 Ni: 63 Se: 24 Zn: 210	Be: 5.4 Cd: 11 Cr: 15 Cu: 16 Ni: 68 Se: 30 Zn: 210	NA	314.0 = ND 8321A = 4.3
DMW-4D	Benzene: 2 Carbon Tetrachloride: 1 Chloroform: 2 1,1-Dichloroethane: 7 **1,2-Dichloroethane: 9** **1,1-Dichloroethene: 14** **cis-1,2-Dichloroethene: 230** trans-1,2-Dichloroethene: 7 Methylene Chloride: b10 Naphthalene: 2 Tetrachloroethene: 3 **Trichloroethene: 3,100** 1,3,5-Trimethylbenzene: 2 **Vinyl Chloride: 21**	**Cd: 18** Cr: 5.1 Cu: 51 **Ni: 85** Se: 25 Zn: 310	Cd: 17 Cr: 7.4 Cu: 64 Ni: 90 Se: 29 Zn: 280	NA	314.0 = 7 8321A = 6.1

Table B-3
Summary of Chemical Analytical Results from Monitoring Wells (September 2004)

Well Number	Results of Chemical Analyses				
	VOCs (ug/L)	Dissolved Metals (ug/L)	Total Metals (ug/L)	SVOCs (ug/L)	Perchlorate (ug/L)
DMW-5S	Benzene: 2 sec-Butylbenzene: 2 Chloroform: 2 **1,2-Dichloroethane: 10** 1,1-Dichloroethene: 5 **cis-1,2-Dichloroethene: 1,700** trans-1,2-Dichloroethene: 23 Ethylbenzene: 4 Isopropylbenzene: 1 Methylene Chloride: b9 Naphthalene: 6 n-Propylbenzene: 1 **Tetrachloroethene: 25** Toluene: 4 **1,1,2-Trichloroethane: 8** **Trichloroethene: 12,000** 1,2,4-Trimethylbenzene: 10 1,3,5-Trimethylbenzene: 9 **Vinyl Chloride: 35** m&p-Xylene: 9 o-Xylene: 11	**Be: 6.0** Cr: 11 Cu: 21 Pb: 5.2 Ni: 63 Se: 22 Zn: 230	Be: 6.4 Cd: 5.3 Cr: 13 Cu: 79 Pb: 6.4 Ni: 69 Se: 38 Zn: 210	NA	314.0 = ND 8321A = 0.95
DMW-9S	**Benzene: 640** sec-Butylbenzene: 280 **Chloroform: 190** **1,2-Dichloroethane: 180** **1,1-Dichloroethene: 150** **cis-1,2-Dichloroethene: 47,000** **trans-1,2-Dichloroethene: 120** **Ethylbenzene: 2,700** Isopropylbenzene: 28 **Naphthalene: 84** n-Propylbenzene: 28 **Toluene: 6,600** 1,2,3-Trichlorobenzene: 49 **1,2,4-Trichlorobenzene: 100** **1,1,2-Trichloroethane: 87** **Trichloroethene: 390** 1,2,4-Trimethylbenzene: 310 1,3,5-Trimethylbenzene: 170 **Vinyl Chloride: 21,000** **m&p-Xylene: 28,000** o-Xylene: 2,400	As: 5.1 Cr: 12 Se: 5.1	As: 5.0 Cu: 5.3	**Naphthalene: 24**	314.0 = ND 8321A = ND

Table B-3

Summary of Chemical Analytical Results from Monitoring Wells (September 2004)

Well Number	Results of Chemical Analyses				
	VOCs (ug/L)	Dissolved Metals (ug/L)	Total Metals (ug/L)	SVOCs (ug/L)	Perchlorate (ug/L)
DMW-9I	**Benzene: 62** sec-Butylbenzene: 2 **Carbon Tetrachloride: 36** Chlorobenzene: 34 Chloroform: 69 Dichlorodifluoromethane: 7 **1,2-Dichloroethane: 15** **1,1-Dichloroethene: 42** **cis-1,2-Dichloroethene: 8,100** trans-1,2-Dichloroethene: 38 Ethylbenzene: 75 Isopropylbenzene: 7 Methylene Chloride: b13 Naphthalene: 8 n-Propylbenzene: 4 Tetrachloroethene: 1 Toluene: 37 **1,1,2-Trichloroethane: 7** **Trichloroethene: 2,100** 1,2,4-Trimethylbenzene: 47 1,3,5-Trimethylbenzene: 140 **Vinyl Chloride: 3,300** m&p-Xylene: 59 o-Xylene: 18	ND	As: 6.7 Cr: 16 Cu: 27 Pb: 31 Ni: 12 Zn: 170	NA	314.0 = ND
DMW-9D	**Benzene: 16** **Chloroform: 340** Dichlorodifluoromethane: 8 **1,2-Dichloroethane: 15** **cis-1,2-Dichloroethene: 470** trans-1,2-Dichloroethene: 7 Ethylbenzene: 4 Isopropylbenzene: 2 Methylene Chloride: b45 Naphthalene: 3 Tetrachloroethene: 1 **1,1,2-Trichloroethane: 21** Toluene: 3 **Trichloroethene: 4,000** 1,2,4-Trimethylbenzene: 6 1,3,5-Trimethylbenzene: 5 **Vinyl Chloride: 28** m&p-Xylene: 14 o-Xylene: 11	Ni: 35 Zn: 61	As: 6.2 Ni: 36 Se: 6.5 Zn: 51	NA	314.0 = ND

Table B-3
Summary of Chemical Analytical Results from Monitoring Wells (September 2004)

Well Number	Results of Chemical Analyses				
	VOCs (ug/L)	Dissolved Metals (ug/L)	Total Metals (ug/L)	SVOCs (ug/L)	Perchlorate (ug/L)
MW-3	**cis-1,2-Dichloroethene: 330** **Trichloroethene: 120** **Vinyl Chloride: 29**	As: 9.0	As: 9.7 Zn: 69	NA	314.0 = ND
MW-5	**Benzene: 68** sec-Butylbenzene: 4 Chlorobenzene: 7 Chloroform: 7 **1,1-Dichloroethane: E290** **1,2-Dichloroethane: 190** **1,1-Dichloroethene: 490** **cis-1,2-Dichloroethene: 100,000** **trans-1,2-Dichloroethene: 850** Ethylbenzene: E250 Isopropylbenzene: 10 Methylene Chloride: E,b240 4-Methyl-2-Pentanone: 13 **Naphthalene: 26** n-Propylbenzene: 20 **Tetrachloroethene: 17** **Toluene: 2,600** **1,1,1-Trichloroethane: E500** **1,1,2-Trichloroethane: 11** **Trichloroethene: 19,000** 1,2,4-Trimethylbenzene: 130 1,3,5-Trimethylbenzene: 39 **Vinyl Chloride: E300** m&p-Xylene: 220 o-Xylene: 72	**Be: 5.3** **Cd: 5.3** Cr: 15 Cu: 99 **Ni: 120** Se: 32 Zn: 240	Be: 4.9 Cd: 7.5 Cr: 17 Cu: 100 Pb: 5.8 Ni: 110 Se: 45 Zn: 220	NA	314.0 = ND 8321A = ND

ND = Not Detected at a Concentration Greater Than the Practical Quantitation Limit (PQL)

Bold Font = Chemicals and Dissolved Metals Detected Above MDE Groundwater Cleanup Standards

E = Estimated Value, Exceeds Calibration Range

b = Found in the Method Blank

NA = Not Analyzed

Volatile Organic Tentatively Identified Compounds (TICs) Were Detected in Two Samples DMW-9I (1,2,3-Trimethylbenzene: 45 ug/L) and MW-5 (1,3-Dimethylbenzene: 40 ug/L)

Perchlorate Was Analyzed Using EPA Method 314.0 with a PQL of 4 ug/L

However, if the Perchlorate PQL exceeded 4 ug/L or Perchlorate Was Detected, it was Re-Analyzed Using EPA Method 8321A With a PQL of 0.5 ug/L

Table B-4a
Summary of Chemicals of Concern in the Upper Surficial Aquifer

Upper Surficial Aquifer				
Well ID	**TCE (µg/L)**	**cis-1,2-DCE (µg/L)**	**Vinyl Chloride (µg/L)**	**Dissolved Cadmium (µg/L)**
DMW-2S	2,100	540	160	150
DMW-4S	1,000	140	36	ND
DMW-5S	12,000	1,700	35	ND
DMW-9S	390	47,000	21,000	ND
MW-3	120	330	29	ND
MW-5	19,000	100,000	300	5.3

Note: Wells DMW-1S, DMW-3S, DMW-6S, DMW-7S, DMW-8S, DMW-10S, DMW-11S, MW-4, MW-6, and MW-7 were not sampled.

Table B-4b
Summary of Chemicals of Concern in the Intermediate Surficial Aquifer

Intermediate Surficial Aquifer				
Well ID	**TCE (µg/L)**	**cis-1,2-DCE (µg/L)**	**Vinyl Chloride (µg/L)**	**Dissolved Cadmium (µg/L)**
DMW-1A	6,200	8,900	5,300	1000
DMW-2A	21,000	3,700	520	770
DMW-4I	7,000	1,200	77	ND
DMW-9I	2,100	8,100	3,300	ND

Note: Wells DMW-3I, DMW-5I, DMW-6I, DMW-7I, DMW-8I, DMW-10I, DMW-11I, MW-1, and MW-2 were not sampled.

Table B-4c
Summary of Chemicals of Concern in the Lower Surficial

Lower Surficial Aquifer				
Well ID	**TCE (µg/L)**	**cis-1,2-DCE (µg/L)**	**Vinyl Chloride (µg/L)**	**Dissolved Cadmium (µg/L)**
DMW-1B	260	4,900	7,700	88
DMW-4D	3,100	230	21	18
DMW-9D	4,000	470	28	ND

Note: Wells DMW-2B, DMW-3D, DMW-5D, DMW-6D, DMW-7D, and DMW-8D were not sampled.

Table B-5a
Summary of Analytical Results for Wells Screened in the Upper Surficial Aquifer

Upper Surficial Aquifer					
Well ID	Date Sampled	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)	Dissolved Cadmium (µg/L)
DMW-1S	Sep-03	ND	4	15	ND
	Dec-03	ND	ND	ND	ND
	Mar-04	ND	3	31	ND
DMW-2S	Sep-03	2,300	2,300	2,000	10
	Dec-03	740	7,700	12,000	ND
	Mar-04	3,600	910	170	200
	Jun-04	2,400	590	120	200
	Sep-04	2,100	540	160	150
DMW-3S	Sep-03	87	1,300	3,800	ND
	Dec-03	48	2,300	4,800	ND
	Mar-04	76	3,800	7,700	ND
	Jun-04	ND	1,900	3,500	ND
DMW-4S	Sep-03	2,000	190	63	ND
	Dec-03	2,700	260	67	ND
	Mar-04	3,300	190	57	ND
	Jun-04	3,900	190	68	ND
	Sep-04	1,000	140	36	ND
DMW-5S	Sep-03	30,000	1,900	26	ND
	Dec-03	11,000	1,800	28	ND
	Mar-04	11,000	1,900	42	ND
	Jun-04	14,000	2,600	35	ND
	Sep-04	12,000	1,700	35	ND
DMW-6S	Sep-03	ND	3	ND	ND
	Dec-03	ND	2	ND	ND
	Mar-04	ND	ND	ND	ND
DMW-7S	Sep-03	34,000	31,000	480	6.2
	Dec-03	41,000	30,000	420	8.9
	Mar-04	45,000	29,000	190	12.0
	Jun-04	36,000	26,000	180	13
DMW-8S	Sep-03	2	1	ND	ND
	Dec-03	ND	ND	ND	ND
	Mar-04	ND	1	ND	ND
DMW-9S	Sep-03	1,100	32,000	27,000	ND
	Dec-03	2,800	61,000	30,000	ND
	Mar-04	2,000	37,000	20,000	ND
	Jun-04	2,500	36,000	18,000	ND
	Sep-04	390	47,000	21,000	ND
DMW-10S	Sep-03	ND	1	36	ND
	Dec-03	ND	1	49	ND
	Mar-04	ND	ND	93	ND
DMW-11S	Sep-03	22,000	28,000	1,300	ND
	Dec-03	20,000	29,000	1,200	ND
	Mar-04	52,000	53,000	2,400	ND
	Jun-04	31,000	31,000	1,500	ND

Table B-5a (continued)
Summary of Analytical Results for Wells Screened in the Upper Surficial Aquifer

Upper Surficial Aquifer					
Well ID	Date Sampled	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)	Dissolved Cadmium (µg/L)
MW-3	Aug-95	1,430	468	16	NA
	Feb-96	710	270	ND	NA
	Mar-99	380	91	ND	ND
	Jun-02	650	510	36	ND
	Sep-03	370	200	6	ND
	Dec-03	370	260	12	ND
	Mar-04	110	100	ND	ND
	Jun-04	130	140	4	ND
	Sep-04	120	330	29	ND
MW-4	Feb-96	ND	6	32	NA
	Mar-99	ND	8	34	ND
	Jun-02	ND	8	27	ND
	Sep-03	39	26	38	ND
	Dec-03	ND	ND	ND	20
	Mar-04	ND	1	ND	8.7
MW-5	Feb-96	63,000	38,000	100	NA
	Mar-99	56,000	55,000	ND	23
	Jun-02	20,000	110,000	260	ND
	Sep-03	34,000	110,000	490	8.2
	Dec-03	6,100	140,000	360	ND
	Mar-04	31,000	120,000	350	6.8
	Jun-04	35,000	110,000	550	6.6
	Sep-04	19,000	100,000	300	5.3
MW-6	Feb-96	61	36	ND	NA
	Mar-99	41	43	ND	1.4
	Jun-02	ND	ND	ND	ND
	Sep-03	ND	ND	ND	6.7
	Dec-03	ND	ND	ND	5.8
	Mar-04	ND	ND	ND	ND
MW-7	Sep-03	6	4	ND	ND
	Dec-03	ND	ND	ND	ND
	Mar-04	ND	ND	ND	ND

ND = Not Detected

NA = Not Analyzed

Shading = Wells Sampled in September 2004

Table B-5b
Summary of Analytical Results for Wells Screened in the Intermediate Surficial Aquifer

Well ID	Date Sampled	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)	Dissolved Cadmium (µg/L)
DMW-1A	Jun-02	9,000	6,200	3,500	1200
	Sep-03	9,000	10,000	5,500	910
	Dec-03	12,000	14,000	10,000	790
	Mar-04	9,000	12,000	8,500	790
	Jun-04	4,900	8,000	5,900	1000
	Sep-04	6,200	8,900	5,300	1000
DMW-2A	Jun-02	12,000	1,800	250	5
	Sep-03	29,000	3,100	840	1600
	Dec-03	34,000	4,700	650	800
	Mar-04	51,000	7,600	910	760
	Jun-04	23,000	4,600	640	860
	Sep-04	21,000	3,700	520	770
DMW-3I	Sep-03	23,000	13,000	1,800	220
	Dec-03	27,000	19,000	3,000	240
	Mar-04	16,000	14,000	3,400	250
	Jun-04	13,000	14,000	2,200	250
DMW-4I	Sep-03	8,200	1,400	110	ND
	Dec-03	7,100	1,100	81	ND
	Mar-04	12,000	1,300	100	ND
	Jun-04	7,900	1,400	ND	ND
	Sep-04	7,000	1,200	77	ND
DMW-5I	Sep-03	230	62	4	ND
	Dec-03	210	61	3	ND
	Mar-04	460	120	ND	ND
	Jun-04	730	170	ND	ND
DMW-6I	Sep-03	11	ND	ND	ND
	Dec-03	ND	ND	ND	ND
	Mar-04	ND	ND	ND	ND
DMW-7I	Sep-03	670	260	32	ND
	Dec-03	230	170	28	ND
	Mar-04	220	140	19	ND
	Jun-04	150	120	12	5.3
DMW-8I	Sep-03	1,100	470	140	28
	Dec-03	920	320	73	60
	Mar-04	1,200	500	83	86
	Jun-04	1,000	600	120	86
DMW-9I	Sep-03	1,400	6,800	1,700	ND
	Dec-03	1,400	8,400	2,400	ND
	Mar-04	1,900	19,000	6,400	ND
	Jun-04	1,400	9,300	3,000	ND
	Sep-04	2,100	8,100	3,300	ND
DMW-10I	Sep-03	600	18	1	ND
	Dec-03	440	15	ND	ND
	Mar-04	480	23	ND	ND
	Jun-04	730	24	ND	ND

Table B-5b (continued)
Summary of Analytical Results for Wells Screened in the Intermediate Surficial Aquifer

Well ID	Date Sampled	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)	Dissolved Cadmium (µg/L)
DMW-11I	Sep-03	19	35	2	ND
	Dec-03	3	7	ND	ND
	Mar-04	2	4	ND	ND
	Jun-04	2	4	ND	ND
MW-1	Aug-95	56	ND	ND	NA
	Feb-96	84	1	ND	NA
	Mar-99	36	ND	ND	ND
	Jun-02	320	26	5	ND
	Sep-03	110	1	ND	ND
	Dec-03	52	2	ND	ND
	Mar-04	100	ND	ND	ND
MW-2	Aug-95	699	275	86	NA
	Feb-96	180	110	13	NA
	Mar-99	16	8	ND	17
	Jun-02	19	13	ND	14
	Sep-03	4	3	ND	16
	Dec-03	2	2	ND	14
	Mar-04	ND	ND	ND	ND

ND = Not Detected

NA = Not Analyzed

Shading = Wells Sampled in September 2004

Table B-5c
Summary of Analytical Results for Wells Screened in the Lower Surficial Aquifer

Well ID	Date Sampled	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)	Dissolved Cadmium (µg/L)
DMW-1B	Jun-02	2,800	4,500	5	390
	Sep-03	360	4,700	7,700	110
	Dec-03	320	7,200	9,800	90
	Mar-04	250	6,700	8,500	86
	Jun-04	190	4,600	6,200	110
	Sep-04	260	4,900	7,700	88
DMW-2B	Jun-02	120	42	3	ND
	Sep-03	34	59	2	13
	Dec-03	23	26	ND	ND
	Mar-04	13	18	ND	ND
	Jun-04	15	26	ND	ND
DMW-3D	Sep-03	ND	ND	ND	ND
	Dec-03	ND	ND	ND	ND
	Mar-04	ND	ND	ND	ND
DMW-4D	Sep-03	3,200	190	17	ND
	Dec-03	4,000	170	17	14
	Mar-04	8,400	210	19	14
	Jun-04	4,900	250	16	17
	Sep-04	3,100	230	21	18
DMW-5D	Sep-03	2	1	ND	ND
	Dec-03	1	ND	ND	ND
	Mar-04	2	ND	ND	ND
DMW-6D	Sep-03	ND	ND	ND	ND
	Dec-03	ND	ND	ND	ND
	Mar-04	ND	ND	ND	ND
DMW-7D	Sep-03	1	ND	ND	ND
	Dec-03	ND	ND	ND	ND
	Mar-04	ND	ND	ND	ND
DMW-8D	Sep-03	170	230	110	130
	Dec-03	210	280	120	ND
	Mar-04	150	140	62	ND
	Jun-04	140	180	85	16
DMW-9D	Sep-03	5,200	600	38	ND
	Dec-03	3,300	360	24	ND
	Mar-04	6,300	760	ND	ND
	Jun-04	4,300	560	ND	ND
	Sep-04	4,000	470	28	ND

ND = Not Detected

Shading = Wells Sampled in September 2004

APPENDIX C
GROUNDWATER
SAMPLE LOGS

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Martin State Airport
Project No.: N5784-0000

Sample ID No.: DMW 17A - 092404
Sample Location: DMW 17
Sampled By: WP/DH
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

SAMPLING DATA:

Date: 9-24-04	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	~~Other~~
Time: 1250	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	ORP
Method: Bladder pump	Cloudy	5.14	1.27	16.13	64.5	0.57	0.06	136

PURGE DATA:

Date: 9-24-04	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Bladder pump								
Monitor Reading (ppm): 0.0		See Low Flow Purge Data Sheet						
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 53.66								
Static Water Level (WL): 9.95								
One Casing Volume(gal/L): 7.43								
Start Purge (hrs): 1210								
End Purge (hrs): 1247								
Total Vol. Purged (gal/L): 2.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	2 - 40ml VOA	✓
Total P.P. Metals	HNO3	1 - 250ml Poly	✓
Dissolved P.P. Metals	HNO3	1 - 250ml Poly	✓
Ferric Iron	HCl	2 - 40ml VOA	✓
Ethene, Ethane	HCl	2 - 40ml VOA	✓
Nitrate & Sulfate	—	1 - 250ml Poly	✓
Perchlorate	—	1 - 250 ml Poly	✓

OBSERVATIONS / NOTES:

53.66 − 9.95 = 43.71 Ft

43.71 × .17 = 7.4307

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Walter Ex

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Martin Stake Airport
PROJECT NUMBER: N5784-0000

WELL ID.: OMW# 1A-092404
DATE: 9-24-04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1210	9.95	—	—	—	—	—	—	—	—	Initial
1212	10.05	300	5.48	1.24	95.8	5.21	16.43	101	0.06	Slightly cloudy
1217	10.05	210	5.15	1.23	159	1.72	16.40	118	0.06	Cloudy
1222	10.05	210	5.13	1.26	109.5	0.90	16.35	124	0.06	Slightly cloudy
1227	10.05	210	5.12	1.26	85.5	0.78	16.30	126	0.06	" "
1232	10.05	210	5.14	1.27	80.3	0.64	16.17	130	0.06	" "
1237	10.05	210	5.14	1.27	64.5	0.59	16.16	132	0.06	" "
1242	10.05	210	5.14	1.27	63.3	0.56	16.14	135	0.06	" "
1247	10.05	210	5.14	1.27	64.5	0.52	16.13	136	0.06	" "

SIGNATURE(S): Walter

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Martin State Airport
Project No.: N5784-0020

Sample ID No.: DMW1B-092404
Sample Location: DMW1B
Sampled By: WP/Q
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	~~Other~~
	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	ORP
Date: 9-24-04								
Time: 1140								
Method: Bladder pump	Cloudy	5.39	1.28	17.16	425	0.61	0.06	92

PURGE DATA:

	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Date: 9-24-04								
Method: Bladder Pump								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material Type: 2" PVC		See Low Flow Purge Data Sheet						
Total Well Depth (TD): 90.36								
Static Water Level (WL): 10.12								
One Casing Volume(gal/L): 13.64								
Start Purge (hrs): 1053								
End Purge (hrs): 1135								
Total Purge Time (min): 42								
Total Vol. Purged (gal/L): 2.0								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	2 - 40ml VOA	✓
Total P.P. Metals	HNO3	1 - 250ml Poly	✓
Dissolved P.P. Metals	HNO3	1 - 250ml Poly	✓
Ferric Iron	HCl	2 - 40ml VOA	✓
Ethene, Ethane	HCl	2 - 40ml VOA	✓
Nitrate & Sulfate	—	1 - 250ml Poly	✓
Perchlorate	—	1 - 250ml Poly	✓

OBSERVATIONS / NOTES:

90.36
-10.12
80.24 Ft

80.24
X .17
13.6408

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

Walter R

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Martin State Airport
PROJECT NUMBER: N5784-0000

WELL ID.: DMW 1B-092404
DATE: 9-24-04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1053	10.12	—	—	—	—	—	—	—	—	Initial
1055	11.10	290	4.98	1.24	537	4.09	17.41	155	0.06	Slightly Cloudy
1100	11.25	240	5.22	1.27	370	1.03	16.06	125	0.06	Cloudy w/ odor
1105	11.40	100	5.32	1.27	416	0.86	16.90	105	0.06	" "
1110	11.25	130	5.37	1.27	319	0.74	17.19	96	0.06	" "
1115	11.19	130	5.36	1.28	342	0.76	17.09	91	0.06	" "
1120	11.17	130	5.39	1.27	364	0.67	17.05	88	0.06	" "
1125	11.15	130	5.39	1.27	419	0.64	17.12	85	0.06	" "
1130	11.12	130	5.39	1.28	422	0.60	17.14	84	0.06	" "
1135	11.12	130	5.39	1.28	425	0.61	17.16	82	0.06	" "
[redacted]										

SIGNATURE(S): Walter Ga

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Martin State Airport
Project No.: N5784-0000

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: DMW 2S-092204
Sample Location: DMW 2S
Sampled By: WP
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	Other
Date: 9-27-04	Visual	Standard	mS/cm	°C	NTU	mg/l	mV	Sal ~~NA~~
Time: 1355								
Method: Geo Pump	Clean	4.46	1.53	17.18	0.32	0.53	284	0.07

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Salinity	Other
Date: 9-27-04								
Method: Geo Pump								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material Type: 2" PVC		See Low Flow Purge Data Sheet						
Total Well Depth (TD): 32.76								
Static Water Level (WL): 20.85								
One Casing Volume(gal/L): 2.02								
Start Purge (hrs): 1257								
End Purge (hrs): 1350								
Total Purge Time (min): 53								
Total Vol. Purged (gal/L): 4.0								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	2 – 40ml VOA	✓
Total P.P. Metals	HNO3	1 – 250ml Poly	✓
Dissolved P.P. metals	HNO3	1 – 250ml Poly	✓
Ferric Iron	HCl	2 – 40ml VOA	✓
Ethene, Ethane	HCl	2 – 40ml VOA	✓
Nitrate, Sulfate	ICE	1 – 250ml Poly	✓
Perchlorate	ICE	1 – 250ml Poly	✓

OBSERVATIONS / NOTES:

32.76
− 20.85
11.91 Ft

11.91
× .17
2.0247

Circle if Applicable:

MS/MSD —

Duplicate ID No.:

Signature(s): Watt

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Martin State Airport
PROJECT NUMBER: N 5784 - 0000
WELL ID.: DMW 25 - 092704
DATE: 9-27-04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1257										Initial
1300	21.00	210	4.60	1.61	6.58	2.73	18.10	314	0.07	Clear Water
1305	21.00	210	4.45	1.57	3.31	1.02	17.14	290	0.07	" "
1310	21.00	210	4.46	1.54	1.61	0.80	17.18	291	0.07	" "
1315	21.00	210	4.47	1.52	0.64	0.70	17.14	291	0.07	" "
1320	21.00	210	4.46	1.53	0.56	0.64	16.89	292	0.07	" "
1325	21.00	210	4.51	1.53	0.21	0.60	17.24	288	0.07	" "
1330	21.00	210	4.49	1.53	0.59	0.59	17.28	286	0.07	" "
1335	21.00	210	4.47	1.53	0.52	0.57	17.19	286	0.07	" "
1340	21.00	210	4.45	1.53	1.15	0.56	17.19	286	0.07	" "
1345	21.00	210	4.46	1.52	0.53	0.54	17.20	285	0.07	" "
1350	21.00	210	4.46	1.53	0.32	0.53	17.19	284	0.07	" "

SIGNATURE(S): [signature]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Martin State Airport
Project No.: N5784-0000

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: DMW2A-092304
Sample Location: DMW2A
Sampled By: WP / JS
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	~~Other~~ ORP
Date: 9-23-04								
Time: 1345								
Method: Bladder Pump	Slightly Cloudy	4.41	1.94	15.57	40.0	0.74	0.09	186

PURGE DATA:

	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Date: 9-23-04								
Method: Bladder Pump								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material Type: 2" PVC	See Low Flow Purge							
Total Well Depth (TD): 62.16								
Static Water Level (WL): 20.20								
One Casing Volume(gal/L): 7.05	Data Sheet							
Start Purge (hrs): 1209								
End Purge (hrs): 1344								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L): 3.0								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	2 - 40ml VOA	✓
Total P.P. Metals	HNO3	1 - 250ml Poly	✓
Dissolved P.P. Metals	HNO3	1 - 250ml Poly	✓
Ferric Iron	HCl	2 - 40ml VOA	✓
Ethene, Ethane	HCl	2 - 40ml VOA	✓
Nitrate & Sulfate	—	1 - 250ml Poly	✓
Perchlorate	—	1 - 250ml Poly	✓

OBSERVATIONS / NOTES:

62.16
- 20.20
41.46 Ft

41.46
X .17
7.0482

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s): Walter Pryor

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Martin State Airport
PROJECT NUMBER: 5784.000

WELL ID.: OMW 2A - 0923.4
DATE: 5-23-04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1209	20.70	—	—	—	—	—				Initial
1210	20.87	180	4.19	2.12	141	3.23	15.76	198	0.10	Slightly Cloudy
1215	20.81	180	4.42	2.05	51.9	1.16	15.77	193	0.10	" "
1220	20.81	180	4.44	2.06	132	0.96	15.82	181	0.10	" "
1225	20.81	180	4.42	2.08	237	0.86	15.86	182	0.10	" "
1230	20.81	180	4.41	2.07	90.8	0.79	15.82	183	0.10	" "
1235	20.81	180	4.42	2.05	60.2	0.73	15.83	182	0.10	" "
1240	20.81	180	4.43	2.01	49.8	0.71	15.86	182	0.10	" "
1245	20.81	180	4.44	2.00		0.71	15.87	182	0.09	" "
	Had to Change Discharge Tanks									
1324	20.71	100	4.42	1.96	44.6	2.62	17.26	186	0.09	" "
1329	20.81	180	4.40	1.94	47.0	0.92	17.24	182	0.09	" "
1334	20.81	180	4.41	1.93	37.0	0.76	15.57	186	0.09	" "
1339	20.81	180	4.41	1.94	39.0	0.72	15.55	186	0.09	" "
1344	20.81	180	4.41	~~1.99~~ 1.94	40.0	0.74	15.57	186	0.09	" "

SIGNATURE(S): [signature]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Mardin State Airport
Project No.: N5784-0000

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: Dmw45-092504
Sample Location: Dmw45
Sampled By: VP/JS
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	~~Other~~ ORP
Date: 9-23-04								
Time: 1135								
Method: Bladder pump	Clear	5.19	1.55	14.93	17.2	0.55	0.09	104

PURGE DATA:

	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Date: 9-23-04								
Method: Bladder pump								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material Type: 2" PVC		See	Low	Flow				
Total Well Depth (TD): 32.76								
Static Water Level (WL): 18.62		Purge	Data	Sheet				
One Casing Volume(gal/L): 2.40								
Start Purge (hrs): 1041								
End Purge (hrs): 1133								
Total Purge Time (min): 52								
Total Vol. Purged (gal/L): 2.0								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	2 - 40ml VOA	✓
Total P.P. metals	HNO3	1 - 250ml Poly	✓
Dissolved P.P. metals	HNO3	1 - 250ml Poly	✓
Ethene, Ethane	HCl	2 - 40ml VOA	✓
Ferric Iron	HCl	2 - 40ml VOA	✓
Perchlorate	ICE	1 - 250ml Poly	✓
Nitrate & Sulfate	ICE	1 - 250ml Poly	✓

OBSERVATIONS / NOTES:

33.76 − 19.62 = 14.14 Ft
14.14 × .17 = 2.4038

Circle If Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Martin State Airport
PROJECT NUMBER: N# 5784-0000

WELL ID.: OMW 45 - 092304
DATE: 9-23-04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1041	19.62	—	—	—	—	—	—	—	—	Initial
1043	19.70	580	4.50	2.34	36.1	7.44	16.01	238	0.12	Slightly cloudy
1048	19.67	270	4.90	2.16	18.7	1.56	15.10	180	0.10	Clear water
1053	19.70	270	5.06	2.00	19.8	0.92	14.95	146	0.09	" "
1058	19.70	270	5.12	1.95	16.5	0.74	14.87	132	0.09	" "
1103	19.70	270	5.13	1.94	8.5	0.68	14.86	126	0.09	" "
1108	19.70	270	5.12	1.94	18.7	0.63	14.87	122	0.09	" "
1113	19.70	270	5.13	1.94	15.1	0.61	14.90	117	0.09	" "
1118	19.70	270	5.16	1.95	16.0	0.60	14.89	112	0.09	" "
1123	19.70	270	5.18	1.95	13.4	0.58	14.89	108	0.09	" "
1128	19.70	270	5.19	1.95	17.3	0.56	14.90	105	0.09	" "
1133	19.70	270	5.19	1.85	17.2	0.55	14.93	104	0.09	" "

SIGNATURE(S): [signature]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Martin State Airport
Project No.: N5784-0002

Sample ID No.: DMW4I-092304
Sample Location: DMW4I
Sampled By: MP / JS
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

SAMPLING DATA:

Date: 9-23-04 / Time: 1015 / Method: Bladder Pump	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	~~Other~~ ORP
	Cloudy	5.05	2.12	15.48	55.0	0.80	0.10	100

PURGE DATA:

Date: 9-23-04	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Bladder Pump								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material Type: 2" PVC		See Low Flow Purge Data Sheet						
Total Well Depth (TD): 59.36								
Static Water Level (WL): 19.45								
One Casing Volume(gal/L): 6.78								
Start Purge (hrs): 0503								
End Purge (hrs): 1010								
Total Purge Time (min): 67								
Total Vol. Purged (gal/L): 2.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	2 - 40ml Vial	✓
Total P.P. Metals	HNO3	1 - 250ml Poly	✓
Dissolved PP metals	HNO3	1 - 250 ml Poly	✓
Ferric Iron	HCl	2 - 40 ml Vial	✓
Ethene, Ethane	HCl	2 - 40 ml Vial	✓
Nitrate & Sulfate	—	1 - 250 ml Poly	✓
Perchlorate	—	1 - 250 ml Poly	✓

OBSERVATIONS / NOTES:

59.36 − 19.45 = 39.91 Ft

39.91 × .17 = 6.7847

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Martin State Airport
PROJECT NUMBER: N5784-0000

WELL ID.: DMW 4I-092304
DATE: 9-23-04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0903	15.45	—	—	—	—	—	—	—	—	Initial
0905	19.55	350	4.44	2.04	332	2.74	14.11	@ 270	0.10	Cloudy water
0910	19.50	130	4.95	2.12	>999	0.87	13.96	159	0.10	" "
0915	19.50	130	4.99	2.10	>999	1.03	14.58	136	0.10	" "
0920	19.50	130	5.01	2.10	>999	0.98	14.84	129	0.10	" "
0925	19.50	130	5.06	2.09	>999	0.91	14.99	118	0.10	" "
0930	19.50	130	5.10	2.08	444	0.87	15.12	110	0.10	" "
0935	19.50	130	5.10	2.09	434	0.83	15.18	107	0.10	" "
0940	19.50	130	5.08	2.09	396	0.82	15.30	107	0.10	" "
0945	19.50	130	5.02	2.10	170	0.82	15.35	108	0.10	Slightly Cloudy
0950	19.50	130	5.00	2.12	105	0.80	15.40	105	0.10	" "
0955	19.50	130	5.01	2.12	57.8	0.81	15.48	107	0.10	" "
1000	19.50	130	5.04	2.13	51.0	0.80	15.49	105	0.10	" "
1005	~~0905~~ 19.50	130	5.05	2.12	54.5	0.80	15.47	101	0.10	" "
1010	~~0910~~ 19.50	130	5.05	2.12	55.0	0.80	15.48	100	0.10	

SIGNATURE(S): Wade

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Martin State Airport
Project No.: N5784-0000

Sample ID No.: DMW40-052804
Sample Location: DMW40
Sampled By: HP / JS
C.O.C. No.:

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 5-23-04	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	~~Other~~ ORP
Time: 0845								
Method: Bladder pump	Cloudy	4.55	1.58	14.29	40.4	0.24	0.07	251

PURGE DATA:

Date: 5-23-04	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Bladder pump								
Monitor Reading (ppm): 0.0		See Low Flow Purge Data Sheet						
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 83.26								
Static Water Level (WL): 19.45								
One Casing Volume(gal/L): 10.85								
Start Purge (hrs): 0753								
End Purge (hrs): 0840								
Total Purge Time (min): 47								
Total Vol. Purged (gal/L): 2.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	2 - 40ml Vial	✓
Total P.P. Metals	HNO3	1 - 250ml Poly	✓
Dissolved P.P. Metals	HNO3	1 - 250ml Poly	✓
Ferric Iron	HCl	2 - 40ml Vial	✓
Ethene, Ethane	HCl	2 - 40ml Vial	✓
Nitrate + Sulfate	—	1 - 250ml Poly	✓
Perchlorate	—	1 - 250ml Poly	✓

OBSERVATIONS / NOTES:

83.26 63.81
- 19.45 x .17
63.81 Ft 10.8477

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

Walter R

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Martin State Airport
PROJECT NUMBER: N5784-0000

WELL ID.: DMW 48 - 092304
DATE: 9-23-04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0753	19.45	—	—	—	—	—	—	—	—	Initial
0755	19.55	360	4.26	1.57	70.4	5.87	13.77	301	0.07	Slightly cloudy
0800	19.57	100	4.44	1.55	229	3.10	13.86	280	0.07	Cloudy water
0805	19.57	150	4.49	1.54	361	2.25	14.27	270	0.07	" "
0810	19.57	150	4.53	1.54	337	1.11	14.29	263	0.07	" "
0815	19.57	150	4.55	1.54	224	0.98	14.27	259	0.07	" "
0820	19.57	150	4.56	1.54	102	0.86	14.26	257	0.07	Slightly cloudy
0825	19.57	150	4.56	1.54	89.5	0.82	14.27	255	0.07	" "
0830	19.57	150	4.57	1.54	79.5	0.77	14.26	254	0.07	" "
0835	19.57	150	4.58	1.54	81.5	0.75	14.28	253	0.07	" "
0840	19.57	150	4.59	1.54	80.4	0.74	14.29	251	0.07	" "

SIGNATURE(S): Water Ex

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Martin State Airport
Project No.: N5784-0000

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: DMW 5S-092204
Sample Location: DMW 5S
Sampled By: WP / DW
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	~~Other~~ ORP
Date: 9-22-04								
Time: 1450								
Method: Bladder pump	Clear	4.48	1.92	15.70	9.10	0.67	0.09	202

PURGE DATA:

	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Date: 9-22-04								
Method: Bladder Pump								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material Type: 2" PVC		See Low Flow						
Total Well Depth (TD): 33.01								
Static Water Level (WL): 19.35								
One Casing Volume(gal/L): 2.3		Purge Data Sheet						
Start Purge (hrs): 1400								
End Purge (hrs): 1947								
Total Purge Time (min): 47								
Total Vol. Purged (gal/L): 3.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	2 - 40 ml VOA	✓
Total P.P. metals	HNO3	1 - 250 ml Poly	✓
Dissolved P.P. metals	HNO3	1 - 250 ml Poly	✓
Ferric Iron	HCl	2 - 40 ml VOA	✓
Ethene, Ethane	HCl	2 - 40 ml VOA	✓
Nitrate, Sulfate	—	1 - 250 ml Poly	✓
Perchlorate	—	1 - 250 ml Poly	✓

OBSERVATIONS / NOTES:

33.01
− 19.35
13.66 Ft

13.66
× .17
2.3222

Circle if Applicable:

MS/MSD —

Duplicate ID No.: —

Signature(s): Walter R

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Martin State Airport
PROJECT NUMBER: N5784-0000

WELL ID.: DMW 55-092204
DATE: 9-22-04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1400	19.35	—	—	—	—	—	—	—	—	Initial
1402	22.29	690	5.62	1.94	394	4.43	17.24	109	0.09	Cloudy water
1407	21.71	280	4.51	1.93	35.9	1.61	16.52	168	0.09	Slightly cloudy
1412	21.81	240	4.43	1.94	9.54	1.12	16.29	196	0.09	Clear water
1417	21.87	240	4.39	1.93	7.42	0.88	15.53	196	0.09	" "
1422	21.91	240	4.40	1.93	3.70	0.75	15.34	200	0.09	" "
1427	21.86	240	4.43	1.92	6.38	0.70	15.17	201	0.09	" "
1432	22.00	240	4.45	1.92	8.39	0.65	15.11	201	0.09	" "
1437	21.63	150	4.48	1.91	7.15	0.64	15.68	201	0.09	" "
1442	21.49	150	4.48	1.92	8.01	0.70	15.20	201	0.09	" "
1447	21.47	150	4.48	1.92	9.10	0.67	15.71	202	0.09	" "

SIGNATURE(S): Matthew P

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Martin State Airport
Project No.: N5784-0000

Sample ID No.: OMW 95-092204
Sample Location: OMW 95
Sampled By: MP / DW
C.O.C. No.:

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 9-22-04 / Time: 1205 / Method: Bladder pump	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
	Clear	6.40	1.89	17.22	7.80	6.47	0.09	-105

PURGE DATA:

Date: 9-22-04	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Bladder pump								
Monitor Reading (ppm): 0.0		See Low Flow Purge						
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 22.11		Data Sheet						
Static Water Level (WL): 9.51								
One Casing Volume(gal/L): 2.14								
Start Purge (hrs): 1113								
End Purge (hrs): 1200								
Total Purge Time (min): 47								
Total Vol. Purged (gal/L): 2.0								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl	2 - 40ml VOA	✓
Total P.P. metals	HNO3	1 - 250ml Poly	✓
Dissolved P.P. metals	HNO3	1 - 250 ml Poly	✓
Ethene, Ethane	HCl	2 - 40ml VOA	✓
Ferric Iron	HCl	2 - 40 ml VOA	✓
Nitrate, Sulfate	ICE	1 - 250ml Poly	✓
SVOCs	ICE	1 - 1L Amber	✓
Perchlorate	ICE	1 - 250ml Poly	✓

OBSERVATIONS / NOTES:

22.11 − 9.51 = 12.60 FT
12.60 × .17 = 2.142

Circle if Applicable:
MS/MSD — Duplicate ID No.:

Signature(s):

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Martin State Airport
PROJECT NUMBER: N5784-0000

WELL ID.: DMW 9S - 092204
DATE: 5-22-04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1113	9.51	—	—	—	—	—	—	—	—	Initial
1115	9.58	330	6.50	1.80	55.4	4.53	19.27	-43	0.09	Slightly cloudy
1120	9.55	280	6.34	1.88	6.04	1.33	17.47	-67	0.09	Clear water
1125	9.55	250	6.36	1.89	5.57	3.84	17.32	-83	0.09	" "
1130	9.55	250	6.35	1.90	7.01	4.56	17.28	-87	0.09	" "
1135	9.55	250	6.35	1.90	5.23	5.14	17.24	-91	0.09	" "
1140	9.55	250	6.36	1.90	5.67	5.89	17.22	-94	0.09	" "
1145	9.55	250	6.36	1.90	4.92	6.43	17.26	-98	0.09	" "
1150	9.55	250	6.39	1.89	4.45	6.47	17.25	-100	0.09	" "
1155	9.55	250	6.40	1.89	3.65	6.45	17.22	-103	0.09	" "
1200	9.55	250	6.40	1.89	2.80	6.47	17.22	-105	0.09	" "

SIGNATURE(S): Walter LR

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Martin State Airport
Project No.: N5784-0000

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: DMW9I - 092204
Sample Location: DMW9I
Sampled By: WP / DW
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	~~Other~~ ORP
Date: 9-22-04								
Time: 1045								
Method: Bladder pump	Cloudy	6.06	1.38	15.75	>999	2.40	0.06	-41

PURGE DATA:

	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Date: 9-22-04								
Method: Bladder pump								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material Type: 2" PVC		See Low Flow Purge						
Total Well Depth (TD): 47.15								
Static Water Level (WL): 9.51		Data Sheet						
One Casing Volume(gal/L): 6.40								
Start Purge (hrs): 0944								
End Purge (hrs): 1042								
Total Purge Time (min): 58								
Total Vol. Purged (gal/L): 2.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl 4°C	2 - 40ml VOA	✓
Total P.P. metals	HNO3 4°C	1 - 250ml Poly	✓
Dissolved P.P. Metals	HNO3 4°C	1 - 250ml Poly	✓
Ethene Ethane	HCl 4°C	2 - 40ml VOA	✓
Nitrate, Sulfate	ICE 4°C	1 - 250ml Poly	✓
Ferric, Iron	HCl 4°C	2 - 40ml VOA	✓
Perchlorate	ICE 4°C	1 - 250ml Poly	✓

OBSERVATIONS / NOTES:

47.15 − 9.51 = 37.64

37.64 × .17 = 6.3988

Circle if Applicable:

MS/MSD —

Duplicate ID No.: —

Signature(s): Walter E Pr

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Martin State Airport
PROJECT NUMBER: N5784-0000

WELL ID.: DMW 9I - 092204
DATE: 9-22-04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0944	9.51	—	—	—	—	—	—	—	—	Initial
0947	9.92	350	5.88	1.51	187	4.25	15.76	70	0.07	Slightly Cloudy
0952	9.70	170	6.00	1.49	>999	1.00	14.86	18	0.07	Cloudy Water
0957	9.69	170	6.03	1.49	>999	0.92	15.33	-3	0.07	" "
1002	9.68	170	6.04	1.47	>999	0.82	15.39	-16	0.07	" "
1007	9.68	170	6.05	1.47	>999	0.83	15.39	-22	0.07	" "
1012	9.68	170	6.05	1.46	>999	0.97	15.38	-27	0.07	" "
1017	9.68	170	6.05	1.45	>999	1.30	15.45	-31	0.07	" "
1022	9.68	170	6.05	1.44	>999	1.66	15.48	-34	0.07	" "
1027	9.68	170	6.07	1.43	>999	1.98	15.57	-35	0.07	" "
1032	9.68	170	6.06	1.40	>999	2.37	15.75	-38	0.06	" "
1037	9.68	170	6.06	1.39	>999	2.39	15.77	-40	0.06	" "
1042	9.68	170	6.06	1.38	>999	2.40	15.25	-41	0.06	" "

SIGNATURE(S): Walter E Pye II

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Martin State Airport
Project No.: N5704-0001

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: DMW9D-092204
Sample Location: DMW9D
Sampled By: MP/DN
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 9-22-04 / Time: 0920 / Method: Bladder Pump	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
	Slightly	5.24	0.457	15.15	43.2	0.79	0.02	79

PURGE DATA:

Date: 9-22-04	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Bladder Pump								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material Type: 2" PVC		See Low Flow Purge						
Total Well Depth (TD): 72.81								
Static Water Level (WL): 9.61		Data Sheet						
One Casing Volume(gal/L): 10.77								
Start Purge (hrs): 0757								
End Purge (hrs): 0915								
Total Purge Time (min): 78								
Total Vol. Purged (gal/L): 3.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl 4°C	2 - 40ml VOA	✓
Total P.P. metals	HNO3 4°C	1 - 250ml Poly	✓
Dissolved P.P. metals	HNO3 4°C	1 - 250ml Poly	✓
Ethene, Ethane	HCl 4°C	2 - 40ml VOA	✓
Nitrate, Sulfate	ICE 4°C	1 - 250ml Poly	✓
Ferrus, Iron	HCl 4°C	2 - 40ml VOAs	✓
Perchlorate	ICE 4°C	1 - 250ml Poly	✓

OBSERVATIONS / NOTES:

72.81 − 9.61 = 63.20 ft

63.20 × .17 = 10.774

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	

Signature(s):

Watts

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Martin State Airport
PROJECT NUMBER: N5784-0000

WELL ID.: Dmw 9D - 092204
DATE: 9-22-04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0757	9.61	—	—	—	—	—	—	—	—	Initial
0800	9.70	420	4.96	0.442	7999	1.36	14.08	167	0.02	
0805	9.68	130	5.15	0.461	7999	0.95	14.66	114	0.02	
0810	NA	130	5.21	0.462	7999	1.00	14.96	100	0.02	H2O Tan-Grey Cloudy
0815	NA	130	5.21	0.462	7999	0.95	15.11	96	0.02	
0820	9.69	130	5.21	0.462	7999	0.90	15.13	93	0.02	
0825	9.69	130	5.17	0.463	809	0.87	15.13	94	0.02	Cloudy Water
0830	9.69	130	5.14	0.463	345	0.83	15.13	96	0.02	" "
0835	9.69	130	5.13	0.461	215	0.82	15.11	95	0.02	" "
0840	9.69	130	5.14	0.460	135	0.80	15.12	93	0.02	Slightly cloudy
0845	9.69	130	5.17	0.461	97.9	0.79	15.14	90	0.02	V. slightly cloudy
0850	9.69	130	5.18	0.464	83.8	0.80	15.14	88	0.02	" "
0855	9.69	130	5.20	0.461	57.3	0.78	15.14	86	0.02	" "
0900	9.69	130	5.21	0.460	48.8	0.80	15.13	84	0.02	" "
0905	9.69	130	5.23	0.459	45.3	0.79	15.14	82	0.02	" "
0910	9.69	130	5.24	0.458	41.7	0.81	15.15	80	0.02	" "
0915	9.69	130	5.24	0.457	43.2	0.79	15.15	79	0.02	" "

SIGNATURE(S): Walter Rue

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Martin State Airport
Project No.: # 5794-022

Sample ID No.: MW3-092404
Sample Location: MW3
Sampled By: WP/DW
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

SAMPLING DATA:

Date: 9-24-04	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	~~ORP~~
Time: 1015	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	ORP
Method: Bladder pump	Clear	6.02	0.234	17.90	1.53	0.58	0.01	13

PURGE DATA:

Date: 9-24-04	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Bladder pump								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material Type: 4" PVC		See Low Flow Page						
Total Well Depth (TD): 29.46								
Static Water Level (WL): 8.55		Data		Sheet				
One Casing Volume(gal/L): 13.33								
Start Purge (hrs): 0918								
End Purge (hrs): 1010								
Total Purge Time (min): 52								
Total Vol. Purged (gal/L): 2.0								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl 4°C	2 - 40ml VOA	✓
Total P.P. Metals	HNO3 4°C	1 250ml Poly	✓
Dissolved P.P. metals	HNO3 4°C	1 250ml Poly	✓
Ferric Iron	HCl 4°C	2 40ml VOA	✓
Ethene, Ethane	HCl 4°C	2 40ml VOA	✓
Nitrate & Sulfate	— 4°C	1 250ml Poly	✓
Perchlorate	— 4°C	1 250ml Poly	✓

OBSERVATIONS / NOTES:

29.46 − 8.55 = 20.91

20.91 × .65 = 13.3315

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Walter

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Martin State Airport
PROJECT NUMBER: W5784-0002

WELL ID.: MW3-092404
DATE: 9-24-04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0918	8.95	—	—	—	1.04	—	—	—	—	Initial
0920	9.35	320	5.78	0.235	~~320~~	5.92	16.13	83	0.01	Clear water
0925	9.60	100	5.69	0.245	0.02	1.21	16.40	57	0.01	" "
0930	9.65	120	5.80	0.243	1.16	0.93	17.09	38	0.01	" "
0935	9.66	120	5.90	0.242	0.77	0.78	17.31	26	0.01	" "
0940	9.68	120	5.96	0.239	0.69	0.69	17.38	19	0.01	" "
0945	9.70	120	5.98	0.238	2.15	0.64	17.37	15	0.01	" "
0950	9.70	120	6.00	0.237	0.76	0.62	17.29	13	0.01	" "
0955	9.70	120	6.02	0.235	2.21	0.56	17.36	10	0.01	" "
1000	9.70	120	6.02	0.236	0.94	0.57	17.38	11	0.01	" "
1005	9.70	120	6.02	0.237	1.60	0.57	17.35	11	0.01	" "
1010	9.70	120	6.02	0.238	1.59	0.58	17.40	13	0.01	" "

SIGNATURE(S): [signature]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Martin State Aicpark
Project No.: N5784-0000

Sample ID No.: MW 5-092404
Sample Location: MW 5
Sampled By: LP / DW
C.O.C. No.:

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 9-24-04 / Time: 0840 / Method: Bladder pump	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	~~Other~~ ORP
	Clear	4.92	6.46	14.26	25.3	19.99	0.34	136

PURGE DATA:

Date: 9-24	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Bladder pump								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material Type: 4" PVC		See Low Flow Purge Data Sheet						
Total Well Depth (TD): 46.86								
Static Water Level (WL): 20.30								
One Casing Volume(gal/L): 17.26								
Start Purge (hrs): 0742								
End Purge (hrs): 0835								
Total Purge Time (min): 53								
Total Vol. Purged (gal): 4.0								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	2 - 40ml VOA	✓
Total P.P. Metals	HNO_3	1 - 250ml Poly	✓
Dissolved P.P. metals	HNO_3	1 - 250 ml Poly	✓
Ferric Iron	HCl	2 - 40ml VOA	✓
Ethene, Ethane	HCl	2 - 40ml VOA	✓
Nitrate & Sulfate	—	1 - 250ml Poly	✓
Perchlorate	—	1 - 250ml Poly	✓

OBSERVATIONS / NOTES:

46.86 − 20.30 = 26.56

26.56 × .65 = 17.264

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

Walter

LOW FLOW PURGE DATA SHEET

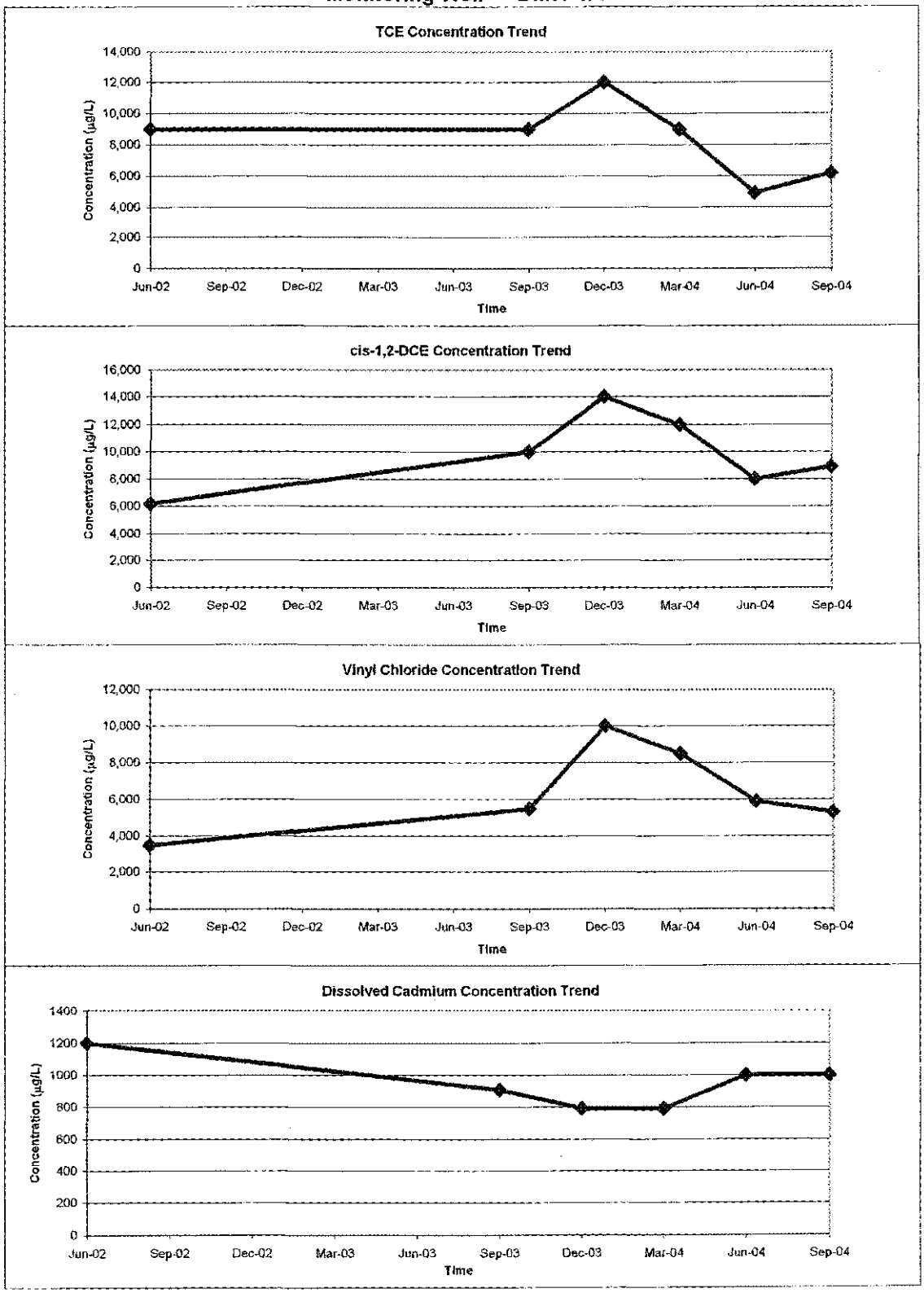
PROJECT SITE NAME: Martin State Airport
PROJECT NUMBER: N5784 - 0000

WELL ID.: MW5-092404
DATE: 9-24-04

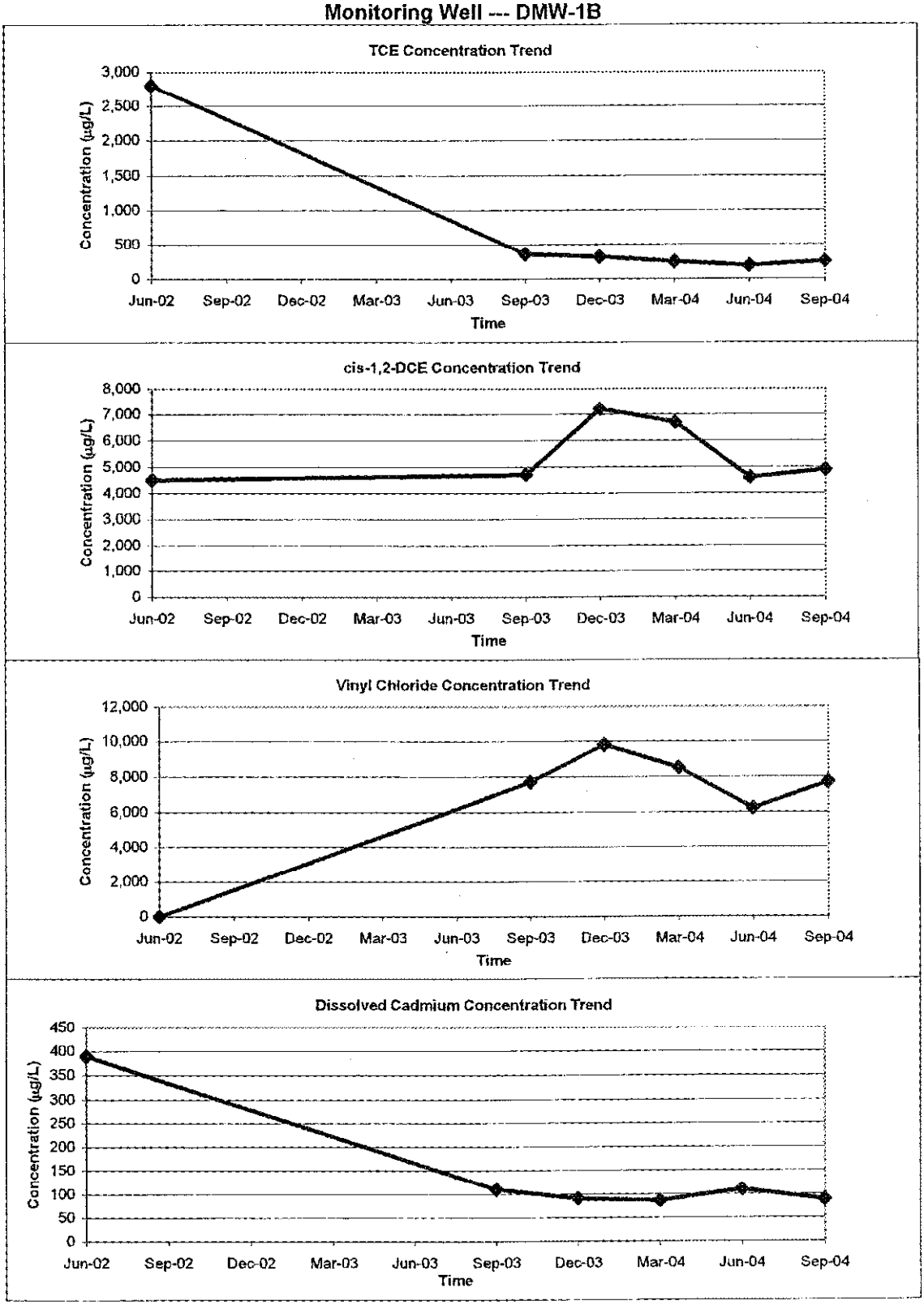
Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0742	20.30	—	—	—	—	—	—	—	—	Initial
0745	21.80	600	4.67	6.88	90.6	2.57	13.55	195	0.36	Slightly cloudy
0750	22.02	170	4.83	6.58	164	1.29	13.79	171	0.35	" "
0755	22.02	170	4.87	6.54	149	4.30	14.01	158	0.35	" "
0800	22.02	170	4.90	6.52	112	10.12	14.04	151	0.35	" "
0805	22.02	170	4.91	6.49	64.8	15.31	14.07	146	0.34	" "
0810	22.02	170	4.92	6.47	38.7	18.60	14.09	143	0.34	" "
0815	22.02	170	4.92	6.47	28.0	19.89	14.14	141	0.34	Clear water
0820	22.02	170	4.92	6.46	20.5	19.89	14.18	139	0.34	Slightly cloudy
0825	22.02	170	4.93	6.46	27.3	19.89	14.21	138	0.34	Clear water
0830	22.02	170	4.92	6.46	24.0	19.55	14.24	137	0.34	" "
0835	22.02	170	4.92	6.46	25.3	19.59	14.26	136	0.34	" "

SIGNATURE(S): Walter K

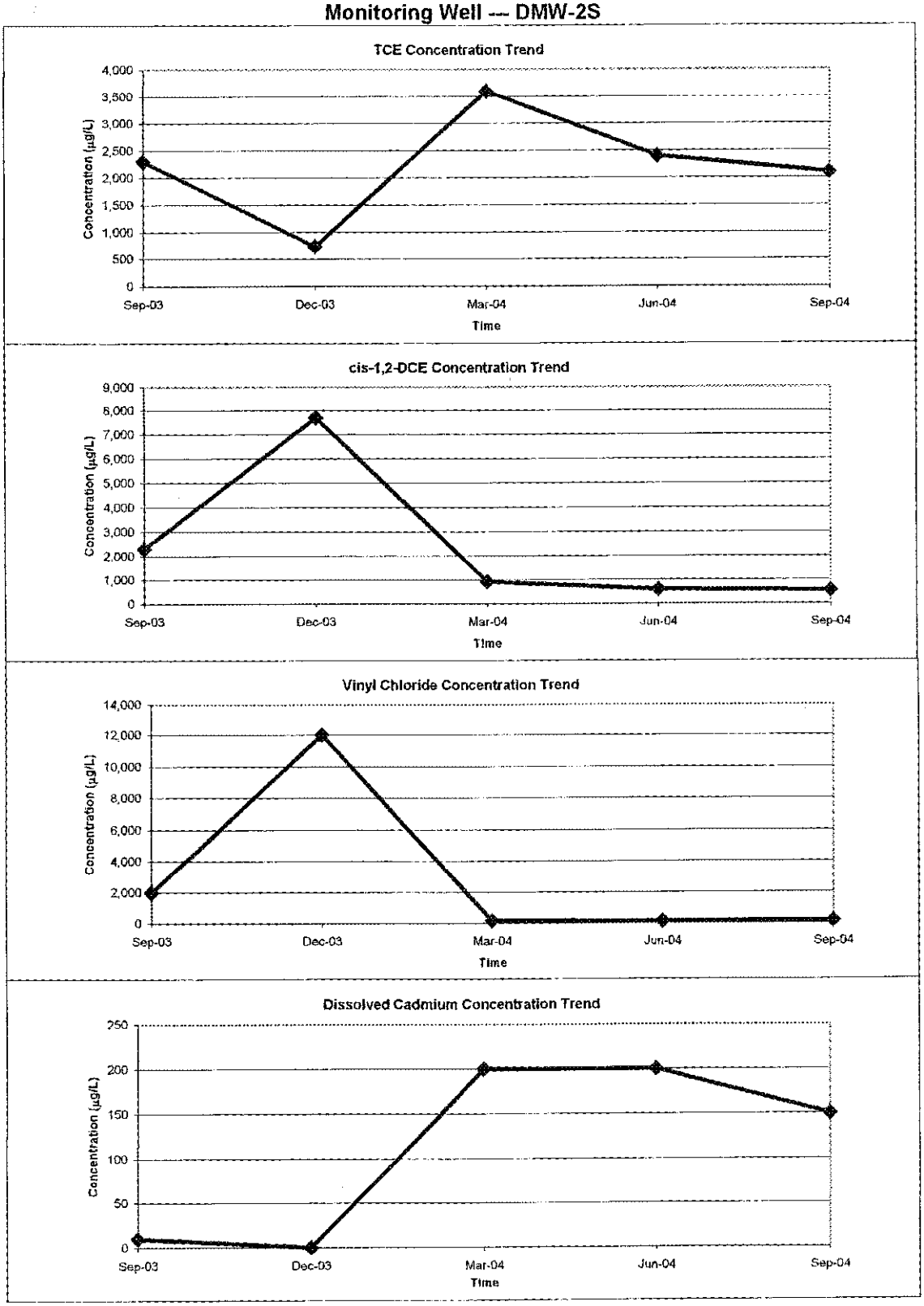
Monitoring Well --- DMW-1A



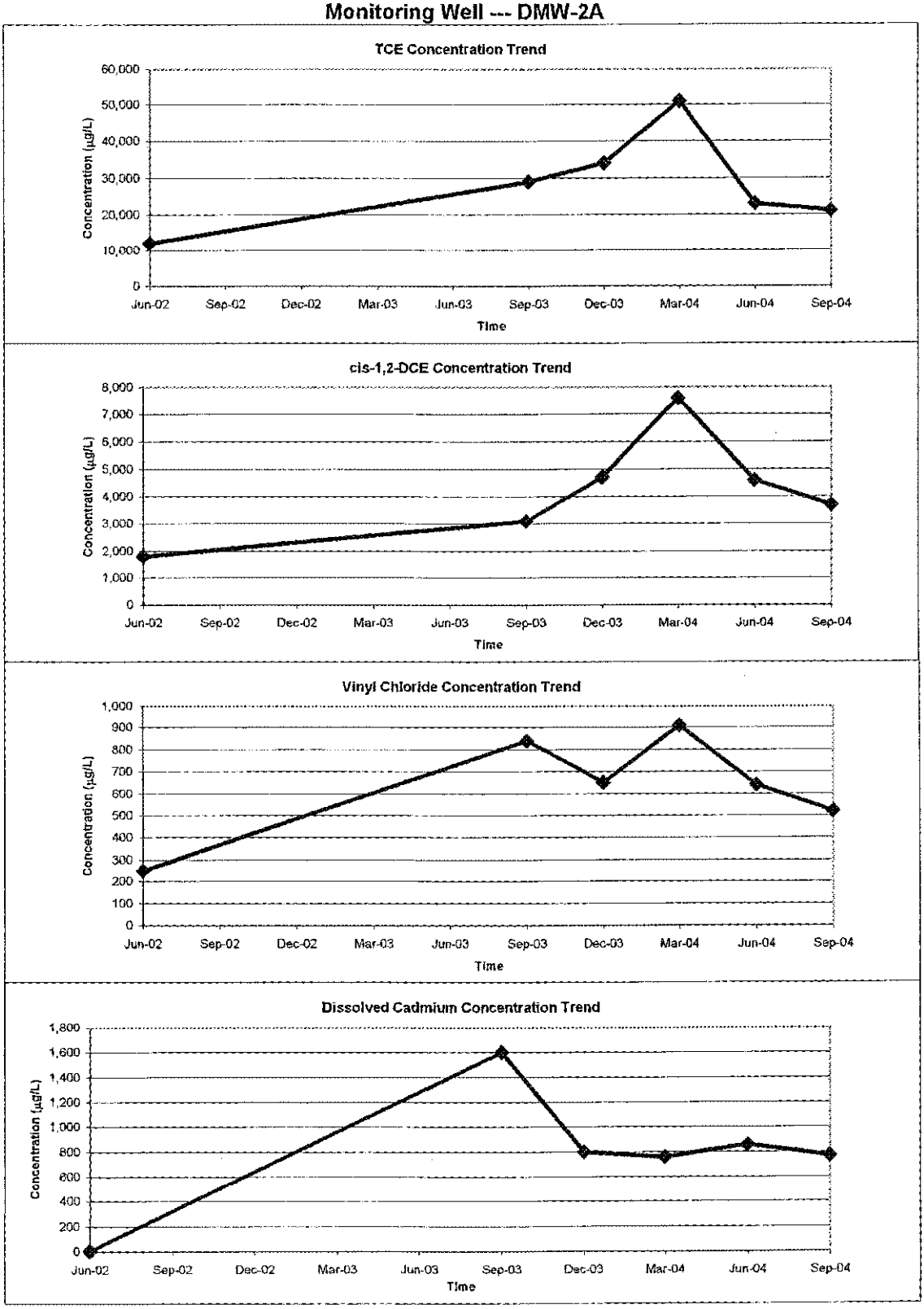
Monitoring Well --- DMW-1B



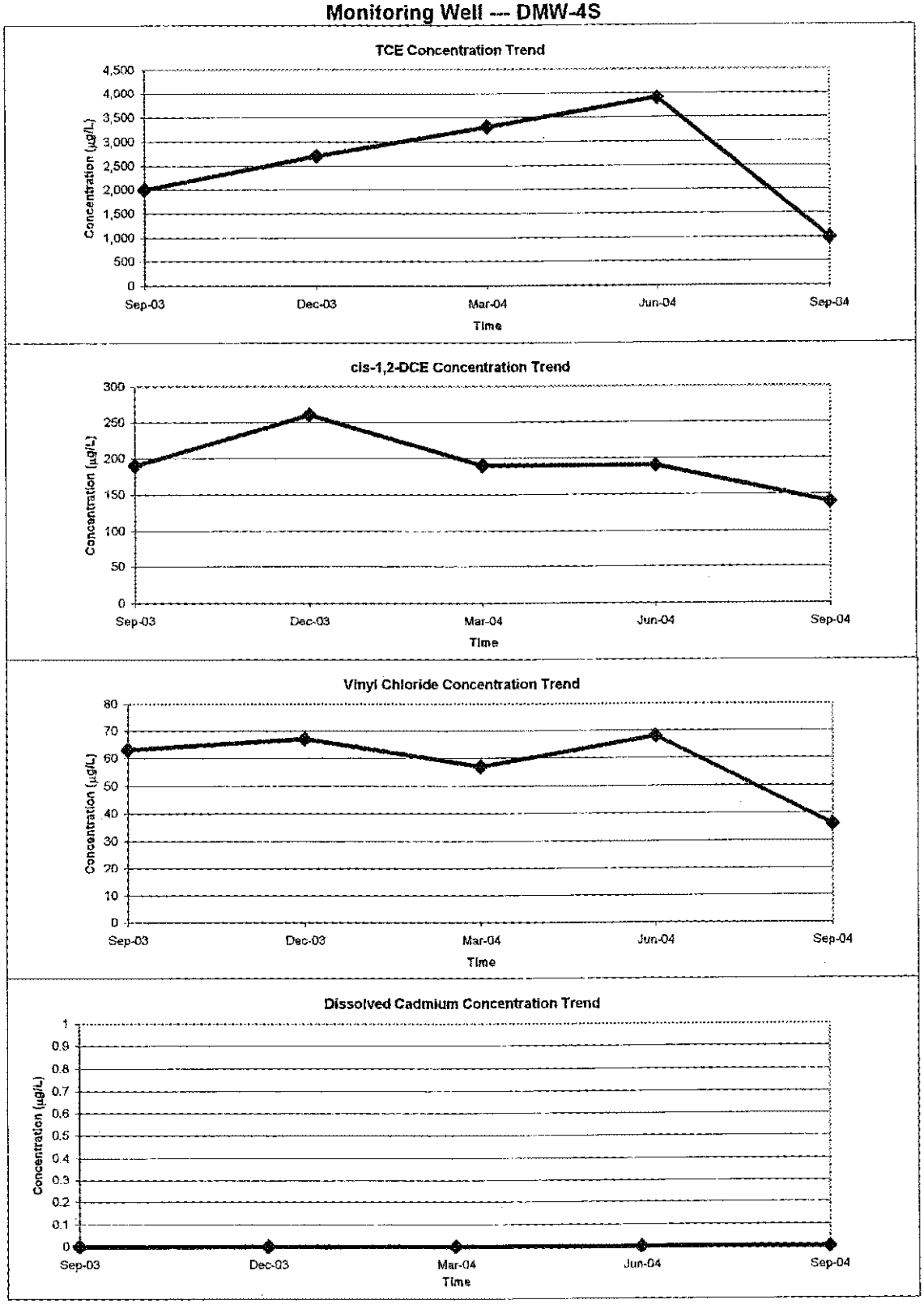
Monitoring Well --- DMW-2S



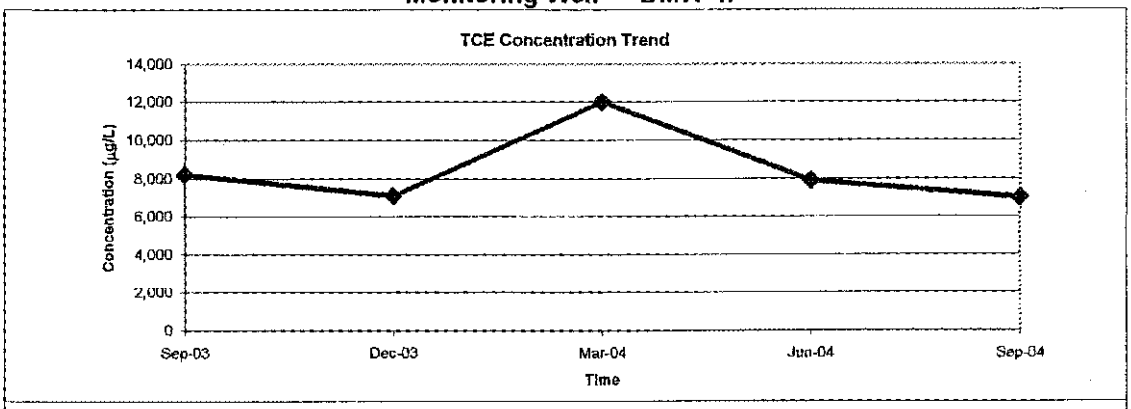
Monitoring Well --- DMW-2A

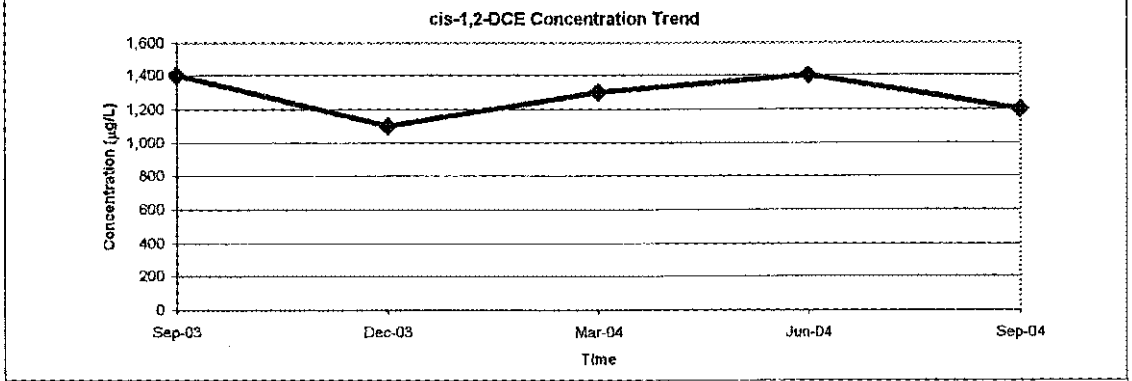


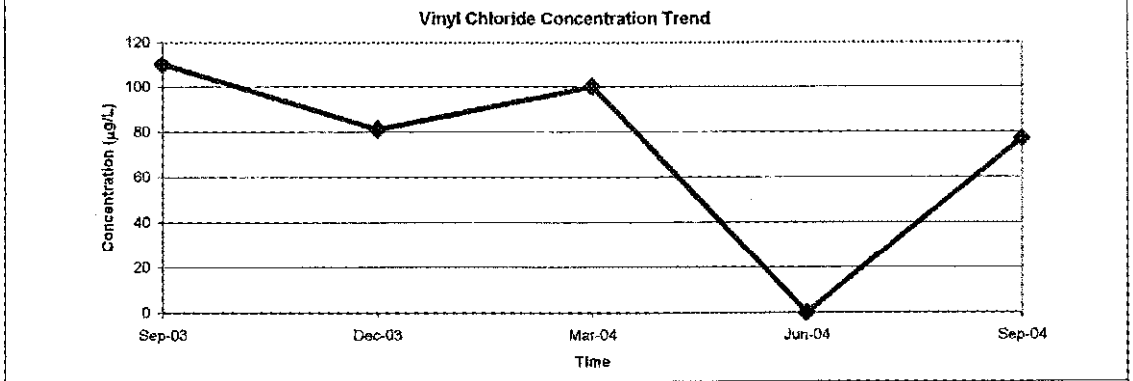
Monitoring Well --- DMW-4S

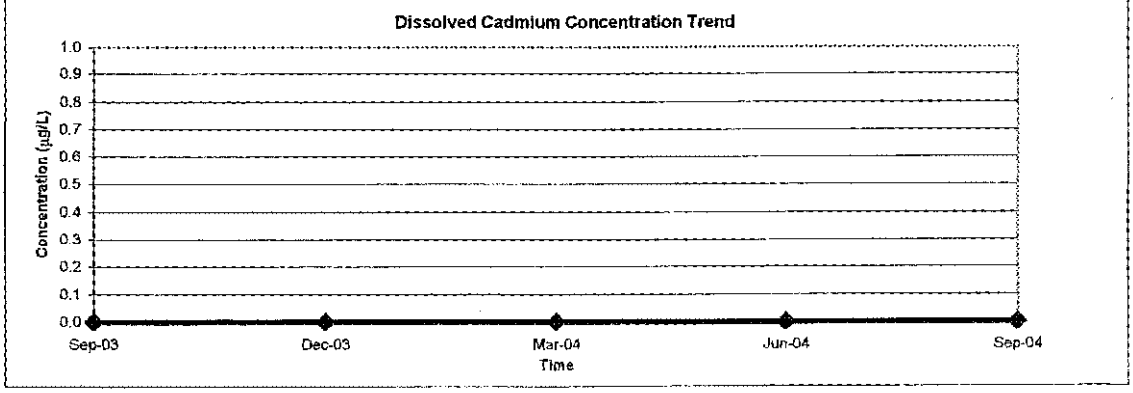


Monitoring Well --- DMW-4I

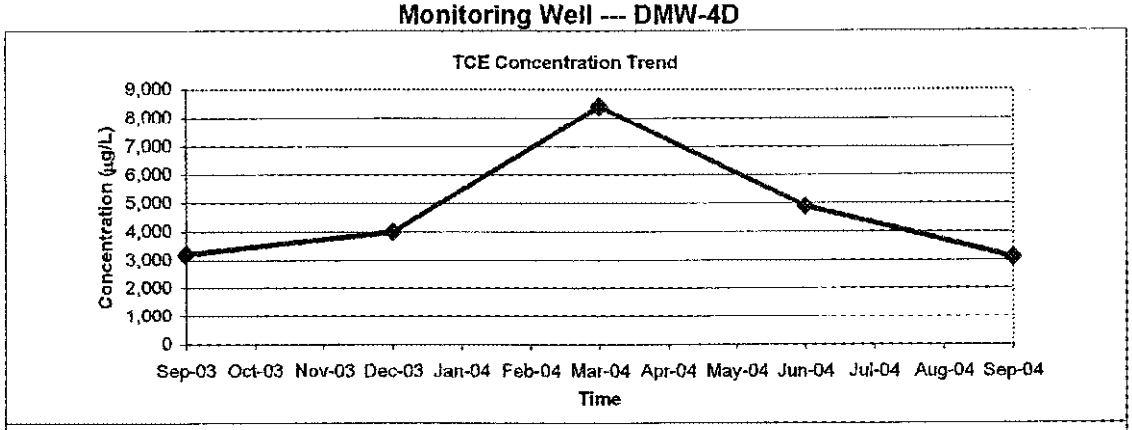


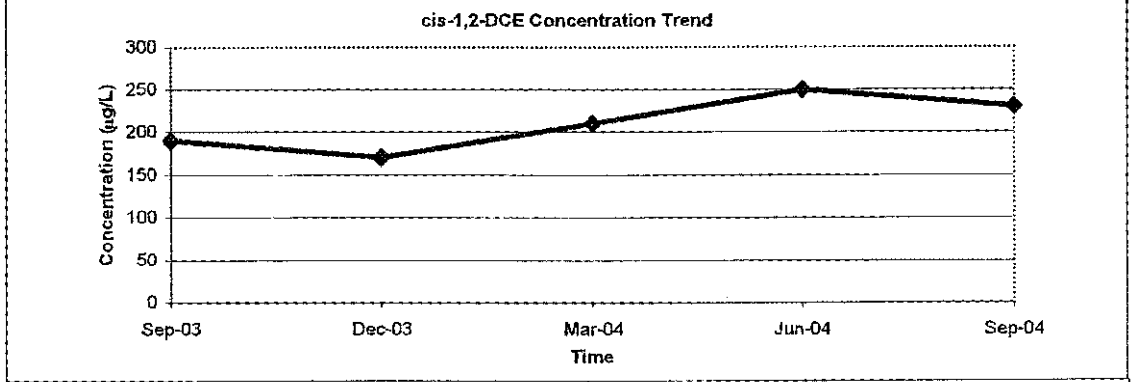


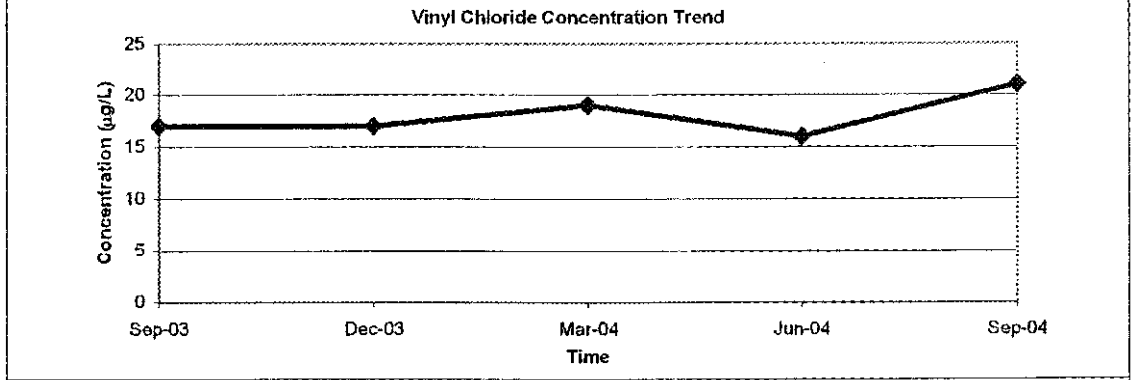


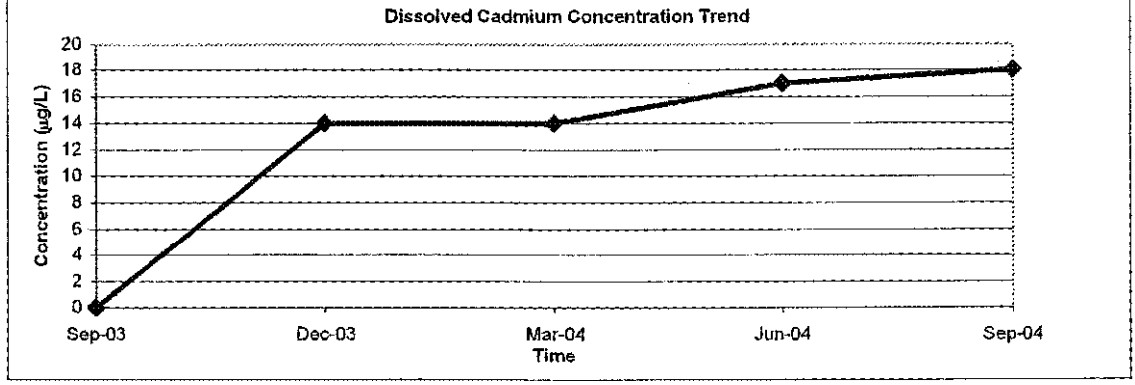


Monitoring Well --- DMW-4D

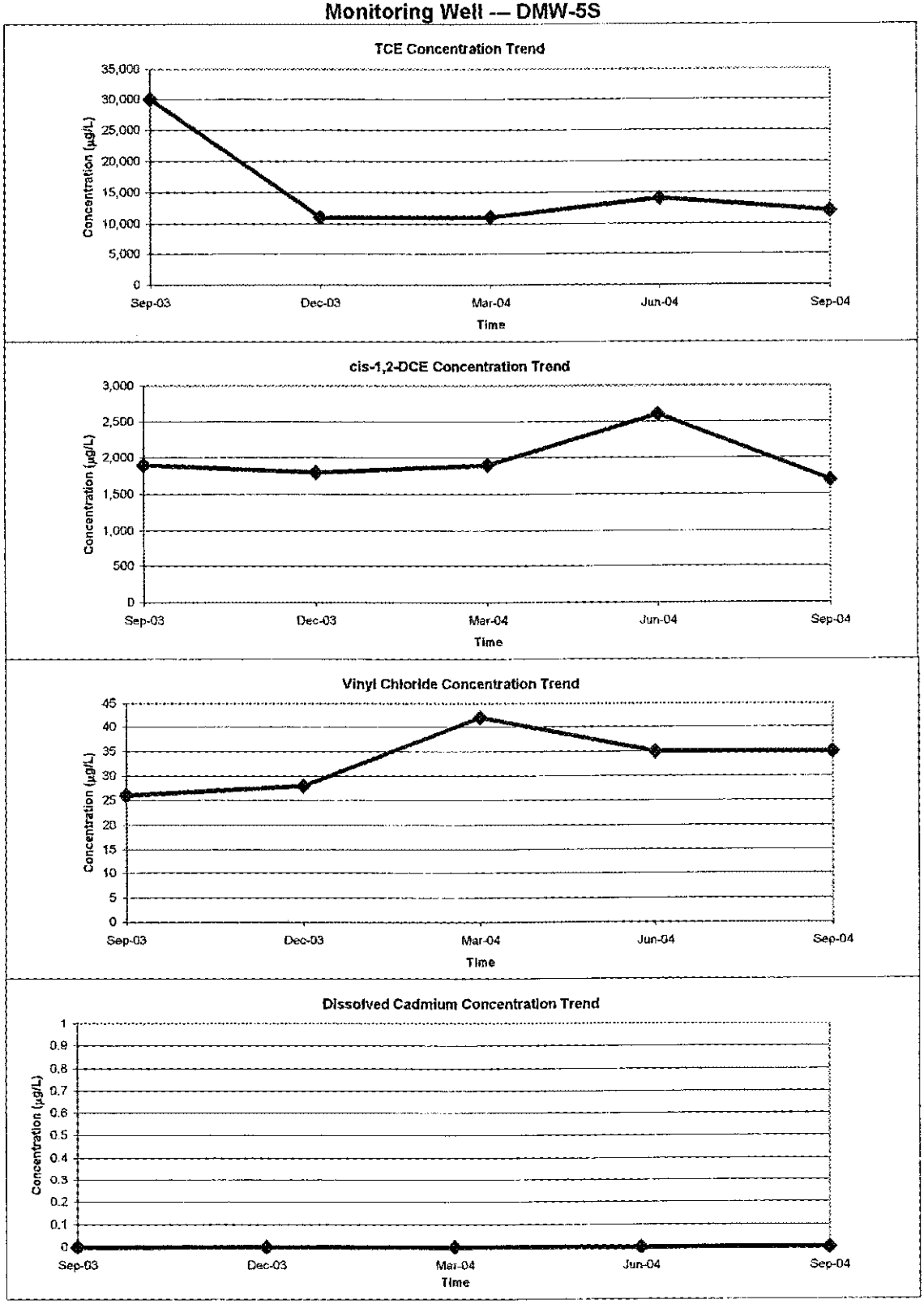




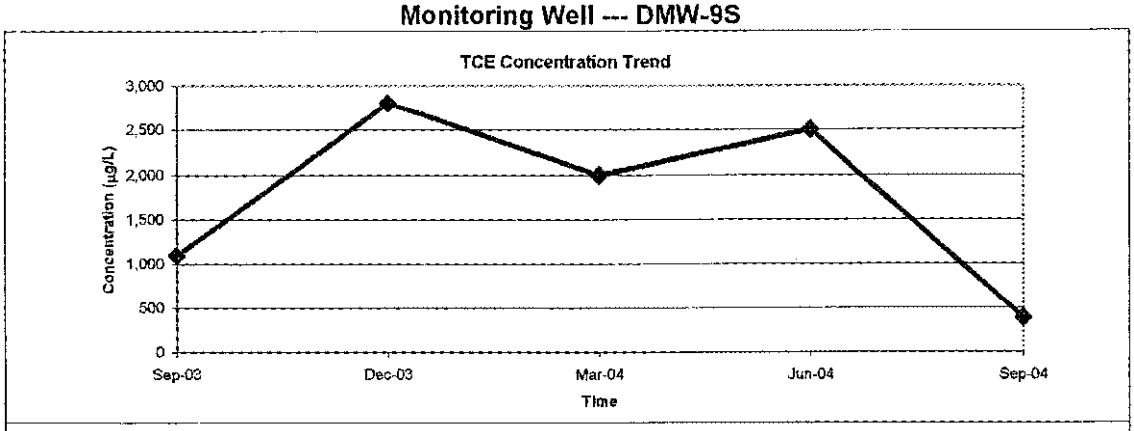


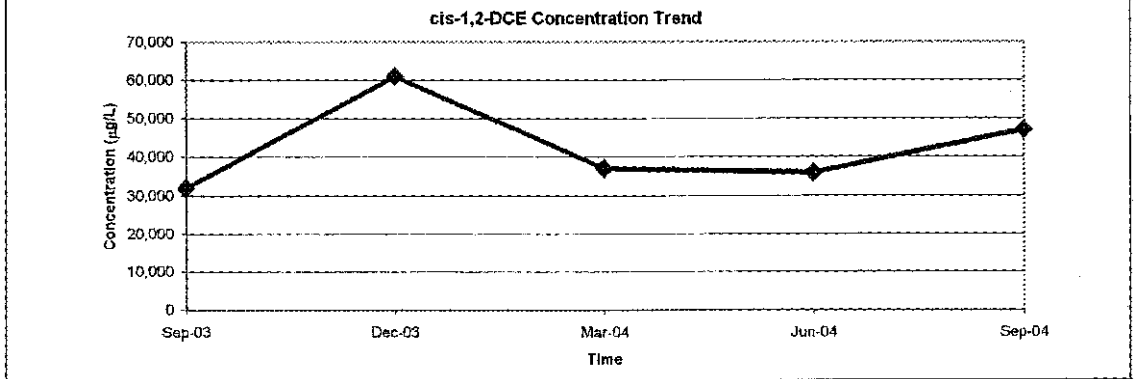


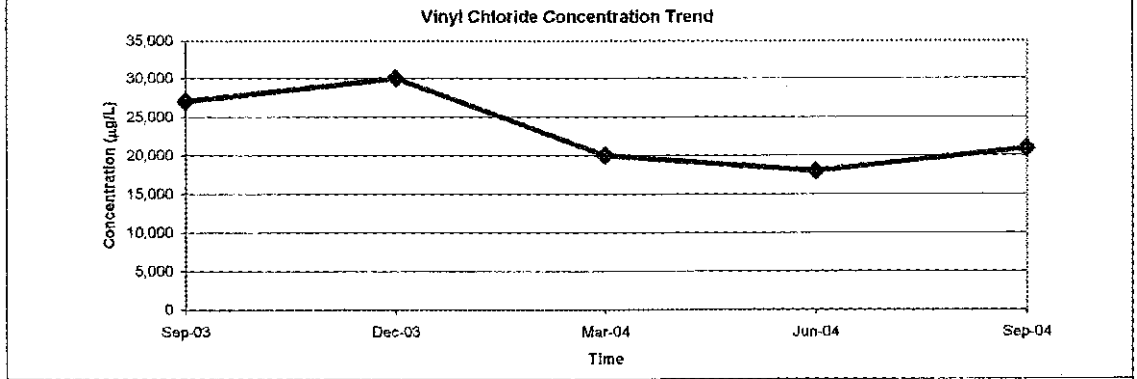
Monitoring Well — DMW-5S

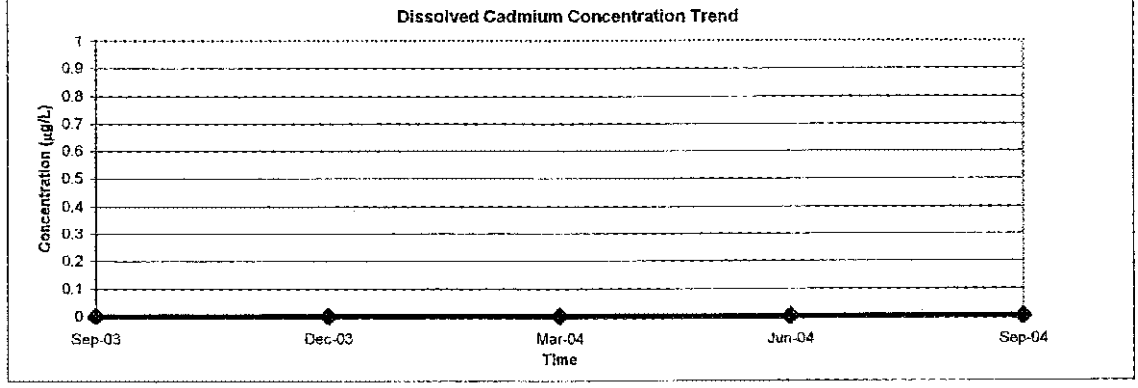


Monitoring Well --- DMW-9S

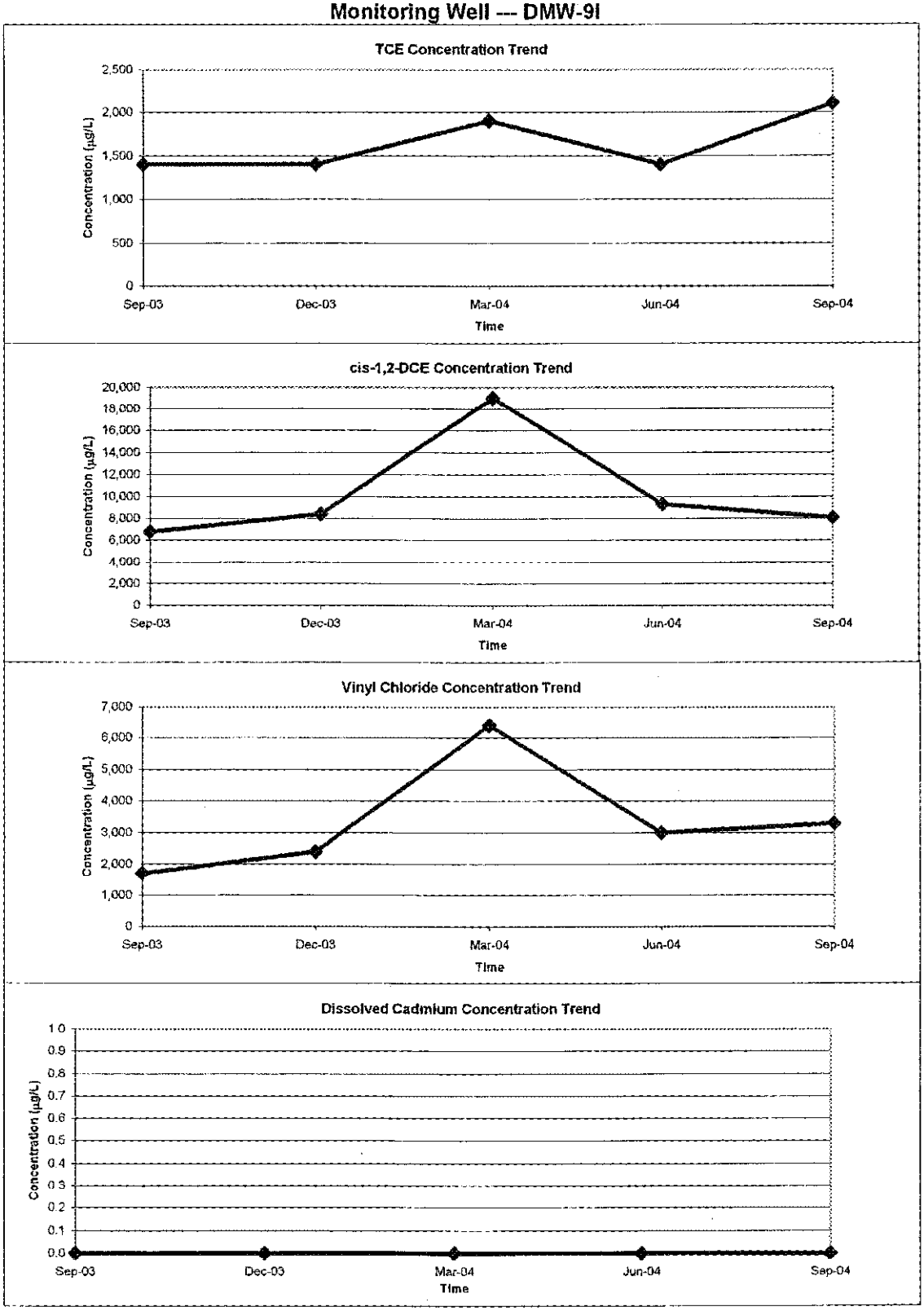




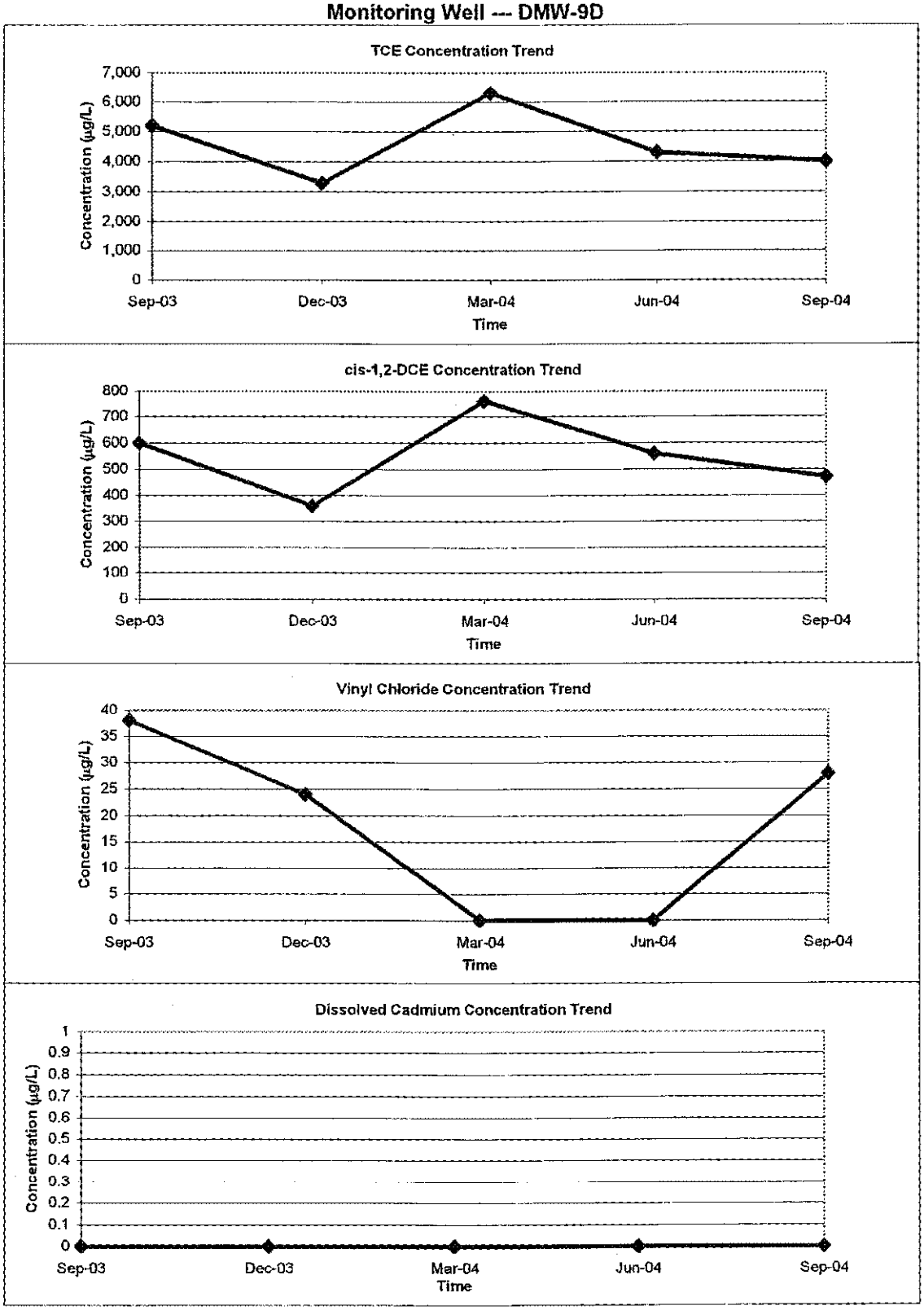




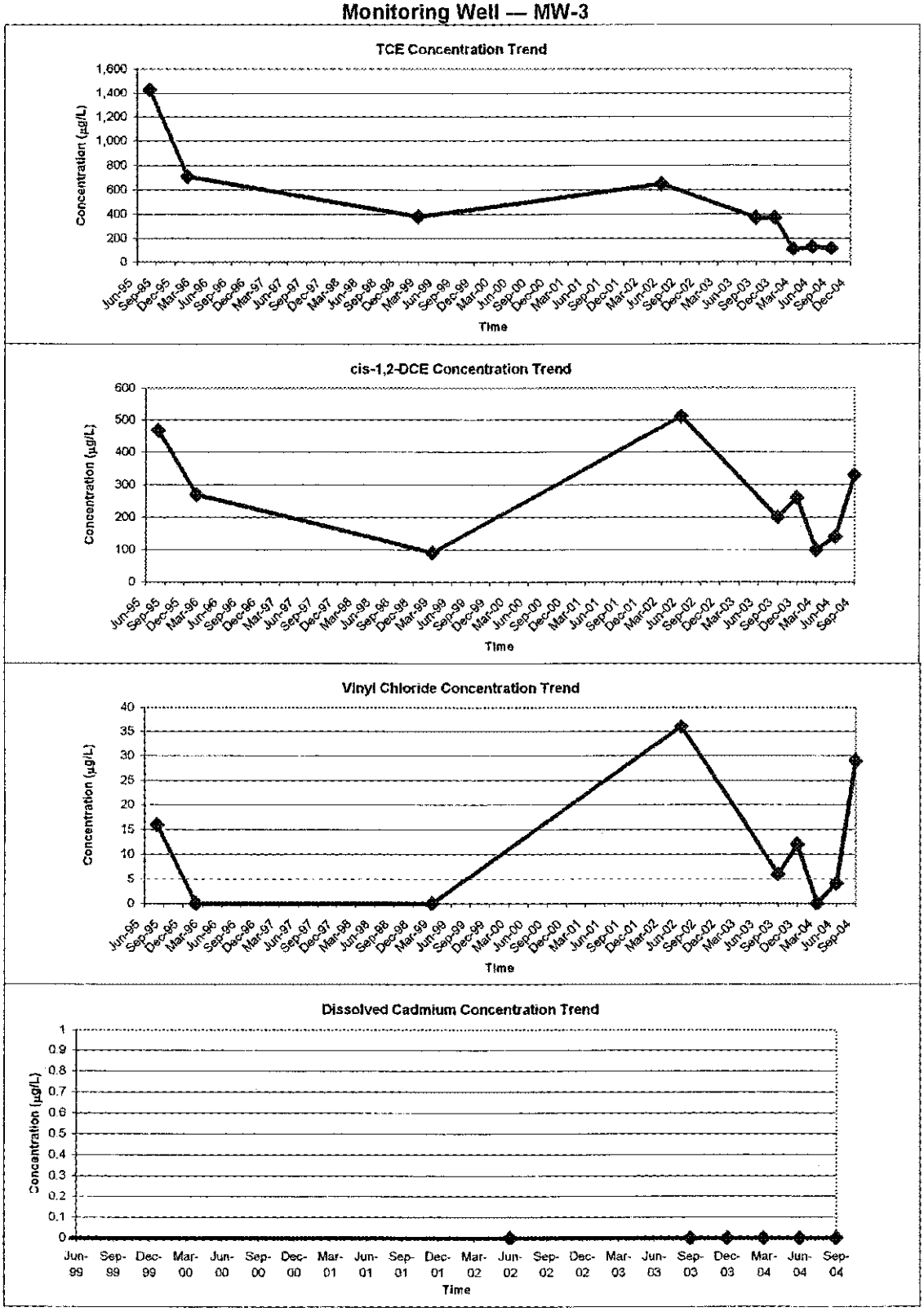
Monitoring Well --- DMW-9I



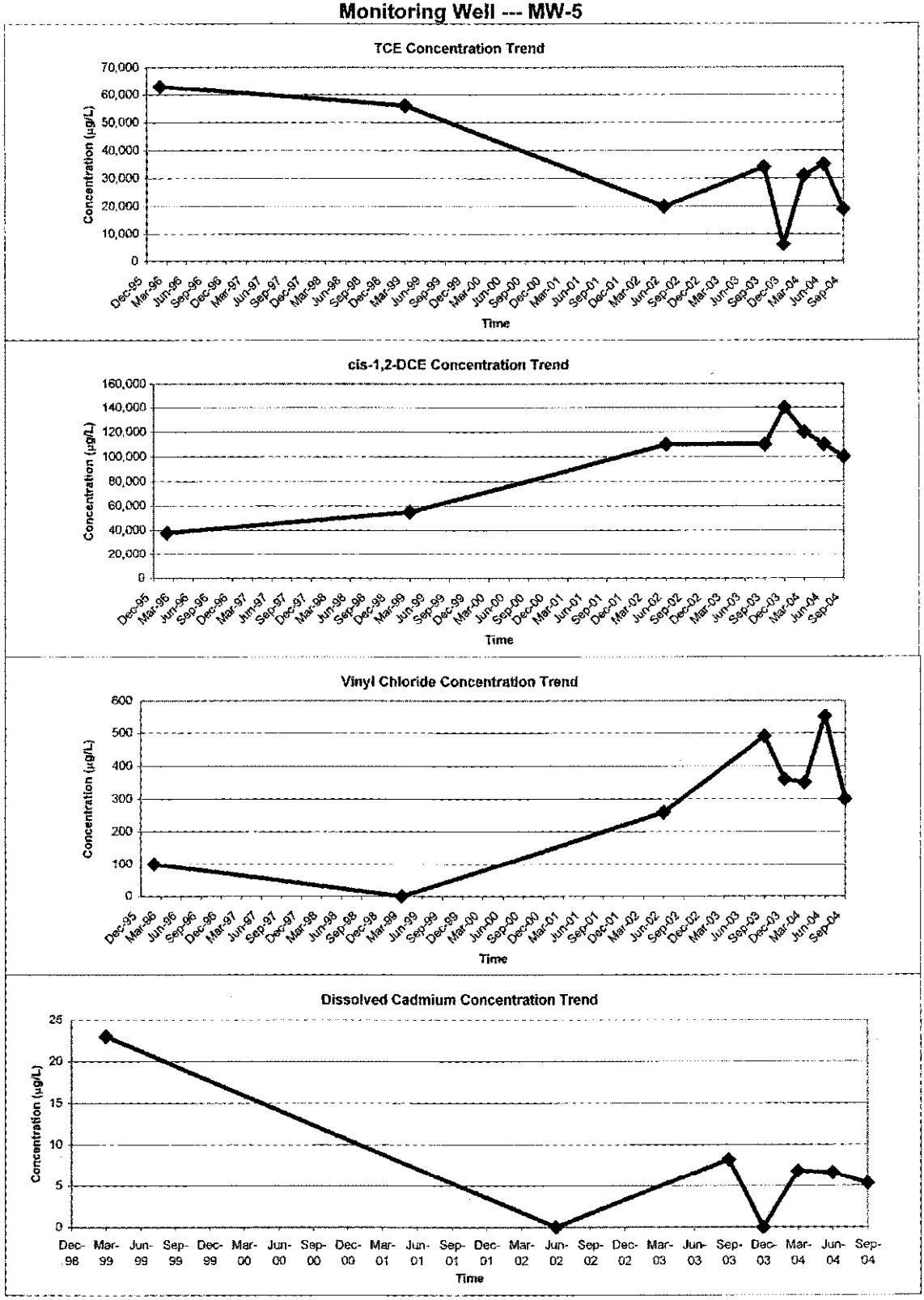
Monitoring Well --- DMW-9D



Monitoring Well — MW-3



Monitoring Well --- MW-5



MD-304

VOLUME II OF II

FINAL
SEPTEMBER 2004
QUARTERLY GROUNDWATER MONITORING REPORT
Martin State Airport: Middle River, Maryland



LOCKHEED MARTIN

Tetra Tech
Environmental Engineers & Scientists
TC#10825-20/November 2004

APPENDIX E
LAB ANALYTICAL
DATA REPORTS

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

LABORATORY RESULTS

DATE RECEIVED: September 22, 2004

PROJECT: Martin State Airport- Quarterly Sampling

Project #: N5784-0000

CERTIFICATE OF ANALYSIS #: *04092217*

PREPARED FOR:

Tetra Tech, Inc.
10670 White Rock Rd., Ste. 100
Rancho Cordova, CA 95670

October 19, 2004

6630 Baltimore National Pike Baltimore, Maryland 21228 (410) 747-8770 (800) 932-9047 fax (410) 788-8723

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
www.phaseonline.com

PHASE SEPARATION SCIENCE, INC.

ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE

CERTIFICATE OF ANALYSIS
No. 04092217 Page 1 of 18
Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 9D-092204 / 04092217-01						
Dissolved Gases in Water						
Ethane	ND	mg/L	SM6211B/EPA8015	0.012		09/23/04
Ethene	ND	mg/L	SM6211B/EPA8015	0.012		09/23/04
Ferric Iron						
Iron (Fe3+)	ND	mg/L	Mod_7199	1		09/24/04
Nitrate Nitrogen						
Nitrate	ND	mg/L	EPA 300.0	0.2		09/23/04
Perchlorate						
Perchlorate	ND	ug/L	EPA 314.0	4	09/28/04	09/28/04
Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Arsenic	**6.2**	ug/L	EPA 6020	5	09/23/04	09/23/04
Beryllium	ND	ug/L	EPA 6020	4	09/23/04	09/23/04
Cadmium	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Chromium	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Copper	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Lead	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Mercury	ND	ug/L	EPA 6020	1	09/23/04	09/23/04
Nickel	**36**	ug/L	EPA 6020	5	09/23/04	09/23/04
Selenium	**6.5**	ug/L	EPA 6020	5	09/23/04	09/23/04
Silver	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Thallium	ND	ug/L	EPA 6020	2	09/23/04	09/23/04
Zinc	**51**	ug/L	EPA 6020	50	09/23/04	09/23/04
Total Sulfate						
Sulfate	**96**	mg/L	EPA 300.0	1		09/24/04
Volatile Organic Compounds						
Benzene	**16**	ug/L	EPA 8260B	1		10/05/04
Bromobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Bromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromodichloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromoform	ND	ug/L	EPA 8260B	1		10/05/04
Bromomethane	ND	ug/L	EPA 8260B	1		10/05/04
n-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1		10/05/04
sec-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04

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CERTIFICATE OF ANALYSIS
No. 04092217 Page 2 of 18
Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 9D-092204 / 04092217-01						
Volatile Organic Compounds						
tert-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Carbon tetrachloride	ND	ug/L	EPA 8260B	1		10/05/04
Chlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Chloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Chloroform	340	ug/L	EPA 8260B	20		10/06/04
Chloromethane	ND	ug/L	EPA 8260B	1		10/05/04
2-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
4-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
Dibromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1		10/05/04
Dibromomethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Dichlorodifluoromethane	8	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloroethane	15	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethene	ND	ug/L	EPA 8260B	1		10/05/04
cis-1,2-Dichloroethene	470	ug/L	EPA 8260B	20		10/06/04
trans-1,2-Dichloroethene	7	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
2,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Ethylbenzene	4	ug/L	EPA 8260B	1		10/05/04
Isopropylbenzene	2	ug/L	EPA 8260B	1		10/05/04
p-Isopropyltoluene	ND	ug/L	EPA 8260B	1		10/05/04
Methylene chloride	b 45	ug/L	EPA 8260B	1		10/05/04
Naphthalene	3	ug/L	EPA 8260B	1		10/05/04
n-Propylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Styrene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 9D-092204 / 04092217-01						
Volatile Organic Compounds						
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Tetrachloroethene	1	ug/L	EPA 8260B	1		10/05/04
Toluene	3	ug/L	EPA 8260B	1		10/05/04
1,2,3-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichloroethane	21	ug/L	EPA 8260B	1		10/05/04
Trichloroethene	4,000	ug/L	EPA 8260B	20		10/06/04
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trimethylbenzene	6	ug/L	EPA 8260B	1		10/05/04
1,3,5-Trimethylbenzene	5	ug/L	EPA 8260B	1		10/05/04
Vinyl chloride	28	ug/L	EPA 8260B	1		10/05/04
m&p-Xylene	14	ug/L	EPA 8260B	3		10/05/04
o-Xylene	11	ug/L	EPA 8260B	3		10/05/04
Methyl-t-butyl ether	ND	ug/L	EPA 8260B	1		10/05/04
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10		10/05/04
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10		10/05/04
4-Methyl-2-Pentanone (MIBK)	j 3	ug/L	EPA 8260B	10		10/05/04
Acetone	ND	ug/L	EPA 8260B	10		10/05/04
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5		10/05/04
Carbon disulfide	ND	ug/L	EPA 8260B	1		10/05/04
Vinyl acetate	ND	ug/L	EPA 8260B	1		10/05/04
2-Chloroethylvinyl ether	ND	ug/L	EPA 8260B	1		10/05/04
Cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04

Reviewed By:
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 9D-092204 (dissolved) / 04092217-02						
Dissolved Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Arsenic	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Beryllium	ND	ug/L	EPA 6020	4	09/24/04	09/24/04
Cadmium	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Chromium	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Copper	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Lead	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Mercury	ND	ug/L	EPA 6020	1	09/24/04	09/24/04
Nickel	35	ug/L	EPA 6020	5	09/24/04	09/24/04
Selenium	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Silver	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Thallium	ND	ug/L	EPA 6020	2	09/24/04	09/24/04
Zinc	61	ug/L	EPA 6020	50	09/24/04	09/24/04

Reviewed By: _____
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

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No. 04092217 Page 5 of 18
Tetra Tech, Inc.
October 19, 2004 (revised 11/23/04)

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID DMW 9I-092204 / 04092217-03						
Dissolved Gases in Water						
Ethane	**0.012**	mg/L	SM6211B/EPA8015	0.011		09/23/04
Ethene	**0.183**	mg/L	SM6211B/EPA8015	0.011		09/23/04
Ferric Iron						
Iron (Fe3+)	ND	mg/L	Mod_7199	1		09/24/04
Nitrate Nitrogen						
Nitrate	ND	mg/L	EPA 300.0	0.2		09/23/04
Perchlorate						
Perchlorate	ND	ug/L	EPA 314.0	4	09/28/04	09/28/04
Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Arsenic	**6.7**	ug/L	EPA 6020	5	09/23/04	09/23/04
Beryllium	ND	ug/L	EPA 6020	4	09/23/04	09/23/04
Cadmium	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Chromium	**16**	ug/L	EPA 6020	5	09/23/04	09/23/04
Copper	**27**	ug/L	EPA 6020	5	09/23/04	09/23/04
Lead	**31**	ug/L	EPA 6020	5	09/23/04	09/23/04
Mercury	ND	ug/L	EPA 6020	1	09/23/04	09/23/04
Nickel	**12**	ug/L	EPA 6020	5	09/23/04	09/23/04
Selenium	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Silver	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Thallium	ND	ug/L	EPA 6020	2	09/23/04	09/23/04
Zinc	**170**	ug/L	EPA 6020	50	09/23/04	09/23/04
Total Sulfate						
Sulfate	**225**	mg/L	EPA 300.0	1		09/24/04
Volatile Organic Compounds						
Benzene	**62**	ug/L	EPA 8260B	1		10/05/04
Bromobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Bromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromodichloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromoform	ND	ug/L	EPA 8260B	1		10/05/04
Bromomethane	ND	ug/L	EPA 8260B	1		10/05/04
n-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1		10/05/04
sec-Butylbenzene	**2**	ug/L	EPA 8260B	1		10/05/04

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 9I-092204 / 04092217-03						
Volatile Organic Compounds						
tert-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Carbon tetrachloride	**36**	ug/L	EPA 8260B	1		10/05/04
Chlorobenzene	**34**	ug/L	EPA 8260B	1		10/05/04
Chloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Chloroform	**69**	ug/L	EPA 8260B	1		10/05/04
Chloromethane	ND	ug/L	EPA 8260B	1		10/05/04
2-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
4-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
Dibromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1		10/05/04
Dibromomethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Dichlorodifluoromethane	**7**	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloroethane	**15**	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethene	**42**	ug/L	EPA 8260B	1		10/05/04
cis-1,2-Dichloroethene	**8,100**	ug/L	EPA 8260B	100		10/06/04
trans-1,2-Dichloroethene	**38**	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
2,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Ethylbenzene	**75**	ug/L	EPA 8260B	1		10/05/04
Isopropylbenzene	**7**	ug/L	EPA 8260B	1		10/05/04
p-Isopropyltoluene	ND	ug/L	EPA 8260B	1		10/05/04
Methylene chloride	**b 13**	ug/L	EPA 8260B	1		10/05/04
Naphthalene	**8**	ug/L	EPA 8260B	1		10/05/04
n-Propylbenzene	**4**	ug/L	EPA 8260B	1		10/05/04
Styrene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04

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No. 04092217 Page 7 of 18
Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/22/04
Date Received: 09/22/04

Sample ID: DMW 9I-092204 / 04092217-03

	Result	Unit	Method	PQL	Prepared	Analyzed
Volatile Organic Compounds						
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Tetrachloroethene	1	ug/L	EPA 8260B	1		10/05/04
Toluene	37	ug/L	EPA 8260B	1		10/05/04
1,2,3-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichloroethane	7	ug/L	EPA 8260B	1		10/05/04
Trichloroethene	2,100	ug/L	EPA 8260B	100		10/06/04
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trimethylbenzene	47	ug/L	EPA 8260B	1		10/05/04
1,3,5-Trimethylbenzene	14	ug/L	EPA 8260B	1		10/05/04
Vinyl chloride	3,300	ug/L	EPA 8260B	100		10/06/04
m&p-Xylene	59	ug/L	EPA 8260B	3		10/05/04
o-Xylene	18	ug/L	EPA 8260B	3		10/05/04
Methyl-t-butyl ether	ND	ug/L	EPA 8260B	1		10/05/04
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10		10/05/04
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10		10/05/04
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10		10/05/04
Acetone	ND	ug/L	EPA 8260B	10		10/05/04
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5		10/05/04
Carbon disulfide	ND	ug/L	EPA 8260B	1		10/05/04
Vinyl acetate	ND	ug/L	EPA 8260B	1		10/05/04
2-Chloroethylvinyl ether	ND	ug/L	EPA 8260B	1		10/05/04
Cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04

Reviewed By: _____
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 9I-092204 (dissolved) / 04092217-04						
Dissolved Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Arsenic	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Beryllium	ND	ug/L	EPA 6020	4	09/24/04	09/24/04
Cadmium	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Chromium	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Copper	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Lead	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Mercury	ND	ug/L	EPA 6020	1	09/24/04	09/24/04
Nickel	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Selenium	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Silver	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Thallium	ND	ug/L	EPA 6020	2	09/24/04	09/24/04
Zinc	ND	ug/L	EPA 6020	50	09/24/04	09/24/04

Reviewed By: Matt Calice
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 9S-092204 / 04092217-05						
Dissolved Gases in Water						
Ethane	0.051	mg/L	SM6211B/EPA8015	0.011		09/23/04
Ethene	0.978	mg/L	SM6211B/EPA8015	0.011		09/23/04
Ferric Iron						
Iron (Fe3+)	1.10	mg/L	Mod_7199	1		09/24/04
Nitrate Nitrogen						
Nitrate	ND	mg/L	EPA 300.0	0.2		09/23/04
Perchlorate						
Perchlorate	ND	ug/L	EPA 314.0	40	10/05/04	10/05/04
Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Arsenic	5.0	ug/L	EPA 6020	5	09/23/04	09/23/04
Beryllium	ND	ug/L	EPA 6020	4	09/23/04	09/23/04
Cadmium	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Chromium	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Copper	5.3	ug/L	EPA 6020	5	09/23/04	09/23/04
Lead	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Mercury	ND	ug/L	EPA 6020	1	09/23/04	09/23/04
Nickel	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Selenium	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Silver	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Thallium	ND	ug/L	EPA 6020	2	09/23/04	09/23/04
Zinc	ND	ug/L	EPA 6020	50	09/23/04	09/23/04
Semi-Volatile Organic Compounds						
Phenol	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Bis (2-chloroethyl) ether	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
2-Chlorophenol	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
2-Methylphenol	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Bis (2-chloroisopropyl) ether	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Acetophenone	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
3,4-Methylphenol	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
N-Nitroso-di-n-propylamine	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Hexachloroethane	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Nitrobenzene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Isophorone	ND	ug/L	EPA 8270	10	09/29/04	10/06/04

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ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE

CERTIFICATE OF ANALYSIS
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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 9S-092204 / 04092217-05						
Semi-Volatile Organic Compounds						
2-Nitrophenol	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
2,4-Dimethylphenol	j 9	ug/L	EPA 8270	10	09/29/04	10/06/04
Bis (2-chloroethoxy) methane	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
2,4-Dichlorophenol	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Naphthalene	24	ug/L	EPA 8270	10	09/29/04	10/06/04
4-Chloroaniline	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Hexachlorobutadiene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Caprolactam	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
4-Chloro-3-methylphenol	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
2-Methylnaphthalene	j 2	ug/L	EPA 8270	10	09/29/04	10/06/04
Hexachlorocyclopentadiene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
2,4,6-Trichlorophenol	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
2,4,5-Trichlorophenol	ND	ug/L	EPA 8270	25	09/29/04	10/06/04
1,1-Biphenyl	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
2-Chloronaphthalene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
2-Nitroaniline	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Dimethyl phthalate	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
2,6-Dinitrotoluene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Acenaphthylene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
3-Nitroaniline	ND	ug/L	EPA 8270	25	09/29/04	10/06/04
Acenaphthene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
2,4-Dinitrophenol	ND	ug/L	EPA 8270	25	09/29/04	10/06/04
4-Nitrophenol	ND	ug/L	EPA 8270	25	09/29/04	10/06/04
Dibenzofuran	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
2,4-Dinitrotoluene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Diethyl phthalate	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Fluorene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
4-Chlorophenyl phenyl ether	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
4-Nitroaniline	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
4,6-Dinitro-2-methylphenol	ND	ug/L	EPA 8270	25	09/29/04	10/06/04
N-Nitrosodiphenylamine	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
4-Bromophenyl phenyl ether	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Hexachlorobenzene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 9S-092204 / 04092217-05						
Semi-Volatile Organic Compounds						
Atrazine	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Pentachlorophenol	ND	ug/L	EPA 8270	25	09/29/04	10/06/04
Phenanthrene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Anthracene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Carbazole	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Di-n-butyl phthalate	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Fluoranthene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Pyrene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Butyl benzyl phthalate	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
3,3-Dichlorobenzidine	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Benzo (a) anthracene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Chrysene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Bis (2-ethylhexyl) phthalate	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Di-n-octyl phthalate	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Benzo (b) fluoranthene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Benzo (k) fluoranthene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Benzo (a) pyrene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Indeno (1,2,3-cd) pyrene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Dibenzo (a,h) anthracene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Benzo (g,h,i) perylene	ND	ug/L	EPA 8270	10	09/29/04	10/06/04
Total Sulfate						
Sulfate	**89**	mg/L	EPA 300.0	1		09/24/04
Volatile Organic Compounds						
Benzene	**640**	ug/L	EPA 8260B	10		10/05/04
Bromobenzene	ND	ug/L	EPA 8260B	10		10/05/04
Bromochloromethane	ND	ug/L	EPA 8260B	10		10/05/04
Bromodichloromethane	ND	ug/L	EPA 8260B	10		10/05/04
Bromoform	ND	ug/L	EPA 8260B	10		10/05/04
Bromomethane	ND	ug/L	EPA 8260B	10		10/05/04
n-Butylbenzene	ND	ug/L	EPA 8260B	10		10/05/04
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	10		10/05/04
sec-Butylbenzene	**280**	ug/L	EPA 8260B	10		10/05/04
tert-Butylbenzene	ND	ug/L	EPA 8260B	10		10/05/04
Carbon tetrachloride	ND	ug/L	EPA 8260B	10		10/05/04

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 9S-092204 / 04092217-05						
Volatile Organic Compounds						
Chlorobenzene	ND	ug/L	EPA 8260B	10		10/05/04
Chloroethane	ND	ug/L	EPA 8260B	10		10/05/04
Chloroform	**190**	ug/L	EPA 8260B	10		10/05/04
Chloromethane	ND	ug/L	EPA 8260B	10		10/05/04
2-Chlorotoluene	ND	ug/L	EPA 8260B	10		10/05/04
4-Chlorotoluene	ND	ug/L	EPA 8260B	10		10/05/04
Dibromochloromethane	ND	ug/L	EPA 8260B	10		10/05/04
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	10		10/05/04
1,2-Dibromoethane	ND	ug/L	EPA 8260B	10		10/05/04
Dibromomethane	ND	ug/L	EPA 8260B	10		10/05/04
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	10		10/05/04
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	10		10/05/04
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	10		10/05/04
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	10		10/05/04
1,1-Dichloroethane	ND	ug/L	EPA 8260B	10		10/05/04
1,2-Dichloroethane	**180**	ug/L	EPA 8260B	10		10/05/04
1,1-Dichloroethene	**150**	ug/L	EPA 8260B	10		10/05/04
cis-1,2-Dichloroethene	**47,000**	ug/L	EPA 8260B	400		10/05/04
trans-1,2-Dichloroethene	**120**	ug/L	EPA 8260B	10		10/05/04
1,2-Dichloropropane	ND	ug/L	EPA 8260B	10		10/05/04
1,3-Dichloropropane	ND	ug/L	EPA 8260B	10		10/05/04
2,2-Dichloropropane	ND	ug/L	EPA 8260B	10		10/05/04
1,1-Dichloropropene	ND	ug/L	EPA 8260B	10		10/05/04
Ethylbenzene	**2,700**	ug/L	EPA 8260B	400		10/05/04
Isopropylbenzene	**28**	ug/L	EPA 8260B	10		10/05/04
p-Isopropyltoluene	ND	ug/L	EPA 8260B	10		10/05/04
Methylene chloride	ND	ug/L	EPA 8260B	10		10/05/04
Naphthalene	**84**	ug/L	EPA 8260B	10		10/05/04
n-Propylbenzene	**28**	ug/L	EPA 8260B	10		10/05/04
Styrene	ND	ug/L	EPA 8260B	10		10/05/04
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	10		10/05/04
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	10		10/05/04
Tetrachloroethene	ND	ug/L	EPA 8260B	10		10/05/04

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 9S-092204 / 04092217-05						
Volatile Organic Compounds						
Toluene	**6,600**	ug/L	EPA 8260B	400		10/05/04
1,2,3-Trichlorobenzene	**49**	ug/L	EPA 8260B	10		10/05/04
1,2,4-Trichlorobenzene	**100**	ug/L	EPA 8260B	10		10/05/04
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	10		10/05/04
1,1,2-Trichloroethane	**87**	ug/L	EPA 8260B	10		10/05/04
Trichloroethene	**390**	ug/L	EPA 8260B	10		10/05/04
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	10		10/05/04
1,2,4-Trimethylbenzene	**310**	ug/L	EPA 8260B	10		10/05/04
1,3,5-Trimethylbenzene	**170**	ug/L	EPA 8260B	10		10/05/04
Vinyl chloride	**21,000**	ug/L	EPA 8260B	400		10/05/04
m&p-Xylene	**28,000**	ug/L	EPA 8260B	1200		10/05/04
o-Xylene	**2,400**	ug/L	EPA 8260B	1200		10/05/04
Methyl-t-butyl ether	ND	ug/L	EPA 8260B	10		10/05/04
2-Butanone (MEK)	ND	ug/L	EPA 8260B	100		10/05/04
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	100		10/05/04
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	100		10/05/04
Acetone	ND	ug/L	EPA 8260B	100		10/05/04
Trichlorofluoromethane	ND	ug/L	EPA 8260B	50		10/05/04
Carbon disulfide	ND	ug/L	EPA 8260B	10		10/05/04
Vinyl acetate	ND	ug/L	EPA 8260B	10		10/05/04
2-Chloroethylvinyl ether	ND	ug/L	EPA 8260B	10		10/05/04
Cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	10		10/05/04
Trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	10		10/05/04

Reviewed By:
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 9S-092204 (dissolved) / 04092217-06						
Dissolved Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Arsenic	5.1	ug/L	EPA 6020	5	09/24/04	09/24/04
Beryllium	ND	ug/L	EPA 6020	4	09/24/04	09/24/04
Cadmium	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Chromium	12	ug/L	EPA 6020	5	09/24/04	09/24/04
Copper	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Lead	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Mercury	ND	ug/L	EPA 6020	1	09/24/04	09/24/04
Nickel	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Selenium	5.1	ug/L	EPA 6020	5	09/24/04	09/24/04
Silver	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Thallium	ND	ug/L	EPA 6020	2	09/24/04	09/24/04
Zinc	ND	ug/L	EPA 6020	50	09/24/04	09/24/04

Reviewed By: _____
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 5S-092204 / 04092217-07						
Dissolved Gases in Water						
Ethane	ND	mg/L	SM6211B/EPA8015	0.011		09/23/04
Ethene	ND	mg/L	SM6211B/EPA8015	0.011		09/23/04
Ferric Iron						
Iron (Fe3+)	ND	mg/L	Mod_7199	1		09/24/04
Nitrate Nitrogen						
Nitrate	ND	mg/L	EPA 300.0	0.2		09/23/04
Perchlorate						
Perchlorate	ND	ug/L	EPA 314.0	40	10/05/04	10/05/04
Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Arsenic	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Beryllium	6.4	ug/L	EPA 6020	4	09/23/04	09/23/04
Cadmium	5.3	ug/L	EPA 6020	5	09/23/04	09/23/04
Chromium	13	ug/L	EPA 6020	5	09/23/04	09/23/04
Copper	79	ug/L	EPA 6020	5	09/23/04	09/23/04
Lead	6.4	ug/L	EPA 6020	5	09/23/04	09/23/04
Mercury	ND	ug/L	EPA 6020	1	09/23/04	09/23/04
Nickel	69	ug/L	EPA 6020	5	09/23/04	09/23/04
Selenium	38	ug/L	EPA 6020	5	09/23/04	09/23/04
Silver	ND	ug/L	EPA 6020	5	09/23/04	09/23/04
Thallium	ND	ug/L	EPA 6020	2	09/23/04	09/23/04
Zinc	210	ug/L	EPA 6020	50	09/23/04	09/23/04
Total Sulfate						
Sulfate	630	mg/L	EPA 300.0	1		09/25/04
Volatile Organic Compounds						
Benzene	2	ug/L	EPA 8260B	1		10/05/04
Bromobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Bromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromodichloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromoform	ND	ug/L	EPA 8260B	1		10/05/04
Bromomethane	ND	ug/L	EPA 8260B	1		10/05/04
n-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1		10/05/04
sec-Butylbenzene	2	ug/L	EPA 8260B	1		10/05/04

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 5S-092204 / 04092217-07						
Volatile Organic Compounds						
tert-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Carbon tetrachloride	ND	ug/L	EPA 8260B	1		10/05/04
Chlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Chloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Chloroform	2	ug/L	EPA 8260B	1		10/05/04
Chloromethane	ND	ug/L	EPA 8260B	1		10/05/04
2-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
4-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
Dibromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1		10/05/04
Dibromomethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloroethane	10	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethene	5	ug/L	EPA 8260B	1		10/05/04
cis-1,2-Dichloroethene	1,700	ug/L	EPA 8260B	100		10/06/04
trans-1,2-Dichloroethene	23	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
2,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Ethylbenzene	4	ug/L	EPA 8260B	1		10/05/04
Isopropylbenzene	1	ug/L	EPA 8260B	1		10/05/04
p-Isopropyltoluene	ND	ug/L	EPA 8260B	1		10/05/04
Methylene chloride	b 9	ug/L	EPA 8260B	1		10/05/04
Naphthalene	6	ug/L	EPA 8260B	1		10/05/04
n-Propylbenzene	1	ug/L	EPA 8260B	1		10/05/04
Styrene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04

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CERTIFICATE OF ANALYSIS
No. 04092217 Page 17 of 18
Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 5S-092204 / 04092217-07						
Volatile Organic Compounds						
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Tetrachloroethene	25	ug/L	EPA 8260B	1		10/05/04
Toluene	4	ug/L	EPA 8260B	1		10/05/04
1,2,3-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichloroethane	8	ug/L	EPA 8260B	1		10/05/04
Trichloroethene	12,000	ug/L	EPA 8260B	100		10/06/04
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trimethylbenzene	10	ug/L	EPA 8260B	1		10/05/04
1,3,5-Trimethylbenzene	9	ug/L	EPA 8260B	1		10/05/04
Vinyl chloride	35	ug/L	EPA 8260B	1		10/05/04
m&p-Xylene	9	ug/L	EPA 8260B	3		10/05/04
o-Xylene	11	ug/L	EPA 8260B	3		10/05/04
Methyl-t-butyl ether	ND	ug/L	EPA 8260B	1		10/05/04
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10		10/05/04
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10		10/05/04
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10		10/05/04
Acetone	ND	ug/L	EPA 8260B	10		10/05/04
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5		10/05/04
Carbon disulfide	ND	ug/L	EPA 8260B	1		10/05/04
Vinyl acetate	ND	ug/L	EPA 8260B	1		10/05/04
2-Chloroethylvinyl ether	ND	ug/L	EPA 8260B	1		10/05/04
Cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04

Reviewed By: Matt Oliver
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

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CERTIFICATE OF ANALYSIS
No. 04092217 Page 18 of 18
Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 5S-092204 (dissolved) / 04092217-08						
Dissolved Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Arsenic	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Beryllium	6.0	ug/L	EPA 6020	4	09/24/04	09/24/04
Cadmium	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Chromium	11	ug/L	EPA 6020	5	09/24/04	09/24/04
Copper	21	ug/L	EPA 6020	5	09/24/04	09/24/04
Lead	5.2	ug/L	EPA 6020	5	09/24/04	09/24/04
Mercury	ND	ug/L	EPA 6020	1	09/24/04	09/24/04
Nickel	63	ug/L	EPA 6020	5	09/24/04	09/24/04
Selenium	22	ug/L	EPA 6020	5	09/24/04	09/24/04
Silver	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Thallium	ND	ug/L	EPA 6020	2	09/24/04	09/24/04
Zinc	230	ug/L	EPA 6020	50	09/24/04	09/24/04

Reviewed By: Matt Calvee
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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email: info@phaseonline.com

(1)
CLIENT: Tetra Tech PHONE NO.: (916) 276-7846
PROJECT MGR: Nisha Bansal FAX NO.: ( )
EMAIL: Nisha.bansal@TetraTech.com
PROJECT NAME: Martin State Airport - Data Gap
SITE LOCATION: Martin State Airport
PROJECT NO.: P.O. NO.:

PSS Project #: 04092217

PAGE 1 OF 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Volatiles organics compounds (8260B)	Total Priority Pollutant metals	Dissolved Priority Pollutant metals	Ethene, Ethane	Nitrate, Sulfate	Ferric, Iron	Perchlorate	SVOCs		REMARKS
							Preservatives Used	HCl	HNO3	HNO3	HCl	ICE	HCl	ICE	ICE	
	DMW 9D - 092204	9-22-04	0920	Water	10	G	X	X	X	X	X	X	X			
	DMW 9I - 092204	↓	1045	↓	10	G	X	X	X	X	X	X	X			
	DMW 9S - 092204	↓	1205	↓	11	G	X	X	X	X	X	X	X	X		
	DMW 5S - 092204	↓	1450	↓	10	G	X	X	X	X	X	X	X			

(3) Analysis Required

(5)

Collected / Relinquished By: (1)	Date	Time	Received By:
Walter E Pey III	9-22-04	1700	[signature]
Relinquished By: (2)	Date 9/22	Time 4:30	Received By:
Relinquished By: (3)	Date	Time	Received By:
Collected / Relinquished By: (4)	Date	Time	Received By:

(4)
Requested Turnaround Time
☐ 5-Day (Std.) ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required:

Sample Condition Upon Receipt: Good on ice
Custody Seal:
Shipping Carrier: Hanny
Shipping Ticket No.:

Special Instructions:

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The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if colleciton becomes necessary.

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TENTATIVELY IDENTIFIED COMPOUNDS

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Tentatively Identified Compounds

LID #: 04092217
Client: Tetra Tech, Inc.
Project: Martin State Airport- Quarterly Sampling

	Estimated Concentration	Units	CAS #	Matrix	Collected	Analyzed
Sample ID: 04092217-01 / DMW 9D-092204						
No tentatively identified compounds were detected in this sample.						
Sample ID: 04092217-03 / DMW 9I-092204						
VOC Tentatively Identified Compounds						
Benzene, 1,2,3-trimethyl-	45	ug/L	000526-73-8	Water	09/22/04	10/05/04
Sample ID: 04092217-05 / DMW 9S-092204						
No tentatively identified compounds were detected in this sample.						
Sample ID: 04092217-07 / DMW 5S-092204						
No tentatively identified compounds were detected in this sample.						

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Volatile Organic Compounds

- *Surrogate Summary*
- *Method Blank Summary*
- *LCS Summary*
- *Continuing Calibration Verification Summary*
- *BFB Tune Summary*

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PHASE SEPARATION SCIENCE, INC.

ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE

VOLATILES

SYSTEM MONITORING COMPOUND RECOVERY (SURROGATES)

METHOD: EPA 8260 **LAB CODE:** SURR

MATRIX: WATER **BATCH NUMBER:** 2041

Sample ID	Date/Time Analyzed	4-Bromofluorobenzene	Dibromofluoromethane	Toluene d-8
DMW 9D-092204 / 04092217-01	10/05/04 12:04 AM	102	101	102
DMW 9I-092204 / 04092217-03	10/05/04 12:29 AM	106	100	101
DMW 9S-092204 / 04092217-05	10/05/04 03:05 AM	104	100	103
DMW 5S-092204 / 04092217-07	10/05/04 12:54 AM	101	100	100
Upper Limit		113	113	110
Lower Limit		67	84	83

* - Indicates values outside of QC control limits.

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VOLATILES

METHOD BLANK SUMMARY

ANALYSIS:	**VOLATILES**	**BATCH ID:**	**2041**
METHOD NO.:	**EPA 8260**	**LAB SAMPLE ID:**	**MB - Water**
LAB FILE ID:	**04100425.D**	**DATE/TIME ANALYZED:**	**10/04/04 09:59 PM**

This Method Blank applies to the following samples:

Field Sample ID	Lab Sample ID	Lab File ID	Date/Time Analyzed
DMW 9D-092204	04092217-01	04100430.D	10/06/04 01:27 AM
DMW 9I-092204	04092217-03	04100431.D	10/06/04 01:56 AM
DMW 9S-092204	04092217-05	04100437.D	10/05/04 06:35 PM
DMW 5S-092204	04092217-07	04100432.D	10/06/04 02:24 AM

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METHOD BLANK RESULTS

Analysis: Volatiles
Matrix: Water

Batch ID: 2041
Batch Date: 10/04/04

	Result	Unit	Method	PQL	Analyzed
Benzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Bromodichloromethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Bromoform	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Bromomethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Carbon tetrachloride	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Chlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Chloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
CHLOROFORM	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Chloromethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Dibromochloromethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-Dichloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1-DICHLOROETHENE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
cis-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
trans-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-DICHLOROPROPANE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
ETHYLBENZENE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Isopropylbenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Methylene chloride	1.4	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Naphthalene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Styrene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Tetrachloroethene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
TOLUENE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2,4-Trichlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1,2-Trichloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Trichloroethene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
VINYL CHLORIDE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
m&p-Xylene	ND	ug/L	EPA 8260B	3	10/04/04 09:59 PM

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METHOD BLANK RESULTS

Analysis: Volatiles
Matrix: Water
Batch ID: 2041
Batch Date: 10/04/04

	Result	Unit	Method	PQL	Analyzed
o-Xylene	ND	ug/L	EPA 8260B	3	10/04/04 09:59 PM
Methyl-t-Butyl Ether	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10	10/04/04 09:59 PM
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10	10/04/04 09:59 PM
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10	10/04/04 09:59 PM
Acetone	ND	ug/L	EPA 8260B	10	10/04/04 09:59 PM
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5	10/04/04 09:59 PM
Carbon Disulfide	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100425.D
Acq On : 4 Oct 2004 9:59 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #475
MS Integration Params: rteint.p
Quant Time: Oct 5 12:22 2004

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	197889	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.71	114	282678	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.04	117	241852	50.00	ug/L	0.00
48) 1,4-Dichlorobenzene d-4 IS	11.20	152	105688	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.98	113	100131	49.98	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.96%			
33) Toluene d-8 SS#2	6.29	98	351008	49.62	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.24%			
50) 4-Bromofluorobenzene SS#3	9.60	95	147816	49.75	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.50%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	Not Detected		
3) Chloromethane	0.00	50	0	Not Detected		
4) VINYL CHLORIDE	0.00	62	0	Not Detected		
5) Bromomethane	0.00	94	0	Not Detected		
6) Chloroethane	0.00	64	0	Not Detected		
7) Trichlorofluoromethane	0.00	101	0	Not Detected		
8) Acetone	2.25	43	125	Not Detected		
9) 1,1-DICHLOROETHENE	0.00	96	0	Not Detected		
10) 1,1,2-Trichlorotrifluoroet	0.00	101	0	Not Detected		
11) Carbon Disulfide	0.00	76	0	Not Detected		
12) Methyl Acetate	0.00	74	0	Not Detected		
13) Methylene chloride	2.59	84	3261	1.44	ug/L	95
14) trans-1,2-Dichloroethene	0.00	96	0	Not Detected		
15) Methyl-t-Butyl Ether	0.00	73	0	Not Detected		
16) 1,1-Dichloroethane	0.00	63	0	Not Detected		
17) cis-1,2-Dichloroethene	0.00	96	0	Not Detected		
18) 2-Butanone (MEK)	0.00	43	0	Not Detected		
19) CHLOROFORM	0.00	83	0	Not Detected		
21) 1,1,1-Trichloroethane	0.00	97	0	Not Detected		
22) Cyclohexane	0.00	56	0	Not Detected	d	
24) Carbon tetrachloride	0.00	117	0	Not Detected		
25) Benzene	4.36	78	254	Not Detected		
26) 1,2-Dichloroethane	0.00	62	0	Not Detected		
27) Trichloroethene	0.00	95	0	Not Detected		
28) 1,2-DICHLOROPROPANE	0.00	63	0	Not Detected		
29) Methylcyclohexane	0.00	83	0	Not Detected		
30) Bromodichloromethane	0.00	83	0	Not Detected		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100425.D
Acq On : 4 Oct 2004 9:59 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #475
MS Integration Params: rteint.p
Quant Time: Oct 5 12:22 2004

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31)	cis-1,3-Dichloropropene	0.00	75	0	Not Detected	
32)	4-Methyl-2-Pentanone (MIBK	0.00	43	0	Not Detected	d
34)	TOLUENE	0.00	92	0	Not Detected	
35)	trans-1,3-Dichloropropene	0.00	75	0	Not Detected	
36)	1,1,2-Trichloroethane	0.00	83	0	Not Detected	
37)	Tetrachloroethene	0.00	166	0	Not Detected	
38)	2-Hexanone (MBK)	0.00	43	0	Not Detected	
40)	Dibromochloromethane	0.00	129	0	Not Detected	
41)	1,2-Dibromoethane	0.00	107	0	Not Detected	
42)	Chlorobenzene	0.00	112	0	Not Detected	
43)	ETHYLBENZENE	8.38	91	226	Not Detected	
44)	m&p-Xylene	0.00	106	0	Not Detected	
45)	o-Xylene	0.00	106	0	Not Detected	
46)	Styrene	0.00	104	0	Not Detected	
47)	Bromoform	0.00	173	0	Not Detected	
49)	Isopropylbenzene	9.60	105	110	Not Detected	
51)	1,1,2,2-Tetrachloroethane	0.00	83	0	Not Detected	
52)	1,3-Dichlorobenzene	0.00	146	0	Not Detected	d
53)	1,4-Dichlorobenzene	0.00	146	0	Not Detected	d
54)	1,2-Dichlorobenzene	0.00	146	0	Not Detected	
55)	1,2-Dibromo-3-chloropropan	0.00	75	0	Not Detected	
56)	1,2,4-Trichlorobenzene	14.07	180	185	Not Detected	
57)	Naphthalene	14.39	128	559	Not Detected	

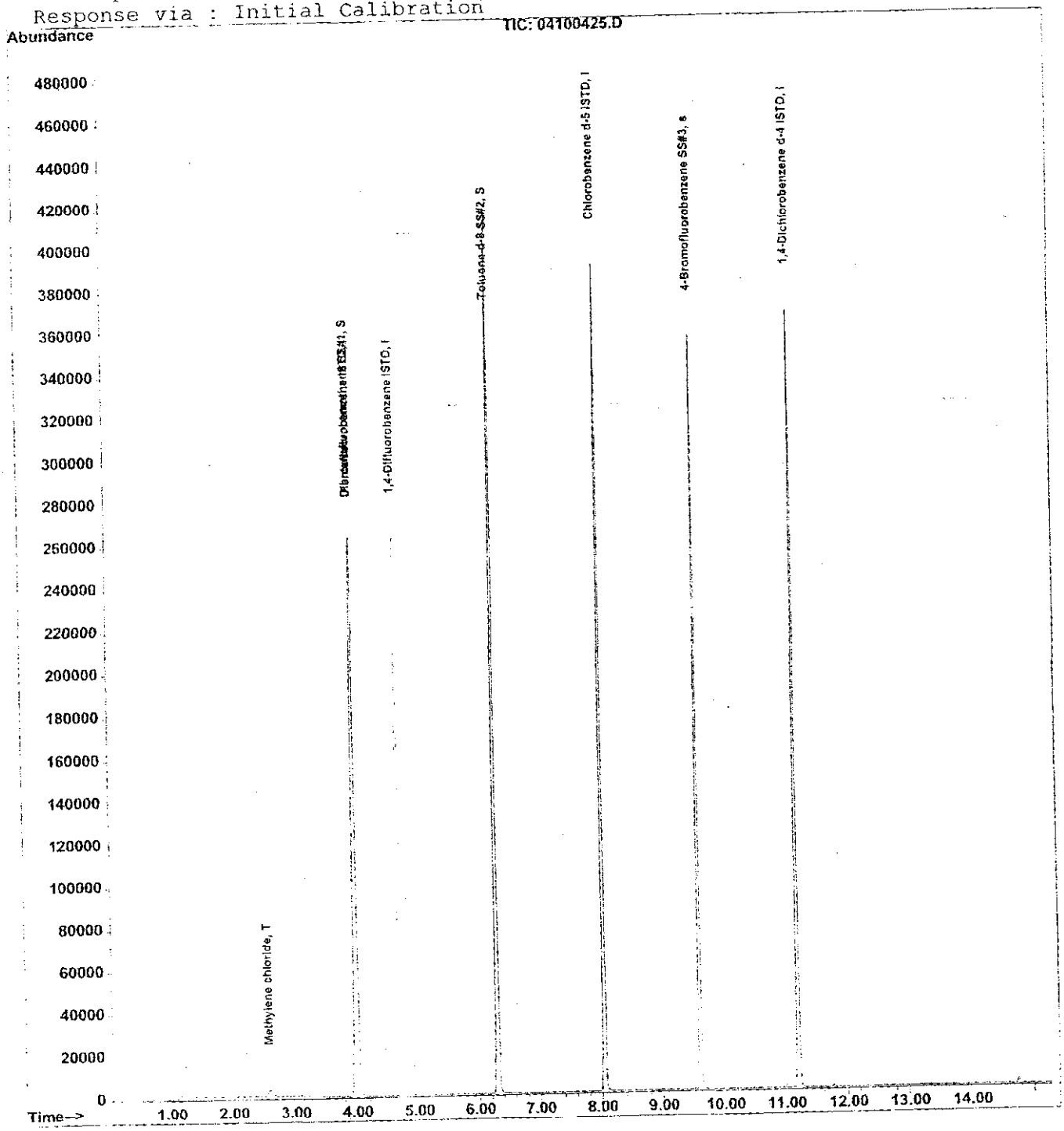
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100425.D
Acq On : 4 Oct 2004 9:59 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #475
MS Integration Params: rteint.p
Quant Time: Oct 5 12:22 2004

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



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VOLATILES

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

METHOD: EPA 8260 **BATCH NUMBER:** 2041

MATRIX: WATER

SAMPLE ID: 04092328-01 MS
DATE ANALYZED: 10/05/04 06:40:00
LAB FILE IDs: 04100445.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	14.07	39	98	61 - 145
BENZENE	25	1.71	26	96	76 - 127
TRICHLOROETHENE	25	3661.57	3653	-36 *	71 - 120
TOLUENE	25	0	25	99	76 - 125
CHLOROBENZENE	25	0	25	101	75 - 130

SAMPLE ID: 04092328-01 MSD
DATE ANALYZED: 10/05/04 07:05:00
LAB FILE IDs: 04100446.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	14.07	38	96	1.5	30	61 - 145
BENZENE	25	1.71	26	96	0.0	30	76 - 127
TRICHLOROETHENE	25	3661.57	3620	-165 *	0.9	30	71 - 120
TOLUENE	25	0	24	95	4.5	30	76 - 125
CHLOROBENZENE	25	0	25	98	2.9	30	75 - 130

* - Indicates values outside of QC control limits.

Trichloroethene result in reference sample exceeds the calibration range.

Calculations:

$$\%\text{Recovery} = \left[\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right] * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\left(\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}\right)}\right| * 100$$

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100445.D
Acq On : 5 Oct 2004 6:40 am
Sample : 04092328-01 MS 25ppb
Misc : IS/S 1uL #475, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 45
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	189340	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	268782	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.03	117	233566	50.00	ug/L	0.00
48) 1,4-Dichlorobenzene d-4 IS	11.19	152	106108	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.97	113	96904	50.55	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.10%			
33) Toluene d-8 SS#2	6.28	98	344302	51.19	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 102.38%			
50) 4-Bromofluorobenzene SS#3	9.58	95	146264	49.04	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.08%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.36	85	45128	21.01	ug/L	100
3) Chloromethane	1.45	50	42214	22.58	ug/L	99
4) VINYL CHLORIDE	1.55	62	71703	43.17	ug/L	100
5) Bromomethane	1.71	94	39209	23.56	ug/L	99
6) Chloroethane	1.76	64	22892	27.25	ug/L	100
7) Trichlorofluoromethane	1.91	101	27071	18.01	ug/L	98
8) Acetone	2.24	43	14011	29.18	ug/L	100
9) 1,1-DICHLOROETHENE	2.27	96	66216	38.63	ug/L	98
10) 1,1,2-Trichlorotrifluoroet	2.27	101	35683	24.84	ug/L #	80
11) Carbon Disulfide	2.46	76	126900	24.76	ug/L	98
12) Methyl Acetate	2.46	74	4793	27.16	ug/L	97
13) Methylene chloride	2.58	84	66575	30.77	ug/L	99
14) trans-1,2-Dichloroethene	2.78	96	58378	31.73	ug/L	98
15) Methyl-t-Butyl Ether	2.76	73	88662	26.07	ug/L	100
16) 1,1-Dichloroethane	3.08	63	84407	30.91	ug/L	100
17) cis-1,2-Dichloroethene	3.56	96	528990	275.64	ug/L	99
18) 2-Butanone (MEK)	3.54	43	21254	27.96	ug/L	70
19) CHLOROFORM	3.82	83	90405	25.82	ug/L	99
21) 1,1,1-Trichloroethane	4.00	97	101717	34.94	ug/L #	27
22) Cyclohexane	4.06	56	50440	25.52	ug/L	90
24) Carbon tetrachloride	4.16	117	53559	25.80	ug/L	98
25) Benzene	4.34	78	172744	25.60	ug/L	99
26) 1,2-Dichloroethane	4.35	62	80399	34.28	ug/L	100
27) Trichloroethene	4.97	95	7066752	3652.54	ug/L	92
28) 1,2-DICHLOROPROPANE	5.19	63	36686	24.91	ug/L	100
29) Methylcyclohexane	5.18	83	42648	24.92	ug/L	98
30) Bromodichloromethane	5.48	83	63046	25.22	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100445.D
Acq On : 5 Oct 2004 6:40 am
Sample : 04092328-01 MS 25ppb
Misc : IS/S 1uL #475, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 45
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	64160	23.07 ug/L	99
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	44988	29.33 ug/L	98
34) TOLUENE	6.35	92	105512	24.73 ug/L	99
35) trans-1,3-Dichloropropene	6.61	75	59774	24.05 ug/L	97
36) 1,1,2-Trichloroethane	6.83	83	31140	26.64 ug/L	100
37) Tetrachloroethene	7.00	166	40157	26.16 ug/L	99
38) 2-Hexanone (MBK)	7.15	43	30817	30.34 ug/L	99
40) Dibromochloromethane	7.31	129	35626	24.97 ug/L	99
41) 1,2-Dibromoethane	7.44	107	36447	25.54 ug/L	99
42) Chlorobenzene	8.06	112	101382	25.24 ug/L	98
43) ETHYLBENZENE	8.22	91	184715	24.68 ug/L	100
44) m&p-Xylene	8.37	106	122945	49.68 ug/L	100
45) o-Xylene	8.89	106	63585	25.62 ug/L	98
46) Styrene	8.91	104	109285	24.41 ug/L	95
47) Bromoform	9.14	173	28324	26.09 ug/L	98
49) Isopropylbenzene	9.39	105	122040	22.59 ug/L	99
51) 1,1,2,2-Tetrachloroethane	9.81	83	43728	25.86 ug/L	100
52) 1,3-Dichlorobenzene	11.09	146	56623	23.15 ug/L	99
53) 1,4-Dichlorobenzene	11.22	146	59757	21.93 ug/L	98
54) 1,2-Dichlorobenzene	11.73	146	55165	23.77 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.85	75	6134	28.56 ug/L	94
56) 1,2,4-Trichlorobenzene	14.05	180	32108	24.68 ug/L	98
57) Naphthalene	14.38	128	1262	Not Detected	

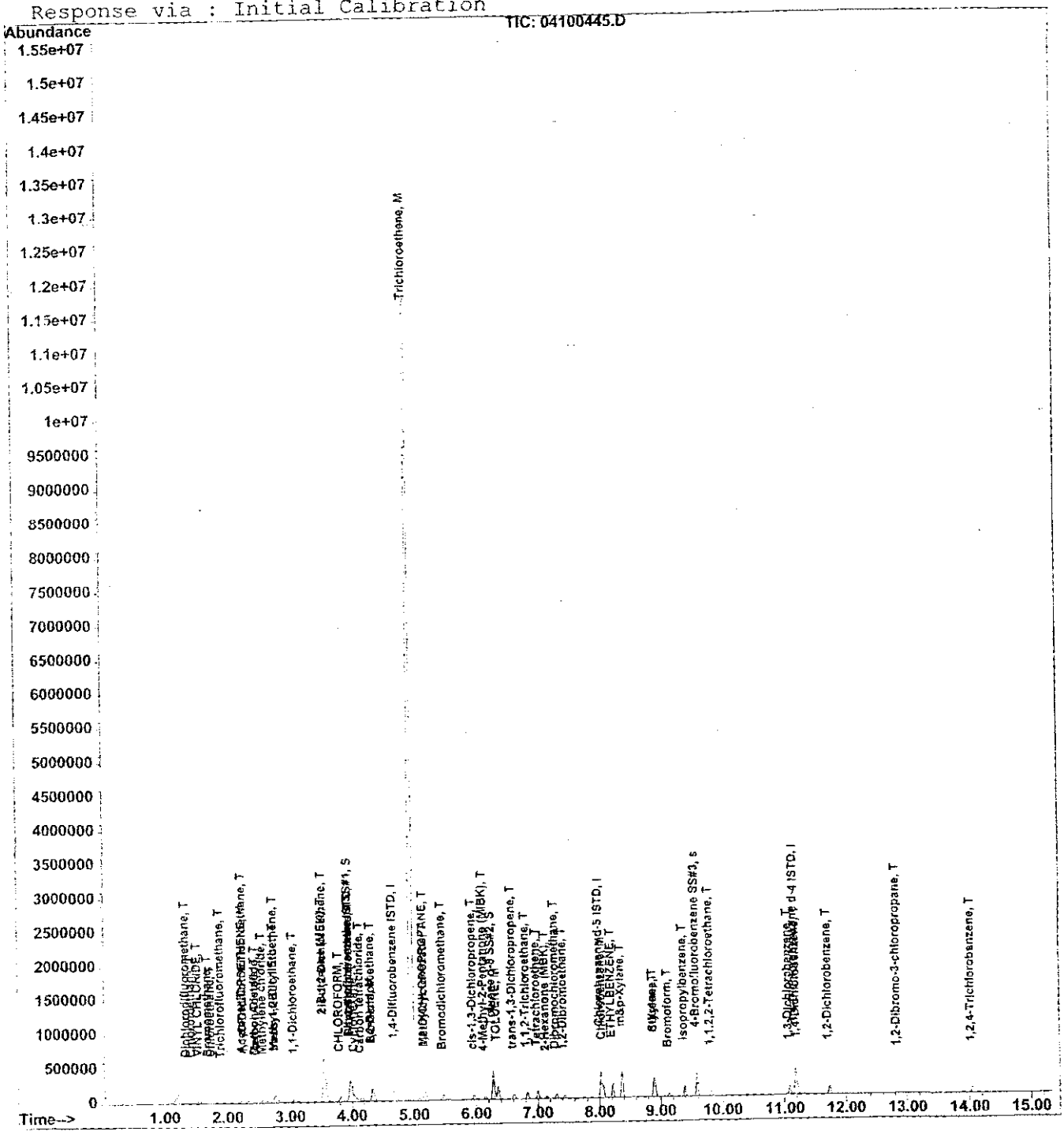
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100445.D
Acq On : 5 Oct 2004 6:40 am
Sample : 04092328-01 MS 25ppb
Misc : IS/S 1uL #475, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 45
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100446.D
Acq On : 5 Oct 2004 7:05 am
Sample : 04092328-01 MSD 25ppb
Misc : IS/S 1uL #475, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 46
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	190300	50.00	ug/L		0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	272134	50.00	ug/L		0.00
39) Chlorobenzene d-5 ISTD	8.03	117	238766	50.00	ug/L		0.00
48) 1,4-Dichlorobenzene d-4 IS	11.19	152	104900	50.00	ug/L		0.00
System Monitoring Compounds							
20) Dibromofluoromethane SS#1	3.97	113	96925	50.31	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.62%				
33) Toluene d-8 SS#2	6.28	98	344182	50.54	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.08%				
50) 4-Bromofluorobenzene SS#3	9.58	95	147476	50.01	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.02%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.37	85	45668	21.15	ug/L		100
3) Chloromethane	1.45	50	46522	24.76	ug/L		92
4) VINYL CHLORIDE	1.55	62	73073	43.77	ug/L		100
5) Bromomethane	1.72	94	39198	23.44	ug/L		100
6) Chloroethane	1.76	64	22340	26.45	ug/L		97
7) Trichlorofluoromethane	1.92	101	27343	18.10	ug/L		99
8) Acetone	2.25	43	14422	29.89	ug/L		98
9) 1,1-DICHLOROETHENE	2.27	96	65562	38.06	ug/L		96
10) 1,1,2-Trichlorotrifluoroet	2.27	101	35911	24.87	ug/L		96
11) Carbon Disulfide	2.45	76	127167	24.68	ug/L		99
12) Methyl Acetate	2.46	74	4715	26.58	ug/L		94
13) Methylene chloride	2.58	84	67143	30.88	ug/L		99
14) trans-1,2-Dichloroethene	2.77	96	58412	31.59	ug/L		98
15) Methyl-t-Butyl Ether	2.76	73	90012	26.33	ug/L		100
16) 1,1-Dichloroethane	3.08	63	84473	30.77	ug/L		98
17) cis-1,2-Dichloroethene	3.56	96	525844	272.62	ug/L		99
18) 2-Butanone (MEK)	3.55	43	21116	27.64	ug/L		67
19) CHLOROFORM	3.82	83	89733	25.50	ug/L		99
21) 1,1,1-Trichloroethane	4.01	97	104145	35.60	ug/L	#	31
22) Cyclohexane	4.06	56	52405	26.38	ug/L	#	88
24) Carbon tetrachloride	4.16	117	53313	25.36	ug/L		99
25) Benzene	4.34	78	174815	25.59	ug/L		100
26) 1,2-Dichloroethane	4.35	62	80758	34.01	ug/L		99
27) Trichloroethene	4.97	95	7091903	3620.38	ug/L		92
28) 1,2-DICHLOROPROPANE	5.19	63	36163	24.25	ug/L		99
29) Methylcyclohexane	5.18	83	42149	24.32	ug/L		99
30) Bromodichloromethane	5.48	83	63625	25.13	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100446.D
Acq On : 5 Oct 2004 7:05 am
Sample : 04092328-01 MSD 25ppb
Misc : IS/S 1uL #475, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 46
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	64867	23.03 ug/L	98
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	45807	29.49 ug/L	99
34) TOLUENE	6.36	92	102074	23.63 ug/L	98
35) trans-1,3-Dichloropropene	6.61	75	60228	23.93 ug/L	97
36) 1,1,2-Trichloroethane	6.83	83	31129	26.30 ug/L	99
37) Tetrachloroethene	7.00	166	40737	26.21 ug/L	99
38) 2-Hexanone (MBK)	7.15	43	32062	31.18 ug/L	99
40) Dibromochloromethane	7.31	129	35676	24.46 ug/L	98
41) 1,2-Dibromoethane	7.44	107	37197	25.49 ug/L	99
42) Chlorobenzene	8.06	112	100641	24.51 ug/L	97
43) ETHYLBENZENE	8.22	91	183154	23.94 ug/L	100
44) m&p-Xylene	8.37	106	121832	48.16 ug/L	99
45) o-Xylene	8.89	106	63990	25.22 ug/L	98
46) Styrene	8.91	104	109306	23.89 ug/L	95
47) Bromoform	9.14	173	28507	25.69 ug/L	100
49) Isopropylbenzene	9.39	105	120708	22.60 ug/L	99
51) 1,1,2,2-Tetrachloroethane	9.81	83	43789	26.19 ug/L	100
52) 1,3-Dichlorobenzene	11.09	146	54967	22.73 ug/L	99
53) 1,4-Dichlorobenzene	11.22	146	58369	21.67 ug/L	98
54) 1,2-Dichlorobenzene	11.73	146	55600	24.23 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.85	75	6435	30.30 ug/L	90
56) 1,2,4-Trichlorobenzene	14.05	180	33130	25.76 ug/L	98
57) Naphthalene	14.38	128	1420	Not Detected	

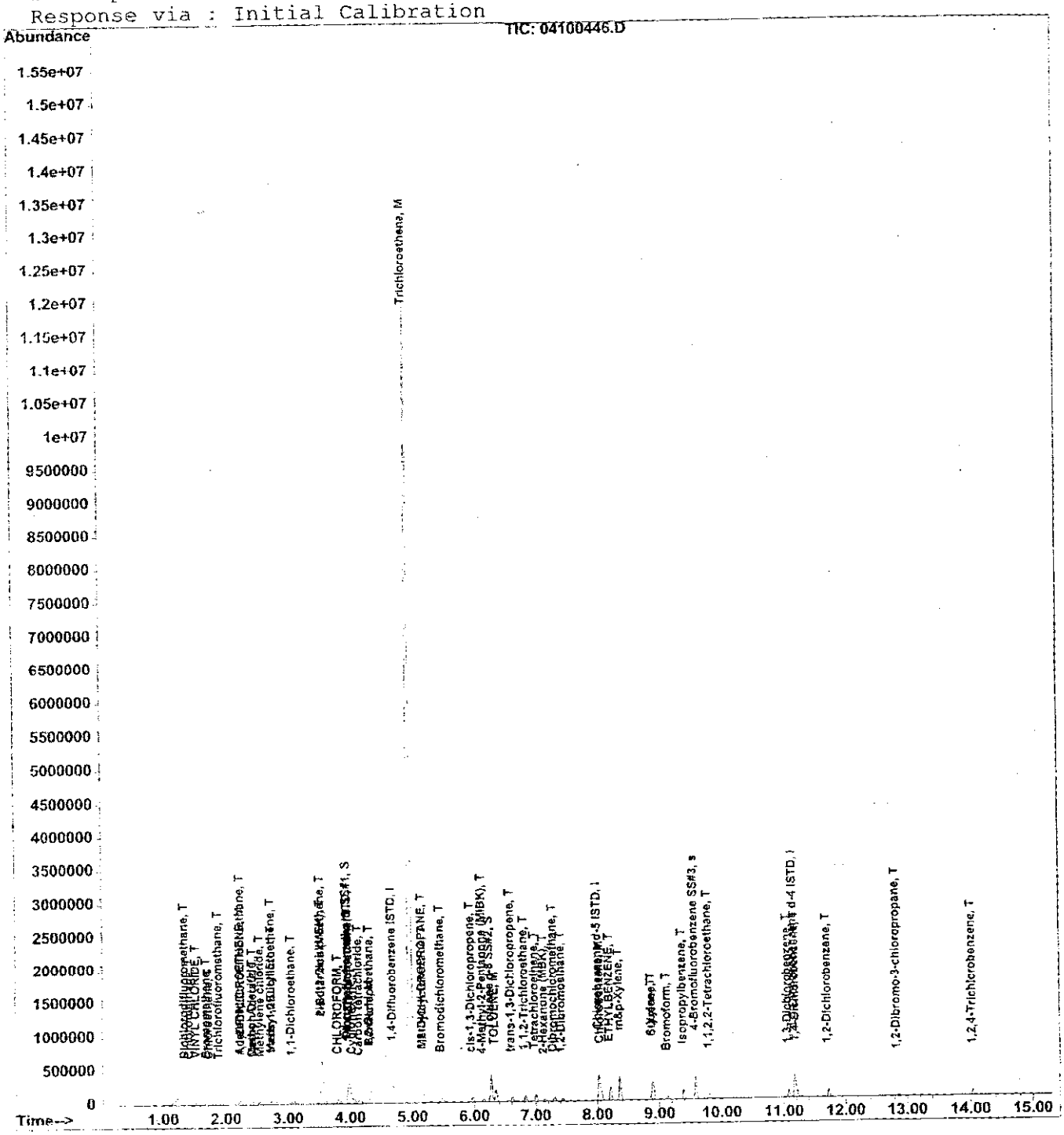
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100446.D
Acq On : 5 Oct 2004 7:05 am
Sample : 04092328-01 MSD 25ppb
Misc : IS/S 1uL #475, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 46
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



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800-932-9047
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ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE

VOLATILES
LABORATORY CONTROL SAMPLE SUMMARY

METHOD: EPA 8260 **BATCH NUMBER:** 2041

MATRIX: WATER

SAMPLE ID: LCS
DATE ANALYZED: 10/05/04 07:30 AM
LAB FILE IDs: 04100447.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	NA	23	94	61 - 145
BENZENE	25	NA	24	94	76 - 127
CHLOROBENZENE	25	NA	24	97	75 - 130
TOLUENE	25	NA	24	97	76 - 125
TRICHLOROETHENE	25	NA	30	121	71 - 120

SAMPLE ID: LCSD
DATE ANALYZED: 10/05/04 07:55 AM
LAB FILE IDs: 04100448.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	NA	24	95	1.5	30	61 - 145
BENZENE	25	NA	23	93	1.7	30	76 - 127
CHLOROBENZENE	25	NA	23	93	4.8	30	75 - 130
TOLUENE	25	NA	24	95	1.6	30	76 - 125
TRICHLOROETHENE	25	NA	25	102	17.0	30	71 - 120

* - Indicates values outside of QC control limits.

Calculations: $$\%\text{Recovery} = \left[\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right] * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\left(\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}\right)}\right| * 100$$

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100447.D Vial: 47
Acq On : 5 Oct 2004 7:30 am Operator: MI
Sample : LCS 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	191370	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	273352	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.03	117	231058	50.00	ug/L	-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	105222	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	97675	50.41	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.82%			
33) Toluene d-8 SS#2	6.27	98	348338	50.92	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.84%			
50) 4-Bromofluorobenzene SS#3	9.59	95	146989	49.70	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.37	85	46822	21.57	ug/L	100
3) Chloromethane	1.45	50	47337	25.06	ug/L	93
4) VINYL CHLORIDE	1.54	62	37579	22.38	ug/L	100
5) Bromomethane	1.71	94	40083	23.83	ug/L	98
6) Chloroethane	1.77	64	22605	26.62	ug/L	97
7) Trichlorofluoromethane	1.92	101	28996	19.09	ug/L	99
8) Acetone	2.24	43	14638	30.17	ug/L	92
9) 1,1-DICHLOROETHENE	2.27	96	40523	23.39	ug/L	97
10) 1,1,2-Trichlorotrifluoroet	2.26	101	37210	25.63	ug/L	97
11) Carbon Disulfide	2.45	76	129951	25.08	ug/L	100
12) Methyl Acetate	2.46	74	5471	30.67	ug/L	97
13) Methylene chloride	2.58	84	47199	21.58	ug/L	98
14) trans-1,2-Dichloroethene	2.76	96	44541	23.95	ug/L	97
15) Methyl-t-Butyl Ether	2.76	73	90534	26.34	ug/L	100
16) 1,1-Dichloroethane	3.08	63	69327	25.12	ug/L	99
17) cis-1,2-Dichloroethene	3.55	96	47607	24.54	ug/L	98
18) 2-Butanone (MEK)	3.54	43	20890	27.19	ug/L	98
19) CHLOROFORM	3.82	83	83737	23.66	ug/L	99
21) 1,1,1-Trichloroethane	4.00	97	70017	23.80	ug/L #	1
22) Cyclohexane	4.06	56	51556	25.81	ug/L #	16
24) Carbon tetrachloride	4.15	117	51871	24.57	ug/L	100
25) Benzene	4.33	78	161960	23.60	ug/L	99
26) 1,2-Dichloroethane	4.34	62	59911	25.12	ug/L	99
27) Trichloroethene	4.96	95	59416	30.20	ug/L	99
28) 1,2-DICHLOROPROPANE	5.19	63	36823	24.58	ug/L	100
29) Methylcyclohexane	5.17	83	41597	23.90	ug/L	99
30) Bromodichloromethane	5.49	83	63866	25.12	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100447.D
Acq On : 5 Oct 2004 7:30 am
Sample : LCS 25ppb
Misc : IS/S 1uL #475, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 47
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	63132	22.32 ug/L	100
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	45571	29.21 ug/L	99
34) TOLUENE	6.36	92	104736	24.13 ug/L	97
35) trans-1,3-Dichloropropene	6.61	75	58197	23.02 ug/L	97
36) 1,1,2-Trichloroethane	6.83	83	30285	25.47 ug/L	98
37) Tetrachloroethene	7.01	166	36444	23.35 ug/L	99
38) 2-Hexanone (MBK)	7.15	43	31176	30.18 ug/L	98
40) Dibromochloromethane	7.30	129	35488	25.14 ug/L	100
41) 1,2-Dibromoethane	7.43	107	36786	26.05 ug/L	98
42) Chlorobenzene	8.06	112	96548	24.29 ug/L	97
43) ETHYLBENZENE	8.21	91	182887	24.70 ug/L	99
44) m&p-Xylene	8.37	106	120668	49.29 ug/L	99
45) o-Xylene	8.89	106	61904	25.21 ug/L	98
46) Styrene	8.91	104	112451	25.39 ug/L	97
47) Bromoform	9.14	173	28617	26.65 ug/L	99
49) Isopropylbenzene	9.39	105	121316	22.64 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	42924	25.60 ug/L	98
52) 1,3-Dichlorobenzene	11.09	146	55470	22.87 ug/L	99
53) 1,4-Dichlorobenzene	11.22	146	61402	22.73 ug/L	97
54) 1,2-Dichlorobenzene	11.73	146	54886	23.85 ug/L	98
55) 1,2-Dibromo-3-chloropropan	12.84	75	6245	29.32 ug/L	93
56) 1,2,4-Trichlorobenzene	14.04	180	31627	24.51 ug/L	98
57) Naphthalene	14.39	128	167	Not Detected	

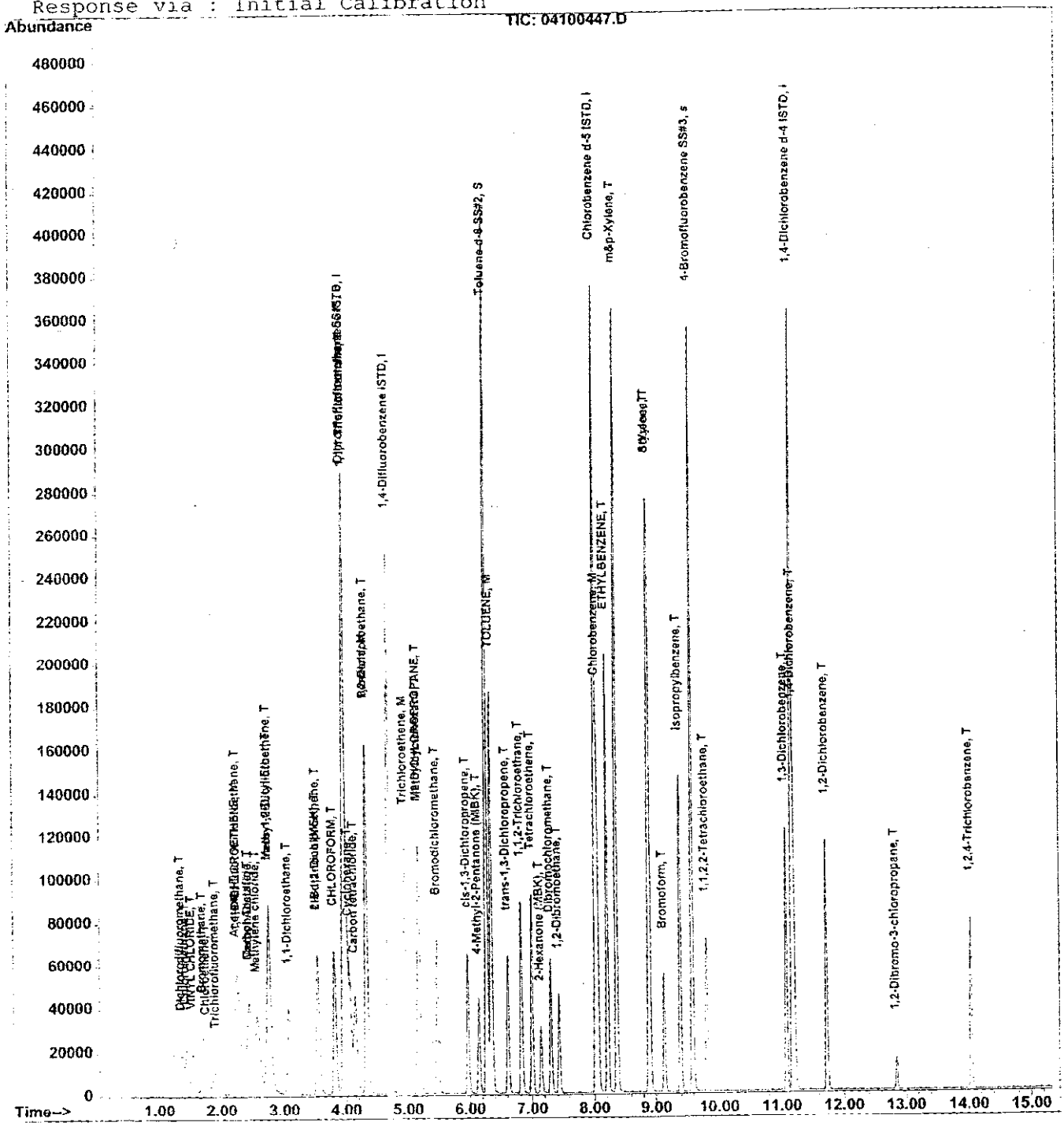
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100447.D
Acq On : 5 Oct 2004 7:30 am
Sample : LCS 25ppb
Misc : IS/S 1uL #475, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 47
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100448.D
Acq On : 5 Oct 2004 7:55 am
Sample : LCS-DUP 25ppb
Misc : IS/S 1uL #475, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 48
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	187301	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	270396	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.03	117	234524	50.00	ug/L	0.00
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	105146	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	96098	50.68	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.36%			
33) Toluene d-8 SS#2	6.28	98	345861	51.11	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 102.22%			
50) 4-Bromofluorobenzene SS#3	9.58	95	141872	48.00	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 96.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.37	85	45377	21.36	ug/L	100
3) Chloromethane	1.44	50	45032	24.35	ug/L	93
4) VINYL CHLORIDE	1.54	62	36106	21.97	ug/L	97
5) Bromomethane	1.70	94	38083	23.13	ug/L	99
6) Chloroethane	1.76	64	22115	26.61	ug/L	98
7) Trichlorofluoromethane	1.90	101	29673	19.96	ug/L	99
8) Acetone	2.25	43	13424	28.27	ug/L	85
9) 1,1-DICHLOROETHENE	2.26	96	40271	23.75	ug/L	98
10) 1,1,2-Trichlorotrifluoroet	2.26	101	34934	24.58	ug/L	99
11) Carbon Disulfide	2.45	76	121442	23.95	ug/L	97
12) Methyl Acetate	2.46	74	4948	28.34	ug/L	100
13) Methylene chloride	2.57	84	45346	21.19	ug/L	97
14) trans-1,2-Dichloroethene	2.78	96	44213	24.29	ug/L	99
15) Methyl-t-Butyl Ether	2.76	73	86299	25.65	ug/L	100
16) 1,1-Dichloroethane	3.08	63	65629	24.29	ug/L	99
17) cis-1,2-Dichloroethene	3.55	96	47115	24.82	ug/L	98
18) 2-Butanone (MEK)	3.54	43	20742	27.58	ug/L	97
19) CHLOROFORM	3.82	83	83054	23.98	ug/L	99
21) 1,1,1-Trichloroethane	4.00	97	68488	23.78	ug/L #	1
22) Cyclohexane	4.07	56	49892	25.52	ug/L	84
24) Carbon tetrachloride	4.16	117	49229	23.57	ug/L	100
25) Benzene	4.34	78	157594	23.21	ug/L	99
26) 1,2-Dichloroethane	4.35	62	59474	25.21	ug/L	99
27) Trichloroethene	4.96	95	49581	25.47	ug/L	100
28) 1,2-DICHLOROPROPANE	5.19	63	35525	23.97	ug/L	100
29) Methylcyclohexane	5.18	83	39747	23.08	ug/L	99
30) Bromodichloromethane	5.48	83	61669	24.52	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100448.D
Acq On : 5 Oct 2004 7:55 am
Sample : LCS-DUP 25ppb
Misc : IS/S 1uL #475, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 48
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	60602	21.66 ug/L	100
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	42888	27.79 ug/L	99
34) TOLUENE	6.35	92	101948	23.75 ug/L	97
35) trans-1,3-Dichloropropene	6.61	75	57738	23.09 ug/L	98
36) 1,1,2-Trichloroethane	6.83	83	29655	25.21 ug/L	98
37) Tetrachloroethene	7.00	166	35800	23.18 ug/L	99
38) 2-Hexanone (MBK)	7.15	43	29924	29.28 ug/L	99
40) Dibromochloromethane	7.30	129	34906	24.37 ug/L	99
41) 1,2-Dibromoethane	7.44	107	36418	25.41 ug/L	99
42) Chlorobenzene	8.06	112	93392	23.15 ug/L	97
43) ETHYLBENZENE	8.22	91	181117	24.10 ug/L	99
44) m&p-Xylene	8.37	106	118585	47.73 ug/L	100
45) o-Xylene	8.88	106	58175	23.34 ug/L	99
46) Styrene	8.91	104	105722	23.52 ug/L	96
47) Bromoform	9.14	173	27429	25.16 ug/L	99
49) Isopropylbenzene	9.39	105	120203	22.45 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	42182	25.17 ug/L	99
52) 1,3-Dichlorobenzene	11.09	146	54653	22.55 ug/L	99
53) 1,4-Dichlorobenzene	11.22	146	59527	22.05 ug/L	97
54) 1,2-Dichlorobenzene	11.73	146	52494	22.82 ug/L	98
55) 1,2-Dibromo-3-chloropropan	12.85	75	6368	29.92 ug/L	88
56) 1,2,4-Trichlorobenzene	14.05	180	30748	23.85 ug/L	97
57) Naphthalene	14.37	128	57	Not Detected	

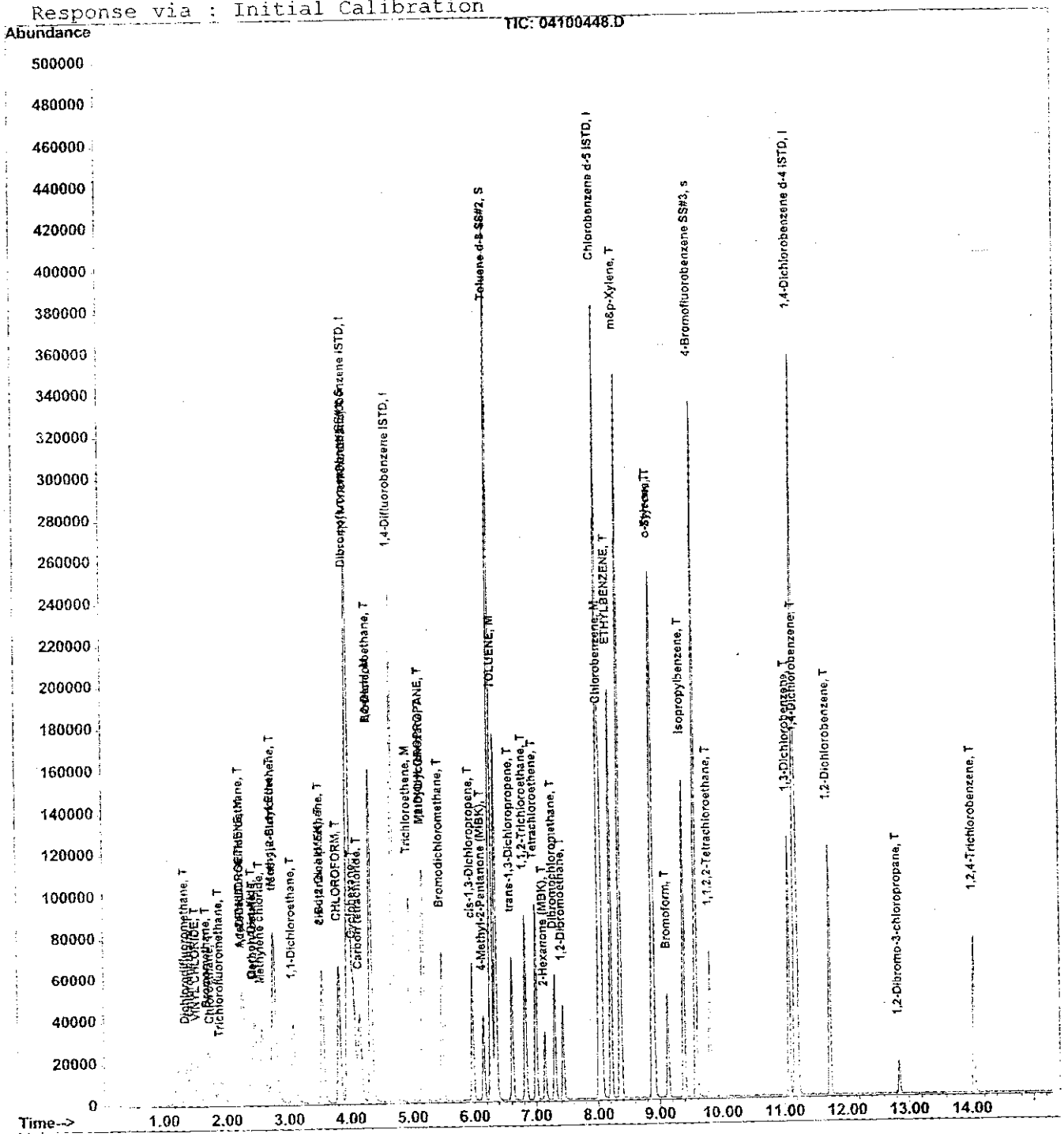
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100448.D
Acq On : 5 Oct 2004 7:55 am
Sample : LCS-DUP 25ppb
Misc : IS/S 1uL #475, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 48
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041004\04100422.D Vial: 22
Acq On : 4 Oct 2004 8:44 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #475, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene ISTD	1.000	1.000	0.0	95	0.00
2	T	Dichlorodifluoromethane	0.567	0.568	-0.2	94	0.00
3	T	Chloromethane	0.494	0.492	0.4	109	-0.01
4	T	VINYL CHLORIDE	0.439	0.440	-0.2	95	0.00
5	T	Bromomethane	0.439	0.409	6.8	94	-0.01
6	T	Chloroethane	0.222	0.226	-1.8	92	0.00
7	T	Trichlorofluoromethane	0.306	0.335	-9.5	93	0.00
8	T	Acetone	0.162	0.121	25.3#	94	0.00
9	M	1,1-DICHLOROETHENE	0.453	0.438	3.3	93	0.00
10	T	1,1,2-Trichlorotrifluoroeth	0.379	0.397	-4.7	94	0.01
11	T	Carbon Disulfide	1.354	1.328	1.9	93	0.00
12	T	Methyl Acetate	0.047	0.052	-10.6	99	0.01
13	T	Methylene chloride	0.571	0.487	14.7	92	0.00
14	T	trans-1,2-Dichloroethene	0.486	0.473	2.7	94	0.00
15	T	Methyl-t-Butyl Ether	0.898	0.891	0.8	96	0.01
16	T	1,1-Dichloroethane	0.721	0.714	1.0	94	0.01
17	T	cis-1,2-Dichloroethene	0.507	0.500	1.4	95	0.00
18	T	2-Butanone (MEK)	0.201	0.188	6.5	99	0.01
19	T	CHLOROFORM	0.925	0.891	3.7	93	0.00
20	S	Dibromofluoromethane SS#1	0.506	0.510	-0.8	94	0.00
21	T	1,1,1-Trichloroethane	0.769	0.758	1.4	96	0.00
22	T	Cyclohexane	0.522	0.532	-1.9	94	0.01
23	I	1,4-Difluorobenzene ISTD	1.000	1.000	0.0	93	0.00
24	T	Carbon tetrachloride	0.386	0.385	0.3	94	0.00
25	M	Benzene	1.255	1.217	3.0	95	0.00
26	T	1,2-Dichloroethane	0.436	0.440	-0.9	99	0.00
27	M	Trichloroethene	0.360	0.351	2.5	97	0.00
28	T	1,2-DICHLOROPROPANE	0.274	0.268	2.2	95	0.01
29	T	Methylcyclohexane	0.318	0.323	-1.6	95	0.01
30	T	Bromodichloromethane	0.465	0.471	-1.3	95	0.00
31	T	cis-1,3-Dichloropropene	0.517	0.512	1.0	96	0.01
32	T	4-Methyl-2-Pentanone (MIBK)	0.285	0.296	-3.9	101	0.01
33	S	Toluene d-8 SS#2	1.251	1.276	-2.0	95	0.00
34	M	TOLUENE	0.794	0.766	3.5	94	0.00
35	T	trans-1,3-Dichloropropene	0.462	0.477	-3.2	98	0.00
36	T	1,1,2-Trichloroethane	0.217	0.223	-2.8	97	0.00
37	T	Tetrachloroethene	0.286	0.282	1.4	95	0.00
38	T	2-Hexanone (MBK)	0.189	0.198	-4.8	101	0.00
39	I	Chlorobenzene d-5 ISTD	1.000	1.000	0.0	96	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041004\04100422.D
Acq On : 4 Oct 2004 8:44 pm
Sample : TCL-W, CCV 50ppb
Misc : 1S/S 1uL #475, CCV 10uL #548
MS Integration Params: rteint.p

Vial: 22
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	T	Dibromochloromethane	0.305	0.309	-1.3	97	0.00
41	T	1,2-Dibromoethane	0.306	0.298	2.6	94	0.00
42	M	Chlorobenzene	0.860	0.834	3.0	94	0.00
43	T	ETHYLBENZENE	1.602	1.535	4.2	91	0.00
44	T	m&p-Xylene	0.530	0.517	2.5	93	0.00
45	T	o-Xylene	0.531	0.505	4.9	92	0.00
46	T	Styrene	0.958	0.940	1.9	92	0.00
47	T	Bromoform	0.232	0.234	-0.9	94	0.00
48	I	1,4-Dichlorobenzene d-4 IST	1.000	1.000	0.0	97	0.01
49	T	Isopropylbenzene	2.546	2.412	5.3	93	0.00
50	s	4-Bromofluorobenzene SS#3	1.405	1.364	2.9	93	0.00
51	T	1,1,2,2-Tetrachloroethane	0.797	0.803	-0.8	100	0.01
52	T	1,3-Dichlorobenzene	1.153	1.082	6.2	91	0.00
53	T	1,4-Dichlorobenzene	1.284	1.143	11.0	95	0.01
54	T	1,2-Dichlorobenzene	1.094	1.007	8.0	91	0.00
55	T	1,2-Dibromo-3-chloropropane	0.101	0.102	-1.0	102	0.00
56	T	1,2,4-Trichlorobenzene	0.613	0.550	10.3	90	0.00
57	T	Naphthalene	0.887	0.812	8.5	90	0.00

Quantitation Report (QT Reviewed)

Data file : C:\HPCHEM\1\DATA\041004\04100422.D Vial: 22
Acq On : 4 Oct 2004 8:44 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #475, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 4 23:03 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	4.00	168	197265	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	281712	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.04	117	244159	50.00	ug/L	0.00
48) 1,4-Dichlorobenzene d-4 IS	11.20	152	108833	50.00	ug/L	0.01
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.97	113	100520	50.33	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.66%			
33) Toluene d-8 SS#2	6.29	98	359338	50.97	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.94%			
50) 4-Bromofluorobenzene SS#3	9.60	95	148436	48.52	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.38	85	112071	50.08	ug/L	100
3) Chloromethane	1.47	50	97051m	49.84	ug/L	
4) VINYL CHLORIDE	1.56	62	86769	50.14	ug/L	99
5) Bromomethane	1.72	94	80732	46.57	ug/L	100
6) Chloroethane	1.77	64	44619	50.97	ug/L	100
7) Trichlorofluoromethane	1.94	101	66077	42.20	ug/L	99
8) Acetone	2.25	43	23925	47.83	ug/L	98
9) 1,1-DICHLOROETHENE	2.27	96	86446	48.41	ug/L	98
10) 1,1,2-Trichlorotrifluoroet	2.27	101	78379	52.37	ug/L	98
11) Carbon Disulfide	2.47	76	262009	49.06	ug/L	100
12) Methyl Acetate	2.48	74	10315	56.09	ug/L	100
13) Methylene chloride	2.58	84	96120	42.64	ug/L	99
14) trans-1,2-Dichloroethene	2.78	96	93397	48.72	ug/L	98
15) Methyl-t-Butyl Ether	2.77	73	175843	49.63	ug/L	100
16) 1,1-Dichloroethane	3.09	63	140831	49.49	ug/L	99
17) cis-1,2-Dichloroethene	3.56	96	98711	49.37	ug/L	99
18) 2-Butanone (MEK)	3.55	43	37139	46.90	ug/L	99
19) CHLOROFORM	3.83	83	175717	48.16	ug/L	99
21) 1,1,1-Trichloroethane	4.01	97	149581	49.32	ug/L #	54
22) Cyclohexane	4.08	56	105016	51.00	ug/L	93
24) Carbon tetrachloride	4.17	117	108502	49.86	ug/L	100
25) Benzene	4.34	78	342715	48.46	ug/L	100
26) 1,2-Dichloroethane	4.35	62	124078	50.48	ug/L	100
27) Trichloroethene	4.98	95	98798	48.72	ug/L	100
28) 1,2-DICHLOROPROPANE	5.21	63	75628	48.99	ug/L	100
29) Methylcyclohexane	5.19	83	91071	50.77	ug/L	99
30) Bromodichloromethane	5.49	83	132549	50.58	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100422.D
Acq On : 4 Oct 2004 8:44 pm
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #475, CCV 10uL #548
MS Integration Params: rteint.p
Quant Time: Oct 4 23:03 2004

Vial: 22
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

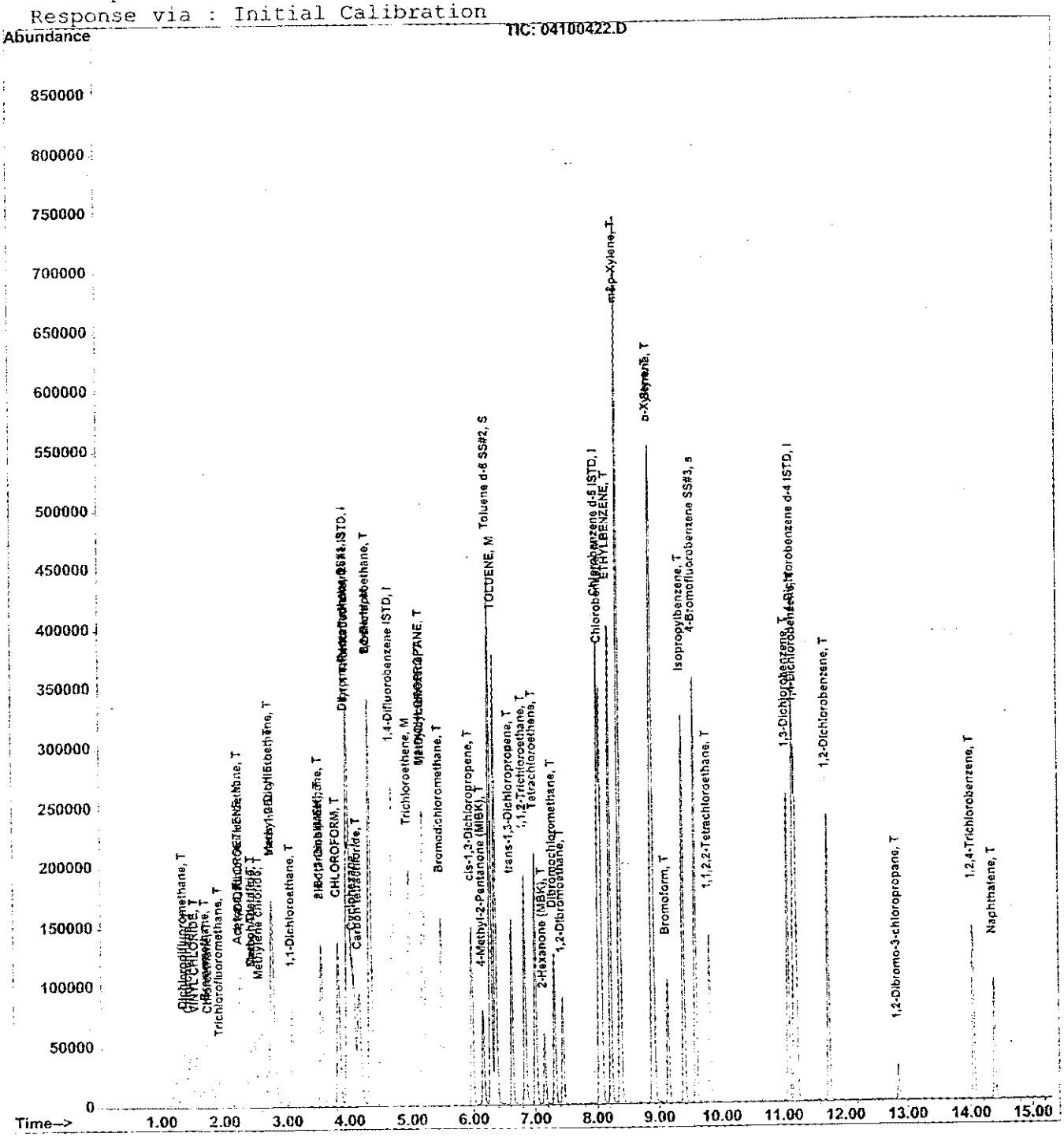
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.99	75	144131	49.44 ug/L	99
32) 4-Methyl-2-Pentanone (MIBK	6.17	43	83384	51.86 ug/L	99
34) TOLUENE	6.37	92	215794	48.25 ug/L	98
35) trans-1,3-Dichloropropene	6.63	75	134481	51.62 ug/L	98
36) 1,1,2-Trichloroethane	6.84	83	62873	51.31 ug/L	99
37) Tetrachloroethene	7.01	166	79393	49.35 ug/L	100
38) 2-Hexanone (MBK)	7.15	43	55778	52.39 ug/L	100
40) Dibromochloromethane	7.32	129	75510	50.63 ug/L	99
41) 1,2-Dibromoethane	7.45	107	72748	48.76 ug/L	98
42) Chlorobenzene	8.08	112	203595	48.48 ug/L	98
43) ETHYLBENZENE	8.22	91	374687	47.89 ug/L	100
44) m&p-Xylene	8.39	106	252632	97.66 ug/L	98
45) o-Xylene	8.90	106	123342	47.54 ug/L	97
46) Styrene	8.92	104	229401	49.02 ug/L	98
47) Bromoform	9.15	173	57172	50.38 ug/L	98
49) Isopropylbenzene	9.41	105	262517	47.37 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.83	83	87361	50.37 ug/L	100
52) 1,3-Dichlorobenzene	11.10	146	117708	46.92 ug/L	100
53) 1,4-Dichlorobenzene	11.23	146	124422	44.52 ug/L	98
54) 1,2-Dichlorobenzene	11.74	146	109597	46.04 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.86	75	11154	50.63 ug/L	94
56) 1,2,4-Trichlorobenzene	14.05	180	59813	44.82 ug/L	99
57) Naphthalene	14.39	128	88324	45.74 ug/L	100

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100422.D
Acq On : 4 Oct 2004 8:44 pm
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #475, CCV 10uL #548
MS Integration Params: rteint.p
Quant Time: Oct 4 23:03 2004

Vial: 22
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041004\04100423.D
Acq On : 4 Oct 2004 9:09 pm
Sample : UNREG-W, CCV 50ppb
Misc : IS/S 1uL #475, CCV 10uL #549
MS Integration Params: rteint.p

Vial: 23
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentaflourobenzene	1.000	1.000	0.0	95	0.00
2	t	acrolein	0.049	0.052	-6.1	99	0.05
3	t	iodomethane	0.630	0.622	1.3	95	0.00
4	t	acrylonitrile	0.103	0.113	-9.7	104	0.00
5	t	tert-butanol	0.045	0.050	-11.1	101	0.00
6	t	vinyl acetate	1.787	1.761	1.5	99	0.00
7	t	diisopropyl ether	1.638	1.596	2.6	96	0.00
8	t	tert-Butyl ethyl ether	1.147	1.108	3.4	94	0.00
9	T	2,2-Dichloropropane	0.610	0.598	2.0	103	0.00
10	T	Bromochloromethane	0.202	0.198	2.0	95	0.00
11	S	Dibromofluoromethane SS#1	0.507	0.507	0.0	94	0.00
12	I	1,4-Difluorobenzene	1.000	1.000	0.0	94	0.00
13	T	1,1-Dichloropropene	0.428	0.419	2.1	96	0.00
14	t	tert-amyl methyl ether	0.753	0.714	5.2	95	0.00
15	T	Dibromomethane	0.212	0.209	1.4	97	0.00
16	t	1,4-dioxane	0.001	0.000	100.0#	52	0.04
17	T	2-Chloroethylvinyl Ether	0.079	0.077	2.5	93	0.00
18	S	Toluene d-8 SS#2	1.254	1.248	0.5	93	0.00
19	I	Chlorobenzene d-5	1.000	1.000	0.0	93	0.00
20	T	1,3-Dichloropropane	0.526	0.514	2.3	97	0.00
21	T	1,1,1,2-Tetrachloroethane	0.289	0.276	4.5	93	0.00
22	T	1,2,3-Trichloropropane	0.100	0.100	0.0	101	0.00
23	s	4-Bromofluorobenzene SS#3	0.597	0.610	-2.2	95	0.00
24	T	Bromobenzene	0.369	0.348	5.7	93	0.00
25	t	trans-1,4-dichloro-2-butene	0.324	0.393	-21.3	145	0.00
26	T	n-Propylbenzene	1.535	1.506	1.9	96	0.00
27	I	1,4-Dichlorobenzene d-4	1.000	1.000	0.0	98	0.00
28	T	2-Chlorotoluene	2.429	2.203	9.3	94	0.00
29	T	4-Chlorotoluene	2.768	2.575	7.0	94	0.00
30	T	1,3,5-Trimethylbenzene	2.222	2.066	7.0	94	0.00
31	T	tert-Butylbenzene	1.574	1.431	9.1	91	0.00
32	T	1,2,4-Trimethylbenzene	2.328	2.152	7.6	91	0.00
33	T	sec-Butylbenzene	2.595	2.396	7.7	91	0.00
34	T	4-Isopropyltoluene	1.853	1.747	5.7	95	0.00
35	T	n-Butylbenzene	2.078	1.992	4.1	94	0.00
36	T	1,2,3-Trichlorobenzene	0.396	0.372	6.1	93	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100423.D
Acq On : 4 Oct 2004 9:09 pm
Sample : UNREG-W, CCV 50ppb
Misc : IS/S 1uL #475, CCV 10uL #549
MS Integration Params: rteint.p
Quant Time: Oct 5 12:20 2004

Vial: 23
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentaflourobenzene	4.00	168	198568	50.00	ug/L	0.00
12) 1,4-Difluorobenzene	4.71	114	285247	50.00	ug/L	0.00
19) Chlorobenzene d-5	8.04	117	238862	50.00	ug/L	0.00
27) 1,4-Dichlorobenzene d-4	11.19	152	109179	50.00	ug/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane SS#1	3.97	113	100596	50.01	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.02%			
18) Toluene d-8 SS#2	6.29	98	355861	49.75	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.50%			
23) 4-Bromofluorobenzene SS#3	9.60	95	145706	51.10	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.20%			
Target Compounds						Qvalue
2) acrolein	2.16	56	10340	53.05	ug/L #	100
3) iodomethane	2.39	142	123417	49.35	ug/L	99
4) acrylonitrile	2.73	53	22515	54.94	ug/L	99
5) tert-butanol	2.67	59	9881	54.98	ug/L	100
6) vinyl acetate	3.10	43	349583	49.25	ug/L	100
7) diisopropyl ether	3.12	45	316844	48.71	ug/L	100
8) tert-Butyl ethyl ether	3.43	59	219988	48.30	ug/L	99
9) 2,2-Dichloropropane	3.57	77	118703	61.34	ug/L	100
10) Bromochloromethane	3.77	128	39394	49.21	ug/L	99
13) 1,1-Dichloropropene	4.15	75	119583	49.00	ug/L	99
14) tert-amyl methyl ether	4.45	73	203594	47.39	ug/L	100
15) Dibromomethane	5.32	93	59614	49.29	ug/L	98
16) 1,4-dioxane	5.37	58	63	16.13	ug/L #	1
17) 2-Chloroethylvinyl Ether	5.82	63	21999	48.66	ug/L	96
20) 1,3-Dichloropropane	7.04	76	122834	48.92	ug/L	100
21) 1,1,1,2-Tetrachloroethane	8.18	131	65940	47.79	ug/L	99
22) 1,2,3-Trichloropropane	9.86	110	23888	49.77	ug/L	100
24) Bromobenzene	9.79	156	83085	47.18	ug/L	99
25) trans-1,4-dichloro-2-buten	9.86	75	93964	74.84	ug/L #	100
26) n-Propylbenzene	9.97	91	359820	49.06	ug/L	100
28) 2-Chlorotoluene	10.07	91	240517	45.34	ug/L	99
29) 4-Chlorotoluene	10.21	91	281120	46.51	ug/L	100
30) 1,3,5-Trimethylbenzene	10.22	105	225529	46.49	ug/L	100
31) tert-Butylbenzene	10.67	119	156236	45.46	ug/L	100
32) 1,2,4-Trimethylbenzene	10.73	105	234911	46.21	ug/L	100
33) sec-Butylbenzene	10.97	105	261597	46.16	ug/L	100
34) 4-Isopropyltoluene	11.19	119	190772	47.15	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100423.D
Acq On : 4 Oct 2004 9:09 pm
Sample : UNREG-W, CCV 50ppb
Misc : IS/S 1uL #475, CCV 10uL #549
MS Integration Params: rteint.p
Quant Time: Oct 5 12:20 2004

Vial: 23
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) n-Butylbenzene	11.77	91	217494	47.92 ug/L	100
36) 1,2,3-Trichlorobenzene	14.75	180	40627	46.94 ug/L	99

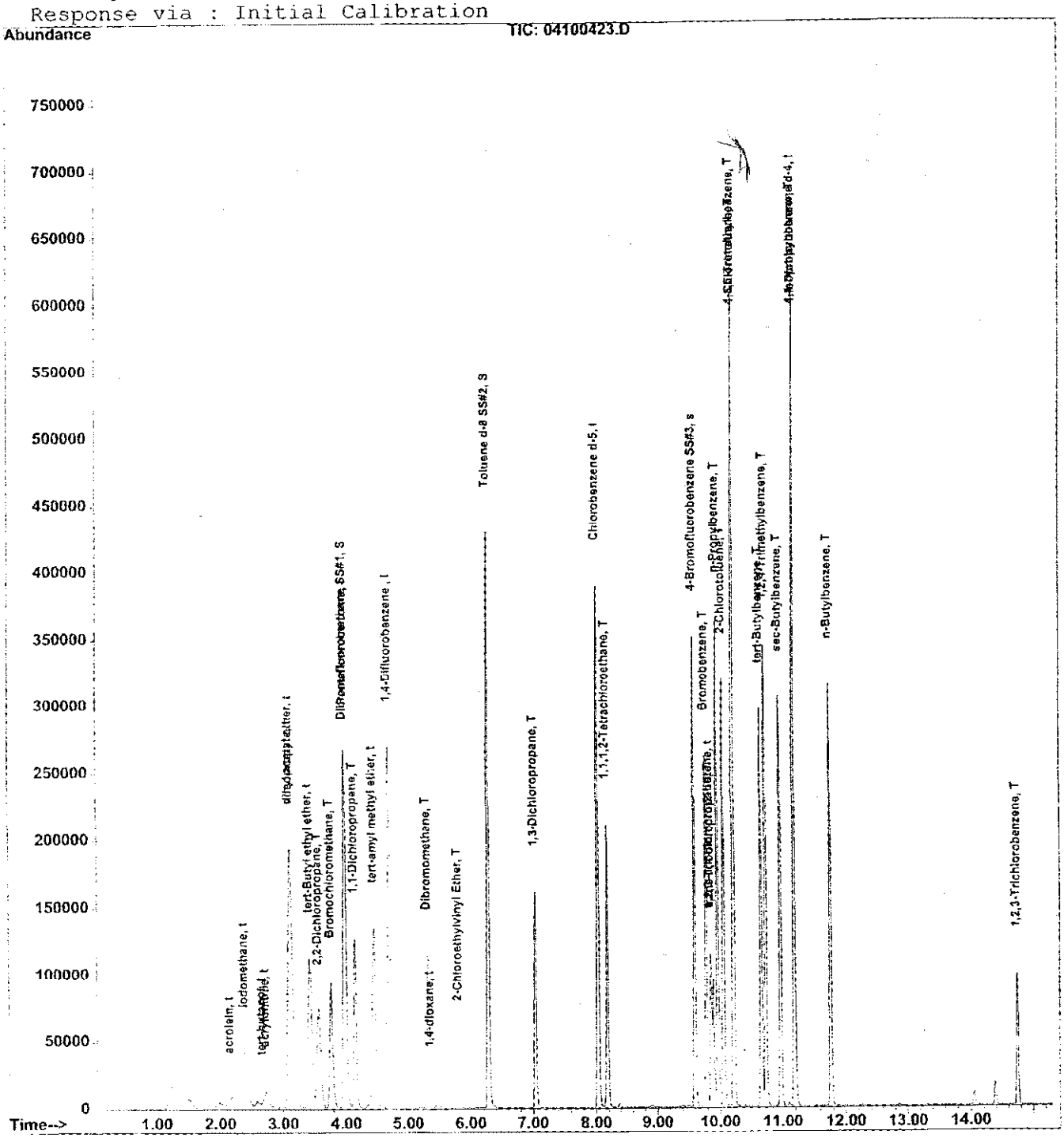
(#) = qualifier out of range (m) = manual integration
04100423.D UNREG-W.M Tue Oct 05 12:21:12 2004

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100423.D
Acq On : 4 Oct 2004 9:09 pm
Sample : UNREG-W, CCV 50ppb
Misc : IS/S 1uL #475, CCV 10uL #549
MS Integration Params: rteint.p
Quant Time: Oct 5 12:20 2004

Vial: 23
Operator: MI
Inst : VOC#1
Multiplr: 1.00

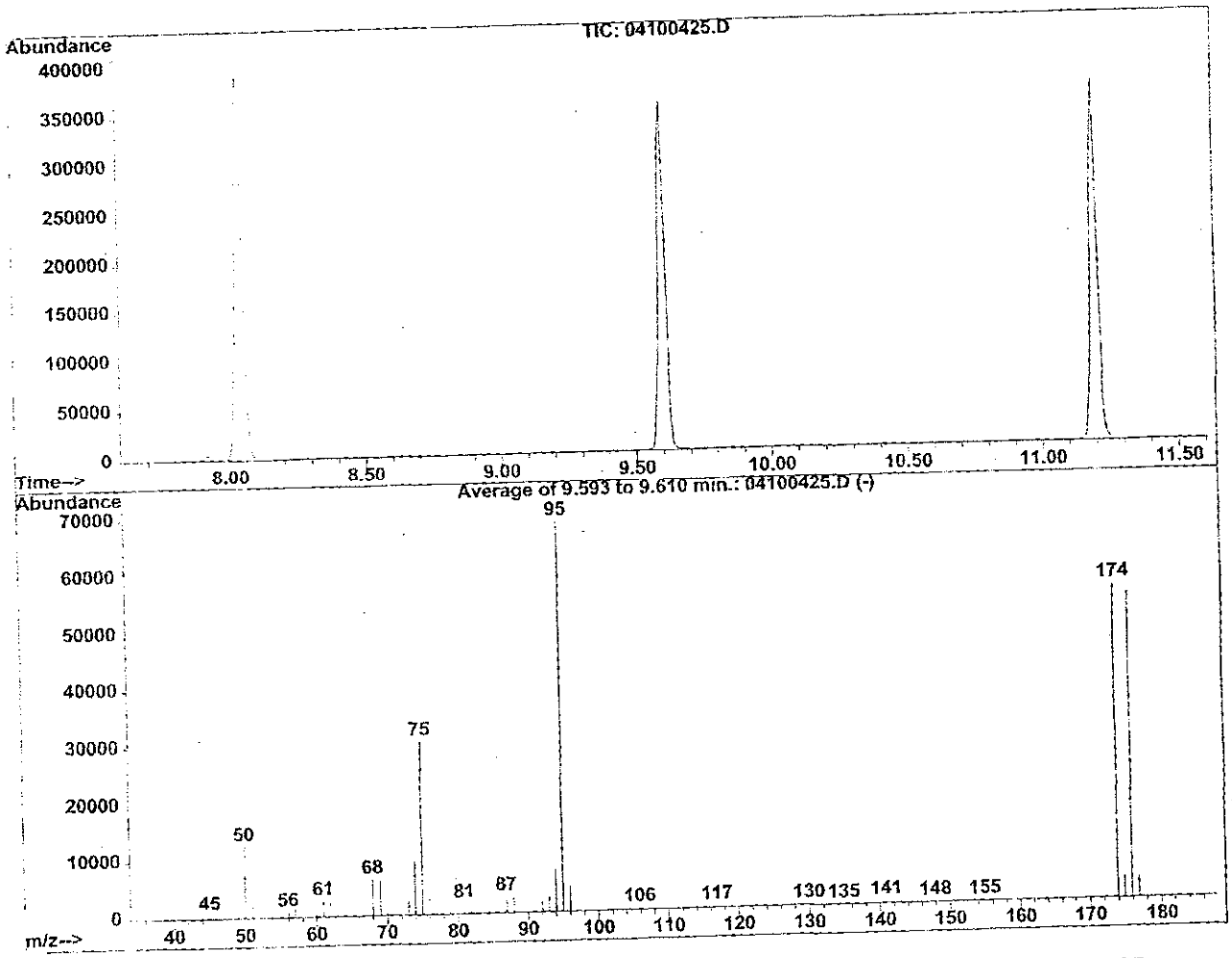
Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration



BFB

Data File : C:\HPCHEM\1\DATA\041004\04100425.D
Acq On : 4 Oct 2004 9:59 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #475
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00



AutoFind: Scans 1162, 1163, 1164; Background Corrected with Scan 1155

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.6	12741	PASS
75	95	30	60	44.4	30376	PASS
95	95	100	100	100.0	68429	PASS
96	95	5	9	6.4	4349	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	80.7	55208	PASS
175	174	5	9	6.9	3824	PASS
176	174	95	101	97.6	53891	PASS
177	176	5	9	6.9	3718	PASS

04100425.D TCL-W.M Tue Oct 05 12:22:51 2004

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Semivolatile Organic Compounds

- *Surrogate Summary*
- *Method Blank Summary*
- *LCS Summary*
- *Continuing Calibration Verification Summary*
- *DFTPP Tune Summary*

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6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
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PHASE SEPARATION SCIENCE, INC.

SEMI-VOLATILES

SYSTEM MONITORING COMPOUND RECOVERY (SURROGATES)

METHOD: EPA 8270 **LAB CODE:** SURR

MATRIX: WATER **BATCH NUMBER:** 1905

Sample ID	Date/Time Analyzed	2,4,6-Tribromophenol	2-Fluorobiphenyl	2-Fluorophenol	Nitrobenzene d-5	Phenol d-6	Terphenyl d-16
DMW 9S-092204 / 04092217-05	10/06/04 05:48 AM	55	98	–	67	40	69
Upper Limit		123	116	100	114	94	141
Lower Limit		10	43	21	35	10	33

* - Indicates values outside of QC control limits.

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PHASE SEPARATION SCIENCE, INC.

SEMI-VOLATILES

METHOD BLANK SUMMARY

ANALYSIS:	**SEMI-VOLATILES**	**BATCH ID:**	**1905**
METHOD NO.:	**EPA 8270**	**LAB SAMPLE ID:**	**MB - Water**
LAB FILE ID:	**04100514.D**	**DATE/TIME ANALYZED:**	**10/06/04 12:52 AM**

This Method Blank applies to the following samples:

Field Sample ID	Lab Sample ID	Lab File ID	Date/Time Analyzed
DMW 9S-092204	04092217-05	04100522.D	10/06/04 05:48 AM

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PHASE SEPARATION SCIENCE, INC.

ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE

METHOD BLANK RESULTS

Analysis: Semi-Volatiles
Matrix: Water
Batch ID: 1905
Batch Date: 09/29/04

	Result	Unit	Method	PQL	Analyzed
PHENOL	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Bis (2-chloroethyl) ether	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
2-Chlorophenol	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
2-Methylphenol	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Bis (2-chloroisopropyl) ether	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Acetophenone	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
3,4-Methylphenol	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
N-Nitroso-di-n-propylamine	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Hexachloroethane	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Nitrobenzene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Isophorone	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
2-NITROPHENOL	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
2,4-dimethylphenol	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Bis (2-chloroethoxy) methane	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
2,4-DICHLOROPHENOL	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Naphthalene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
4-Chloroaniline	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
HEXACHLOROBUTADIENE	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Caprolactam	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
4-CHLORO-3-METHYLPHENOL	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
2-Methylnaphthalene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Hexachlorocyclopentadiene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
2,4,6-TRICHLOROPHENOL	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
2,4,5-trichlorophenol	ND	ug/L	EPA 8270	25	10/06/04 12:52 AM
1,1-Biphenyl	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
2-Chloronaphthalene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
2-Nitroaniline	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Dimethyl phthalate	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
2,6-Dinitrotoluene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Acenaphthylene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
3-Nitroaniline	ND	ug/L	EPA 8270	25	10/06/04 12:52 AM
ACENAPHTHENE	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
2,4-Dinitrophenol	ND	ug/L	EPA 8270	25	10/06/04 12:52 AM
4-nitrophenol	ND	ug/L	EPA 8270	25	10/06/04 12:52 AM
Dibenzofuran	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
2,4-Dinitrotoluene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Diethyl phthalate	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM

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PHASE SEPARATION SCIENCE, INC.

METHOD BLANK RESULTS

Analysis: Semi-Volatiles
Matrix: Water
Batch ID: 1905
Batch Date: 09/29/04

	Result	Unit	Method	PQL	Analyzed
Fluorene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
4-chlorophenyl phenyl ether	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
4-Nitroaniline	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
4,6-Dinitro-2-methylphenol	ND	ug/L	EPA 8270	25	10/06/04 12:52 AM
N-Nitrosodiphenylamine	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
4-bromophenyl phenyl ether	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Hexachlorobenzene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Atrazine	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
PENTACHLOROPHENOL	ND	ug/L	EPA 8270	25	10/06/04 12:52 AM
Phenanthrene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Anthracene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Carbazole	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Di-n-butyl phthalate	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
FLUORANTHENE	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Pyrene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Butyl benzyl phthalate	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
3,3-Dichlorobenzidine	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Benzo (a) anthracene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Chrysene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Bis (2-ethylhexyl) phthalate	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Di-n-octyl phthalate	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Benzo (b) fluoranthene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Benzo (k) fluoranthene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Benzo (a) pyrene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Indeno (1,2,3-cd) pyrene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Dibenzo (a,h) anthracene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM
Benzo (g,h,i) perylene	ND	ug/L	EPA 8270	10	10/06/04 12:52 AM

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
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PHASE SEPARATION SCIENCE, INC.

ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE •

SEMI-VOLATILES
LABORATORY CONTROL SAMPLE SUMMARY

METHOD: EPA 8270 **BATCH NUMBER:** 1905

MATRIX: WATER

SAMPLE ID: LCS
DATE ANALYZED: 10/05/04 11:38 PM
LAB FILE IDs: 04100512.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
2,4-DINITROTOLUENE	40	NA	43	108	76 - 111
2-CHLOROPHENOL	40	NA	32	80	63 - 89
4-CHLORO-3-METHYLPHENOL	40	NA	37	91	75 - 97
4-NITROPHENOL	40	NA	55	136	73 - 111
ACENAPHTHENE	40	NA	46	114	76 - 102
N-NITROSO-DI-N-PROPYLAMINE	40	NA	31	78	61 - 108
PENTACHLOROPHENOL	40	NA	48	119	45 - 133
PHENOL	40	NA	27	68	48 - 109
PYRENE	40	NA	34	86	82 - 128

SAMPLE ID: LCSD
DATE ANALYZED: 10/06/04 12:15 AM
LAB FILE IDs: 04100513.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
2,4-DINITROTOLUENE	40	NA	42	105	2.3	30	76 - 111
2-CHLOROPHENOL	40	NA	31	79	2.4	30	63 - 89
4-CHLORO-3-METHYLPHENOL	40	NA	36	90	2.0	30	75 - 97
4-NITROPHENOL	40	NA	56	140	2.4	30	73 - 111
ACENAPHTHENE	40	NA	41	102	10.7	30	76 - 102
N-NITROSO-DI-N-PROPYLAMINE	40	NA	28	70	11.3	30	61 - 108
PENTACHLOROPHENOL	40	NA	49	123	2.8	30	45 - 133
PHENOL	40	NA	26	66	2.9	30	48 - 109
PYRENE	40	NA	32	81	5.4	30	82 - 128

* - Indicates values outside of QC control limits.

Calculations:

$$\%\text{Recovery} = \left[\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right] * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\left(\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}\right)}\right| * 100$$

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Total Metals

- *Initial Calibration Verification Summary*
- *Continuing Calibration Verification Summary*
- *Duplicate Summary*
- *Matrix Spike Summary*
- *Post Digestion Spike (PDS)*
- *Dilution Test*
- *Method Blank Summary (PB)*
- *LCS Summary (LFB)*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\007ICV1.D\007ICV1.D#
Date Acquired: Sep 23 2004 11:33 am
Acq. Method: NOSALTS.M
Operator:
Sample Name: ICV-50 PPB ; 2 PPB HG
Misc Info: 0.25 ML #444; 0.1 ML #A098-50 ML
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal. Update: Sep 23 2004 01:06 pm
Sample Type: ICV1
Dilution Factor: 1.00

QC Elements

Element	Raw Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	50.78	ppb	1.54	50.00	102	89.5 - 111	
52 Cr	48.44	ppb	1.45	50.00	97	89.5 - 111	
60 Ni	49.01	ppb	2.25	50.00	98	89.5 - 111	
63 Cu	48.84	ppb	1.48	50.00	98	89.5 - 111	
66 Zn	49.79	ppb	1.96	50.00	100	89.5 - 111	
75 As	49.43	ppb	1.04	50.00	99	89.5 - 111	
82 Se	49.76	ppb	0.95	50.00	100	89.5 - 111	
107 Ag	48.21	ppb	2.03	50.00	96	89.5 - 111	
111 Cd	49.66	ppb	0.40	50.00	99	89.5 - 111	
121 Sb	49.94	ppb	0.99	50.00	100	89.5 - 111	
202 Hg	1.95	ppb	0.85	2.00	98	89.5 - 111	
205 Tl	55.52	ppb	1.61	50.00	111	89.5 - 111	Fail
208 Pb	48.51	ppb	0.43	50.00	97	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6598626	1.79	6785139	97.3	30 - 140	
45 Sc	6057743	1.00	5983989	101.2	30 - 140	
72 Ge	1064001	1.43	1059228	100.5	30 - 140	
115 In	5666497	0.67	5784030	98.0	30 - 140	
159 Tb	7581803	1.37	7629566	99.4	30 - 140	
209 Bi	4172959	1.15	4314976	96.7	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
0.05 ML # 115; 1.25 ML # A100; HG 0.1 ML # A097
HNO3 #82; HCL #X13037; Au #174; IS # 168

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\008_ICB.D\008_ICB.D#
Date Acquired: Sep 23 2004 11:37 am
Operator:
Sample Name: icb
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal Update: Sep 23 2004 01:06 pm
Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.04	ppb	19.81	2.50	
52 Cr	-0.10	ppb	45.94	2.50	
60 Ni	0.29	ppb	40.94	2.50	
63 Cu	-0.05	ppb	18.03	2.50	
66 Zn	0.93	ppb	3.71	25.00	
75 As	-0.04	ppb	96.62	0.50	
82 Se	0.09	ppb	36.70	2.50	
107 Ag	-0.03	ppb	45.40	2.50	
111 Cd	0.07	ppb	31.89	2.50	
121 Sb	0.09	ppb	10.15	2.50	
202 Hg	0.02	ppb	30.05	0.10	
205 Tl	0.66	ppb	6.79	2.50	
208 Pb	0.05	ppb	21.33	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6798793	2.70	6785139	100.2	30 - 140	
45 Sc	5992596	1.94	5983989	100.1	30 - 140	
72 Ge	1048044	0.74	1059228	98.9	30 - 140	
115 In	5799536	0.48	5784030	100.3	30 - 140	
159 Tb	7625608	0.51	7629566	99.9	30 - 140	
209 Bi	4285351	1.21	4314976	99.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\009SMPL.D\009SMPL.D#
Date Acquired: Sep 23 2004 11:42 am
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 1.0 PPB CHECK
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal. Update: Sep 23 2004 01:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	1.02	1.02	ppb	3.28	8000.00	
52 Cr	0.96	0.96	ppb	5.69	40000.00	
60 Ni	1.60	1.60	ppb	1.26	8000.00	
63 Cu	0.96	0.96	ppb	5.07	8000.00	
66 Zn	3.29	3.29	ppb	1.83	8000.00	
75 As	0.92 ✓	0.92	ppb	8.28	8000.00	
82 Se	1.05	1.05	ppb	4.91	8000.00	
107 Ag	0.95	0.95	ppb	2.17	8000.00	
111 Cd	1.05	1.05	ppb	5.79	8000.00	
121 Sb	1.04	1.04	ppb	2.22	8000.00	
202 Hg	0.00	0.00	ppb	93.87	8.00	
205 Tl	1.25	1.25	ppb	8.22	8000.00	
208 Pb	1.00	1.00	ppb	0.75	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6913093.00	2.58	6785139.00	101.9	30 - 140	
45 Sc	6013781.00	0.61	5983988.50	100.5	30 - 140	
72 Ge	1041614.90	0.98	1059227.60	98.3	30 - 140	
115 In	5762146.50	1.13	5784029.50	99.6	30 - 140	
159 Tb	7639668.00	1.09	7629565.50	100.1	30 - 140	
209 Bi	4327113.00	0.67	4314976.00	100.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\021CCV1.D\021CCV1.D#
Date Acquired: Sep 23 2004 12:48 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1103
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal Update: Sep 23 2004 01:06 pm
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	41.22	ppb	2.88	40.00	103	89.5 - 111	
52 Cr	39.15	ppb	2.19	40.00	98	89.5 - 111	
60 Ni	39.79	ppb	2.46	40.00	99	89.5 - 111	
63 Cu	38.10	ppb	2.86	40.00	95	89.5 - 111	
66 Zn	40.08	ppb	1.03	40.00	100	89.5 - 111	
75 As	40.02	ppb	1.25	40.00	100	89.5 - 111	
82 Se	40.68	ppb	0.41	40.00	102	89.5 - 111	
107 Ag	38.86	ppb	2.48	40.00	97	89.5 - 111	
111 Cd	39.99	ppb	1.20	40.00	100	89.5 - 111	
121 Sb	39.70	ppb	0.99	40.00	99	89.5 - 111	
202 Hg	0.95	ppb	2.05	1.00	95	89.5 - 111	
205 Tl	38.73	ppb	4.62	40.00	97	89.5 - 111	
208 Pb	38.94	ppb	2.11	40.00	97	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6507071	2.71	6785139	95.9	30 - 140	
45 Sc	5999968	0.81	5983989	100.3	30 - 140	
72 Ge	1052712	1.45	1059228	99.4	30 - 140	
115 In	5674830	0.75	5784030	98.1	30 - 140	
159 Tb	7426741	0.85	7629566	97.3	30 - 140	
209 Bi	4103636	1.92	4314976	95.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\023_CCB.D\023_CCB.D#
Date Acquired: Sep 23 2004 12:57 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal Update: Sep 23 2004 01:06 pm
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.03	ppb	22.84	2.50	
52 Cr	-0.12	ppb	15.81	2.50	
60 Ni	0.07	ppb	101.28	2.50	
63 Cu	-0.19	ppb	6.83	2.50	
66 Zn	0.05	ppb	50.49	25.00	
75 As	0.01	ppb	1001.30	0.50	
82 Se	0.07	ppb	41.32	2.50	
107 Ag	-0.23	ppb	0.77	2.50	
111 Cd	0.11	ppb	17.14	2.50	
121 Sb	-0.02	ppb	55.07	2.50	
202 Hg	0.00	ppb	71.59	0.10	
205 Tl	1.06	ppb	3.60	2.50	
208 Pb	0.03	ppb	29.59	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6735085	1.10	6785139	99.3	30 - 140	
45 Sc	6007583	1.73	5983989	100.4	30 - 140	
72 Ge	1059383	0.74	1059228	100.0	30 - 140	
115 In	5726506	0.56	5784030	99.0	30 - 140	
159 Tb	7628247	0.46	7629566	100.0	30 - 140	
209 Bi	4263754	1.25	4314976	98.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\035CCV1.D\035CCV1.D#
Date Acquired: Sep 23 2004 01:55 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1103
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal Update: Sep 23 2004 01:06 pm
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	40.43	ppb	1.83	40.00	101	89.5 - 111	
52 Cr	39.77	ppb	1.04	40.00	99	89.5 - 111	
60 Ni	39.95	ppb	1.92	40.00	100	89.5 - 111	
63 Cu	38.30	ppb	0.22	40.00	96	89.5 - 111	
66 Zn	39.93	ppb	1.26	40.00	100	89.5 - 111	
75 As	40.27	ppb	0.26	40.00	101	89.5 - 111	
82 Se	41.20	ppb	0.43	40.00	103	89.5 - 111	
107 Ag	38.30	ppb	0.80	40.00	96	89.5 - 111	
111 Cd	40.36	ppb	1.29	40.00	101	89.5 - 111	
121 Sb	39.28	ppb	0.78	40.00	98	89.5 - 111	
202 Hg	0.93	ppb	1.89	1.00	93	89.5 - 111	
205 Tl	36.43	ppb	4.27	40.00	91	89.5 - 111	
208 Pb	38.41	ppb	0.46	40.00	96	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6744692	1.75	6785139	99.4	30 - 140	
45 Sc	6155720	0.65	5983989	102.9	30 - 140	
72 Ge	1068912	0.99	1059228	100.9	30 - 140	
115 In	5665119	0.57	5784030	97.9	30 - 140	
159 Tb	7390573	0.83	7629566	96.9	30 - 140	
209 Bi	4076226	0.24	4314976	94.5	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\036_CCB.D\036_CCB.D#
Date Acquired: Sep 23 2004 01:59 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal Update: Sep 23 2004 01:06 pm
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.02	ppb	48.13	2.50	
52 Cr	-0.11	ppb	10.89	2.50	
60 Ni	0.08	ppb	79.80	2.50	
63 Cu	-0.18	ppb	17.24	2.50	
66 Zn	0.03	ppb	42.23	25.00	
75 As	-0.02	ppb	332.86	0.50	
82 Se	0.04	ppb	115.25	2.50	
107 Ag	-0.31	ppb	1.80	2.50	
111 Cd	0.13	ppb	17.12	2.50	
121 Sb	-0.04	ppb	19.19	2.50	
202 Hg	0.00	ppb	372.10	0.10	
205 Tl	0.98	ppb	8.28	2.50	
208 Pb	0.05	ppb	19.15	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6983556	1.97	6785139	102.9	30 - 140	
45 Sc	6207898	0.77	5983989	103.7	30 - 140	
72 Ge	1065409	0.88	1059228	100.6	30 - 140	
115 In	5776593	1.55	5784030	99.9	30 - 140	
159 Tb	7515020	0.25	7629566	98.5	30 - 140	
209 Bi	4230236	0.74	4314976	98.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\048CCV1.D\048CCV1.D#
Date Acquired: Sep 23 2004 02:57 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1103
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal Update: Oct 22 2004 08:50 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	41.33	ppb	2.04	40.00	103	89.5 - 110.5	
52 Cr	39.54	ppb	0.81	40.00	99	89.5 - 110.5	
60 Ni	40.16	ppb	3.40	40.00	100	89.5 - 110.5	
63 Cu	38.58	ppb	3.30	40.00	96	89.5 - 110.5	
66 Zn	40.58	ppb	0.99	40.00	101	89.5 - 110.5	
75 As	40.24	ppb	2.71	40.00	101	89.5 - 110.5	
82 Se	40.16	ppb	0.13	40.00	100	89.5 - 110.5	
107 Ag	38.47	ppb	2.71	40.00	96	89.5 - 110.5	
111 Cd	39.38	ppb	1.58	40.00	98	89.5 - 110.5	
121 Sb	38.67	ppb	0.73	40.00	97	89.5 - 110.5	
202 Hg	0.94	ppb	2.35	1.00	94	89.5 - 110.5	
205 Tl	38.21	ppb	3.31	40.00	96	89.5 - 110.5	
208 Pb	38.38	ppb	0.34	40.00	96	89.5 - 110.5	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6989353	2.18	6785139	103	30 - 140	
45 Sc	6111820	1.12	5983989	102	30 - 140	
72 Ge	1064021	2.70	1059228	100	30 - 140	
115 In	5757159	0.41	5784030	100	30 - 140	
159 Tb	7338483	0.53	7629566	96	30 - 140	
209 Bi	4026498	0.65	4314976	93	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\049_CCB.D\049_CCB.D#
Date Acquired: Sep 23 2004 03:01 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal Update: Oct 22 2004 08:50 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.03	ppb	30.69	2.50	
52 Cr	-0.17	ppb	17.84	2.50	
60 Ni	0.05	ppb	109.90	2.50	
63 Cu	-0.16	ppb	21.88	2.50	
66 Zn	0.08	ppb	34.69	25.00	
75 As	-0.01	ppb	1098.10	0.50	
82 Se	0.05	ppb	88.96	2.50	
107 Ag	-0.34	ppb	4.84	2.50	
111 Cd	0.16	ppb	11.65	2.50	
121 Sb	-0.04	ppb	37.28	2.50	
202 Hg	0.00	ppb	58.40	0.10	
205 Tl	0.77	ppb	3.78	2.50	
208 Pb	0.03	ppb	8.21	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	7229086	0.93	6785139	106.5	30 - 140	
45 Sc	6183964	2.16	5983989	103.3	30 - 140	
72 Ge	1093861	1.60	1059228	103.3	30 - 140	
115 In	5754649	2.10	5784030	99.5	30 - 140	
159 Tb	7557993	0.39	7629566	99.1	30 - 140	
209 Bi	4165359	0.52	4314976	96.5	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

PB QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\051__PB.D\051__PB.D#
Date Acquired: Sep 23 2004 03:11 pm
Operator:
Sample Name: PB
Misc Info: BATCH 1850
Vial Number: 2212
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal Update: Oct 22 2004 08:50 am
Sample Type: PB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.04	ppb	4.64	2.50	
52 Cr	-0.29	ppb	9.67	2.50	
60 Ni	0.20	ppb	17.98	2.50	
63 Cu	-0.29	ppb	3.28	2.50	
66 Zn	-0.42	ppb	6.61	25.00	
75 As	0.04	ppb	275.18	0.50	
82 Se	-0.05	ppb	124.97	2.50	
107 Ag	-0.49	ppb	0.79	2.50	
111 Cd	0.04	ppb	78.30	2.50	
121 Sb	-0.10	ppb	4.54	2.50	
202 Hg	-0.01	ppb	9.33	0.10	
205 Tl	0.00	ppb	7901.00	2.50	
208 Pb	-0.05	ppb	2.96	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	7259223	2.73	6785139	107.0	30 - 140	
45 Sc	6255354	0.74	5983989	104.5	30 - 140	
72 Ge	1089038	1.94	1059228	102.8	30 - 140	
115 In	5756068	0.70	5784030	99.5	30 - 140	
159 Tb	7506151	0.39	7629566	98.4	30 - 140	
209 Bi	4134926	0.88	4314976	95.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

LCS QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\052_LCS.D\052_LCS.D#
Date Acquired: Sep 23 2004 03:16 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: LCS
Misc Info: BATCH 1850
Vial Number: 2301
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal. Update: Oct 22 2004 08:50 am
Sample Type: LCS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Analyte Elements

Element	Raw Conc	Units	Rec(%)	Expected	QC Range(%)	Flag
9 Be	41.97	ppb	83.9	50.00	75 - 125	
52 Cr	41.42	ppb	82.8	50.00	75 - 125	
60 Ni	41.99	ppb	84.0	50.00	75 - 125	
63 Cu	39.51	ppb	79.0	50.00	75 - 125	
66 Zn	41.73	ppb	83.5	50.00	75 - 125	
75 As	40.72	ppb	81.4	50.00	75 - 125	
82 Se	42.31	ppb	84.6	50.00	75 - 125	
107 Ag	38.54	ppb	77.1	50.00	75 - 125	
111 Cd	41.82	ppb	83.6	50.00	75 - 125	
121 Sb	40.20	ppb	80.4	50.00	75 - 125	
202 Hg	1.81	ppb	90.4	2.00	75 - 125	
205 Tl	43.78	ppb	87.6	50.00	75 - 125	
208 Pb	39.59	ppb	79.2	50.00	75 - 125	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	7352781	1.84	6785139	108.4	30 - 140	
45 Sc	6164487	0.75	5983989	103.0	30 - 140	
72 Ge	1085107	0.46	1059228	102.4	30 - 140	
115 In	5665708	0.88	5784030	98.0	30 - 140	
159 Tb	7399128	1.47	7629566	97.0	30 - 140	
209 Bi	4091868	0.85	4314976	94.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

All Reference Sample QC Report

Data File:	C:\ICPCHEM\1\DATA\040923A.B\053AREF.D\053AREF.D#
Date Acquired:	Sep 23 2004 03:21 pm
Acq. Method:	NOSALTS.M
Operator:	Lisa Miller
Sample Name:	04092217-07
Misc Info:	BATCH 1850
Vial Number:	2302
Current Method:	C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File:	C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal. Update:	Oct 22 2004 08:50 am
Sample Type:	AllRef
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6.44	6.44	ppb	1.21	8000.00	
52 Cr	13.12	13.12	ppb	2.54	40000.00	
60 Ni	69.17	69.17	ppb	1.81	8000.00	
63 Cu	78.58	78.58	ppb	1.54	8000.00	
66 Zn	210.20	210.20	ppb	1.36	8000.00	
75 As	2.91	2.91	ppb	14.69	8000.00	
82 Se	38.27	38.27	ppb	5.01	8000.00	
107 Ag	-0.39	-0.39	ppb	7.14	8000.00	
111 Cd	5.33	5.33	ppb	0.27	8000.00	
121 Sb	0.05	0.05	ppb	36.59	8000.00	
202 Hg	0.02	0.02	ppb	12.11	8.00	
205 Tl	0.38	0.38	ppb	6.79	8000.00	
208 Pb	6.43	6.43	ppb	0.57	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6347073	1.24	6785139	93.5	30 - 140	
45 Sc	6105846	0.67	5983989	102.0	30 - 140	
72 Ge	1039373	0.33	1059228	98.1	30 - 140	
115 In	5196694	0.98	5784030	89.8	30 - 140	
159 Tb	7831433	1.34	7629566	102.6	30 - 140	
209 Bi	3600376	0.93	4314976	83.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:

H202 # X44A01; HNO3 # 82; HCL# X13037; Au #174; IS #168

Duplicate QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\054DUP1.D\054DUP1.D#
Date Acquired: Sep 23 2004 03:26 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092217-07
Misc Info: BATCH 1850
Vial Number: 2303
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal. Update: Oct 22 2004 08:50 am
Sample Type: Dupl
Dilution Factor: 1.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\040923A.B\053AREF.D\053AREF.D#

QC Elements

Element	Raw Conc	Units	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	6.44	ppb	1.11	6.44	0.03	20	
52 Cr	13.36	ppb	0.34	13.12	1.81	20	
60 Ni	68.41	ppb	1.55	69.17	1.10	20	
63 Cu	79.47	ppb	1.85	78.58	1.13	20	
66 Zn	204.80	ppb	0.91	210.20	2.60	20	
75 As	4.46	ppb	11.45	2.91	41.85	20	Fail
82 Se	45.32	ppb	3.93	38.27	16.87	20	
107 Ag	-0.47	ppb	2.04	-0.39	-19.07	20	<PQL
111 Cd	5.22	ppb	2.43	5.33	2.26	20	
121 Sb	0.01	ppb	91.35	0.05	125.25	20	<PQL
202 Hg	0.00	ppb	171.89	0.02	222.30	20	<PQL
205 Tl	0.16	ppb	5.04	0.38	82.04	20	<PQL
208 Pb	6.36	ppb	1.22	6.43	1.09	20	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6184797	1.33	6785139	91.2	30 - 140	
45 Sc	6182271	1.09	5983989	103.3	30 - 140	
72 Ge	1040619	2.55	1059228	98.2	30 - 140	
115 In	5244283	0.40	5784030	90.7	30 - 140	
159 Tb	7794884	1.45	7629566	102.2	30 - 140	
209 Bi	3609819	1.02	4314976	83.7	30 - 140	

ISTD Ref. File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
H202 # X44A01; HNO3 # 82; IS # 168; AU # 174; HCL # X13037

LFM Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\055LFM1.D\055LFM1.D#
Date Acquired: Sep 23 2004 03:30 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092217-07
Misc Info: BATCH 1850
Vial Number: 2304
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal. Update: Oct 22 2004 08:50 am
Sample Type: LFM1
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: C:\ICPCHEM\1\DATA\040923A.B\053AREF.D\053AREF.D#

QC Elements

Element	Raw Conc	Units	Ref Conc	RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	58.51	ppb	6.44	2.42	50.00	104.1	75 - 125	
52 Cr	59.92	ppb	13.12	1.99	50.00	93.6	75 - 125	
60 Ni	115.90	ppb	69.17	2.04	50.00	93.5	75 - 125	
63 Cu	127.20	ppb	78.58	0.84	50.00	97.2	75 - 125	
66 Zn	247.10	ppb	210.20	3.90	50.00	73.8	75 - 125	Fail
75 As	54.09	ppb	2.91	1.47	50.00	102.4	75 - 125	
82 Se	101.60	ppb	38.27	0.95	50.00	126.7	75 - 125	Fail
107 Ag	41.66	ppb	-0.39	0.68	50.00	84.1	75 - 125	
111 Cd	52.75	ppb	5.33	1.40	50.00	94.8	75 - 125	
121 Sb	49.63	ppb	0.05	1.09	50.00	99.2	75 - 125	
202 Hg	1.95	ppb	0.02	2.21	2.00	96.8	75 - 125	
205 Tl	55.79	ppb	0.38	1.91	50.00	110.8	75 - 125	
208 Pb	57.20	ppb	6.43	0.65	50.00	101.5	75 - 125	

ISTD Elements

Element	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	6405744	1.92	6785139	94.4	30 - 140	
45 Sc	6343098	0.92	5983989	106.0	30 - 140	
72 Ge	1051981	0.20	1059228	99.3	30 - 140	
115 In	5342550	0.37	5784030	92.4	30 - 140	
159 Tb	7828708	0.81	7629566	102.6	30 - 140	
209 Bi	3592505	1.00	4314976	83.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

PDS Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\056PDS1.D\056PDS1.D#
Date Acquired: Sep 23 2004 03:35 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092217-07
Misc Info: BATCH 1850
Vial Number: 2305
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal. Update: Oct 22 2004 08:50 am
Sample Type: PDS1
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: C:\ICPCHEM\1\DATA\040923A.B\053AREF.D\053AREF.D#

QC Elements

Element	Raw Conc	Units	Ref Conc	RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	57.02	ppb	6.44	2.73	50.00	101.2	75 - 126	
52 Cr	57.42	ppb	13.12	2.04	50.00	88.6	75 - 126	
60 Ni	111.00	ppb	69.17	0.93	50.00	83.7	75 - 126	
63 Cu	118.80	ppb	78.58	1.05	50.00	80.4	75 - 126	
66 Zn	246.80	ppb	210.20	0.10	50.00	73.2	75 - 126	Fail
75 As	52.30	ppb	2.91	0.59	50.00	98.8	75 - 126	
82 Se	98.78	ppb	38.27	0.42	50.00	121.0	75 - 126	
107 Ag	39.93	ppb	-0.39	1.33	50.00	80.6	75 - 126	
111 Cd	51.14	ppb	5.33	1.79	50.00	91.6	75 - 126	
121 Sb	46.54	ppb	0.05	2.05	50.00	93.0	75 - 126	
202 Hg	2.06	ppb	0.02	0.35	2.00	102.2	75 - 126	
205 Tl	54.77	ppb	0.38	0.88	50.00	108.8	75 - 126	
208 Pb	54.06	ppb	6.43	0.77	50.00	95.3	75 - 126	

ISTD Elements

Element	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	6329731	1.28	6785139	93.3	30 - 140	
45 Sc	6158658	0.49	5983989	102.9	30 - 140	
72 Ge	1057674	0.36	1059228	99.9	30 - 140	
115 In	5278708	0.82	5784030	91.3	30 - 140	
159 Tb	7815236	0.76	7629566	102.4	30 - 140	
209 Bi	3615621	0.34	4314976	83.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Dilution QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\057DIL1.D\057DIL1.D#
Date Acquired: Sep 23 2004 03:40 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092217-07
Misc Info: BATCH 1850
Vial Number: 2306
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal. Update: Oct 22 2004 08:50 am
Sample Type: Dil1
Dilution Factor: 5.00

Dilution Ref File: C:\ICPCHEM\1\DATA\040923A.B\053AREF.D\053AREF.D#

QC elements

Element	Raw Conc	Units	RSD(%)	*Ref conc*	Actual(%)	QC Range(%)	Flag
9 Be	1.28	ppb	1.09	6.44	99.30	90 - 110	<100 PB
52 Cr	2.54	ppb	1.25	13.12	96.88	90 - 110	<100 PB
60 Ni	15.04	ppb	0.99	69.17	108.72	90 - 110	
63 Cu	16.00	ppb	1.82	78.58	101.81	90 - 110	
66 Zn	48.68	ppb	1.19	210.20	115.79	90 - 110	<100 PB
75 As	0.89	ppb	7.07	2.91	153.47	90 - 110	<100 PB
82 Se	9.44	ppb	0.64	38.27	123.33	90 - 110	<100 PB
107 Ag	-0.42	ppb	3.16	-0.39	540.42	90 - 110	<100 PB
111 Cd	1.15	ppb	3.53	5.33	107.42	90 - 110	<100 PB
121 Sb	0.29	ppb	4.75	0.05	2924.35	90 - 110	<100 PB
202 Hg	0.01	ppb	37.01	0.02	243.23	90 - 110	<100 PB
205 Tl	0.60	ppb	4.95	0.38	782.21	90 - 110	<100 PB
208 Pb	1.24	ppb	1.58	6.43	96.60	90 - 110	<100 PB

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\061CCV1.D\061CCV1.D#
Date Acquired: Sep 23 2004 03:59 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1103
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal Update: Sep 23 2004 01:06 pm
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	41.00	ppb	1.12	40.00	103	89.5 - 111	
52 Cr	39.15	ppb	0.70	40.00	98	89.5 - 111	
60 Ni	40.07	ppb	1.30	40.00	100	89.5 - 111	
63 Cu	38.85	ppb	2.41	40.00	97	89.5 - 111	
66 Zn	40.76	ppb	1.77	40.00	102	89.5 - 111	
75 As	39.56	ppb	1.05	40.00	99	89.5 - 111	
82 Se	41.34	ppb	0.69	40.00	103	89.5 - 111	
107 Ag	37.04	ppb	1.08	40.00	93	89.5 - 111	
111 Cd	39.87	ppb	1.08	40.00	100	89.5 - 111	
121 Sb	38.39	ppb	0.16	40.00	96	89.5 - 111	
202 Hg	0.93	ppb	2.05	1.00	93	89.5 - 111	
205 Tl	37.86	ppb	3.28	40.00	95	89.5 - 111	
208 Pb	37.92	ppb	0.27	40.00	95	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	7203368	1.33	6785139	106.2	30 - 140	
45 Sc	6390786	0.72	5983989	106.8	30 - 140	
72 Ge	1120872	0.27	1059228	105.8	30 - 140	
115 In	5762368	0.37	5784030	99.6	30 - 140	
159 Tb	7174334	1.03	7629566	94.0	30 - 140	
209 Bi	3961710	0.29	4314976	91.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\062_CCB.D\062_CCB.D#
Date Acquired: Sep 23 2004 04:04 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal Update: Sep 23 2004 01:06 pm
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.05	ppb	11.81	2.50	
52 Cr	-0.26	ppb	10.53	2.50	
60 Ni	0.20	ppb	52.48	2.50	
63 Cu	-0.11	ppb	54.05	2.50	
66 Zn	0.09	ppb	38.01	25.00	
75 As	0.04	ppb	235.18	0.50	
82 Se	0.11	ppb	9.09	2.50	
107 Ag	-0.34	ppb	4.80	2.50	
111 Cd	0.11	ppb	30.33	2.50	
121 Sb	0.03	ppb	27.72	2.50	
202 Hg	0.01	ppb	34.31	0.10	
205 Tl	0.89	ppb	9.13	2.50	
208 Pb	0.04	ppb	26.52	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	7166581	1.52	6785139	105.6	30 - 140	
45 Sc	6274585	0.86	5983989	104.9	30 - 140	
72 Ge	1103885	1.80	1059228	104.2	30 - 140	
115 In	5832746	1.88	5784030	100.8	30 - 140	
159 Tb	7331877	0.58	7629566	96.1	30 - 140	
209 Bi	4034327	0.92	4314976	93.5	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\074CCV1.D\074CCV1.D#
Date Acquired: Sep 23 2004 05:02 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1103
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal Update: Sep 23 2004 01:06 pm
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	40.74	ppb	0.82	40.00	102	89.5 - 111	
52 Cr	39.79	ppb	0.73	40.00	99	89.5 - 111	
60 Ni	38.93	ppb	4.60	40.00	97	89.5 - 111	
63 Cu	37.68	ppb	4.32	40.00	94	89.5 - 111	
66 Zn	40.48	ppb	1.79	40.00	101	89.5 - 111	
75 As	39.72	ppb	2.77	40.00	99	89.5 - 111	
82 Se	41.26	ppb	1.42	40.00	103	89.5 - 111	
107 Ag	37.47	ppb	2.62	40.00	94	89.5 - 111	
111 Cd	39.54	ppb	1.08	40.00	99	89.5 - 111	
121 Sb	38.34	ppb	2.30	40.00	96	89.5 - 111	
202 Hg	0.90	ppb	2.42	1.00	90	89.5 - 111	
205 Tl	37.27	ppb	4.71	40.00	93	89.5 - 111	
208 Pb	37.52	ppb	1.14	40.00	94	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	7183298	0.79	6785139	105.9	30 - 140	
45 Sc	6181071	1.01	5983989	103.3	30 - 140	
72 Ge	1097422	2.98	1059228	103.6	30 - 140	
115 In	5728581	0.83	5784030	99.0	30 - 140	
159 Tb	7238749	0.24	7629566	94.9	30 - 140	
209 Bi	4050665	1.16	4314976	93.9	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\075_CCB.D\075_CCB.D#
Date Acquired: Sep 23 2004 05:07 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal Update: Oct 22 2004 08:50 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.04	ppb	28.76	2.50	
52 Cr	-0.13	ppb	15.24	2.50	
60 Ni	0.06	ppb	133.90	2.50	
63 Cu	-0.09	ppb	3.88	2.50	
66 Zn	0.09	ppb	50.05	25.00	
75 As	0.05	ppb	146.12	0.50	
82 Se	0.15	ppb	16.43	2.50	
107 Ag	-0.35	ppb	3.91	2.50	
111 Cd	0.18	ppb	13.33	2.50	
121 Sb	-0.01	ppb	105.58	2.50	
202 Hg	0.00	ppb	79.11	0.10	
205 Tl	0.78	ppb	5.00	2.50	
208 Pb	0.04	ppb	35.75	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	7306183	1.37	6785139	107.7	30 - 140	
45 Sc	6174975	1.57	5983989	103.2	30 - 140	
72 Ge	1095296	0.40	1059228	103.4	30 - 140	
115 In	5801706	0.88	5784030	100.3	30 - 140	
159 Tb	7359059	1.14	7629566	96.5	30 - 140	
209 Bi	4054690	0.57	4314976	94.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\076SMPL.D\076SMPL.D#
Date Acquired: Sep 23 2004 05:11 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092217-01
Misc Info: BATCH 1850
Vial Number: 2409
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal. Update: Oct 22 2004 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.50	0.50	ppb	7.48	8000.00	
52 Cr	3.59	3.59	ppb	14.53	40000.00	
60 Ni	36.41	36.41	ppb	1.84	8000.00	
63 Cu	4.73	4.73	ppb	3.93	8000.00	
66 Zn	51.12	51.12	ppb	0.36	8000.00	
75 As	6.19	6.19	ppb	1.51	8000.00	
82 Se	6.46	6.46	ppb	4.68	8000.00	
107 Ag	-0.46	-0.46	ppb	0.74	8000.00	
111 Cd	0.23	0.23	ppb	21.61	8000.00	
121 Sb	-0.05	-0.05	ppb	15.49	8000.00	
202 Hg	0.00	0.00	ppb	225.66	8.00	
205 Tl	0.15	0.15	ppb	27.31	8000.00	
208 Pb	3.79	3.79	ppb	1.72	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	7111923.00	2.31	6785139.00	104.8	30 - 140	
45 Sc	6167253.50	0.86	5983988.50	103.1	30 - 140	
72 Ge	1094418.40	2.28	1059227.60	103.3	30 - 140	
115 In	5636470.50	1.26	5784029.50	97.4	30 - 140	
159 Tb	7302395.50	0.44	7629565.50	95.7	30 - 140	
209 Bi	3793846.30	0.59	4314976.00	87.9	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\077SMPL.D\077SMPL.D#
Date Acquired: Sep 23 2004 05:16 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092217-03
Misc Info: BATCH 1850
Vial Number: 2410
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal. Update: Oct 22 2004 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.27	0.27	ppb	8.63	8000.00	
52 Cr	16.28	16.28	ppb	1.75	40000.00	
60 Ni	12.31	12.31	ppb	2.28	8000.00	
63 Cu	27.28	27.28	ppb	1.68	8000.00	
66 Zn	170.10	170.10	ppb	2.09	8000.00	
75 As	6.67	6.67	ppb	1.30	8000.00	
82 Se	2.15	2.15	ppb	6.13	8000.00	
107 Ag	-0.39	-0.39	ppb	0.71	8000.00	
111 Cd	1.91	1.91	ppb	3.60	8000.00	
121 Sb	0.53	0.53	ppb	6.44	8000.00	
202 Hg	0.08	0.08	ppb	7.20	8.00	
205 Tl	0.04	0.04	ppb	35.79	8000.00	
208 Pb	30.78	30.78	ppb	0.41	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6773410.50	2.45	6785139.00	99.8	30 - 140	
45 Sc	5844870.50	1.70	5983988.50	97.7	30 - 140	
72 Ge	1046521.30	1.46	1059227.60	98.8	30 - 140	
115 In	5451307.00	0.61	5784029.50	94.2	30 - 140	
159 Tb	7102193.00	0.90	7629565.50	93.1	30 - 140	
209 Bi	3621180.00	0.25	4314976.00	83.9	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\078SMPL.D\078SMPL.D#
Date Acquired: Sep 23 2004 05:21 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092217-05
Misc Info: BATCH 1850
Vial Number: 2411
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal. Update: Oct 22 2004 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.03	0.03	ppb	21.71	8000.00	
52 Cr	2.90	2.90	ppb	0.52	40000.00	
60 Ni	-3.58	-3.58	ppb	1.05	8000.00	
63 Cu	5.31	5.31	ppb	2.03	8000.00	
66 Zn	9.29	9.29	ppb	2.53	8000.00	
75 As	5.01	5.01	ppb	1.03	8000.00	
82 Se	3.70	3.70	ppb	12.58	8000.00	
107 Ag	-0.49	-0.49	ppb	0.52	8000.00	
111 Cd	0.13	0.13	ppb	30.00	8000.00	
121 Sb	-0.04	-0.04	ppb	28.67	8000.00	
202 Hg	0.00	0.00	ppb	1646.40	8.00	
205 Tl	-0.05	-0.05	ppb	42.48	8000.00	
208 Pb	0.04	0.04	ppb	21.14	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6274753.00	1.85	6785139.00	92.5	30 - 140	
45 Sc	5800803.00	2.23	5983988.50	96.9	30 - 140	
72 Ge	1029922.80	2.47	1059227.60	97.2	30 - 140	
115 In	5260984.00	2.17	5784029.50	91.0	30 - 140	
159 Tb	6901294.50	1.27	7629565.50	90.5	30 - 140	
209 Bi	3475472.80	0.54	4314976.00	80.5	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\087CCV1.D\087CCV1.D#
Date Acquired: Sep 23 2004 06:05 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1103
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal Update: Oct 22 2004 08:50 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	41.96	ppb	1.89	40.00	105	89.5 - 110.5	
52 Cr	40.84	ppb	1.18	40.00	102	89.5 - 110.5	
60 Ni	40.34	ppb	0.68	40.00	101	89.5 - 110.5	
63 Cu	40.16	ppb	0.27	40.00	100	89.5 - 110.5	
66 Zn	42.05	ppb	0.31	40.00	105	89.5 - 110.5	
75 As	39.61	ppb	0.77	40.00	99	89.5 - 110.5	
82 Se	42.15	ppb	2.72	40.00	105	89.5 - 110.5	
107 Ag	36.05	ppb	1.36	40.00	90	89.5 - 110.5	
111 Cd	39.20	ppb	1.21	40.00	98	89.5 - 110.5	
121 Sb	38.32	ppb	2.52	40.00	96	89.5 - 110.5	
202 Hg	1.09	ppb	1.29	1.00	109	89.5 - 110.5	
205 Tl	32.41	ppb	4.70	40.00	81	89.5 - 110.5	Fail
208 Pb	37.72	ppb	0.58	40.00	94	89.5 - 110.5	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6254988	2.11	6785139	92	30 - 140	
45 Sc	5527245	1.67	5983989	92	30 - 140	
72 Ge	1007922	0.91	1059228	95	30 - 140	
115 In	5062666	2.53	5784030	88	30 - 140	
159 Tb	5791213	0.19	7629566	76	30 - 140	
209 Bi	3226151	0.62	4314976	75	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040923A.B\088_CCB.D\088_CCB.D#
Date Acquired: Sep 23 2004 06:10 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040923A.B\NOSALTS.C
Last Cal Update: Oct 22 2004 08:50 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.04	ppb	42.95	2.50	
52 Cr	-0.16	ppb	5.36	2.50	
60 Ni	0.42	ppb	10.30	2.50	
63 Cu	0.46	ppb	10.38	2.50	
66 Zn	0.29	ppb	29.85	25.00	
75 As	-0.05	ppb	253.18	0.50	
82 Se	0.07	ppb	42.22	2.50	
107 Ag	-0.31	ppb	0.88	2.50	
111 Cd	0.10	ppb	38.53	2.50	
121 Sb	0.07	ppb	34.82	2.50	
202 Hg	0.05	ppb	30.59	0.10	
205 Tl	1.49	ppb	5.15	2.50	
208 Pb	0.07	ppb	39.22	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6257328	2.49	6785139	92.2	30 - 140	
45 Sc	5412929	1.54	5983989	90.5	30 - 140	
72 Ge	967990	0.50	1059228	91.4	30 - 140	
115 In	5086073	1.00	5784030	87.9	30 - 140	
159 Tb	5852486	1.79	7629566	76.7	30 - 140	
209 Bi	3259276	2.89	4314976	75.5	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040923A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Dissolved Metals

- *Initial Calibration Verification Summary*
- *Continuing Calibration Verification Summary*
- *Duplicate Summary*
- *Matrix Spike Summary (LFM)*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\007ICV1.D\007ICV1.D#
Date Acquired: Sep 24 2004 07:58 am
Acq. Method: NOSALTS.M
Operator:
Sample Name: ICV-50 PPB ; 2 PPB HG
Misc Info: 0.25 ML #444; 0.1 ML #A098-50 ML
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 09:10 am
Sample Type: ICV1
Dilution Factor: 1.00

QC Elements

Element	Raw Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	48.70	ppb	3.66	50.00	97	89.5 - 111	
52 Cr	47.55	ppb	0.79	50.00	95	89.5 - 111	
60 Ni	50.12	ppb	2.57	50.00	100	89.5 - 111	
63 Cu	47.54	ppb	2.27	50.00	95	89.5 - 111	
66 Zn	48.81	ppb	2.14	50.00	98	89.5 - 111	
75 As	49.43	ppb	0.66	50.00	99	89.5 - 111	
82 Se	49.90	ppb	0.83	50.00	100	89.5 - 111	
107 Ag	49.00	ppb	1.80	50.00	98	89.5 - 111	
111 Cd	49.55	ppb	1.34	50.00	99	89.5 - 111	
121 Sb	48.88	ppb	0.38	50.00	98	89.5 - 111	
202 Hg	1.95	ppb	1.34	2.00	98	89.5 - 111	
205 Tl	45.31	ppb	3.02	50.00	91	89.5 - 111	
208 Pb	48.31	ppb	0.44	50.00	97	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5477276	4.60	5160836	106.1	30 - 140	
45 Sc	5392751	1.75	5088704	106.0	30 - 140	
72 Ge	961152	0.69	905447	106.2	30 - 140	
115 In	4870917	0.34	4704637	103.5	30 - 140	
159 Tb	6129676	1.16	6330834	96.8	30 - 140	
209 Bi	3405106	0.51	3475168	98.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
0.05 ML # 115; 1.25 ML # A100; HG 0.1 ML # A097
HNO3 #82; HCL #X13037; Au #174; IS # 168

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\008_ICB.D\008_ICB.D#
Date Acquired: Sep 24 2004 08:03 am
Operator:
Sample Name: icb
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.00	ppb	417.53	2.50	
52 Cr	0.02	ppb	106.90	2.50	
60 Ni	0.15	ppb	100.71	2.50	
63 Cu	-0.19	ppb	25.39	2.50	
66 Zn	-0.18	ppb	15.15	25.00	
75 As	-0.08	ppb	140.69	0.50	
82 Se	0.07	ppb	47.82	2.50	
107 Ag	-0.32	ppb	12.10	2.50	
111 Cd	0.10	ppb	78.90	2.50	
121 Sb	0.04	ppb	57.69	2.50	
202 Hg	0.02	ppb	43.55	0.10	
205 Tl	0.94	ppb	6.04	2.50	
208 Pb	-0.03	ppb	7.94	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5574560	0.55	5160836	108.0	30 - 140	
45 Sc	5424524	2.13	5088704	106.6	30 - 140	
72 Ge	976467	1.68	905447	107.8	30 - 140	
115 In	5017052	1.49	4704637	106.6	30 - 140	
159 Tb	6214886	0.74	6330834	98.2	30 - 140	
209 Bi	3491284	0.33	3475168	100.5	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\009SMPL.D\009SMPL.D#
Date Acquired: Sep 24 2004 08:08 am
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 1.0 PPB CHECK
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 09:10 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.95	0.95	ppb	7.00	8000.00	
52 Cr	1.11	1.11	ppb	1.11	40000.00	
60 Ni	1.61	1.61	ppb	2.77	8000.00	
63 Cu	0.86	0.86	ppb	3.13	8000.00	
66 Zn	2.32	2.32	ppb	1.63	8000.00	
75 As	0.97	0.97	ppb	7.42	8000.00	
82 Se	1.05	1.05	ppb	5.18	8000.00	
107 Ag	0.64	0.64	ppb	5.38	8000.00	
111 Cd	1.10	1.10	ppb	3.22	8000.00	
121 Sb	1.02	1.02	ppb	2.33	8000.00	
202 Hg	0.00	0.00	ppb	84.56	8.00	
205 Tl	1.17	1.17	ppb	7.44	8000.00	
208 Pb	0.94	0.94	ppb	1.84	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5602703.50	0.79	5160836.00	108.6	30 - 140	
45 Sc	5402707.50	0.57	5088704.00	106.2	30 - 140	
72 Ge	980298.00	1.09	905446.56	108.3	30 - 140	
115 In	4973490.50	0.73	4704637.00	105.7	30 - 140	
159 Tb	6210047.00	0.99	6330833.50	98.1	30 - 140	
209 Bi	3501271.50	0.22	3475167.80	100.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\021CCV1.D\021CCV1.D#
Date Acquired: Sep 24 2004 09:06 am
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	49.59	ppb	1.90	50.00	99	89.5 - 111	
52 Cr	48.88	ppb	2.40	50.00	98	89.5 - 111	
60 Ni	50.66	ppb	1.45	50.00	101	89.5 - 111	
63 Cu	48.95	ppb	2.15	50.00	98	89.5 - 111	
66 Zn	50.62	ppb	2.83	50.00	101	89.5 - 111	
75 As	49.08	ppb	1.20	50.00	98	89.5 - 111	
82 Se	50.57	ppb	0.86	50.00	101	89.5 - 111	
107 Ag	47.90	ppb	0.95	50.00	96	89.5 - 111	
111 Cd	49.59	ppb	1.87	50.00	99	89.5 - 111	
121 Sb	47.85	ppb	0.45	50.00	96	89.5 - 111	
202 Hg	1.91	ppb	2.56	2.00	95	89.5 - 111	
205 Tl	45.80	ppb	1.04	50.00	92	89.5 - 111	
208 Pb	48.19	ppb	1.22	50.00	96	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5455679	1.92	5160836	105.7	30 - 140	
45 Sc	5527509	1.24	5088704	108.6	30 - 140	
72 Ge	1001581	0.65	905447	110.6	30 - 140	
115 In	4999289	0.92	4704637	106.3	30 - 140	
159 Tb	5859017	0.79	6330834	92.5	30 - 140	
209 Bi	3271515	1.59	3475168	94.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\023_CCB.D\023_CCB.D#
Date Acquired: Sep 24 2004 09:16 am
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.01	ppb	109.68	2.50	
52 Cr	0.08	ppb	35.71	2.50	
60 Ni	0.24	ppb	67.28	2.50	
63 Cu	-0.17	ppb	16.41	2.50	
66 Zn	-0.04	ppb	235.03	25.00	
75 As	-0.08	ppb	196.09	0.50	
82 Se	0.13	ppb	13.63	2.50	
107 Ag	-0.39	ppb	2.36	2.50	
111 Cd	0.13	ppb	31.29	2.50	
121 Sb	0.03	ppb	43.80	2.50	
202 Hg	0.02	ppb	31.57	0.10	
205 Tl	1.00	ppb	4.45	2.50	
208 Pb	-0.02	ppb	75.58	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5407411	1.23	5160836	104.8	30 - 140	
45 Sc	5336455	2.00	5088704	104.9	30 - 140	
72 Ge	1017824	2.46	905447	112.4	30 - 140	
115 In	5158716	0.88	4704637	109.7	30 - 140	
159 Tb	5965583	1.97	6330834	94.2	30 - 140	
209 Bi	3370057	0.87	3475168	97.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\035CCV1.D\035CCV1.D#
Date Acquired: Sep 24 2004 10:13 am
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	49.70	ppb	1.80	50.00	99	89.5 - 111	
52 Cr	50.93	ppb	2.76	50.00	102	89.5 - 111	
60 Ni	49.62	ppb	1.25	50.00	99	89.5 - 111	
63 Cu	48.08	ppb	0.69	50.00	96	89.5 - 111	
66 Zn	53.33	ppb	2.04	50.00	107	89.5 - 111	
75 As	48.29	ppb	1.45	50.00	97	89.5 - 111	
82 Se	51.42	ppb	1.44	50.00	103	89.5 - 111	
107 Ag	46.76	ppb	1.86	50.00	94	89.5 - 111	
111 Cd	49.93	ppb	0.44	50.00	100	89.5 - 111	
121 Sb	48.56	ppb	2.33	50.00	97	89.5 - 111	
202 Hg	1.87	ppb	1.82	2.00	94	89.5 - 111	
205 Tl	44.06	ppb	1.75	50.00	88	89.5 - 111	Fail
208 Pb	47.63	ppb	0.82	50.00	95	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5396481	1.41	5160836	104.6	30 - 140	
45 Sc	5562136	0.46	5088704	109.3	30 - 140	
72 Ge	1066681	0.96	905447	117.8	30 - 140	
115 In	5151707	1.74	4704637	109.5	30 - 140	
159 Tb	5965844	1.91	6330834	94.2	30 - 140	
209 Bi	3301793	1.13	3475168	95.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\036_CCB.D\036_CCB.D#
Date Acquired: Sep 24 2004 10:17 am
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.00	ppb	192.49	2.50	
52 Cr	0.04	ppb	61.12	2.50	
60 Ni	0.26	ppb	34.65	2.50	
63 Cu	-0.16	ppb	6.43	2.50	
66 Zn	-0.09	ppb	102.15	25.00	
75 As	-0.03	ppb	239.92	0.50	
82 Se	0.10	ppb	17.33	2.50	
107 Ag	-0.43	ppb	1.59	2.50	
111 Cd	0.11	ppb	25.30	2.50	
121 Sb	0.01	ppb	45.86	2.50	
202 Hg	0.01	ppb	37.93	0.10	
205 Tl	0.70	ppb	5.96	2.50	
208 Pb	-0.03	ppb	17.32	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5558378	1.13	5160836	107.7	30 - 140	
45 Sc	5578121	1.26	5088704	109.6	30 - 140	
72 Ge	1071886	1.76	905447	118.4	30 - 140	
115 In	5298511	0.78	4704637	112.6	30 - 140	
159 Tb	5960313	2.21	6330834	94.1	30 - 140	
209 Bi	3385469	1.36	3475168	97.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\048CCV1.D\048CCV1.D#
Date Acquired: Sep 24 2004 11:16 am
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	50.20	ppb	1.85	50.00	100	89.5 - 111	
52 Cr	49.57	ppb	2.36	50.00	99	89.5 - 111	
60 Ni	49.03	ppb	0.50	50.00	98	89.5 - 111	
63 Cu	46.88	ppb	1.20	50.00	94	89.5 - 111	
66 Zn	51.68	ppb	0.97	50.00	103	89.5 - 111	
75 As	48.33	ppb	0.87	50.00	97	89.5 - 111	
82 Se	51.13	ppb	1.42	50.00	102	89.5 - 111	
107 Ag	46.40	ppb	2.50	50.00	93	89.5 - 111	
111 Cd	49.63	ppb	0.86	50.00	99	89.5 - 111	
121 Sb	47.54	ppb	0.57	50.00	95	89.5 - 111	
202 Hg	1.88	ppb	1.74	2.00	94	89.5 - 111	
205 Tl	45.21	ppb	2.84	50.00	90	89.5 - 111	
208 Pb	47.67	ppb	1.12	50.00	95	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5524836	2.63	5160836	107.1	30 - 140	
45 Sc	5561919	1.07	5088704	109.3	30 - 140	
72 Ge	1060174	0.96	905447	117.1	30 - 140	
115 In	5116661	1.16	4704637	108.8	30 - 140	
159 Tb	5737385	0.37	6330834	90.6	30 - 140	
209 Bi	3276117	0.75	3475168	94.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\049_CCB.D\049_CCB.D#
Date Acquired: Sep 24 2004 11:21 am
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.01	ppb	313.23	2.50	
52 Cr	0.00	ppb	564.30	2.50	
60 Ni	0.19	ppb	33.35	2.50	
63 Cu	-0.09	ppb	7.60	2.50	
66 Zn	-0.03	ppb	188.69	25.00	
75 As	-0.03	ppb	219.86	0.50	
82 Se	0.16	ppb	17.43	2.50	
107 Ag	-0.42	ppb	2.75	2.50	
111 Cd	0.13	ppb	29.95	2.50	
121 Sb	0.03	ppb	19.50	2.50	
202 Hg	0.01	ppb	83.26	0.10	
205 Tl	0.46	ppb	3.98	2.50	
208 Pb	-0.03	ppb	50.15	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5626698	1.98	5160836	109.0	30 - 140	
45 Sc	5507546	1.05	5088704	108.2	30 - 140	
72 Ge	1064422	0.54	905447	117.6	30 - 140	
115 In	5296180	0.54	4704637	112.6	30 - 140	
159 Tb	5920484	1.48	6330834	93.5	30 - 140	
209 Bi	3347888	0.72	3475168	96.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\061CCV1.D\061CCV1.D#
Date Acquired: Sep 24 2004 12:19 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	50.47	ppb	3.29	50.00	101	89.5 - 111	
52 Cr	51.14	ppb	2.48	50.00	102	89.5 - 111	
60 Ni	49.17	ppb	1.83	50.00	98	89.5 - 111	
63 Cu	48.07	ppb	1.17	50.00	96	89.5 - 111	
66 Zn	53.27	ppb	0.47	50.00	107	89.5 - 111	
75 As	48.35	ppb	1.67	50.00	97	89.5 - 111	
82 Se	50.03	ppb	0.29	50.00	100	89.5 - 111	
107 Ag	46.83	ppb	1.52	50.00	94	89.5 - 111	
111 Cd	48.85	ppb	0.49	50.00	98	89.5 - 111	
121 Sb	47.36	ppb	0.81	50.00	95	89.5 - 111	
202 Hg	1.89	ppb	0.83	2.00	94	89.5 - 111	
205 Tl	44.39	ppb	2.23	50.00	89	89.5 - 111	Fail
208 Pb	47.79	ppb	0.58	50.00	96	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5560108	2.26	5160836	107.7	30 - 140	
45 Sc	5472040	1.25	5088704	107.5	30 - 140	
72 Ge	1062161	0.59	905447	117.3	30 - 140	
115 In	5223838	0.48	4704637	111.0	30 - 140	
159 Tb	5881745	2.39	6330834	92.9	30 - 140	
209 Bi	3300672	0.86	3475168	95.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\062_CCB.D\062_CCB.D#
Date Acquired: Sep 24 2004 12:24 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.00	ppb	144.95	2.50	
52 Cr	0.03	ppb	42.99	2.50	
60 Ni	0.10	ppb	53.45	2.50	
63 Cu	-0.15	ppb	10.28	2.50	
66 Zn	-0.03	ppb	172.62	25.00	
75 As	-0.03	ppb	92.33	0.50	
82 Se	0.11	ppb	16.17	2.50	
107 Ag	-0.43	ppb	0.77	2.50	
111 Cd	0.19	ppb	14.72	2.50	
121 Sb	0.00	ppb	221.27	2.50	
202 Hg	0.01	ppb	16.22	0.10	
205 Tl	0.60	ppb	6.38	2.50	
208 Pb	-0.02	ppb	23.64	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5728168	1.23	5160836	111.0	30 - 140	
45 Sc	5528999	1.65	5088704	108.7	30 - 140	
72 Ge	1080350	0.97	905447	119.3	30 - 140	
115 In	5362315	1.32	4704637	114.0	30 - 140	
159 Tb	5972602	1.56	6330834	94.3	30 - 140	
209 Bi	3376328	0.88	3475168	97.2	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\074CCV1.D\074CCV1.D#
Date Acquired: Sep 24 2004 01:23 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	50.11	ppb	1.74	50.00	100	89.5 - 111	
52 Cr	50.08	ppb	3.39	50.00	100	89.5 - 111	
60 Ni	49.46	ppb	2.70	50.00	99	89.5 - 111	
63 Cu	47.36	ppb	2.06	50.00	95	89.5 - 111	
66 Zn	52.51	ppb	0.58	50.00	105	89.5 - 111	
75 As	47.61	ppb	1.21	50.00	95	89.5 - 111	
82 Se	50.41	ppb	0.76	50.00	101	89.5 - 111	
107 Ag	46.17	ppb	1.44	50.00	92	89.5 - 111	
111 Cd	49.60	ppb	1.71	50.00	99	89.5 - 111	
121 Sb	47.31	ppb	0.90	50.00	95	89.5 - 111	
202 Hg	1.88	ppb	1.31	2.00	94	89.5 - 111	
205 Tl	44.45	ppb	1.74	50.00	89	89.5 - 111	Fail
208 Pb	47.79	ppb	1.32	50.00	96	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5784623	1.35	5160836	112.1	30 - 140	
45 Sc	5556189	1.92	5088704	109.2	30 - 140	
72 Ge	1079253	0.27	905447	119.2	30 - 140	
115 In	5228869	1.35	4704637	111.1	30 - 140	
159 Tb	5826183	0.94	6330834	92.0	30 - 140	
209 Bi	3249972	1.50	3475168	93.5	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\075_CCB.D\075_CCB.D#
Date Acquired: Sep 24 2004 01:28 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.00	ppb	381.78	2.50	
52 Cr	0.06	ppb	42.66	2.50	
60 Ni	0.37	ppb	10.15	2.50	
63 Cu	-0.11	ppb	28.28	2.50	
66 Zn	0.04	ppb	170.55	25.00	
75 As	-0.03	ppb	295.69	0.50	
82 Se	0.18	ppb	27.71	2.50	
107 Ag	-0.43	ppb	1.71	2.50	
111 Cd	0.15	ppb	5.77	2.50	
121 Sb	0.11	ppb	12.06	2.50	
202 Hg	0.01	ppb	40.35	0.10	
205 Tl	0.66	ppb	6.40	2.50	
208 Pb	-0.02	ppb	51.23	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5811061	1.40	5160836	112.6	30 - 140	
45 Sc	5556679	2.08	5088704	109.2	30 - 140	
72 Ge	1078002	0.43	905447	119.1	30 - 140	
115 In	5309089	0.75	4704637	112.8	30 - 140	
159 Tb	5826972	2.36	6330834	92.0	30 - 140	
209 Bi	3365777	1.68	3475168	96.9	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

All Reference Sample QC Report

Data File:	C:\ICPCHEM\1\DATA\040924A.B\080AREF.D\080AREF.D#
Date Acquired:	Sep 24 2004 01:52 pm
Acq. Method:	NOSALTS.M
Operator:	Lisa Miller
Sample Name:	04092201-02
Misc Info:	BATCH 1859
Vial Number:	2101
Current Method:	C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File:	C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update:	Sep 24 2004 09:10 am
Sample Type:	AllRef
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.06	-0.06	ppb	4.55	8000.00	
52 Cr	2.37	2.37	ppb	3.74	40000.00	
60 Ni	2.35	2.35	ppb	4.40	8000.00	
63 Cu	29.00	29.00	ppb	2.54	8000.00	
66 Zn	95.74	95.74	ppb	2.44	8000.00	
75 As	0.94	0.94	ppb	5.09	8000.00	
82 Se	0.76	0.76	ppb	2.23	8000.00	
107 Ag	-0.60	-0.60	ppb	0.59	8000.00	
111 Cd	1.36	1.36	ppb	6.53	8000.00	
121 Sb	2.61	2.61	ppb	2.18	8000.00	
202 Hg	0.05	0.05	ppb	13.47	8.00	
205 Tl	-0.05	-0.05	ppb	7.39	8000.00	
208 Pb	4.53	4.53	ppb	3.22	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5791498	1.66	5160836	112.2	30 - 140	
45 Sc	5572786	2.93	5088704	109.5	30 - 140	
72 Ge	1109962	1.21	905447	122.6	30 - 140	
115 In	5418242	1.75	4704637	115.2	30 - 140	
159 Tb	6208847	1.07	6330834	98.1	30 - 140	
209 Bi	3315531	2.20	3475168	95.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:

H202 # X44A01; HNO3 # 82; HCL# X13037; Au #174; IS #168

Duplicate QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\081DUP1.D\081DUP1.D#
Date Acquired: Sep 24 2004 01:57 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092201-02
Misc Info: BATCH 1859
Vial Number: 2102
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 09:10 am
Sample Type: Dup1
Dilution Factor: 1.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\040924A.B\080AREF.D\080AREF.D#

QC Elements

Element	Raw Conc	Units	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	-0.07	ppb	4.69	-0.06	-20.63	20	<PQL
52 Cr	2.66	ppb	1.41	2.37	11.41	20	<PQL
60 Ni	2.42	ppb	6.55	2.35	2.64	20	<PQL
63 Cu	29.43	ppb	2.07	29.00	1.47	20	
66 Zn	99.26	ppb	2.11	95.74	3.61	20	
75 As	0.95	ppb	0.87	0.94	1.37	20	<PQL
82 Se	0.80	ppb	0.31	0.76	4.92	20	<PQL
107 Ag	-0.61	ppb	0.43	-0.60	-1.33	20	<PQL
111 Cd	1.52	ppb	8.05	1.36	11.00	20	<PQL
121 Sb	2.63	ppb	2.50	2.61	0.76	20	<PQL
202 Hg	0.07	ppb	10.51	0.05	39.96	20	<PQL
205 Tl	-0.10	ppb	6.26	-0.05	-69.56	20	<PQL
208 Pb	4.71	ppb	4.14	4.53	3.83	20	<PQL

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5573910	3.66	5160836	108.0	30 - 140	
45 Sc	5414404	1.08	5088704	106.4	30 - 140	
72 Ge	1095176	1.42	905447	121.0	30 - 140	
115 In	5336854	1.54	4704637	113.4	30 - 140	
159 Tb	5921626	2.76	6330834	93.5	30 - 140	
209 Bi	3143256	3.23	3475168	90.4	30 - 140	

ISTD Ref. File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
H202 # X44A01; HNO3 # 82; IS # 168; AU # 174; HCL # X13037

LFM Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\082LFM1.D\082LFM1.D#
Date Acquired: Sep 24 2004 02:01 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092201-02
Misc Info: BATCH 1859
Vial Number: 2103
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 09:10 am
Sample Type: LFM1
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: C:\ICPCHEM\1\DATA\040924A.B\080AREF.D\080AREF.D#

QC Elements

Element	Raw Conc	Units	Ref Conc	RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	68.48	ppb	-0.06	1.72	70.00	97.9	75 - 125	
52 Cr	66.51	ppb	2.37	2.77	70.00	91.6	75 - 125	
60 Ni	62.64	ppb	2.35	2.31	70.00	86.1	75 - 125	
63 Cu	91.77	ppb	29.00	0.21	70.00	89.7	75 - 125	
66 Zn	165.20	ppb	95.74	1.79	70.00	99.2	75 - 125	
75 As	69.54	ppb	0.94	2.26	70.00	98.0	75 - 125	
82 Se	80.39	ppb	0.76	0.28	70.00	113.8	75 - 125	
107 Ag	50.17	ppb	-0.60	1.58	70.00	72.5	75 - 125	Fail
111 Cd	64.32	ppb	1.36	1.14	70.00	89.9	75 - 125	
121 Sb	61.24	ppb	2.61	0.77	70.00	83.8	75 - 125	
202 Hg	3.06	ppb	0.05	2.32	4.00	75.2	75 - 125	
205 Tl	65.87	ppb	-0.05	0.47	70.00	94.2	75 - 125	
208 Pb	63.93	ppb	4.53	1.13	70.00	84.9	75 - 125	

ISTD Elements

Element	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	5493226	1.04	5160836	106.4	30 - 140	
45 Sc	5499512	0.77	5088704	108.1	30 - 140	
72 Ge	1096248	1.65	905447	121.1	30 - 140	
115 In	5315318	0.69	4704637	113.0	30 - 140	
159 Tb	5861720	1.08	6330834	92.6	30 - 140	
209 Bi	3288141	0.76	3475168	94.6	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
W 0.1 ML #A098; 0.1 ML #A100; 0.05 ML #115; HNO3 # 82
S 1.0 ML #A098; 1.0ML #A100; 0.5 ML # 115; H2O2 # X44A01
HCL # X13037; Au IN RINSE #174

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\088CCV1.D\088CCV1.D#
Date Acquired: Sep 24 2004 02:30 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 07:53 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	51.26	ppb	0.57	50.00	103	89.5 - 111	
52 Cr	50.32	ppb	1.60	50.00	101	89.5 - 111	
60 Ni	49.19	ppb	0.54	50.00	98	89.5 - 111	
63 Cu	47.50	ppb	2.44	50.00	95	89.5 - 111	
66 Zn	52.27	ppb	0.84	50.00	105	89.5 - 111	
75 As	47.87	ppb	0.63	50.00	96	89.5 - 111	
82 Se	50.89	ppb	0.51	50.00	102	89.5 - 111	
107 Ag	46.46	ppb	0.60	50.00	93	89.5 - 111	
111 Cd	49.23	ppb	0.15	50.00	98	89.5 - 111	
121 Sb	47.26	ppb	0.92	50.00	95	89.5 - 111	
202 Hg	1.90	ppb	1.97	2.00	95	89.5 - 111	
205 Tl	54.55	ppb	3.20	50.00	109	89.5 - 111	
208 Pb	47.00	ppb	0.59	50.00	94	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5797524	1.16	5160836	112.3	30 - 140	
45 Sc	5652303	0.49	5088704	111.1	30 - 140	
72 Ge	1081901	0.49	905447	119.5	30 - 140	
115 In	5256748	0.30	4704637	111.7	30 - 140	
159 Tb	5786663	0.46	6330834	91.4	30 - 140	
209 Bi	3272809	0.92	3475168	94.2	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\089_CCB.D\089_CCB.D#
Date Acquired: Sep 24 2004 02:35 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 07:53 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.06	ppb	33.83	2.50	
52 Cr	0.17	ppb	5.38	2.50	
60 Ni	0.17	ppb	69.59	2.50	
63 Cu	-0.01	ppb	123.31	2.50	
66 Zn	0.02	ppb	59.56	25.00	
75 As	-0.01	ppb	273.89	0.50	
82 Se	0.19	ppb	38.07	2.50	
107 Ag	-0.18	ppb	16.24	2.50	
111 Cd	0.19	ppb	19.22	2.50	
121 Sb	0.25	ppb	6.81	2.50	
202 Hg	0.03	ppb	16.18	0.10	
205 Tl	0.84	ppb	6.27	2.50	
208 Pb	0.02	ppb	73.23	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5949290	2.55	5160836	115.3	30 - 140	
45 Sc	5686283	1.98	5088704	111.7	30 - 140	
72 Ge	1104048	0.35	905447	121.9	30 - 140	
115 In	5352405	2.66	4704637	113.8	30 - 140	
159 Tb	5907627	1.58	6330834	93.3	30 - 140	
209 Bi	3347018	2.18	3475168	96.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

Sample QC Report

Data File:	C:\ICPCHEM\1\DATA\040924A.B\092SMPL.D\092SMPL.D#
Date Acquired:	Sep 24 2004 02:49 pm
Acq. Method:	NOSALTS.M
Operator:	Lisa Miller
Sample Name:	04092217-02
Misc Info:	BATCH 1859
Vial Number:	2110
Current Method:	C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File:	C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update:	Sep 24 2004 07:53 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.44	0.44	ppb	1.95	8000.00	
52 Cr	3.90	3.90	ppb	3.58	40000.00	
60 Ni	35.35	35.35	ppb	0.37	8000.00	
63 Cu	4.12	4.12	ppb	2.50	8000.00	
66 Zn	60.53	60.53	ppb	2.97	8000.00	
75 As	4.93	4.93	ppb	0.27	8000.00	
82 Se	0.85	0.85	ppb	6.67	8000.00	
107 Ag	-0.62	-0.62	ppb	0.68	8000.00	
111 Cd	0.10	0.10	ppb	54.87	8000.00	
121 Sb	-0.11	-0.11	ppb	0.77	8000.00	
202 Hg	0.02	0.02	ppb	19.04	8.00	
205 Tl	-0.17	-0.17	ppb	12.38	8000.00	
208 Pb	2.06	2.06	ppb	3.28	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5682513.50	1.38	5160836.00	110.1	30 - 140	
45 Sc	5652843.00	2.40	5088704.00	111.1	30 - 140	
72 Ge	1132290.60	1.41	905446.56	125.1	30 - 140	
115 In	5290108.50	0.59	4704637.00	112.4	30 - 140	
159 Tb	5961734.50	0.54	6330833.50	94.2	30 - 140	
209 Bi	3259047.80	1.73	3475167.80	93.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:

IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\093SMPL.D\093SMPL.D#
Date Acquired: Sep 24 2004 02:54 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092217-04
Misc Info: BATCH 1859
Vial Number: 2111
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 07:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.04	-0.04	ppb	11.30	8000.00	
52 Cr	4.70	4.70	ppb	2.97	40000.00	
60 Ni	1.63	1.63	ppb	9.13	8000.00	
63 Cu	3.63	3.63	ppb	3.01	8000.00	
66 Zn	29.86	29.86	ppb	0.77	8000.00	
75 As	2.45	2.45	ppb	0.82	8000.00	
82 Se	1.51	1.51	ppb	6.59	8000.00	
107 Ag	-0.62	-0.62	ppb	0.24	8000.00	
111 Cd	0.09	0.09	ppb	45.88	8000.00	
121 Sb	-0.10	-0.10	ppb	1.29	8000.00	
202 Hg	0.04	0.04	ppb	19.82	8.00	
205 Tl	-0.19	-0.19	ppb	8.52	8000.00	
208 Pb	0.14	0.14	ppb	6.18	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5362786.00	2.24	5160836.00	103.9	30 - 140	
45 Sc	5501506.00	0.91	5088704.00	108.1	30 - 140	
72 Ge	1092694.10	0.27	905446.56	120.7	30 - 140	
115 In	5188983.50	0.33	4704637.00	110.3	30 - 140	
159 Tb	5871310.00	0.92	6330833.50	92.7	30 - 140	
209 Bi	3032834.30	1.81	3475167.80	87.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\094SMPL.D\094SMPL.D#
Date Acquired: Sep 24 2004 02:59 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092217-06
Misc Info: BATCH 1859
Vial Number: 2112
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 07:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.02	-0.02	ppb	4.82	8000.00	
52 Cr	12.49	12.49	ppb	4.74	40000.00	
60 Ni	-4.17	-4.17	ppb	1.53	8000.00	
63 Cu	4.77	4.77	ppb	3.95	8000.00	
66 Zn	10.61	10.61	ppb	3.57	8000.00	
75 As	5.06	5.06	ppb	1.45	8000.00	
82 Se	5.07	5.07	ppb	5.54	8000.00	
107 Ag	-0.63	-0.63	ppb	0.24	8000.00	
111 Cd	0.10	0.10	ppb	13.34	8000.00	
121 Sb	-0.10	-0.10	ppb	11.45	8000.00	
202 Hg	0.02	0.02	ppb	7.69	8.00	
205 Tl	-0.20	-0.20	ppb	11.07	8000.00	
208 Pb	-0.01	-0.01	ppb	34.43	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5158346.00	1.93	5160836.00	100.0	30 - 140	
45 Sc	5453335.00	3.46	5088704.00	107.2	30 - 140	
72 Ge	1108295.40	0.29	905446.56	122.4	30 - 140	
115 In	5030820.00	1.81	4704637.00	106.9	30 - 140	
159 Tb	5655953.00	2.25	6330833.50	89.3	30 - 140	
209 Bi	2886271.50	1.33	3475167.80	83.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

Sample QC Report

Data File:	C:\ICPCHEM\1\DATA\040924A.B\095SMPL.D\095SMPL.D#
Date Acquired:	Sep 24 2004 03:04 pm
Acq. Method:	NOSALTS.M
Operator:	Lisa Miller
Sample Name:	04092217-08
Misc Info:	BATCH 1859
Vial Number:	2201
Current Method:	C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File:	C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update:	Sep 24 2004 07:53 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6.02	6.02	ppb	1.15	8000.00	
52 Cr	11.31	11.31	ppb	1.88	40000.00	
60 Ni	63.13	63.13	ppb	1.63	8000.00	
63 Cu	20.73	20.73	ppb	1.00	8000.00	
66 Zn	225.00	225.00	ppb	0.93	8000.00	
75 As	0.14	0.14	ppb	106.37	8000.00	
82 Se	22.02	22.02	ppb	1.93	8000.00	
107 Ag	-0.62	-0.62	ppb	0.41	8000.00	
111 Cd	3.96	3.96	ppb	1.51	8000.00	
121 Sb	-0.06	-0.06	ppb	18.65	8000.00	
202 Hg	0.01	0.01	ppb	20.73	8.00	
205 Tl	-0.07	-0.07	ppb	15.66	8000.00	
208 Pb	5.18	5.18	ppb	0.83	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5420054.50	0.39	5160836.00	105.0	30 - 140	
45 Sc	5659802.50	0.32	5088704.00	111.2	30 - 140	
72 Ge	1097710.40	1.28	905446.56	121.2	30 - 140	
115 In	5122629.00	1.83	4704637.00	108.9	30 - 140	
159 Tb	6440931.00	2.06	6330833.50	101.7	30 - 140	
209 Bi	3129945.30	2.07	3475167.80	90.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:

IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\101CCV1.D\101CCV1.D#
Date Acquired: Sep 24 2004 03:33 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 07:53 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	52.04	ppb	3.48	50.00	104	89.5 - 111	
52 Cr	49.75	ppb	0.43	50.00	100	89.5 - 111	
60 Ni	48.61	ppb	2.22	50.00	97	89.5 - 111	
63 Cu	46.90	ppb	1.03	50.00	94	89.5 - 111	
66 Zn	52.13	ppb	1.35	50.00	104	89.5 - 111	
75 As	47.33	ppb	0.75	50.00	95	89.5 - 111	
82 Se	51.49	ppb	1.19	50.00	103	89.5 - 111	
107 Ag	42.14	ppb	10.14	50.00	84	89.5 - 111	Fail
111 Cd	49.38	ppb	0.56	50.00	99	89.5 - 111	
121 Sb	46.99	ppb	1.39	50.00	94	89.5 - 111	
202 Hg	0.75	ppb	6.70	2.00	38	89.5 - 111	Fail
205 Tl	49.78	ppb	4.78	50.00	100	89.5 - 111	
208 Pb	44.20	ppb	2.55	50.00	88	89.5 - 111	Fail

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5911931	2.13	5160836	114.6	30 - 140	
45 Sc	5748627	1.48	5088704	113.0	30 - 140	
72 Ge	1126504	1.09	905447	124.4	30 - 140	
115 In	5348137	0.04	4704637	113.7	30 - 140	
159 Tb	5790257	1.68	6330834	91.5	30 - 140	
209 Bi	3505918	2.08	3475168	100.9	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Nitrate / Sulfate Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ENVIRO-CHEM
LABORATORIES, INC.

100 Lakefront Drive, Hunt Valley, Maryland 21030 (410) 785-9739

FINAL REPORT OF ANALYSES

Phase Separation Science, Inc.
6630 Baltimore Nat. Pike
Baltimore, MD 21228-
Attn: Mr. John Richardson

PROJECT NAME: 04092217
REPORT DATE: 09/28/2004

SAMPLE NUMBER- 33464 SAMPLE ID- 04092217-01 SAMPLE MATRIX- WA
DATE SAMPLED- 09/22/04
DATE RECEIVED- 09/23/04 SAMPLER- NOT SPECIFIED RECEIVED BY- SES
TIME RECEIVED- 1030 DELIVERED BY- Courier

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	DET. LIMIT
NITRATE	EPA 300.0	09/23/04	SES	<0.2	mg/L as N	0.2
SULFATE	EPA 300.0	09/24/04	SES	95.8	mg/L	1.0

LABORATORY DIRECTOR

ENVIRO-CHEM
LABORATORIES, INC.

100 Lakefront Drive, Hunt Valley, Maryland 21030 (410) 785-9739

FINAL REPORT OF ANALYSES

Phase Separation Science, Inc.
6630 Baltimore Nat. Pike
Baltimore, MD 21228-
Attn: Mr. John Richardson

PROJECT NAME: 04092217
REPORT DATE: 09/28/2004

SAMPLE NUMBER- 33465 SAMPLE ID- 04092217-03 SAMPLE MATRIX- WA
DATE SAMPLED- 09/22/04
DATE RECEIVED- 09/23/04 SAMPLER- NOT SPECIFIED RECEIVED BY- SES
TIME RECEIVED- 1030 DELIVERED BY- Courier

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	DET. LIMIT
NITRATE	EPA 300.0	09/23/04	SES	<0.2	mg/L as N	0.2
SULFATE	EPA 300.0	09/24/04	SES	225	mg/L	1.0

LABORATORY DIRECTOR

ENVIRO-CHEM
LABORATORIES, INC.

100 Lakefront Drive, Hunt Valley, Maryland 21030 (410) 785-9739

FINAL REPORT OF ANALYSES

Phase Separation Science, Inc.
6630 Baltimore Nat. Pike
Baltimore, MD 21228-
Attn: Mr. John Richardson

PROJECT NAME: 04092217
REPORT DATE: 09/28/2004

SAMPLE NUMBER- 33466 SAMPLE ID- 04092217-05 SAMPLE MATRIX- WA
DATE SAMPLED- 09/22/04
DATE RECEIVED- 09/23/04 SAMPLER- NOT SPECIFIED RECEIVED BY- SES
TIME RECEIVED- 1030 DELIVERED BY- Courier

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	DET. LIMIT
NITRATE	EPA 300.0	09/23/04	SES	<0.2	mg/L as N	0.2
SULFATE	EPA 300.0	09/24/04	SES	89.0	mg/L	1.0

LABORATORY DIRECTOR

ENVIRO-CHEM LABORATORIES, INC.

100 Lakefront Drive, Hunt Valley, Maryland 21030 (410) 785-9739

FINAL REPORT OF ANALYSES

Phase Separation Science, Inc.
6630 Baltimore Nat. Pike
Baltimore, MD 21228-
Attn: Mr. John Richardson

PROJECT NAME: 04092217
REPORT DATE: 09/28/2004

SAMPLE NUMBER- 33467 SAMPLE ID- 04092217-07 SAMPLE MATRIX- WA
DATE SAMPLED- 09/22/04
DATE RECEIVED- 09/23/04 SAMPLER- NOT SPECIFIED RECEIVED BY- SES
TIME RECEIVED- 1030 DELIVERED BY- Courier

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	DET. LIMIT
NITRATE	EPA 300.0	09/23/04	SES	<0.2	mg/L as N	0.2
SULFATE	EPA 300.0	09/25/04	SES	630	mg/L	1.0

LABORATORY DIRECTOR

9317

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE

Chain of Custody

COC- ID	3646	**Phone Number**	410-785-9739
Date Shipped	09/22/04	**Fax Number**	410-785-9410
Organization	SS	**Shipped Via**	Dial Courier
Address	Enviro-Chem Laboratories, Inc. 100 Lakefront Drive Hunt Valley, Maryland 21030	**Airbill Number**	
		Due Date	10/06/04 5:00:00 PM

Lab Number: 04092217
Project:

	Sample Number	Description	Analysis	Method	No. of Cont.	Date Sampled
33464	04092217-01	DMW 9D-092204	Nitrate	EPA 300.0	1	09/22/04 9:20:00 AM
			Sulfate	EPA 300.0	1	09/22/04 9:20:00 AM
33465	04092217-03	DMW 9I-092204	Nitrate	EPA 300.0	1	09/22/04 10:45:00 AM
			Sulfate	EPA 300.0	1	09/22/04 10:45:00 AM
33466	04092217-05	DMW 9S-092204	Nitrate	EPA 300.0	1	09/22/04 12:05:00 PM
			Sulfate	EPA 300.0	1	09/22/04 12:05:00 PM
33467	04092217-07	DMW 5S-092204	Nitrate	EPA 300.0	1	09/22/04 2:50:00 PM
			Sulfate	EPA 300.0	1	09/22/04 2:50:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
[signature]	9/03	Matt Smith #216	09/23/04 9:55am
Matt Smith #216	9/23 10:20am	[signature]	9/23/04 1030

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Ferric Iron Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

MICROSEEPS

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P

Baltimore, MD 21228

Lab Proj #: P0409431
Report Date: 09/28/04
Client Proj Name: Martin State Airport
Client Proj #: 04092217

Laboratory Results

Total pages in data package: 6

Lab Sample #	Client Sample ID
P0409431-01	04092217-01
P0409431-02	04092217-03
P0409431-03	04092217-05
P0409431-04	04092217-07

Microseeps test results meet all the requirements of the NELAC standards.

Approved By: Brian J. Hans

The analytical results reported here are reliable and usable to the precision expressed in this report. As required by some regulating authorities, a full discussion of the uncertainty in our analytical results can be obtained at our web site or through customer service. Unless otherwise specified, all results

As a valued client we would appreciate your comments on our service.
Please call customer servce at (412)826-5245 or email bhans@microseeps.com

Case Narrative:

Lab Proj #: P0409431
Report Date: 09/28/04
Client Proj Name: Martin State Airport
Client Proj #: 04092217

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P
Baltimore, MD 21228

Lab Sample #: P0409431-01

Sample Description	Matrix	Sampled Date/Time	Received
04092217-01	Water	22 Sep. 04 9:20	24 Sep. 04

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
WetChem						
Ferric Iron	<1.0	1.0	mg/L	Mod.7199	md	9/24/04 20:00

N - NELAC certified analysis

Lab Proj #: P0409431
Report Date: 09/28/04
Client Proj Name: Martin State Airport
Client Proj #: 04092217

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P
Baltimore, MD 21228

Lab Sample #: P0409431-02

Sample Description	Matrix	Sampled Date/Time	Received
04092217-03 ✓	Water	22 Sep. 04 10:45	24 Sep. 04

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
WetChem						
Ferric Iron	<1.0 ✓	1.0	mg/L	Mod.7199 ✓	md	9/24/04 20:16 ✓

N - NELAC certified analysis

Lab Proj #: P0409431
Report Date: 09/28/04
Client Proj Name: Martin State Airport
Client Proj #: 04092217

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P
Baltimore, MD 21228

Lab Sample #: P0409431-03

Sample Description	Matrix	Sampled Date/Time	Received
04092217-05	Water	22 Sep. 04 12:05	24 Sep. 04

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
WetChem						
Ferric Iron	1.1	1.0	mg/L	Mod.7199	md	9/24/04 20:33

N - NELAC certified analysis

Lab Proj #: P0409431
Report Date: 09/28/04
Client Proj Name: Martin State Airport
Client Proj #: 04092217

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P
Baltimore, MD 21228

Lab Sample #: P0409431-04

Sample Description	Matrix	Sampled Date/Time	Received
04092217-07	Water	22 Sep. 04 14:50	24 Sep. 04

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
WetChem						
Ferric Iron	<1.0	1.0	mg/L	Mod.7199	md	9/24/04 20:50

N - NELAC certified analysis

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

PO409431

Chain of Custody

COC- ID	**3660**	**Phone Number**	412-826-5245
Date Shipped	09/23/04	**Fax Number**	412-826-3433
Organization	Microseeps, Inc.	**Shipped Via**	Fed Ex
Address	220 William Pitt Way Pittsburgh, PA 15238	**Airbill Number**	
		Due Date	10/06/04 5:00:00 PM

Lab Number: 04092217
Project: Martin State Airport- Data Gap

	Sample Number	Description	Analysis	Method	No. of Cont.	Date Sampled
01	04092217-01	DMW 9D-092204	Iron (Fe3+)	Mod_7199	1	09/22/04 9:20:00 AM
02	04092217-03	DMW 9I-092204	Iron (Fe3+)	Mod_7199	1	09/22/04 10:45:00 AM
03	04092217-05	DMW 9S-092204	Iron (Fe3+)	Mod_7199	1	09/22/04 12:05:00 PM
04	04092217-07	DMW 5S-092204	Iron (Fe3+)	Mod_7199	1	09/22/04 2:50:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
Bryan Ridgell	9/23/04 4:15pm	To FedEx CWashlack	9/24/04 1140

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Dissolved Gasses Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

04092217

MARYLAND SPECTRAL SERVICES, INC.

1500 CATON CENTER DRIVE, BALTIMORE, MD 21227

(410) 247-7600

LABORATORY RESULTS

RESULTS OF ANALYSIS OF

04092217 WATER SAMPLES

COLLECTED 22 SEPTEMBER 2004

Prepared For

PHASE SEPARATION SCIENCE, INC.

BALTIMORE, MD

28 September 2004

SAMPLE DATA SUMMARY PACKAGE

Table of Contents

1. Narrative

2. Chain-of-Custody Records

3. Results of Analyses

4. Chromatograms of Samples and Method Blanks

1. Narrative

NARRATIVE

Laboratory Name: Maryland Spectral Services, Inc. (MSS)

Date Samples Delivered to MSS Laboratory: 23 September 2004

Client: Phase Separation Science, Inc.

Project: 04092217

Results for the following samples are included in this data package:

Client ID	MSS ID	Matrix	Analysis
04092217-01 DMW 9D-092204	040923-01	Water	Ethane, Ethene
04092217-03 DMW 9I-092204	040923-02	Water	Ethane, Ethene
04092217-05 DMW 9S-092204	040923-03	Water	Ethane, Ethene
04092217-07 DMW 5S-092204	040923-04	Water	Ethane, Ethene

The samples were analyzed for ethane (C_2H_6) and ethene (C_2H_4) using Method 6211B of *Standard Methods* (1989) for the sample preparation and calculation steps and replacing the combustible-gas indicator with capillary gas chromatography and a flame ionization detector (FID) as in U.S. EPA Method 8015.

The samples were received in nominal 40-mL septum-sealed vials with no headspace. Prior to analysis, the vials were allowed to reach room temperature. Approximately half of the liquid was removed from each vial. The vials were shaken for 15 min and then allowed to stand for one hour.

An aliquot of the headspace vapor was removed from each vial with a gas-tight syringe. Fifty microliters of the headspace vapor, or of a dilution thereof, was injected directly into a Hewlett Packard 5890 gas chromatograph equipped with an FID. A RTx-200 capillary column (60 m x 0.53 mm i.d., 5.0-um film thickness) was used for the separation. The GC oven temperature was maintained at 45 C.

The GC detector response was calibrated by analysis of three levels of methane, ethane, and ethene prepared from a certified mixture in nitrogen obtained from Scott Specialty Gases.

Samples with high concentrations were diluted to keep the analyte response within the calibration range.

See the appendix to this narrative for a discussion of the values for the Henry's law constants used in the conversion of the headspace concentrations to aqueous concentrations.

The results of the analyses are presented in Section 3 and are reported as milligrams per liter (parts per million).

Prior to the analysis of the samples, a method blank consisting of laboratory helium was analyzed. The method blank results are present on the sample data tables in Section 3.

Chromatograms of sample and method blank analyses are provided in Section 4 and are labeled for the target compounds.

NARRATIVE (continued)

RELEASE OF THE DATA CONTAINED IN THIS HARDCOPY DATA PACKAGE HAS BEEN AUTHORIZED BY THE LABORATORY MANAGER OR HIS DESIGNEE, AS VERIFIED BY THE FOLLOWING SIGNATURE:

Michael M. Robison DATE: 28 Sept 2004

Michael M. Robison 28 September 2004

APPENDIX - Henry's Law Constants

The calculation of the original aqueous phase concentration from the headspace concentration require Henry's law constant, but Method 6211B only provides the constant for methane. The Henry's law constants for ethane and ethene were derived from values given by Lide & Frederikse (1995) and Wilhelm et al. (1997) as collected in Sander (1999). The values for 25 C were converted to 20 C using the temperature dependence constants given with the values. (A value for methane at 20 C calculated by the same process differed from the value in Method 6211B by less than 4%.) The following values were used in the calculations:

Analyte	Henry's Law Constant (kPa)	Reference
Ethane	2.59×10^6	Lide & Frederikse (1995)
Ethene	1.08×10^6	Wilhelm et al. (1997)

For T = 20 C and P = 100 kPa, the concentration in the original aqueous sample is given by:

$$C_o = C_v \cdot MW \cdot [0.4103 \times 10^{-4}(V_v/V_a) + 5.541/H] \cdot D$$

where

C_o = analyte concentration in original aqueous sample (mg/L)
C_v = analyte concentration in headspace vapor phase (uL/L)
MW = molecular weight of analyte
V_v = volume of headspace vapor phase (mL)
V_a = volume of headspace aqueous phase (mL)
H = Henry's law constant (kPa)
D = dilution factor

References

American Public Health Association, American Water Works Association, Water Pollution Control Federation. 1989. Method 6211B: Methane/Combustible-gas indicator method. In *Standard Methods for the Examination of Water and Wastewater*, 17th ed. APHA, Washington, D.C.

Lide, D.R. and H.P.R. Frederikse, Eds. 1995. *CRC Handbook of Chemistry and Physics*, 76th ed. CRC Press, Inc., Boca Raton, Florida.

Sander, R. 1999. Compilation of Henry's Law Constants for Inorganic and Organic Species of Potential Importance in Environmental Chemistry, ver. 3. http://www.mpch-mainz.mpg.de/~sander/res/henry.html (accessed June 2000).

Wilhelm, E., R. Battino, and R.J. Wilcock. 1977. Low-pressure solubility of gases in liquid water. *Chem. Rev.* 77:219-262.

2. Chain-of-Custody Records

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

Chain of Custody

COC- ID	**3645**	**Phone Number**	410-247-7600
Date Shipped	09/22/04	**Fax Number**	410-247-7602
Organization	MSS	**Shipped Via**	Dial Courier
Address	1500 Caton Center Drive Baltimore, MD 21227	**Airbill Number**	
		Due Date	10/06/04 5:00:00 PM

Lab Number: 04092217
Project:

Sample Number	Description	Analysis	MSS#	Method	No. of Cont.	Date Sampled
04092217-01	DMW 9D-092204	Ethane	04-0923-01	SM6211B/EPA8	1	09/22/04 9:20:00 AM
		Ethene		SM6211B/EPA8	1	09/22/04 9:20:00 AM
04092217-03	DMW 9I-092204	Ethane	04-0923-02	SM6211B/EPA8	1	09/22/04 10:45:00 AM
		Ethene		SM6211B/EPA8	1	09/22/04 10:45:00 AM
04092217-05	DMW 9S-092204	Ethane	04-0923-03	SM6211B/EPA8	1	09/22/04 12:05:00 PM
		Ethene		SM6211B/EPA8	1	09/22/04 12:05:00 PM
04092217-07	DMW 5S-092204	Ethane	04-0923-04	SM6211B/EPA8	1	09/22/04 2:50:00 PM
		Ethene		SM6211B/EPA8	1	09/22/04 2:50:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
		via Courier - [illegible]	9/23/04 10 AM

3. Results of Analyses

MARYLAND SPECTRAL SERVICES, INC.
1500 Caton Center Drive, Baltimore, MD 21227

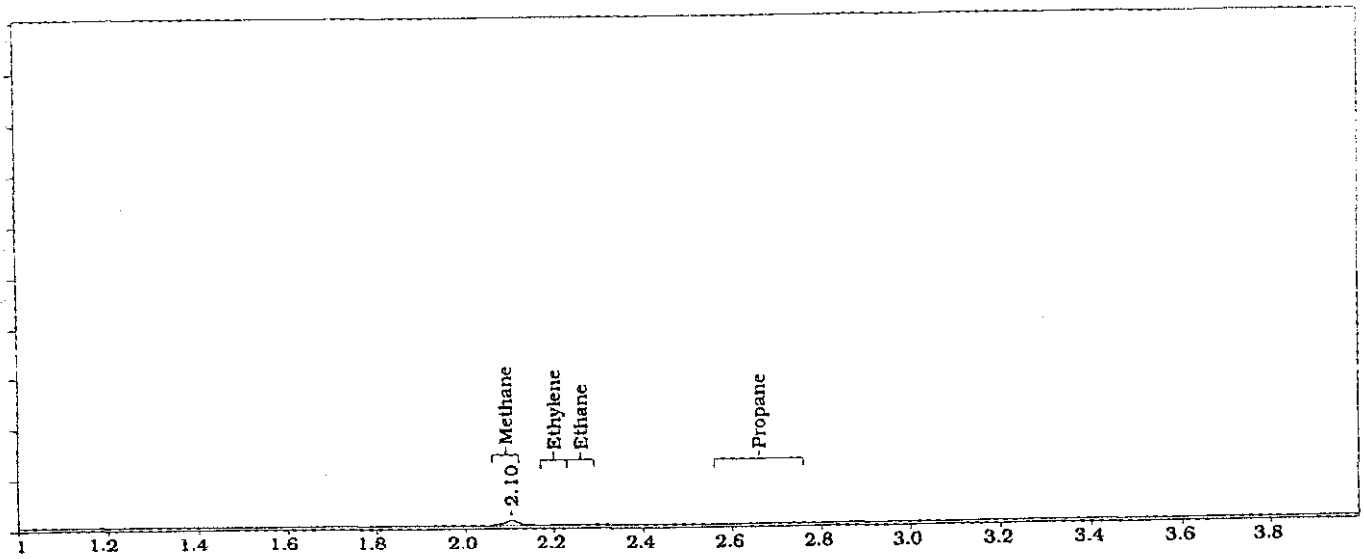
HYDROCARBONS BY METHODS SM 6211B/EPA 8015 (HEADSPACE/GC/FID)

CLIENT SAMPLE ID:	DMW 9D	DMW 9I	DMW 9S	DMW 5S	WBLK0923
	04092217	04092217	04092217	04092217	
LAB SAMPLE ID:	04092301	04092302	04092303	04092304	METHOD BLANK
SAMPLE DATE:	09/22/04	09/22/04	09/22/04	09/22/04	
RECEIVED DATE:	09/23/04	09/23/04	09/23/04	09/23/04	
ANALYSIS DATE:	09/23/04	09/23/04	09/23/04	09/23/04	09/23/04
INSTRUMENT ID:	GC-G	GC-G	GC-G	GC-G	GC-G
MATRIX:	WATER	WATER	WATER	WATER	WATER
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L
DILUTION FACTOR:	1.0	1.0	1.0	1.0	1.0
ANALYTE					
Ethane	0.012 U	0.012	0.051	0.011 U	0.011 U
Ethene	0.012 U	0.183	0.978	0.011 U	0.011 U

mg/L - Milligrams per liter (parts per million)
U - Less than reported quantitation limit

4. Chromatograms of Samples and Method Blanks

File=C:\DIRECT\DATAG1\0923G.05R Date printed=09-24-2004 Time= 10:27:49
Sample Name=METHOD BLANK
1.0 to 4.0 min. Low Y=3.495 High Y=63.495 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- METHOD BLANK-----
ANALYSIS DATE: Sep 23, 2004 13:53:35
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 32
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0923G.05R
RUN TIME 5

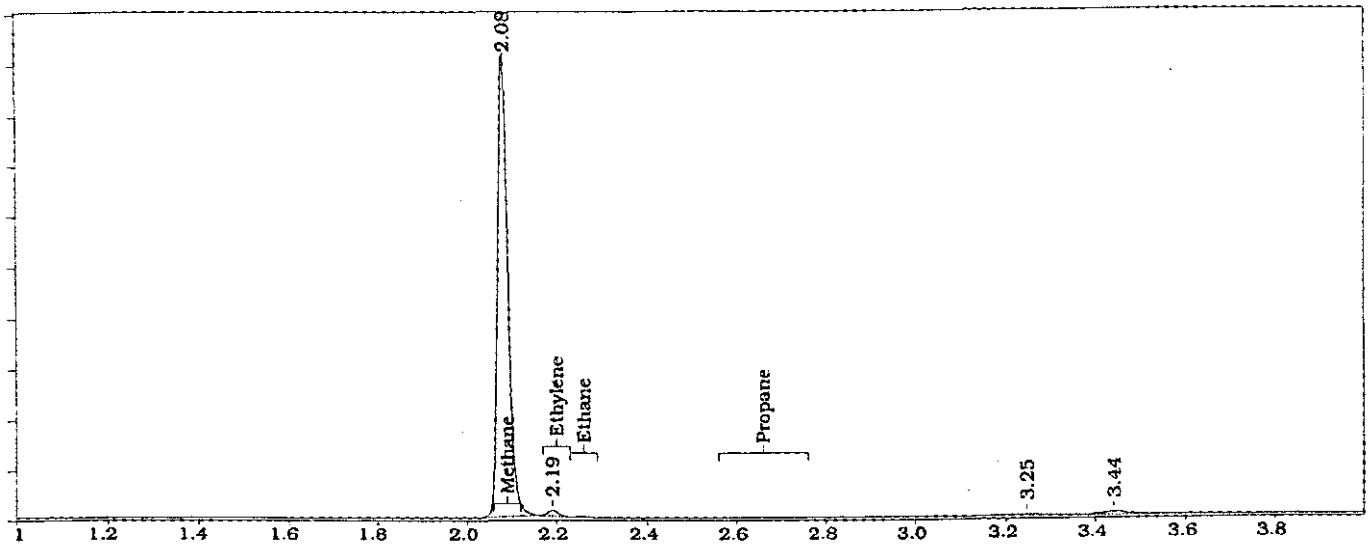
DILUTION FACTOR 1 RTX-1 60M X .53MMID X 5.0 UM FILM
AMOUNT INJECTED 1 DISOLVED HYDROCARBONS BY METHOD EPA8015M SM621

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
1	2.103	Methane	7.8830	1350	572

File name: C:\DIRECT\DATAG1\0923G.05R
Total area for this analysis = 1350.045

File=C:\DIRECT\DATAG1\0923G.06R Date printed=09-24-2004 Time= 10:31:25
Sample Name=040923-01
1.0 to 4.0 min. Low Y=3.497 High Y=63.497 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- 040923-01-----
ANALYSIS DATE: Sep 23, 2004 14:14:49
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 32
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0923G.06R
RUN TIME 5

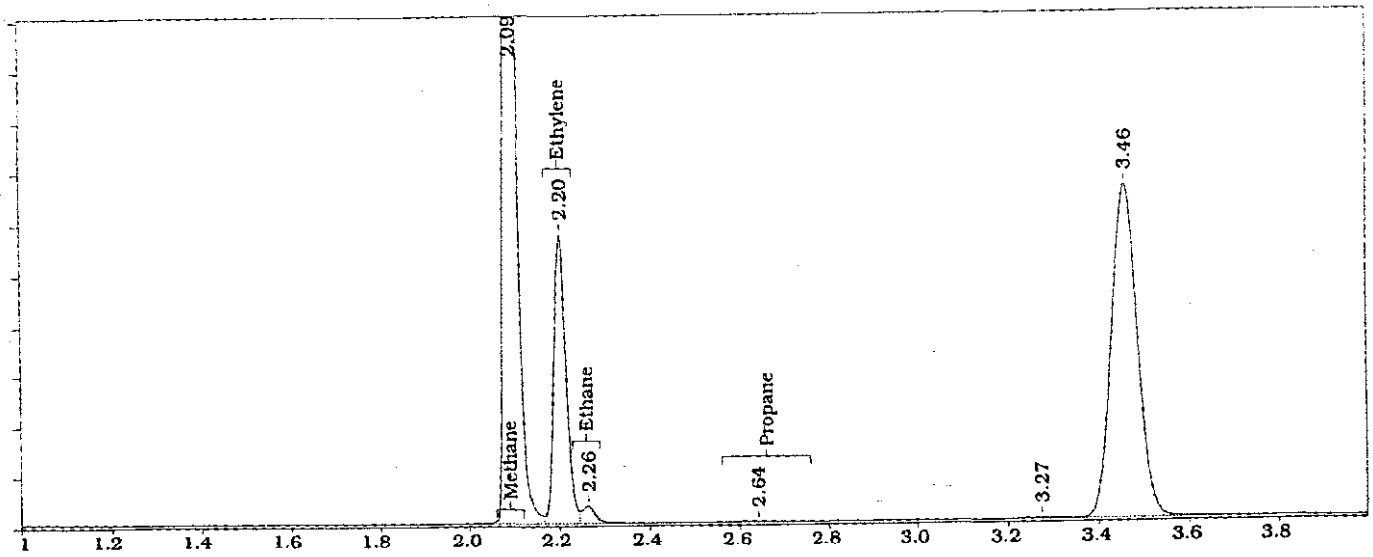
DILUTION FACTOR 1 RTX-1 60M X .53MMID X 5.0 UM FILM
AMOUNT INJECTED 1 DISOLVED HYDROCARBONS BY METHOD EPA8015M SM6. 1

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
1	2.082	Methane	505.9448	86648	55303
2	2.191	Ethylene	3.1156	1014	668
3	3.246		0.0000	778	147
4	3.441		0.0000	2462	386

File name: C:\DIRECT\DATAG1\0923G.06R
Total area for this analysis = 90901.98

File=C:\DIRECT\DATAG1\0923G.07R Date printed=09-24-2004 Time= 10:32:25
Sample Name=040923-02
1.0 to 4.0 min. Low Y=3.468 High Y=63.468 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- 040923-02-----
ANALYSIS DATE: Sep 23, 2004 14:26:12
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 32
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0923G.07R
RUN TIME 5

DILUTION FACTOR 1
AMOUNT INJECTED 1

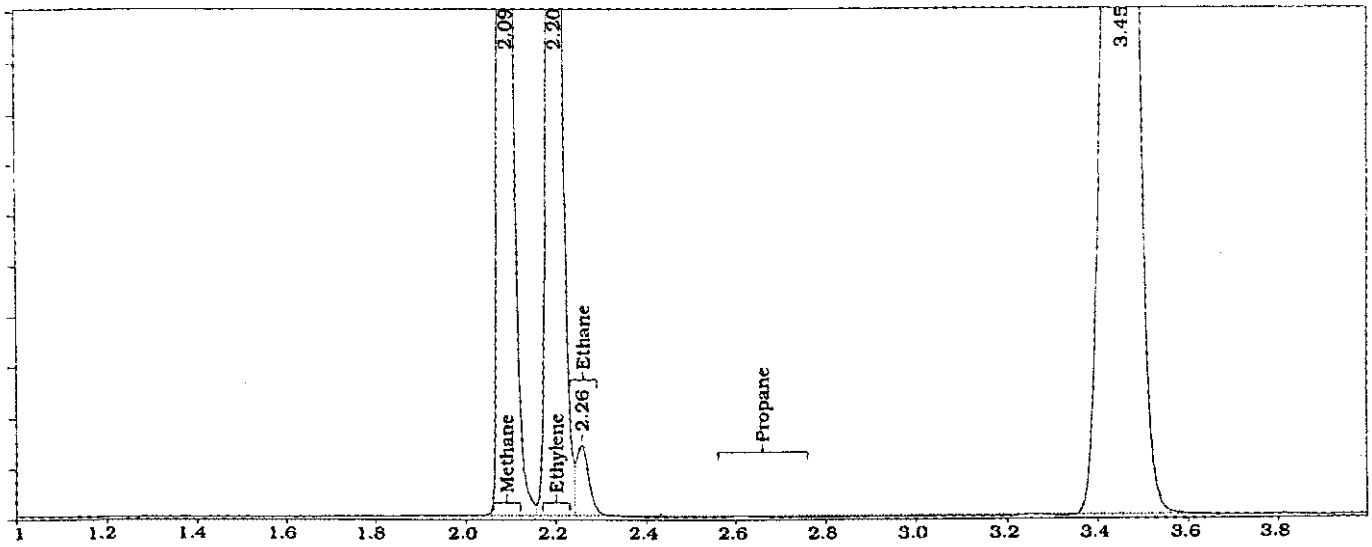
RTX-1 60M X .53MMID X 5.0 UM FILM
DISOLVED HYDROCARBONS BY METHOD EPA8015M SM621

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
1	2.094	Methane	1420.5640	243287	154453
2	2.203	Ethylene	192.7249	62728	34068
3	2.263	Ethane	12.9658	4169	2005
4	2.640	Propane	0.6050	289	72
5	3.272		0.0000	512	129
6	3.458		0.0000	156763	39268

File name: C:\DIRECT\DATAG1\0923G.07R
Total area for this analysis = 467747.1

File=C:\DIRECT\DATAG1\0923G.08R Date printed=09-24-2004 Time= 10:33:28
Sample Name=040923-03
1.0 to 4.0 min. Low Y=3.486 High Y=63.486 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- 040923-03-----
ANALYSIS DATE: Sep 23, 2004 14:36:48
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 32
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0923G.08R
RUN TIME 5

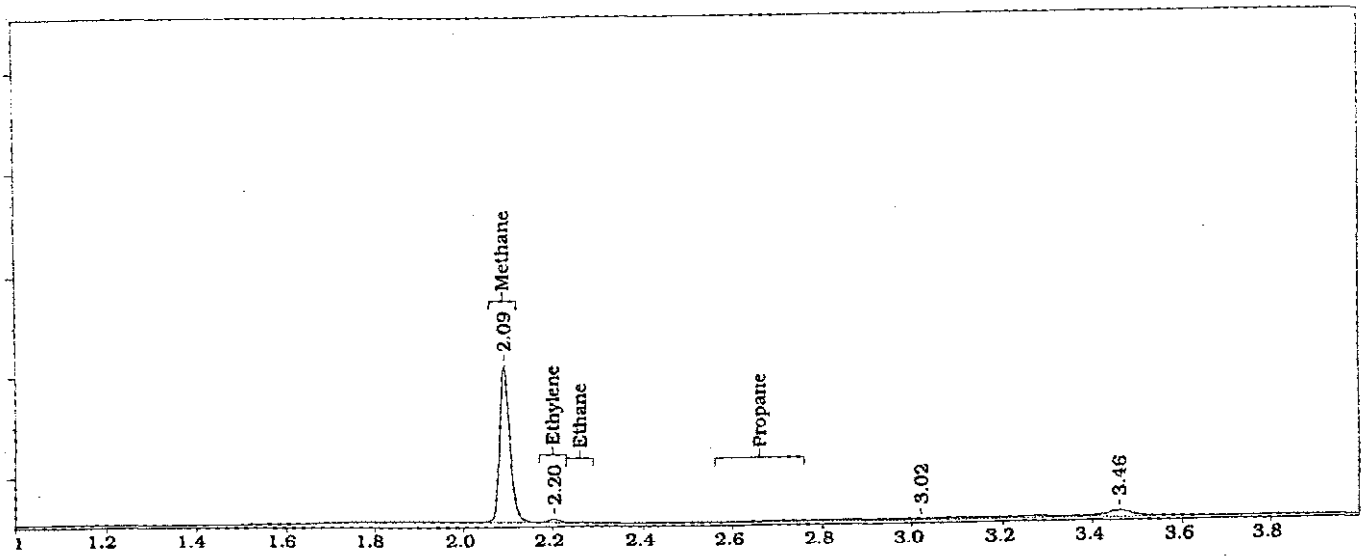
DILUTION FACTOR 1 RTX-1 60M X .53MMID X 5.0 UM FILM
AMOUNT INJECTED 1 DISOLVED HYDROCARBONS BY METHOD EPA8015M SM6 1

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
1	2.089	Methane	2351.9927	402804	252528
2	2.198	Ethylene	931.1233	303061	154850
3	2.257	Ethane	50.6184	16276	8356
4	3.449		0.0000	847492	212701

File name: C:\DIRECT\DATAG1\0923G.08R
Total area for this analysis = 1569633

ile=C:\DIRECT\DATAG1\0923G.09R Date printed=09-24-2004 Time= 10:34:20
Sample Name=040923-04
.0 to 4.0 min. Low Y=3.489 High Y=63.489 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- 040923-04-----
ANALYSIS DATE: Sep 23, 2004 14:47:19
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 32
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0923G.09R
RUN TIME 5

DILUTION FACTOR 1
AMOUNT INJECTED 1

RTX-1 60M X .53MMID X 5.0 UM FILM
DISOLVED HYDROCARBONS BY METHOD EPA8015M SM621

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
1	2.093	Methane	172.3015	29508	18734
2	2.203	Ethylene	2.0236	659	430
3	3.020		0.0000	4782	195
4	3.461		0.0000	4136	798

File name: C:\DIRECT\DATAG1\0923G.09R
Total area for this analysis = 39085.69

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Perchlorate Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ANALYTICAL LABORATORY SERVICES, INC.

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Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
6630 Baltimore National Pike
Route 40 West
Catonsville, MD 21228

Lab ID #: **279070001**
Received: 09/24/04 11:30
Discard: 10/21/04

Project Name: **Routine Sample Submission-RUSH**

PO#:

Sample ID: **04092217-01**
Date Collected: 09/22/04 09:20

Matrix: Water
Collected by: Collected by Customer

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Perchlorate	ND	ug/L	4	EPA 314.0	09/28/04 10:52	09/28/04	JWB

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Raymond J. Martrano
Laboratory Manager

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Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
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Catonsville, MD 21228

Lab ID #: 279070002
Received: 09/24/04 11:30
Discard: 10/21/04

Project Name: **Routine Sample Submission-RUSH**

PO#:

Sample ID: **04092217-03**
Date Collected: 09/22/04 10:45

Matrix: Water
Collected by: Collected by Customer

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Perchlorate	ND	ug/L	4	EPA 314.0	09/28/04 11:05	09/28/04	JWI

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October 7, 2004

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Lab ID #: 279070003
Received: 09/24/04 11:30
Discard: 10/21/04

Page: 1 Of 1

Project Name: **Routine Sample Submission-RUSH**

PO#:

Sample ID: **04092217-05**
Date Collected: 09/22/04 12:05

Matrix: Water
Collected by: Collected by Customer

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Perchlorate [1]	ND	ug/L	40	EPA 314.0	10/05/04 12:49	10/05/04	JWB

1 - Due to sample matrix interferences, this analyte was analyzed at a dilution and the detection levels adjusted accordingly.

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Laboratory Manager

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Lab ID #: **279070004**
Received: 09/24/04 11:30
Discard: 10/21/04

Page: 1 Of 1

Project Name: **Routine Sample Submission-RUSH**

PO#:

Sample ID: **04092217-07**
Date Collected: 09/22/04 14:50

Matrix: Water
Collected by: Collected by Customer

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Perchlorate [1]	ND	ug/L	40	EPA 314.0	10/05/04 13:02	10/05/04	JWE

1 - Due to sample matrix interferences, this analyte was analyzed at a dilution and the detection levels adjusted accordingly.

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Raymond J. Martrano
Laboratory Manager

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Chain of Custody

COC- ID	3647	**Phone Number**	717-944-5541
Date Shipped	09/22/04	**Fax Number**	717-944-1430
Organization	ALS	**Shipped Via**	UPS O/N
Address	Analytical Laboratory Services, Inc. 34 Dogwood Lane Middletown, PA 17057	**Airbill Number**	
		Due Date	10/06/04 5:00:00 PM

Lab Number: 04092217
Project:

	Sample Number	Description	Analysis	Method	No. of Cont.	Date Sampled
1	04092217-01	DMW 9D-092204	Perchlorate	314.0	1	09/22/04 9:20:00 AM
2	04092217-03	DMW 9I-092204	Perchlorate	314.0	1	09/22/04 10:45:00 AM
3	04092217-05	DMW 9S-092204	Perchlorate	314.0	1	09/22/04 12:05:00 PM
4	04092217-07	DMW 5S-092204	Perchlorate	314.0	1	09/22/04 2:50:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
[signature]			

6 Key ALS 9-24-04 1130

ENTERED 09/24/04 [initials] 9/24/04 1439

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Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
6630 Baltimore National Pike
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Catonsville, MD 21228

Lab ID#: 279070

Project Name: **Routine Sample Submission-RUSH**

PO#:

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Qualifier Flags - These flags may follow individual results for a specific analyte

- U - Indicates that the analyte was not detected
- J - Indicates an estimated value between method detection limit and the practical quantitation limit for the analyte
- E - Indicates an estimated value outside of the calibration range of the analysis
- B - Indicates that the analyte was found in the method blank associated with the sample

A result of ND indicates that the analyte was Not Detected at the Reporting Detection Limit (RDL).

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If you have any questions in reference to this laboratory report, please contact your ALSI project coordinator or the laboratory manager listed at the bottom of this report at 717-944-5541.

Note: This document is included as part of the Analytical Report and must be retained as a permanent record thereof.

Raymond J. Martrano
Laboratory Manager

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

LABORATORY RESULTS

DATE RECEIVED: September 23, 2004

PROJECT: Martin State Airport- Quarterly Sampling

Project #: N5784-0000

CERTIFICATE OF ANALYSIS #: *04092328*

PREPARED FOR:

Tetra Tech, Inc.
10670 White Rock Rd., Ste. 100
Rancho Cordova, CA 95670

October 20, 2004

6630 Baltimore National Pike Baltimore, Maryland 21228 (410) 747-8770 (800) 932-9047 fax (410) 788-8723

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
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CERTIFICATE OF ANALYSIS
No. 04092328 Page 1 of 16
Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 4D-092304 / 04092328-01						
Dissolved Gases in Water						
Ethane	ND	mg/L	SM6211B/EPA8015	0.011		09/24/04
Ethene	ND	mg/L	SM6211B/EPA8015	0.011		09/24/04
Ferric Iron						
Iron (Fe3+)	ND	mg/L	Mod_7199	1		09/24/04
Nitrate Nitrogen						
Nitrate	2.1	mg/L	EPA 300.0	0.2		09/24/04
Perchlorate						
Perchlorate	7	ug/L	EPA 314.0	4	10/05/04	10/05/04
Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Arsenic	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Beryllium	ND	ug/L	EPA 6020	4	09/24/04	09/30/04
Cadmium	17	ug/L	EPA 6020	5	09/24/04	09/29/04
Chromium	7.4	ug/L	EPA 6020	5	09/24/04	09/29/04
Copper	64	ug/L	EPA 6020	5	09/24/04	09/29/04
Lead	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Mercury	ND	ug/L	EPA 6020	1	09/24/04	09/29/04
Nickel	90	ug/L	EPA 6020	5	09/24/04	09/29/04
Selenium	29	ug/L	EPA 6020	5	09/24/04	09/29/04
Silver	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Thallium	ND	ug/L	EPA 6020	2	09/24/04	09/30/04
Zinc	280	ug/L	EPA 6020	50	09/24/04	09/29/04
Total Sulfate						
Sulfate	494	mg/L	EPA 300.0	1		09/27/04
Volatile Organic Compounds						
Benzene	2	ug/L	EPA 8260B	1		10/05/04
Bromobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Bromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromodichloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromoform	ND	ug/L	EPA 8260B	1		10/05/04
Bromomethane	ND	ug/L	EPA 8260B	1		10/05/04
n-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1		10/05/04
sec-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04

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PHASE SEPARATION SCIENCE, INC.

Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 4D-092304 / 04092328-01						
Volatile Organic Compounds						
tert-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Carbon tetrachloride	1	ug/L	EPA 8260B	1		10/05/04
Chlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Chloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Chloroform	2	ug/L	EPA 8260B	1		10/05/04
Chloromethane	ND	ug/L	EPA 8260B	1		10/05/04
2-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
4-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
Dibromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1		10/05/04
Dibromomethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethane	7	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloroethane	9	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethene	14	ug/L	EPA 8260B	1		10/05/04
cis-1,2-Dichloroethene	230	ug/L	EPA 8260B	20		10/06/04
trans-1,2-Dichloroethene	7	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
2,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Ethylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Isopropylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
p-Isopropyltoluene	ND	ug/L	EPA 8260B	1		10/05/04
Methylene chloride	b 10	ug/L	EPA 8260B	1		10/05/04
Naphthalene	2	ug/L	EPA 8260B	1		10/05/04
n-Propylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Styrene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04

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CERTIFICATE OF ANALYSIS
No. 04092328 Page 3 of 16
Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 4D-092304 / 04092328-01						
Volatile Organic Compounds						
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Tetrachloroethene	3	ug/L	EPA 8260B	1		10/05/04
Toluene	ND	ug/L	EPA 8260B	1		10/05/04
1,2,3-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Trichloroethene	3,100	ug/L	EPA 8260B	20		10/06/04
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trimethylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,3,5-Trimethylbenzene	2	ug/L	EPA 8260B	1		10/05/04
Vinyl chloride	21	ug/L	EPA 8260B	1		10/05/04
m&p-Xylene	ND	ug/L	EPA 8260B	3		10/05/04
o-Xylene	j 2	ug/L	EPA 8260B	3		10/05/04
Methyl-t-butyl ether	ND	ug/L	EPA 8260B	1		10/05/04
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10		10/05/04
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10		10/05/04
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10		10/05/04
Acetone	ND	ug/L	EPA 8260B	10		10/05/04
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5		10/05/04
Carbon disulfide	ND	ug/L	EPA 8260B	1		10/05/04
Vinyl acetate	ND	ug/L	EPA 8260B	1		10/05/04
2-Chloroethylvinyl ether	ND	ug/L	EPA 8260B	1		10/05/04
Cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04

Reviewed By: _____
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

b - found in blank / suspected lab artifact.

j - estimated value, less than quantitation limit.

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CERTIFICATE OF ANALYSIS
No. 04092328 Page 4 of 16
Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 4D-092304 (dissolved) / 04092328-02						
Dissolved Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Arsenic	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Beryllium	ND	ug/L	EPA 6020	4	09/24/04	09/24/04
Cadmium	**18**	ug/L	EPA 6020	5	09/24/04	09/24/04
Chromium	**5.1**	ug/L	EPA 6020	5	09/24/04	09/24/04
Copper	**51**	ug/L	EPA 6020	5	09/24/04	09/24/04
Lead	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Mercury	ND	ug/L	EPA 6020	1	09/24/04	09/24/04
Nickel	**85**	ug/L	EPA 6020	5	09/24/04	09/24/04
Selenium	**25**	ug/L	EPA 6020	5	09/24/04	09/24/04
Silver	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Thallium	ND	ug/L	EPA 6020	2	09/24/04	09/24/04
Zinc	**310**	ug/L	EPA 6020	50	09/24/04	09/24/04

Reviewed By: _____
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

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CERTIFICATE OF ANALYSIS
No. 04092328 Page 5 of 16
Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 4I-092304 / 04092328-03						
Dissolved Gases in Water						
Ethane	ND	mg/L	SM6211B/EPA8015	0.011		09/24/04
Ethene	0.021	mg/L	SM6211B/EPA8015	0.012		09/24/04
Ferric Iron						
Iron (Fe3+)	ND	mg/L	Mod_7199	1		09/24/04
Nitrate Nitrogen						
Nitrate	ND	mg/L	EPA 300.0	0.2		09/24/04
Perchlorate						
Perchlorate	ND	ug/L	EPA 314.0	20	10/06/04	10/06/04
Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Arsenic	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Beryllium	5.4	ug/L	EPA 6020	4	09/24/04	09/30/04
Cadmium	11	ug/L	EPA 6020	5	09/24/04	09/29/04
Chromium	15	ug/L	EPA 6020	5	09/24/04	09/29/04
Copper	16	ug/L	EPA 6020	5	09/24/04	09/29/04
Lead	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Mercury	ND	ug/L	EPA 6020	1	09/24/04	09/29/04
Nickel	68	ug/L	EPA 6020	5	09/24/04	09/29/04
Selenium	30	ug/L	EPA 6020	5	09/24/04	09/29/04
Silver	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Thallium	ND	ug/L	EPA 6020	2	09/24/04	09/30/04
Zinc	210	ug/L	EPA 6020	50	09/24/04	09/29/04
Total Sulfate						
Sulfate	848	mg/L	EPA 300.0	1		09/27/04
Volatile Organic Compounds						
Benzene	ND	ug/L	EPA 8260B	10		10/05/04
Bromobenzene	ND	ug/L	EPA 8260B	10		10/05/04
Bromochloromethane	ND	ug/L	EPA 8260B	10		10/05/04
Bromodichloromethane	ND	ug/L	EPA 8260B	10		10/05/04
Bromoform	ND	ug/L	EPA 8260B	10		10/05/04
Bromomethane	ND	ug/L	EPA 8260B	10		10/05/04
n-Butylbenzene	ND	ug/L	EPA 8260B	10		10/05/04
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	10		10/05/04
sec-Butylbenzene	ND	ug/L	EPA 8260B	10		10/05/04

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CERTIFICATE OF ANALYSIS
No. 04092328 Page 6 of 16
Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 4I-092304 / 04092328-03						
Volatile Organic Compounds						
tert-Butylbenzene	ND	ug/L	EPA 8260B	10		10/05/04
Carbon tetrachloride	ND	ug/L	EPA 8260B	10		10/05/04
Chlorobenzene	ND	ug/L	EPA 8260B	10		10/05/04
Chloroethane	ND	ug/L	EPA 8260B	10		10/05/04
Chloroform	ND	ug/L	EPA 8260B	10		10/05/04
Chloromethane	ND	ug/L	EPA 8260B	10		10/05/04
2-Chlorotoluene	ND	ug/L	EPA 8260B	10		10/05/04
4-Chlorotoluene	ND	ug/L	EPA 8260B	10		10/05/04
Dibromochloromethane	ND	ug/L	EPA 8260B	10		10/05/04
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	10		10/05/04
1,2-Dibromoethane	ND	ug/L	EPA 8260B	10		10/05/04
Dibromomethane	ND	ug/L	EPA 8260B	10		10/05/04
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	10		10/05/04
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	10		10/05/04
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	10		10/05/04
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	10		10/05/04
1,1-Dichloroethane	52	ug/L	EPA 8260B	10		10/05/04
1,2-Dichloroethane	19	ug/L	EPA 8260B	10		10/05/04
1,1-Dichloroethene	100	ug/L	EPA 8260B	10		10/05/04
cis-1,2-Dichloroethene	1,200	ug/L	EPA 8260B	10		10/05/04
trans-1,2-Dichloroethene	16	ug/L	EPA 8260B	10		10/05/04
1,2-Dichloropropane	ND	ug/L	EPA 8260B	10		10/05/04
1,3-Dichloropropane	ND	ug/L	EPA 8260B	10		10/05/04
2,2-Dichloropropane	ND	ug/L	EPA 8260B	10		10/05/04
1,1-Dichloropropene	ND	ug/L	EPA 8260B	10		10/05/04
Ethylbenzene	ND	ug/L	EPA 8260B	10		10/05/04
Isopropylbenzene	ND	ug/L	EPA 8260B	10		10/05/04
p-Isopropyltoluene	ND	ug/L	EPA 8260B	10		10/05/04
Methylene chloride	ND	ug/L	EPA 8260B	10		10/05/04
Naphthalene	16	ug/L	EPA 8260B	10		10/05/04
n-Propylbenzene	ND	ug/L	EPA 8260B	10		10/05/04
Styrene	ND	ug/L	EPA 8260B	10		10/05/04
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	10		10/05/04

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CERTIFICATE OF ANALYSIS
No. 04092328 Page 7 of 16
Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/23/04
Date Received: 09/23/04

Sample ID: DMW 4I-092304 / 04092328-03

	Result	Unit	Method	PQL	Prepared	Analyzed
Volatile Organic Compounds						
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	10		10/05/04
Tetrachloroethene	ND	ug/L	EPA 8260B	10		10/05/04
Toluene	ND	ug/L	EPA 8260B	10		10/05/04
1,2,3-Trichlorobenzene	**270**	ug/L	EPA 8260B	10		10/05/04
1,2,4-Trichlorobenzene	**590**	ug/L	EPA 8260B	10		10/05/04
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	10		10/05/04
1,1,2-Trichloroethane	ND	ug/L	EPA 8260B	10		10/05/04
Trichloroethene	**7,000**	ug/L	EPA 8260B	100		10/06/04
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	10		10/05/04
1,2,4-Trimethylbenzene	ND	ug/L	EPA 8260B	10		10/05/04
1,3,5-Trimethylbenzene	ND	ug/L	EPA 8260B	10		10/05/04
Vinyl chloride	**77**	ug/L	EPA 8260B	10		10/05/04
m&p-Xylene	ND	ug/L	EPA 8260B	30		10/05/04
o-Xylene	ND	ug/L	EPA 8260B	30		10/05/04
Methyl-t-butyl ether	ND	ug/L	EPA 8260B	10		10/05/04
2-Butanone (MEK)	ND	ug/L	EPA 8260B	100		10/05/04
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	100		10/05/04
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	100		10/05/04
Acetone	ND	ug/L	EPA 8260B	100		10/05/04
Trichlorofluoromethane	ND	ug/L	EPA 8260B	50		10/05/04
Carbon disulfide	ND	ug/L	EPA 8260B	10		10/05/04
Vinyl acetate	ND	ug/L	EPA 8260B	10		10/05/04
2-Chloroethylvinyl ether	ND	ug/L	EPA 8260B	10		10/05/04
Cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	10		10/05/04
Trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	10		10/05/04

Reviewed By: Matt Oakes
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL

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Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 4I-092304 (dissolved) / 04092328-04						
Dissolved Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Arsenic	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Beryllium	**5.7**	ug/L	EPA 6020	4	09/24/04	09/24/04
Cadmium	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Chromium	**15**	ug/L	EPA 6020	5	09/24/04	09/24/04
Copper	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Lead	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Mercury	ND	ug/L	EPA 6020	1	09/24/04	09/24/04
Nickel	**63**	ug/L	EPA 6020	5	09/24/04	09/24/04
Selenium	**24**	ug/L	EPA 6020	5	09/24/04	09/24/04
Silver	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Thallium	ND	ug/L	EPA 6020	2	09/24/04	09/24/04
Zinc	**210**	ug/L	EPA 6020	50	09/24/04	09/24/04

Reviewed By: Matt Miller
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

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Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 4S-092304 / 04092328-05						
Dissolved Gases in Water						
Ethane	ND	mg/L	SM6211B/EPA8015	0.01		09/24/04
Ethene	**0.012**	mg/L	SM6211B/EPA8015	0.012		09/24/04
Ferric Iron						
Iron (Fe3+)	ND	mg/L	Mod_7199	1		09/24/04
Nitrate Nitrogen						
Nitrate	ND	mg/L	EPA 300.0	0.2		09/24/04
Perchlorate						
Perchlorate	ND	ug/L	EPA 314.0	4	10/05/04	10/05/04
Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Arsenic	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Beryllium	ND	ug/L	EPA 6020	4	09/24/04	09/30/04
Cadmium	**5.3**	ug/L	EPA 6020	5	09/24/04	09/29/04
Chromium	**50**	ug/L	EPA 6020	5	09/24/04	09/29/04
Copper	**17**	ug/L	EPA 6020	5	09/24/04	09/29/04
Lead	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Mercury	ND	ug/L	EPA 6020	1	09/24/04	09/29/04
Nickel	**59**	ug/L	EPA 6020	5	09/24/04	09/29/04
Selenium	**8.0**	ug/L	EPA 6020	5	09/24/04	09/29/04
Silver	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Thallium	ND	ug/L	EPA 6020	2	09/24/04	09/30/04
Zinc	**120**	ug/L	EPA 6020	50	09/24/04	09/29/04
Total Sulfate						
Sulfate	**635**	mg/L	EPA 300.0	1		09/27/04
Volatile Organic Compounds						
Benzene	**2**	ug/L	EPA 8260B	1		10/05/04
Bromobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Bromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromodichloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromoform	ND	ug/L	EPA 8260B	1		10/05/04
Bromomethane	ND	ug/L	EPA 8260B	1		10/05/04
n-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1		10/05/04
sec-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04

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Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 4S-092304 / 04092328-05						
Volatile Organic Compounds						
tert-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Carbon tetrachloride	ND	ug/L	EPA 8260B	1		10/05/04
Chlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Chloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Chloroform	ND	ug/L	EPA 8260B	1		10/05/04
Chloromethane	ND	ug/L	EPA 8260B	1		10/05/04
2-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
4-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
Dibromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1		10/05/04
Dibromomethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethane	**5**	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloroethane	**16**	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethene	**15**	ug/L	EPA 8260B	1		10/05/04
cis-1,2-Dichloroethene	**140**	ug/L	EPA 8260B	1		10/05/04
trans-1,2-Dichloroethene	**2**	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
2,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Ethylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Isopropylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
p-Isopropyltoluene	ND	ug/L	EPA 8260B	1		10/05/04
Methylene chloride	ND	ug/L	EPA 8260B	1		10/05/04
Naphthalene	ND	ug/L	EPA 8260B	1		10/05/04
n-Propylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Styrene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04

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Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/23/04
Date Received: 09/23/04

Sample ID: DMW 4S-092304 / 04092328-05

	Result	Unit	Method	PQL	Prepared	Analyzed
Volatile Organic Compounds						
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Tetrachloroethene	2	ug/L	EPA 8260B	1		10/05/04
Toluene	ND	ug/L	EPA 8260B	1		10/05/04
1,2,3-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichloroethane	1	ug/L	EPA 8260B	1		10/05/04
Trichloroethene	1,000	ug/L	EPA 8260B	10		10/06/04
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trimethylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,3,5-Trimethylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Vinyl chloride	36	ug/L	EPA 8260B	1		10/05/04
m&p-Xylene	ND	ug/L	EPA 8260B	3		10/05/04
o-Xylene	ND	ug/L	EPA 8260B	3		10/05/04
Methyl-t-butyl ether	ND	ug/L	EPA 8260B	1		10/05/04
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10		10/05/04
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10		10/05/04
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10		10/05/04
Acetone	ND	ug/L	EPA 8260B	10		10/05/04
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5		10/05/04
Carbon disulfide	ND	ug/L	EPA 8260B	1		10/05/04
Vinyl acetate	ND	ug/L	EPA 8260B	1		10/05/04
2-Chloroethylvinyl ether	ND	ug/L	EPA 8260B	1		10/05/04
Cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04

Reviewed By: Matt Cline
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

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Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 4S-092304 (dissolved) / 04092328-06						
Dissolved Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Arsenic	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Beryllium	ND	ug/L	EPA 6020	4	09/24/04	09/24/04
Cadmium	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Chromium	**7.0**	ug/L	EPA 6020	5	09/24/04	09/24/04
Copper	**7.0**	ug/L	EPA 6020	5	09/24/04	09/24/04
Lead	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Mercury	ND	ug/L	EPA 6020	1	09/24/04	09/24/04
Nickel	**54**	ug/L	EPA 6020	5	09/24/04	09/24/04
Selenium	**6.1**	ug/L	EPA 6020	5	09/24/04	09/24/04
Silver	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Thallium	ND	ug/L	EPA 6020	2	09/24/04	09/24/04
Zinc	**130**	ug/L	EPA 6020	50	09/24/04	09/24/04

Reviewed By: Matt Allen
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

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Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 2A-092304 / 04092328-07						
Dissolved Gases in Water						
Ethane	ND	mg/L	SM6211B/EPA8015	0.013		09/24/04
Ethene	0.048	mg/L	SM6211B/EPA8015	0.012		09/24/04
Ferric Iron						
Iron (Fe3+)	1.1	mg/L	Mod_7199	1		09/24/04
Nitrate Nitrogen						
Nitrate	ND	mg/L	EPA 300.0	0.2		09/24/04
Perchlorate						
Perchlorate	ND	ug/L	EPA 314.0	20	10/06/04	10/06/04
Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Arsenic	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Beryllium	ND	ug/L	EPA 6020	4	09/24/04	09/30/04
Cadmium	760	ug/L	EPA 6020	5	09/24/04	09/29/04
Chromium	11	ug/L	EPA 6020	5	09/24/04	09/29/04
Copper	110	ug/L	EPA 6020	5	09/24/04	09/29/04
Lead	5.9	ug/L	EPA 6020	5	09/24/04	09/29/04
Mercury	ND	ug/L	EPA 6020	1	09/24/04	09/29/04
Nickel	150	ug/L	EPA 6020	5	09/24/04	09/29/04
Selenium	14	ug/L	EPA 6020	5	09/24/04	09/29/04
Silver	ND	ug/L	EPA 6020	5	09/24/04	09/29/04
Thallium	ND	ug/L	EPA 6020	2	09/24/04	09/30/04
Zinc	500	ug/L	EPA 6020	50	09/24/04	09/29/04
Total Sulfate						
Sulfate	557	mg/L	EPA 300.0	1		09/27/04
Volatile Organic Compounds						
Benzene	30	ug/L	EPA 8260B	1		10/05/04
Bromobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Bromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromodichloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromoform	ND	ug/L	EPA 8260B	1		10/05/04
Bromomethane	ND	ug/L	EPA 8260B	1		10/05/04
n-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1		10/05/04
sec-Butylbenzene	2	ug/L	EPA 8260B	1		10/05/04

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Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 2A-092304 / 04092328-07						
Volatile Organic Compounds						
tert-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Carbon tetrachloride	3	ug/L	EPA 8260B	1		10/05/04
Chlorobenzene	8	ug/L	EPA 8260B	1		10/05/04
Chloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Chloroform	89	ug/L	EPA 8260B	1		10/05/04
Chloromethane	ND	ug/L	EPA 8260B	1		10/05/04
2-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
4-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
Dibromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1		10/05/04
Dibromomethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichlorobenzene	7	ug/L	EPA 8260B	1		10/05/04
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,4-Dichlorobenzene	6	ug/L	EPA 8260B	1		10/05/04
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloroethane	170	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethene	43	ug/L	EPA 8260B	1		10/05/04
cis-1,2-Dichloroethene	3,700	ug/L	EPA 8260B	100		10/06/04
trans-1,2-Dichloroethene	26	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
2,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Ethylbenzene	19	ug/L	EPA 8260B	1		10/05/04
Isopropylbenzene	3	ug/L	EPA 8260B	1		10/05/04
p-Isopropyltoluene	2	ug/L	EPA 8260B	1		10/05/04
Methylene chloride	b 100	ug/L	EPA 8260B	1		10/05/04
Naphthalene	9	ug/L	EPA 8260B	1		10/05/04
n-Propylbenzene	5	ug/L	EPA 8260B	1		10/05/04
Styrene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04

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CERTIFICATE OF ANALYSIS
No. 04092328 Page 15 of 16
Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 2A-092304 / 04092328-07						
Volatile Organic Compounds						
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Tetrachloroethene	54	ug/L	EPA 8260B	1		10/05/04
Toluene	460	ug/L	EPA 8260B	100		10/06/04
1,2,3-Trichlorobenzene	140	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trichlorobenzene	790	ug/L	EPA 8260B	100		10/06/04
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichloroethane	9	ug/L	EPA 8260B	1		10/05/04
Trichloroethene	21,000	ug/L	EPA 8260B	100		10/06/04
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trimethylbenzene	36	ug/L	EPA 8260B	1		10/05/04
1,3,5-Trimethylbenzene	13	ug/L	EPA 8260B	1		10/05/04
Vinyl chloride	520	ug/L	EPA 8260B	100		10/06/04
m&p-Xylene	89	ug/L	EPA 8260B	3		10/05/04
o-Xylene	35	ug/L	EPA 8260B	3		10/05/04
Methyl-t-butyl ether	ND	ug/L	EPA 8260B	1		10/05/04
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10		10/05/04
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10		10/05/04
4-Methyl-2-Pentanone (MIBK)	j 3	ug/L	EPA 8260B	10		10/05/04
Acetone	ND	ug/L	EPA 8260B	10		10/05/04
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5		10/05/04
Carbon disulfide	ND	ug/L	EPA 8260B	1		10/05/04
Vinyl acetate	ND	ug/L	EPA 8260B	1		10/05/04
2-Chloroethylvinyl ether	ND	ug/L	EPA 8260B	1		10/05/04
Cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04

Reviewed By: Matt Cline
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.
b - found in blank / suspected lab artifact.
j - estimated value, less than quantitation limit.

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CERTIFICATE OF ANALYSIS
No. 04092328 Page 16 of 16
Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 2A-092304 (dissolved) / 04092328-08						
Dissolved Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Arsenic	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Beryllium	ND	ug/L	EPA 6020	4	09/24/04	09/24/04
Cadmium	770	ug/L	EPA 6020	5	09/24/04	09/24/04
Chromium	11	ug/L	EPA 6020	5	09/24/04	09/24/04
Copper	42	ug/L	EPA 6020	5	09/24/04	09/24/04
Lead	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Mercury	ND	ug/L	EPA 6020	1	09/24/04	09/24/04
Nickel	130	ug/L	EPA 6020	5	09/24/04	09/24/04
Selenium	11	ug/L	EPA 6020	5	09/24/04	09/24/04
Silver	ND	ug/L	EPA 6020	5	09/24/04	09/24/04
Thallium	ND	ug/L	EPA 6020	2	09/24/04	09/24/04
Zinc	600	ug/L	EPA 6020	50	09/24/04	09/24/04

Reviewed By: Matt Cillie
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

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(1)
CLIENT: Tetra Tech NUS PHONE NO.: (916) 276-7846
PROJECT MGR: Nisha Bansal FAX NO.: ( )
EMAIL:
PROJECT NAME: Martin State Airport - Data Gap
SITE LOCATION: Martin State Airport
PROJECT NO.: N5784.0000 P.O. NO.:

PSS Project #: 04098328

PAGE 1 OF 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Volatiles Organic Compounds	Ethene Ethane	Ferric Iron	Total Priority Pollutant metals	Dissolved Priority Pollutant metals	Nitrate + Sulfate	Perchlorate			REMARKS
							Preservatives Used	HCl	HCl	HCl	HNO3	HNO3	ICE	ICE		
	DMW 4D - 092304	9-23-04	0845	Water	10	G	X	X	X	X	X	X	X			
	DMW 4I - 092304	↓	1015	↓	10	G	X	X	X	X	X	X	X			
	DMW 4S - 092304	↓	1135	↓	10	G	X	X	X	X	X	X	X			
	DMW 2A - 092304	↓	1345	↓	10	G	X	X	X	X	X	X	X			

(3) Analysis Required

(5)

Collected / Relinquished By: (1)	Date	Time	Received By:
Watts & Pa	9-23-04	1600	[signature]
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Collected / Relinquished By: (4)	Date	Time	Received By:

(4)
Requested Turnaround Time
☐ 5-Day (Std.) ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required:

Sample Condition Upon Receipt: Good on ice
Custody Seal:
Shipping Carrier: Hand
Shipping Ticket No.:

Special Instructions:

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The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if colleciton becomes necessary.

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Analytical Chemistry Environmental Science

TENTATIVELY IDENTIFIED COMPOUNDS

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Tentatively Identified Compounds

LID #: 04092328
Client: Tetra Tech, Inc.
Project: Martin State Airport- Quarterly Sampling

	Estimated Concentration	Units	CAS #	Matrix	Collected	Analyzed

Sample ID: 04092328-01 / DMW 4D-092304

No tentatively identified compounds were detected in this sample.

Sample ID: 04092328-03 / DMW 4I-092304

No tentatively identified compounds were detected in this sample.

Sample ID: 04092328-05 / DMW 4S-092304

No tentatively identified compounds were detected in this sample.

Sample ID: 04092328-07 / DMW 2A-092304

No tentatively identified compounds were detected in this sample.

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Volatile Organic Compounds

- *Surrogate Summary*
- *Method Blank Summary*
- *LCS Summary*
- *Continuing Calibration Verification Summary*
- *BFB Tune Summary*

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VOLATILES

SYSTEM MONITORING COMPOUND RECOVERY (SURROGATES)

METHOD: EPA 8260 **LAB CODE:** SURR

MATRIX: WATER **BATCH NUMBER:** 2041

Sample ID	Date/Time Analyzed	4-Bromofluorobenzene	Dibromofluoromethane	Toluene d-8
DMW 4D-092304 / 04092328-01	10/05/04 01:19 AM	106	101	100
DMW 4I-092304 / 04092328-03	10/05/04 02:37 AM	104	101	100
DMW 4S-092304 / 04092328-05	10/05/04 01:44 AM	101	100	102
DMW 2A-092304 / 04092328-07	10/05/04 02:08 AM	106	99	99
Upper Limit		113	113	110
Lower Limit		67	84	83

* - Indicates values outside of QC control limits.

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VOLATILES

SYSTEM MONITORING COMPOUND RECOVERY (SURROGATES)

METHOD: EPA 8260 **LAB CODE:** SURR

MATRIX: WATER **BATCH NUMBER:** 2043

Sample ID	Date/Time Analyzed	4-Bromofluorobenzene	Dibromofluoromethane	Toluene d-8
DMW 4D-092304 / 04092328-01	10/05/04 01:19 AM	106	101	100
DMW 4I-092304 / 04092328-03	10/05/04 02:37 AM	104	101	100
DMW 4S-092304 / 04092328-05	10/05/04 01:44 AM	101	100	102
Upper Limit		113	113	110
Lower Limit		67	84	83

* - Indicates values outside of QC control limits.

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PHASE SEPARATION SCIENCE, INC.

VOLATILES

METHOD BLANK SUMMARY

ANALYSIS:	**VOLATILES**	**BATCH ID:**	**2041**
METHOD NO.:	**EPA 8260**	**LAB SAMPLE ID:**	**MB - Water**
LAB FILE ID:	**04100425.D**	**DATE/TIME ANALYZED:**	**10/04/04 09:59 PM**

This Method Blank applies to the following samples:

Field Sample ID	Lab Sample ID	Lab File ID	Date/Time Analyzed
DMW 4D-092304	04092328-01	04100433.D	10/06/04 12:31 AM
DMW 4I-092304	04092328-03	04100436.D	10/06/04 02:52 AM
DMW 4S-092304	04092328-05	04100434.D	10/06/04 12:03 AM
DMW 2A-092304	04092328-07	04100435.D	10/06/04 03:20 AM

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METHOD BLANK RESULTS

Analysis: Volatiles
Matrix: Water
Batch ID: 2041
Batch Date: 10/04/04

	Result	Unit	Method	PQL	Analyzed
Benzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Bromodichloromethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Bromoform	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Bromomethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Carbon tetrachloride	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Chlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Chloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
CHLOROFORM	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Chloromethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Dibromochloromethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-Dichloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1-DICHLOROETHENE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
cis-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
trans-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-DICHLOROPROPANE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
ETHYLBENZENE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Isopropylbenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Methylene chloride	1.4	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Naphthalene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Styrene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Tetrachloroethene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
TOLUENE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2,4-Trichlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1,2-Trichloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Trichloroethene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
VINYL CHLORIDE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
m&p-Xylene	ND	ug/L	EPA 8260B	3	10/04/04 09:59 PM

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METHOD BLANK RESULTS

Analysis: Volatiles
Matrix: Water

Batch ID: 2041
Batch Date: 10/04/04

	Result	Unit	Method	PQL	Analyzed
o-Xylene	ND	ug/L	EPA 8260B	3	10/04/04 09:59 PM
Methyl-t-Butyl Ether	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10	10/04/04 09:59 PM
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10	10/04/04 09:59 PM
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10	10/04/04 09:59 PM
Acetone	ND	ug/L	EPA 8260B	10	10/04/04 09:59 PM
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5	10/04/04 09:59 PM
Carbon Disulfide	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100425.D Vial: 25
Acq On : 4 Oct 2004 9:59 pm Operator: MI
Sample : METHOD BLANK 5mL Inst : VOC#1
Misc : IS/S 1uL #475 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:22 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	197889	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.71	114	282678	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.04	117	241852	50.00	ug/L	0.00
48) 1,4-Dichlorobenzene d-4 IS	11.20	152	105688	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.98	113	100131	49.98	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.96%			
33) Toluene d-8 SS#2	6.29	98	351008	49.62	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.24%			
50) 4-Bromofluorobenzene SS#3	9.60	95	147816	49.75	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.50%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	Not Detected		
3) Chloromethane	0.00	50	0	Not Detected		
4) VINYL CHLORIDE	0.00	62	0	Not Detected		
5) Bromomethane	0.00	94	0	Not Detected		
6) Chloroethane	0.00	64	0	Not Detected		
7) Trichlorofluoromethane	0.00	101	0	Not Detected		
8) Acetone	2.25	43	125	Not Detected		
9) 1,1-DICHLOROETHENE	0.00	96	0	Not Detected		
10) 1,1,2-Trichlorotrifluoroet	0.00	101	0	Not Detected		
11) Carbon Disulfide	0.00	76	0	Not Detected		
12) Methyl Acetate	0.00	74	0	Not Detected		
13) Methylene chloride	2.59	84	3261	1.44	ug/L	95
14) trans-1,2-Dichloroethene	0.00	96	0	Not Detected		
15) Methyl-t-Butyl Ether	0.00	73	0	Not Detected		
16) 1,1-Dichloroethane	0.00	63	0	Not Detected		
17) cis-1,2-Dichloroethene	0.00	96	0	Not Detected		
18) 2-Butanone (MEK)	0.00	43	0	Not Detected		
19) CHLOROFORM	0.00	83	0	Not Detected		
21) 1,1,1-Trichloroethane	0.00	97	0	Not Detected		
22) Cyclohexane	0.00	56	0	Not Detected		d
24) Carbon tetrachloride	0.00	117	0	Not Detected		
25) Benzene	4.36	78	254	Not Detected		
26) 1,2-Dichloroethane	0.00	62	0	Not Detected		
27) Trichloroethene	0.00	95	0	Not Detected		
28) 1,2-DICHLOROPROPANE	0.00	63	0	Not Detected		
29) Methylcyclohexane	0.00	83	0	Not Detected		
30) Bromodichloromethane	0.00	83	0	Not Detected		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100425.D
Acq On : 4 Oct 2004 9:59 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #475
MS Integration Params: rteint.p
Quant Time: Oct 5 12:22 2004

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31)	cis-1,3-Dichloropropene	0.00	75	0	Not Detected	
32)	4-Methyl-2-Pentanone (MIBK	0.00	43	0	Not Detected	d
34)	TOLUENE	0.00	92	0	Not Detected	
35)	trans-1,3-Dichloropropene	0.00	75	0	Not Detected	
36)	1,1,2-Trichloroethane	0.00	83	0	Not Detected	
37)	Tetrachloroethene	0.00	166	0	Not Detected	
38)	2-Hexanone (MBK)	0.00	43	0	Not Detected	
40)	Dibromochloromethane	0.00	129	0	Not Detected	
41)	1,2-Dibromoethane	0.00	107	0	Not Detected	
42)	Chlorobenzene	0.00	112	0	Not Detected	
43)	ETHYLBENZENE	8.38	91	226	Not Detected	
44)	m&p-Xylene	0.00	106	0	Not Detected	
45)	o-Xylene	0.00	106	0	Not Detected	
46)	Styrene	0.00	104	0	Not Detected	
47)	Bromoform	0.00	173	0	Not Detected	
49)	Isopropylbenzene	9.60	105	110	Not Detected	
51)	1,1,2,2-Tetrachloroethane	0.00	83	0	Not Detected	
52)	1,3-Dichlorobenzene	0.00	146	0	Not Detected	d
53)	1,4-Dichlorobenzene	0.00	146	0	Not Detected	d
54)	1,2-Dichlorobenzene	0.00	146	0	Not Detected	
55)	1,2-Dibromo-3-chloropropan	0.00	75	0	Not Detected	
56)	1,2,4-Trichlorobenzene	14.07	180	185	Not Detected	
57)	Naphthalene	14.39	128	559	Not Detected	

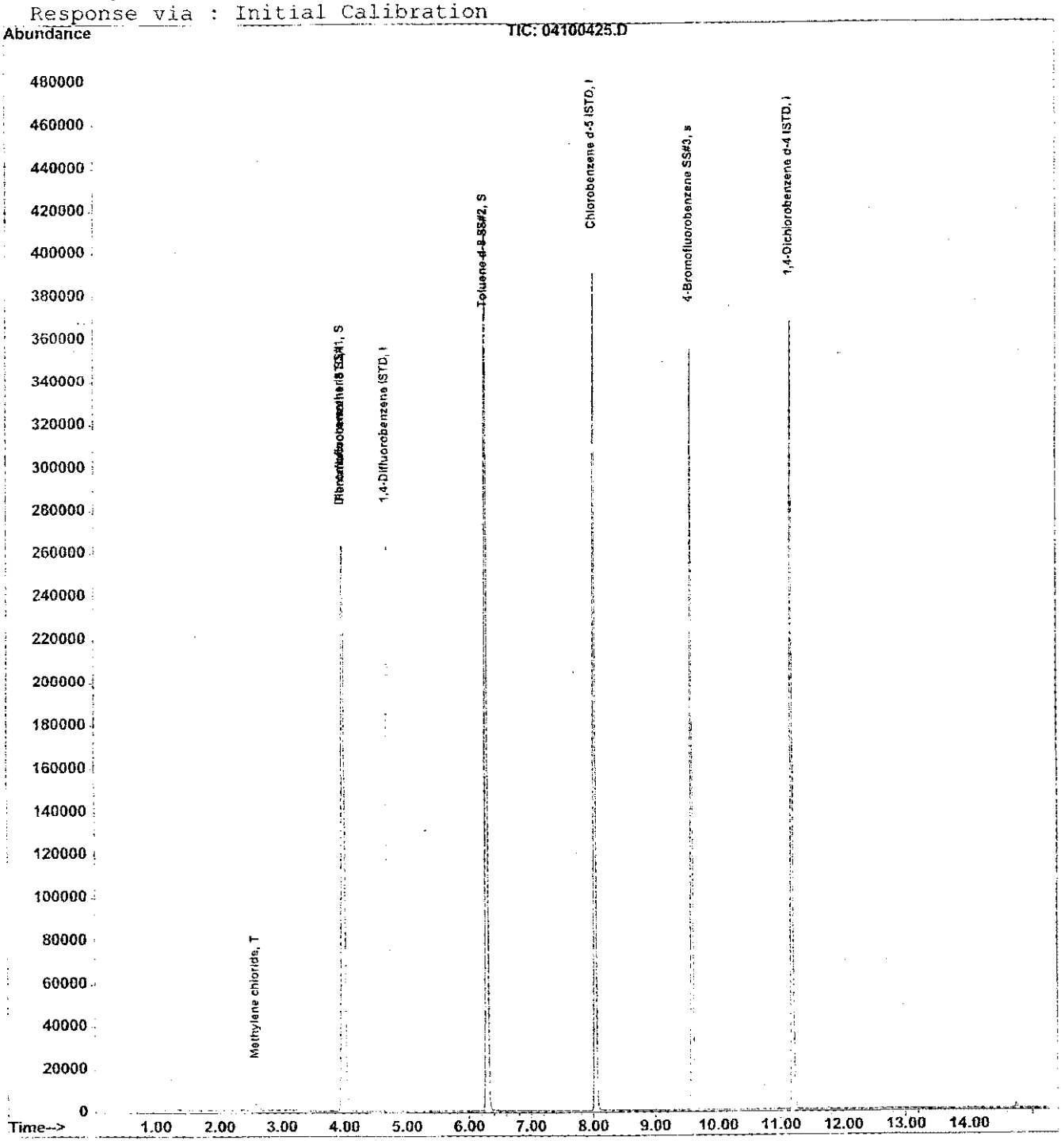
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100425.D
Acq On : 4 Oct 2004 9:59 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #475
MS Integration Params: rteint.p
Quant Time: Oct 5 12:22 2004

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



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VOLATILES

METHOD BLANK SUMMARY

ANALYSIS:	**VOLATILES**	**BATCH ID:**	**2043**
METHOD NO.:	**EPA 8260**	**LAB SAMPLE ID:**	**MB - Water**
LAB FILE ID:	**04100524.D**	**DATE/TIME ANALYZED:**	**10/05/04 08:15 PM**

This Method Blank applies to the following samples:

Field Sample ID	Lab Sample ID	Lab File ID	Date/Time Analyzed
DMW 4D-092304	04092328-01 DL	04100433.D	10/06/04 12:31 AM
DMW 4I-092304	04092328-03 DL	04100436.D	10/06/04 02:52 AM
DMW 4S-092304	04092328-05 DL	04100434.D	10/06/04 12:03 AM

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METHOD BLANK RESULTS

Analysis: Volatiles
Matrix: Water
Batch ID: 2043
Batch Date: 10/05/04

	Result	Unit	Method	PQL	Analyzed
Benzene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Bromodichloromethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Bromoform	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Bromomethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Carbon tetrachloride	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Chlorobenzene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Chloroethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
CHLOROFORM	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Chloromethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Dibromochloromethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,2-Dichloroethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,1-DICHLOROETHENE	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
cis-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
trans-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,2-DICHLOROPROPANE	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
ETHYLBENZENE	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Isopropylbenzene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Methylene chloride	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Naphthalene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Styrene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Tetrachloroethene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
TOLUENE	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,2,4-Trichlorobenzene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,1,2-Trichloroethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Trichloroethene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
VINYL CHLORIDE	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
m&p-Xylene	ND	ug/L	EPA 8260B	3	10/05/04 08:15 PM

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METHOD BLANK RESULTS

Analysis: Volatiles
Matrix: Water

Batch ID: 2043
Batch Date: 10/05/04

	Result	Unit	Method	PQL	Analyzed
o-Xylene	ND	ug/L	EPA 8260B	3	10/05/04 08:15 PM
Methyl-t-Butyl Ether	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10	10/05/04 08:15 PM
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10	10/05/04 08:15 PM
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10	10/05/04 08:15 PM
Acetone	ND	ug/L	EPA 8260B	10	10/05/04 08:15 PM
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5	10/05/04 08:15 PM
Carbon Disulfide	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100524.D Vial: 24
Acq On : 5 Oct 2004 8:15 pm Operator: MI
Sample : METHOD BLANK 5mL Inst : VOC#1
Misc : IS/S 1uL #493 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:44 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	198485	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	279683	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.02	117	229035	50.00	ug/L	-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	98019	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	100509	50.02	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.04%			
33) Toluene d-8 SS#2	6.27	98	352392	50.35	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.70%			
50) 4-Bromofluorobenzene SS#3	9.59	95	138587	50.30	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.60%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	Not Detected		
3) Chloromethane	0.00	50	0	Not Detected		
4) VINYL CHLORIDE	0.00	62	0	Not Detected		
5) Bromomethane	0.00	94	0	Not Detected		
6) Chloroethane	0.00	64	0	Not Detected		
7) Trichlorofluoromethane	0.00	101	0	Not Detected		
8) Acetone	2.23	43	61	Not Detected		
9) 1,1-DICHLOROETHENE	0.00	96	0	Not Detected		
10) 1,1,2-Trichlorotrifluoroet	0.00	101	0	Not Detected		
11) Carbon Disulfide	0.00	76	0	Not Detected		
12) Methyl Acetate	0.00	74	0	Not Detected		
13) Methylene chloride	2.59	84	1515	Not Detected		
14) trans-1,2-Dichloroethene	0.00	96	0	Not Detected		
15) Methyl-t-Butyl Ether	0.00	73	0	Not Detected		
16) 1,1-Dichloroethane	0.00	63	0	Not Detected		
17) cis-1,2-Dichloroethene	0.00	96	0	Not Detected		
18) 2-Butanone (MEK)	3.54	43	129	Not Detected		
19) CHLOROFORM	0.00	83	0	Not Detected		
21) 1,1,1-Trichloroethane	0.00	97	0	Not Detected		
22) Cyclohexane	0.00	56	0	Not Detected d		
24) Carbon tetrachloride	0.00	117	0	Not Detected		
25) Benzene	4.31	78	237	Not Detected		
26) 1,2-Dichloroethane	0.00	62	0	Not Detected		
27) Trichloroethene	0.00	95	0	Not Detected		
28) 1,2-DICHLOROPROPANE	0.00	63	0	Not Detected		
29) Methylcyclohexane	0.00	83	0	Not Detected		
30) Bromodichloromethane	0.00	83	0	Not Detected		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100524.D
Acq On : 5 Oct 2004 8:15 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #493
MS Integration Params: rteint.p
Quant Time: Oct 6 9:44 2004

Vial: 24
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

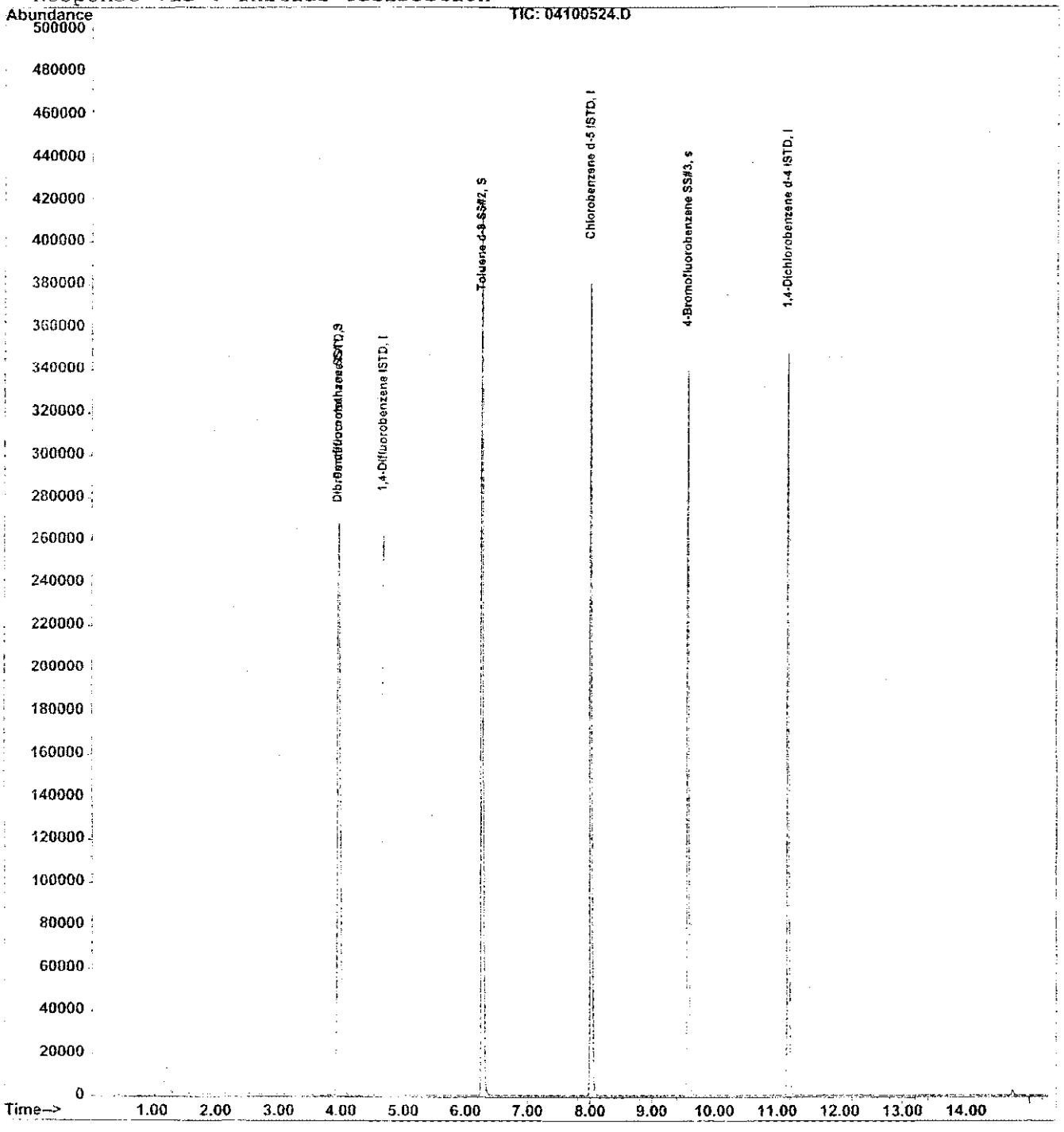
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	0.00	75	0	Not Detected	
32) 4-Methyl-2-Pentanone (MIBK	0.00	43	0	Not Detected	d
34) TOLUENE	0.00	92	0	Not Detected	
35) trans-1,3-Dichloropropene	0.00	75	0	Not Detected	
36) 1,1,2-Trichloroethane	0.00	83	0	Not Detected	
37) Tetrachloroethene	0.00	166	0	Not Detected	
38) 2-Hexanone (MBK)	0.00	43	0	Not Detected	
40) Dibromochloromethane	0.00	129	0	Not Detected	
41) 1,2-Dibromoethane	0.00	107	0	Not Detected	
42) Chlorobenzene	0.00	112	0	Not Detected	
43) ETHYLBENZENE	8.21	91	68	Not Detected	
44) m&p-Xylene	8.36	106	108	Not Detected	
45) o-Xylene	0.00	106	0	Not Detected	
46) Styrene	0.00	104	0	Not Detected	
47) Bromoform	0.00	173	0	Not Detected	
49) Isopropylbenzene	0.00	105	0	Not Detected	
51) 1,1,2,2-Tetrachloroethane	0.00	83	0	Not Detected	
52) 1,3-Dichlorobenzene	0.00	146	0	Not Detected	d
53) 1,4-Dichlorobenzene	0.00	146	0	Not Detected	d
54) 1,2-Dichlorobenzene	0.00	146	0	Not Detected	
55) 1,2-Dibromo-3-chloropropan	0.00	75	0	Not Detected	
56) 1,2,4-Trichlorobenzene	14.04	180	223	Not Detected	
57) Naphthalene	14.38	128	688	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041005\04100524.D Vial: 24
Acq On : 5 Oct 2004 8:15 pm Operator: MI
Sample : METHOD BLANK 5mL Inst : VOC#1
Misc : IS/S 1uL #493 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:44 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



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VOLATILES
LABORATORY CONTROL SAMPLE SUMMARY

METHOD: EPA 8260 **BATCH NUMBER:** 2041

MATRIX: WATER

SAMPLE ID: LCS
DATE ANALYZED: 10/05/04 07:30:00
LAB FILE IDs: 04100447.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	NA	23	94	61 - 145
BENZENE	25	NA	24	94	76 - 127
CHLOROBENZENE	25	NA	24	97	75 - 130
TOLUENE	25	NA	24	97	76 - 125
TRICHLOROETHENE	25	NA	30	121 *	71 - 120

SAMPLE ID: LCSD
DATE ANALYZED: 10/05/04 07:55:00
LAB FILE IDs: 04100448.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	NA	24	95	1.5	30	61 - 145
BENZENE	25	NA	23	93	1.7	30	76 - 127
CHLOROBENZENE	25	NA	23	93	4.8	30	75 - 130
TOLUENE	25	NA	24	95	1.6	30	76 - 125
TRICHLOROETHENE	25	NA	25	102	17.0	30	71 - 120

* - Indicates values outside of QC control limits.

Calculations:

$$\%\text{Recovery} = \left\{\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right\} * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\left(\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}\right)}\right| * 100$$

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100447.D Vial: 47
Acq On : 5 Oct 2004 7:30 am Operator: MI
Sample : LCS 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	191370	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	273352	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.03	117	231058	50.00	ug/L	-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	105222	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	97675	50.41	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.82%			
33) Toluene d-8 SS#2	6.27	98	348338	50.92	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.84%			
50) 4-Bromofluorobenzene SS#3	9.59	95	146989	49.70	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.37	85	46822	21.57	ug/L	100
3) Chloromethane	1.45	50	47337	25.06	ug/L	93
4) VINYL CHLORIDE	1.54	62	37579	22.38	ug/L	100
5) Bromomethane	1.71	94	40083	23.83	ug/L	98
6) Chloroethane	1.77	64	22605	26.62	ug/L	97
7) Trichlorofluoromethane	1.92	101	28996	19.09	ug/L	99
8) Acetone	2.24	43	14638	30.17	ug/L	92
9) 1,1-DICHLOROETHENE	2.27	96	40523	23.39	ug/L	97
10) 1,1,2-Trichlorotrifluoroet	2.26	101	37210	25.63	ug/L	97
11) Carbon Disulfide	2.45	76	129951	25.08	ug/L	100
12) Methyl Acetate	2.46	74	5471	30.67	ug/L	97
13) Methylene chloride	2.58	84	47199	21.58	ug/L	98
14) trans-1,2-Dichloroethene	2.76	96	44541	23.95	ug/L	97
15) Methyl-t-Butyl Ether	2.76	73	90534	26.34	ug/L	100
16) 1,1-Dichloroethane	3.08	63	69327	25.12	ug/L	99
17) cis-1,2-Dichloroethene	3.55	96	47607	24.54	ug/L	98
18) 2-Butanone (MEK)	3.54	43	20890	27.19	ug/L	98
19) CHLOROFORM	3.82	83	83737	23.66	ug/L	99
21) 1,1,1-Trichloroethane	4.00	97	70017	23.80	ug/L #	1
22) Cyclohexane	4.06	56	51556	25.81	ug/L #	16
24) Carbon tetrachloride	4.15	117	51871	24.57	ug/L	100
25) Benzene	4.33	78	161960	23.60	ug/L	99
26) 1,2-Dichloroethane	4.34	62	59911	25.12	ug/L	99
27) Trichloroethene	4.96	95	59416	30.20	ug/L	99
28) 1,2-DICHLOROPROPANE	5.19	63	36823	24.58	ug/L	100
29) Methylcyclohexane	5.17	83	41597	23.90	ug/L	99
30) Bromodichloromethane	5.49	83	63866	25.12	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100447.D
Acq On : 5 Oct 2004 7:30 am
Sample : LCS 25ppb
Misc : IS/S 1uL #475, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 47
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	63132	22.32 ug/L	100
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	45571	29.21 ug/L	99
34) TOLUENE	6.36	92	104736	24.13 ug/L	97
35) trans-1,3-Dichloropropene	6.61	75	58197	23.02 ug/L	97
36) 1,1,2-Trichloroethane	6.83	83	30285	25.47 ug/L	98
37) Tetrachloroethene	7.01	166	36444	23.35 ug/L	99
38) 2-Hexanone (MBK)	7.15	43	31176	30.18 ug/L	98
40) Dibromochloromethane	7.30	129	35488	25.14 ug/L	100
41) 1,2-Dibromoethane	7.43	107	36786	26.05 ug/L	98
42) Chlorobenzene	8.06	112	96548	24.29 ug/L	97
43) ETHYLBENZENE	8.21	91	182887	24.70 ug/L	99
44) m&p-Xylene	8.37	106	120668	49.29 ug/L	99
45) o-Xylene	8.89	106	61904	25.21 ug/L	98
46) Styrene	8.91	104	112451	25.39 ug/L	97
47) Bromoform	9.14	173	28617	26.65 ug/L	99
49) Isopropylbenzene	9.39	105	121316	22.64 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	42924	25.60 ug/L	98
52) 1,3-Dichlorobenzene	11.09	146	55470	22.87 ug/L	99
53) 1,4-Dichlorobenzene	11.22	146	61402	22.73 ug/L	97
54) 1,2-Dichlorobenzene	11.73	146	54886	23.85 ug/L	98
55) 1,2-Dibromo-3-chloropropan	12.84	75	6245	29.32 ug/L	93
56) 1,2,4-Trichlorobenzene	14.04	180	31627	24.51 ug/L	98
57) Naphthalene	14.39	128	167	Not Detected	

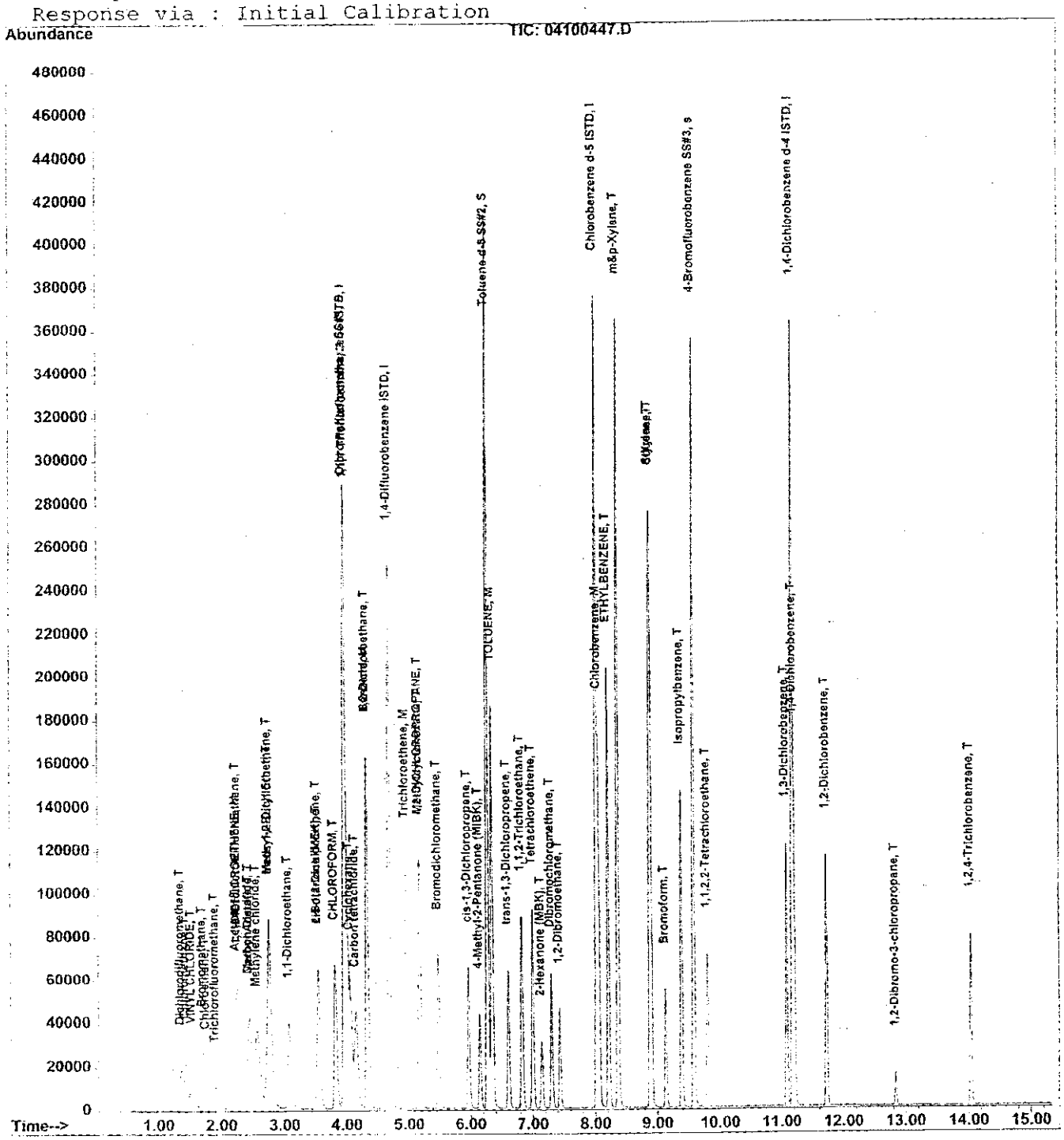
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100447.D
Acq On : 5 Oct 2004 7:30 am
Sample : LCS 25ppb
Misc : IS/S 1uL #475, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 47
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100448.D Vial: 48
Acq On : 5 Oct 2004 7:55 am Operator: MI
Sample : LCS-DUP 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	187301	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	270396	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.03	117	234524	50.00	ug/L	0.00
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	105146	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	96098	50.68	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.36%			
33) Toluene d-8 SS#2	6.28	98	345861	51.11	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 102.22%			
50) 4-Bromofluorobenzene SS#3	9.58	95	141872	48.00	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 96.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.37	85	45377	21.36	ug/L	100
3) Chloromethane	1.44	50	45032	24.35	ug/L	93
4) VINYL CHLORIDE	1.54	62	36106	21.97	ug/L	97
5) Bromomethane	1.70	94	38083	23.13	ug/L	99
6) Chloroethane	1.76	64	22115	26.61	ug/L	98
7) Trichlorofluoromethane	1.90	101	29673	19.96	ug/L	99
8) Acetone	2.25	43	13424	28.27	ug/L	85
9) 1,1-DICHLOROETHENE	2.26	96	40271	23.75	ug/L	98
10) 1,1,2-Trichlorotrifluoroet	2.26	101	34934	24.58	ug/L	99
11) Carbon Disulfide	2.45	76	121442	23.95	ug/L	97
12) Methyl Acetate	2.46	74	4948	28.34	ug/L	100
13) Methylene chloride	2.57	84	45346	21.19	ug/L	97
14) trans-1,2-Dichloroethene	2.78	96	44213	24.29	ug/L	99
15) Methyl-t-Butyl Ether	2.76	73	86299	25.65	ug/L	100
16) 1,1-Dichloroethane	3.08	63	65629	24.29	ug/L	99
17) cis-1,2-Dichloroethene	3.55	96	47115	24.82	ug/L	98
18) 2-Butanone (MEK)	3.54	43	20742	27.58	ug/L	97
19) CHLOROFORM	3.82	83	83054	23.98	ug/L	99
21) 1,1,1-Trichloroethane	4.00	97	68488	23.78	ug/L #	1
22) Cyclohexane	4.07	56	49892	25.52	ug/L	84
24) Carbon tetrachloride	4.16	117	49229	23.57	ug/L	100
25) Benzene	4.34	78	157594	23.21	ug/L	99
26) 1,2-Dichloroethane	4.35	62	59474	25.21	ug/L	99
27) Trichloroethene	4.96	95	49581	25.47	ug/L	100
28) 1,2-DICHLOROPROPANE	5.19	63	35525	23.97	ug/L	100
29) Methylcyclohexane	5.18	83	39747	23.08	ug/L	99
30) Bromodichloromethane	5.48	83	61669	24.52	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100448.D Vial: 48
Acq On : 5 Oct 2004 7:55 am Operator: MI
Sample : LCS-DUP 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31)	cis-1,3-Dichloropropene	5.97	75	60602	21.66 ug/L	100
32)	4-Methyl-2-Pentanone (MIBK	6.15	43	42888	27.79 ug/L	99
34)	TOLUENE	6.35	92	101948	23.75 ug/L	97
35)	trans-1,3-Dichloropropene	6.61	75	57738	23.09 ug/L	98
36)	1,1,2-Trichloroethane	6.83	83	29655	25.21 ug/L	98
37)	Tetrachloroethene	7.00	166	35800	23.18 ug/L	99
38)	2-Hexanone (MBK)	7.15	43	29924	29.28 ug/L	99
40)	Dibromochloromethane	7.30	129	34906	24.37 ug/L	99
41)	1,2-Dibromoethane	7.44	107	36418	25.41 ug/L	99
42)	Chlorobenzene	8.06	112	93392	23.15 ug/L	97
43)	ETHYLBENZENE	8.22	91	181117	24.10 ug/L	99
44)	m&p-Xylene	8.37	106	118585	47.73 ug/L	100
45)	o-Xylene	8.88	106	58175	23.34 ug/L	99
46)	Styrene	8.91	104	105722	23.52 ug/L	96
47)	Bromoform	9.14	173	27429	25.16 ug/L	99
49)	Isopropylbenzene	9.39	105	120203	22.45 ug/L	100
51)	1,1,2,2-Tetrachloroethane	9.81	83	42182	25.17 ug/L	99
52)	1,3-Dichlorobenzene	11.09	146	54653	22.55 ug/L	99
53)	1,4-Dichlorobenzene	11.22	146	59527	22.05 ug/L	97
54)	1,2-Dichlorobenzene	11.73	146	52494	22.82 ug/L	98
55)	1,2-Dibromo-3-chloropropan	12.85	75	6368	29.92 ug/L	88
56)	1,2,4-Trichlorobenzene	14.05	180	30748	23.85 ug/L	97
57)	Naphthalene	14.37	128	57	Not Detected	

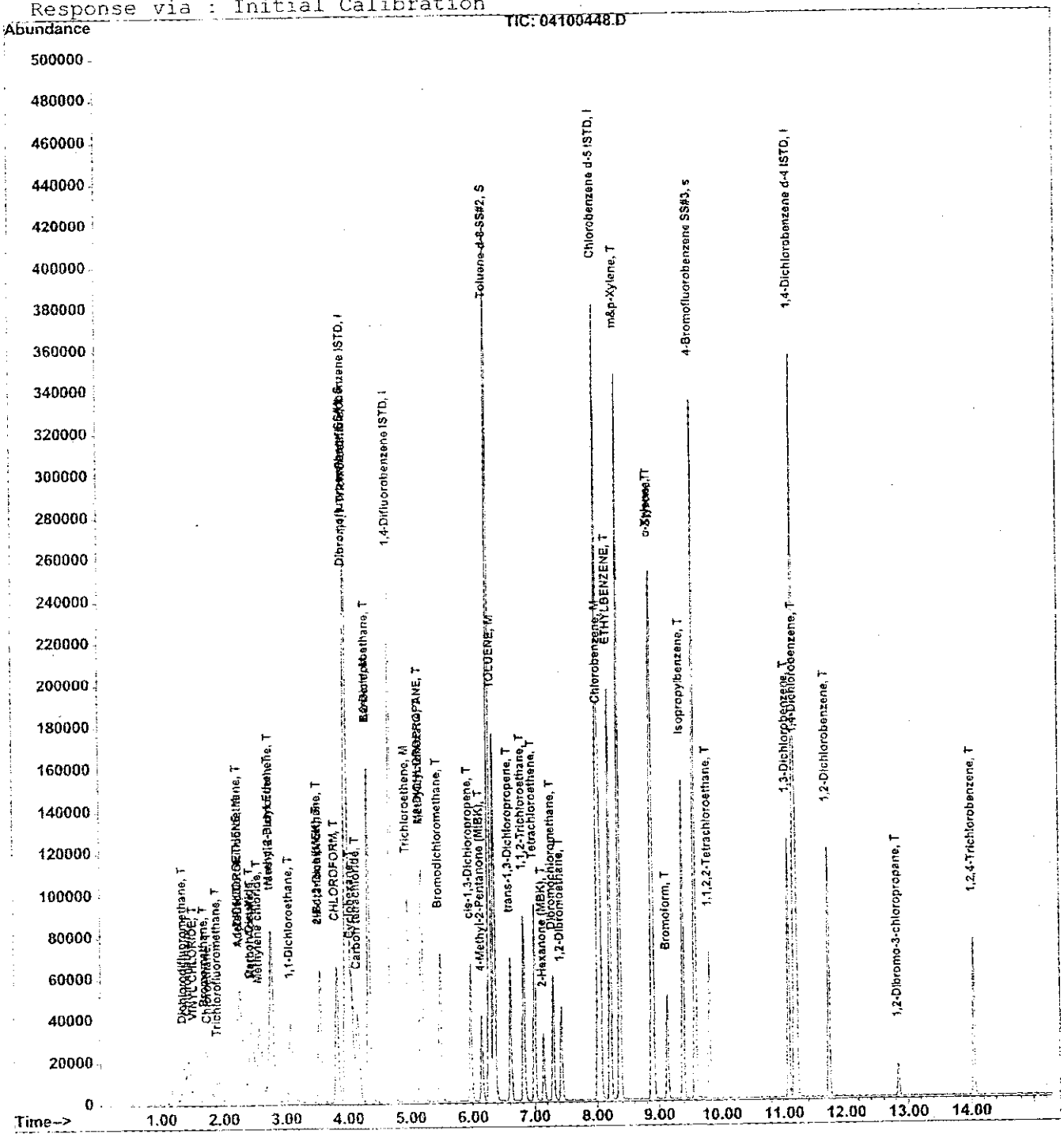
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100448.D
Acq On : 5 Oct 2004 7:55 am
Sample : LCS-DUP 25ppb
Misc : IS/S 1uL #475, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 48
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
www.phaseonline.com

PHASE SEPARATION SCIENCE, INC.

VOLATILES
LABORATORY CONTROL SAMPLE SUMMARY

METHOD: EPA 8260 **BATCH NUMBER:** 2043

MATRIX: WATER

SAMPLE ID: LCS
DATE ANALYZED: 10/06/04 05:25 AM
LAB FILE IDs: 04100545.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	NA	22	87	61 - 145
BENZENE	25	NA	22	89	76 - 127
CHLOROBENZENE	25	NA	24	96	75 - 130
TOLUENE	25	NA	23	91	76 - 125
TRICHLOROETHENE	25	NA	23	93	71 - 120

SAMPLE ID: LCSD
DATE ANALYZED: 10/06/04 05:50 AM
LAB FILE IDs: 04100546.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	NA	21	85	1.5	30	61 - 145
BENZENE	25	NA	22	88	1.5	30	76 - 127
CHLOROBENZENE	25	NA	23	93	2.9	30	75 - 130
TOLUENE	25	NA	22	89	2.2	30	76 - 125
TRICHLOROETHENE	25	NA	23	90	3.0	30	71 - 120

* - Indicates values outside of QC control limits.

Calculations:

$$\%\text{Recovery} = \left[\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right] * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}}\right| * 100$$

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100545.D
Acq On : 6 Oct 2004 5:25 am
Sample : LCS 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 6 9:48 2004

Vial: 45
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	191523	50.00	ug/L	-0.01
23) 1,4-Difluorobenzene ISTD	4.69	114	269545	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.02	117	217669	50.00	ug/L	-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	97174	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.95	113	96790	49.92	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.84%			
33) Toluene d-8 SS#2	6.27	98	341679	50.65	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.30%			
50) 4-Bromofluorobenzene SS#3	9.58	95	135065	49.45	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.36	85	43004	19.79	ug/L	100
3) Chloromethane	1.44	50	42416	22.43	ug/L	94
4) VINYL CHLORIDE	1.54	62	34940	20.79	ug/L	99
5) Bromomethane	1.70	94	36648	21.77	ug/L	99
6) Chloroethane	1.77	64	21198	24.94	ug/L	98
7) Trichlorofluoromethane	1.90	101	25551	16.81	ug/L	98
8) Acetone	2.25	43	12804	26.37	ug/L	99
9) 1,1-DICHLOROETHENE	2.25	96	37542	21.65	ug/L	95
10) 1,1,2-Trichlorotrifluoroet	2.25	101	34321	23.62	ug/L	98
11) Carbon Disulfide	2.45	76	117996	22.76	ug/L	98
12) Methyl Acetate	2.45	74	4698	26.31	ug/L	98
13) Methylene chloride	2.56	84	40654	18.58	ug/L	97
14) trans-1,2-Dichloroethene	2.76	96	41561	22.33	ug/L	98
15) Methyl-t-Butyl Ether	2.75	73	82109	23.87	ug/L	100
16) 1,1-Dichloroethane	3.07	63	61320	22.20	ug/L	99
17) cis-1,2-Dichloroethene	3.54	96	44572	22.96	ug/L	96
18) 2-Butanone (MEK)	3.54	43	19016	24.73	ug/L	98
19) CHLOROFORM	3.81	83	77990	22.02	ug/L	100
21) 1,1,1-Trichloroethane	4.00	97	66391	22.55	ug/L #	1
22) Cyclohexane	4.05	56	48067	24.04	ug/L	94
24) Carbon tetrachloride	4.15	117	48244	23.17	ug/L	99
25) Benzene	4.33	78	150324	22.21	ug/L	98
26) 1,2-Dichloroethane	4.34	62	56433	23.99	ug/L	96
27) Trichloroethene	4.96	95	45210	23.30	ug/L	99
28) 1,2-DICHLOROPROPANE	5.18	63	33586	22.74	ug/L	99
29) Methylcyclohexane	5.16	83	38102	22.20	ug/L	99
30) Bromodichloromethane	5.48	83	57906	23.09	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100545.D Vial: 45
Acq On : 6 Oct 2004 5:25 am Operator: MI
Sample : LCS 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:48 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31)	cis-1,3-Dichloropropene	5.97	75	59532	21.34 ug/L	100
32)	4-Methyl-2-Pentanone (MIBK	6.15	43	40328	26.22 ug/L	98
34)	TOLUENE	6.35	92	97738	22.84 ug/L	99
35)	trans-1,3-Dichloropropene	6.61	75	55117	22.11 ug/L	98
36)	1,1,2-Trichloroethane	6.82	83	27613	23.55 ug/L	99
37)	Tetrachloroethene	7.00	166	34561	22.45 ug/L	98
38)	2-Hexanone (MBK)	7.14	43	27627	27.12 ug/L	98
40)	Dibromochloromethane	7.30	129	32752	24.63 ug/L	99
41)	1,2-Dibromoethane	7.43	107	33558	25.23 ug/L	100
42)	Chlorobenzene	8.06	112	89391	23.88 ug/L	97
43)	ETHYLBENZENE	8.21	91	171587	24.60 ug/L	99
44)	m&p-Xylene	8.37	106	110808	48.05 ug/L	99
45)	o-Xylene	8.89	106	55709	24.08 ug/L	100
46)	Styrene	8.90	104	102063	24.47 ug/L	96
47)	Bromoform	9.13	173	25920	25.62 ug/L	99
49)	Isopropylbenzene	9.39	105	114348	23.11 ug/L	99
51)	1,1,2,2-Tetrachloroethane	9.81	83	38545	24.89 ug/L	99
52)	1,3-Dichlorobenzene	11.08	146	51687	23.07 ug/L	99
53)	1,4-Dichlorobenzene	11.21	146	55543	22.26 ug/L	98
54)	1,2-Dichlorobenzene	11.72	146	49992	23.52 ug/L	99
55)	1,2-Dibromo-3-chloropropan	12.84	75	5603	28.48 ug/L	94
56)	1,2,4-Trichlorobenzene	14.04	180	29579	24.83 ug/L	100
57)	Naphthalene	0.00	128	0	Not Detected	

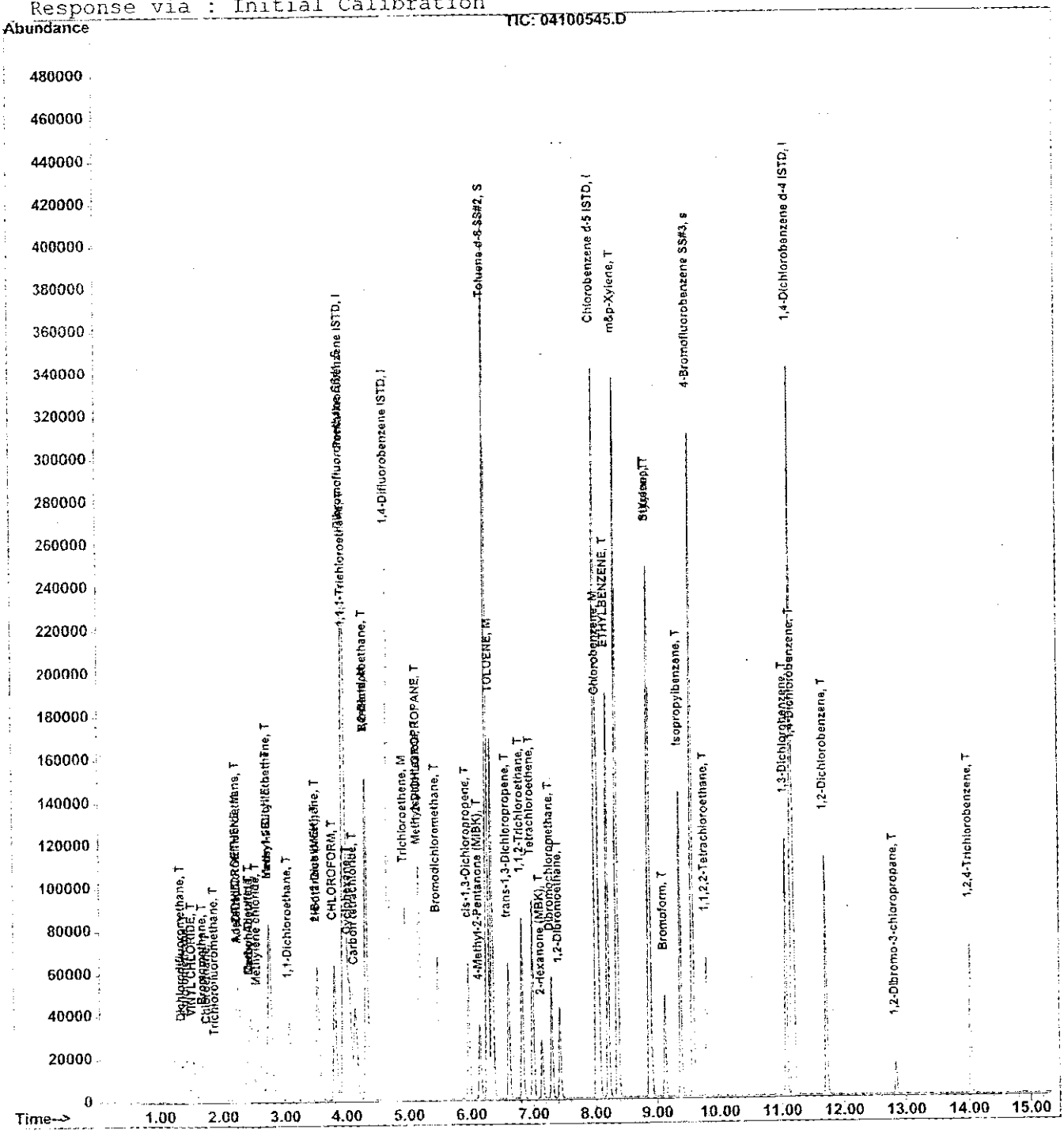
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041005\04100545.D
Acq On : 6 Oct 2004 5:25 am
Sample : LCS 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 6 9:48 2004

Vial: 45
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100546.D Vial: 46
Acq On : 6 Oct 2004 5:50 am Operator: MI
Sample : LCS-DUP 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:48 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	193462	50.00	ug/L	-0.01
23) 1,4-Difluorobenzene ISTD	4.69	114	271836	50.00	ug/L	-0.01
39) Chlorobenzene d-5 ISTD	8.03	117	222161	50.00	ug/L	-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	99721	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	96894	49.47	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.94%			
33) Toluene d-8 SS#2	6.27	98	344178	50.59	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.18%			
50) 4-Bromofluorobenzene SS#3	9.58	95	138533	49.42	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.84%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.36	85	43225	19.70	ug/L	100
3) Chloromethane	1.44	50	41102	21.52	ug/L	94
4) VINYL CHLORIDE	1.54	62	34675	20.43	ug/L	99
5) Bromomethane	1.71	94	35975	21.16	ug/L	99
6) Chloroethane	1.77	64	20592	23.99	ug/L	97
7) Trichlorofluoromethane	1.90	101	26394	17.19	ug/L	99
8) Acetone	2.25	43	12631	25.75	ug/L	93
9) 1,1-DICHLOROETHENE	2.25	96	37362	21.33	ug/L	95
10) 1,1,2-Trichlorotrifluoroet	2.26	101	33493	22.82	ug/L	97
11) Carbon Disulfide	2.44	76	117608	22.46	ug/L	99
12) Methyl Acetate	2.46	74	4805	26.64	ug/L	91
13) Methylene chloride	2.57	84	40426	18.29	ug/L	97
14) trans-1,2-Dichloroethene	2.76	96	40601	21.60	ug/L	97
15) Methyl-t-Butyl Ether	2.76	73	81963	23.59	ug/L	100
16) 1,1-Dichloroethane	3.08	63	62738	22.48	ug/L	100
17) cis-1,2-Dichloroethene	3.54	96	44134	22.51	ug/L	99
18) 2-Butanone (MEK)	3.54	43	19291	24.84	ug/L	98
19) CHLOROFORM	3.82	83	78246	21.87	ug/L	100
21) 1,1,1-Trichloroethane	4.00	97	64811	21.79	ug/L #	1
22) Cyclohexane	4.06	56	47464	23.50	ug/L	97
24) Carbon tetrachloride	4.15	117	47638	22.69	ug/L	99
25) Benzene	4.33	78	149343	21.88	ug/L	97
26) 1,2-Dichloroethane	4.33	62	55118	23.24	ug/L	99
27) Trichloroethene	4.96	95	44259	22.62	ug/L	99
28) 1,2-DICHLOROPROPANE	5.19	63	33285	22.34	ug/L	100
29) Methylcyclohexane	5.17	83	37953	21.93	ug/L	98
30) Bromodichloromethane	5.48	83	58484	23.13	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100546.D Vial: 46
Acq On : 6 Oct 2004 5:50 am Operator: MI
Sample : LCS-DUP 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:48 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	59918	21.30 ug/L	98
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	41299	26.62 ug/L	96
34) TOLUENE	6.35	92	96446	22.35 ug/L	97
35) trans-1,3-Dichloropropene	6.61	75	55988	22.27 ug/L	97
36) 1,1,2-Trichloroethane	6.83	83	27297	23.09 ug/L	99
37) Tetrachloroethene	7.00	166	33741	21.74 ug/L	98
38) 2-Hexanone (MBK)	7.14	43	28844	28.08 ug/L	98
40) Dibromochloromethane	7.30	129	32667	24.07 ug/L	99
41) 1,2-Dibromoethane	7.43	107	33388	24.59 ug/L	99
42) Chlorobenzene	8.06	112	88629	23.20 ug/L	97
43) ETHYLBENZENE	8.21	91	172522	24.23 ug/L	100
44) m&p-Xylene	8.37	106	111754	47.48 ug/L	100
45) o-Xylene	8.88	106	55822	23.64 ug/L	97
46) Styrene	8.90	104	104166	24.47 ug/L	98
47) Bromoform	9.14	173	25894	25.08 ug/L	100
49) Isopropylbenzene	9.39	105	113134	22.28 ug/L	99
51) 1,1,2,2-Tetrachloroethane	9.81	83	38679	24.34 ug/L	99
52) 1,3-Dichlorobenzene	11.08	146	51596	22.44 ug/L	99
53) 1,4-Dichlorobenzene	11.21	146	55596	21.71 ug/L	98
54) 1,2-Dichlorobenzene	11.72	146	48928	22.43 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.84	75	5943	29.44 ug/L	89
56) 1,2,4-Trichlorobenzene	14.04	180	28555	23.35 ug/L	99
57) Naphthalene	0.00	128	0	Not Detected	

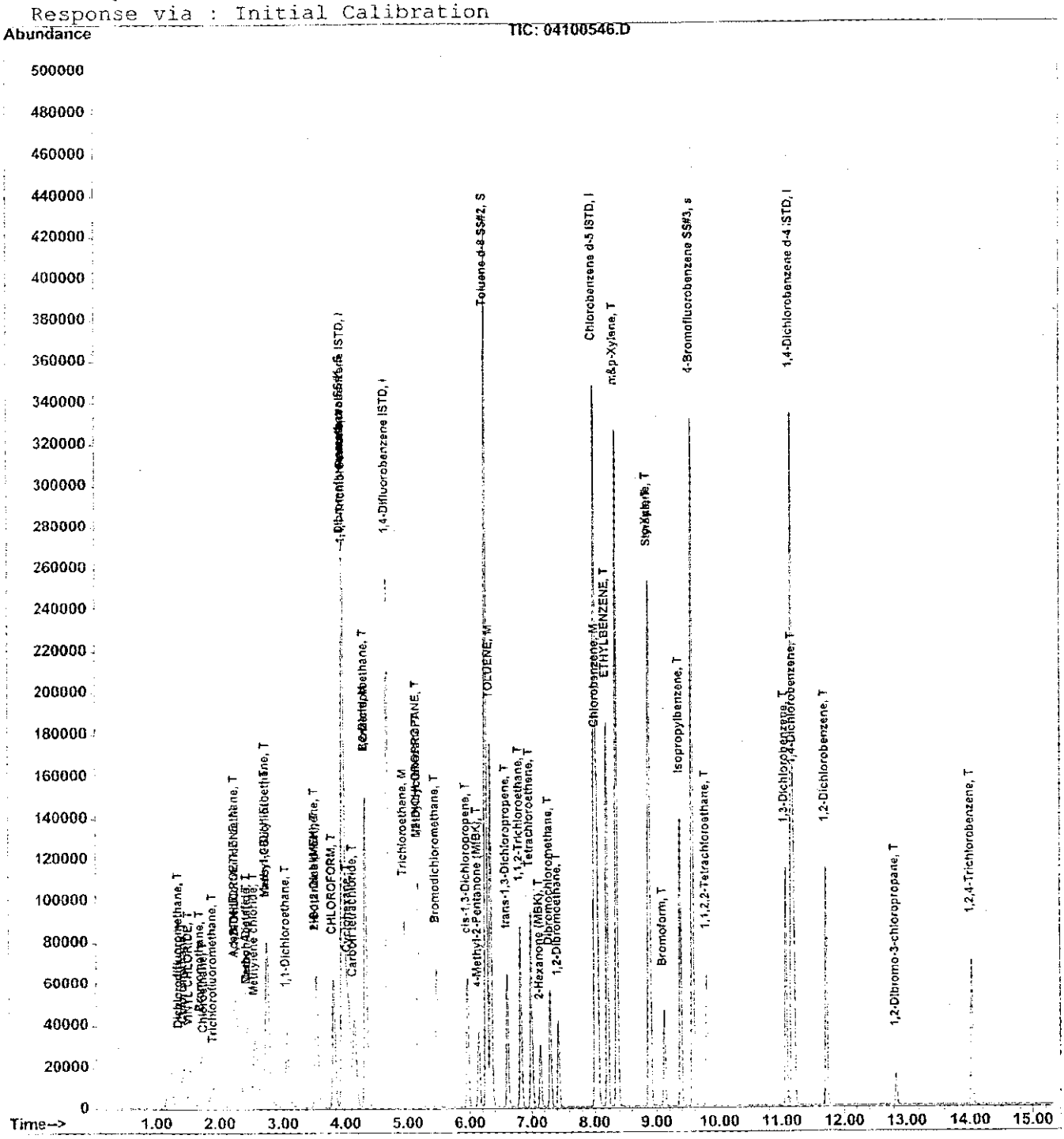
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041005\04100546.D
Acq On : 6 Oct 2004 5:50 am
Sample : LCS-DUP 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 6 9:48 2004

Vial: 46
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



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6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
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PHASE SEPARATION SCIENCE, INC.

VOLATILES

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

METHOD: EPA 8260 **BATCH NUMBER:** 2041

MATRIX: WATER

SAMPLE ID: 04092328-01 MS
DATE ANALYZED: 10/05/04 06:40:00
LAB FILE IDs: 04100445.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	14.07	39	98	61 - 145
BENZENE	25	1.71	26	96	76 - 127
TRICHLOROETHENE	25	3661.57	3653	-36 *	71 - 120
TOLUENE	25	0	25	99	76 - 125
CHLOROBENZENE	25	0	25	101	75 - 130

SAMPLE ID: 04092328-01 MSD
DATE ANALYZED: 10/05/04 07:05:00
LAB FILE IDs: 04100446.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	14.07	38	96	1.5	30	61 - 145
BENZENE	25	1.71	26	96	0.0	30	76 - 127
TRICHLOROETHENE	25	3661.57	3620	-165 *	0.9	30	71 - 120
TOLUENE	25	0	24	95	4.5	30	76 - 125
CHLOROBENZENE	25	0	25	98	2.9	30	75 - 130

* - Indicates values outside of QC control limits.

Trichloroethene result in reference sample exceeds the calibration range.

Calculations:

$$\%\text{Recovery} = \left[\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right] * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\left(\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}\right)}\right| * 100$$

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100445.D Vial: 45
Acq On : 5 Oct 2004 6:40 am Operator: MI
Sample : 04092328-01 MS 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	189340	50.00	ug/L		0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	268782	50.00	ug/L		0.00
39) Chlorobenzene d-5 ISTD	8.03	117	233566	50.00	ug/L		0.00
48) 1,4-Dichlorobenzene d-4 IS	11.19	152	106108	50.00	ug/L		0.00
System Monitoring Compounds							
20) Dibromofluoromethane SS#1	3.97	113	96904	50.55	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.10%				
33) Toluene d-8 SS#2	6.28	98	344302	51.19	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 102.38%				
50) 4-Bromofluorobenzene SS#3	9.58	95	146264	49.04	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.08%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.36	85	45128	21.01	ug/L		100
3) Chloromethane	1.45	50	42214	22.58	ug/L		99
4) VINYL CHLORIDE	1.55	62	71703	43.17	ug/L		100
5) Bromomethane	1.71	94	39209	23.56	ug/L		99
6) Chloroethane	1.76	64	22892	27.25	ug/L		100
7) Trichlorofluoromethane	1.91	101	27071	18.01	ug/L		98
8) Acetone	2.24	43	14011	29.18	ug/L		100
9) 1,1-DICHLOROETHENE	2.27	96	66216	38.63	ug/L		98
10) 1,1,2-Trichlorotrifluoroet	2.27	101	35683	24.84	ug/L	#	80
11) Carbon Disulfide	2.46	76	126900	24.76	ug/L		98
12) Methyl Acetate	2.46	74	4793	27.16	ug/L		97
13) Methylene chloride	2.58	84	66575	30.77	ug/L		99
14) trans-1,2-Dichloroethene	2.78	96	58378	31.73	ug/L		98
15) Methyl-t-Butyl Ether	2.76	73	88662	26.07	ug/L		100
16) 1,1-Dichloroethane	3.08	63	84407	30.91	ug/L		100
17) cis-1,2-Dichloroethene	3.56	96	528990	275.64	ug/L		99
18) 2-Butanone (MEK)	3.54	43	21254	27.96	ug/L		70
19) CHLOROFORM	3.82	83	90405	25.82	ug/L		99
21) 1,1,1-Trichloroethane	4.00	97	101717	34.94	ug/L	#	27
22) Cyclohexane	4.06	56	50440	25.52	ug/L		90
24) Carbon tetrachloride	4.16	117	53559	25.80	ug/L		98
25) Benzene	4.34	78	172744	25.60	ug/L		99
26) 1,2-Dichloroethane	4.35	62	80399	34.28	ug/L		100
27) Trichloroethene	4.97	95	7066752	3652.54	ug/L		92
28) 1,2-DICHLOROPROPANE	5.19	63	36686	24.91	ug/L		100
29) Methylcyclohexane	5.18	83	42648	24.92	ug/L		98
30) Bromodichloromethane	5.48	83	63046	25.22	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100445.D
Acq On : 5 Oct 2004 6:40 am
Sample : 04092328-01 MS 25ppb
Misc : IS/S 1uL #475, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 45
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

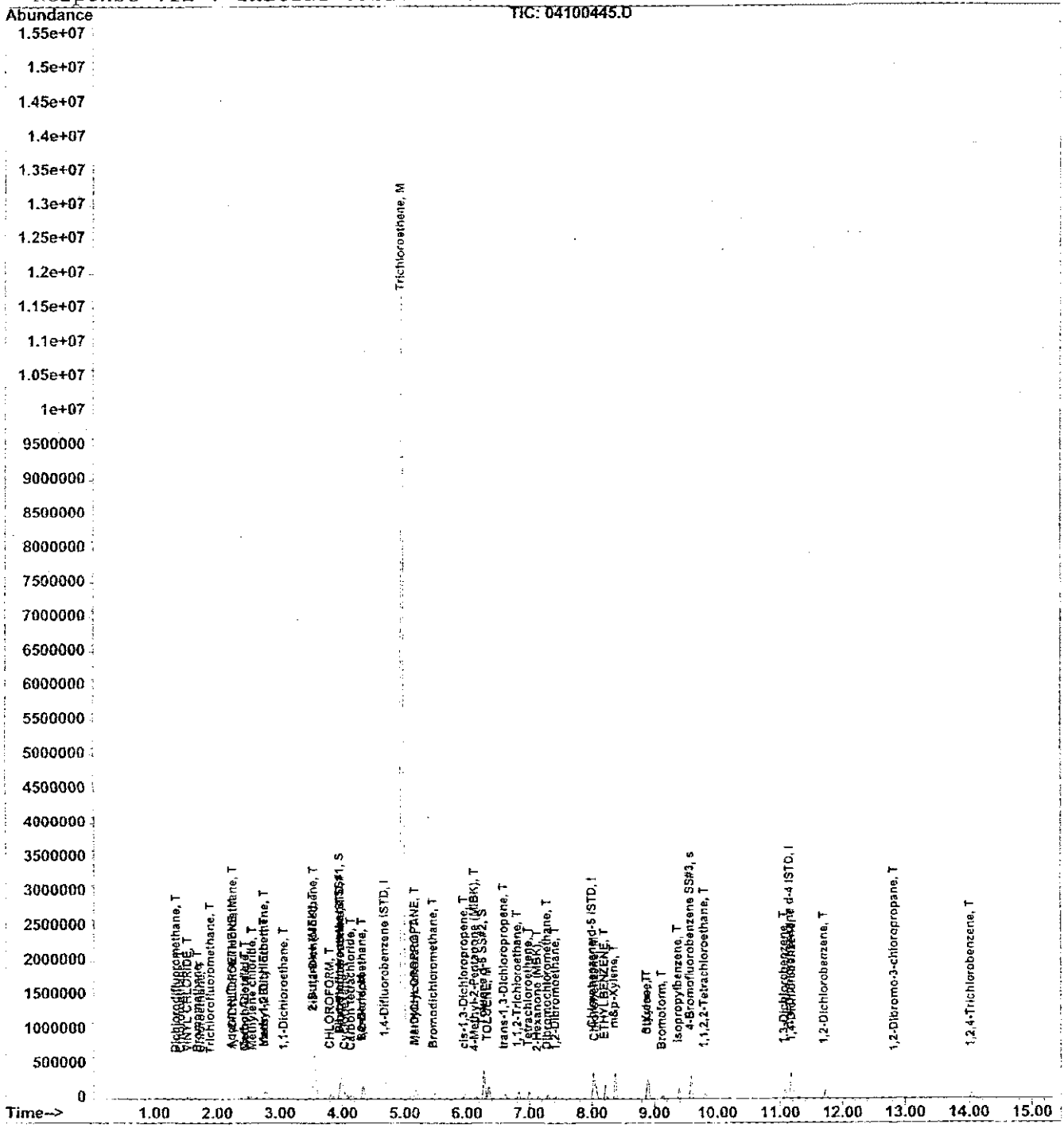
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	64160	23.07 ug/L	99
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	44988	29.33 ug/L	98
34) TOLUENE	6.35	92	105512	24.73 ug/L	99
35) trans-1,3-Dichloropropene	6.61	75	59774	24.05 ug/L	97
36) 1,1,2-Trichloroethane	6.83	83	31140	26.64 ug/L	100
37) Tetrachloroethene	7.00	166	40157	26.16 ug/L	99
38) 2-Hexanone (MBK)	7.15	43	30817	30.34 ug/L	99
40) Dibromochloromethane	7.31	129	35626	24.97 ug/L	99
41) 1,2-Dibromoethane	7.44	107	36447	25.54 ug/L	99
42) Chlorobenzene	8.06	112	101382	25.24 ug/L	98
43) ETHYLBENZENE	8.22	91	184715	24.68 ug/L	100
44) m&p-Xylene	8.37	106	122945	49.68 ug/L	100
45) o-Xylene	8.89	106	63585	25.62 ug/L	98
46) Styrene	8.91	104	109285	24.41 ug/L	95
47) Bromoform	9.14	173	28324	26.09 ug/L	98
49) Isopropylbenzene	9.39	105	122040	22.59 ug/L	99
51) 1,1,2,2-Tetrachloroethane	9.81	83	43728	25.86 ug/L	100
52) 1,3-Dichlorobenzene	11.09	146	56623	23.15 ug/L	99
53) 1,4-Dichlorobenzene	11.22	146	59757	21.93 ug/L	98
54) 1,2-Dichlorobenzene	11.73	146	55165	23.77 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.85	75	6134	28.56 ug/L	94
56) 1,2,4-Trichlorobenzene	14.05	180	32108	24.68 ug/L	98
57) Naphthalene	14.38	128	1262	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100445.D Vial: 45
Acq On : 5 Oct 2004 6:40 am Operator: MI
Sample : 04092328-01 MS 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100446.D Vial: 46
Acq On : 5 Oct 2004 7:05 am Operator: MI
Sample : 04092328-01 MSD 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	190300	50.00	ug/L		0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	272134	50.00	ug/L		0.00
39) Chlorobenzene d-5 ISTD	8.03	117	238766	50.00	ug/L		0.00
48) 1,4-Dichlorobenzene d-4 IS	11.19	152	104900	50.00	ug/L		0.00
System Monitoring Compounds							
20) Dibromofluoromethane SS#1	3.97	113	96925	50.31	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.62%				
33) Toluene d-8 SS#2	6.28	98	344182	50.54	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.08%				
50) 4-Bromofluorobenzene SS#3	9.58	95	147476	50.01	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.02%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.37	85	45668	21.15	ug/L		100
3) Chloromethane	1.45	50	46522	24.76	ug/L		92
4) VINYL CHLORIDE	1.55	62	73073	43.77	ug/L		100
5) Bromomethane	1.72	94	39198	23.44	ug/L		100
6) Chloroethane	1.76	64	22340	26.45	ug/L		97
7) Trichlorofluoromethane	1.92	101	27343	18.10	ug/L		99
8) Acetone	2.25	43	14422	29.89	ug/L		98
9) 1,1-DICHLOROETHENE	2.27	96	65562	38.06	ug/L		96
10) 1,1,2-Trichlorotrifluoroet	2.27	101	35911	24.87	ug/L		96
11) Carbon Disulfide	2.45	76	127167	24.68	ug/L		99
12) Methyl Acetate	2.46	74	4715	26.58	ug/L		94
13) Methylene chloride	2.58	84	67143	30.88	ug/L		99
14) trans-1,2-Dichloroethene	2.77	96	58412	31.59	ug/L		98
15) Methyl-t-Butyl Ether	2.76	73	90012	26.33	ug/L		100
16) 1,1-Dichloroethane	3.08	63	84473	30.77	ug/L		98
17) cis-1,2-Dichloroethene	3.56	96	525844	272.62	ug/L		99
18) 2-Butanone (MEK)	3.55	43	21116	27.64	ug/L		67
19) CHLOROFORM	3.82	83	89733	25.50	ug/L		99
21) 1,1,1-Trichloroethane	4.01	97	104145	35.60	ug/L	#	31
22) Cyclohexane	4.06	56	52405	26.38	ug/L	#	88
24) Carbon tetrachloride	4.16	117	53313	25.36	ug/L		99
25) Benzene	4.34	78	174815	25.59	ug/L		100
26) 1,2-Dichloroethane	4.35	62	80758	34.01	ug/L		99
27) Trichloroethene	4.97	95	7091903	3620.38	ug/L		92
28) 1,2-DICHLOROPROPANE	5.19	63	36163	24.25	ug/L		99
29) Methylcyclohexane	5.18	83	42149	24.32	ug/L		99
30) Bromodichloromethane	5.48	83	63625	25.13	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100446.D Vial: 46
Acq On : 5 Oct 2004 7:05 am Operator: MI
Sample : 04092328-01 MSD 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
31)	cis-1,3-Dichloropropene	5.97	75	64867	23.03	ug/L	98
32)	4-Methyl-2-Pentanone (MIBK	6.15	43	45807	29.49	ug/L	99
34)	TOLUENE	6.36	92	102074	23.63	ug/L	98
35)	trans-1,3-Dichloropropene	6.61	75	60228	23.93	ug/L	97
36)	1,1,2-Trichloroethane	6.83	83	31129	26.30	ug/L	99
37)	Tetrachloroethene	7.00	166	40737	26.21	ug/L	99
38)	2-Hexanone (MBK)	7.15	43	32062	31.18	ug/L	99
40)	Dibromochloromethane	7.31	129	35676	24.46	ug/L	98
41)	1,2-Dibromoethane	7.44	107	37197	25.49	ug/L	99
42)	Chlorobenzene	8.06	112	100641	24.51	ug/L	97
43)	ETHYLBENZENE	8.22	91	183154	23.94	ug/L	100
44)	m&p-Xylene	8.37	106	121832	48.16	ug/L	99
45)	o-Xylene	8.89	106	63990	25.22	ug/L	98
46)	Styrene	8.91	104	109306	23.89	ug/L	95
47)	Bromoform	9.14	173	28507	25.69	ug/L	100
49)	Isopropylbenzene	9.39	105	120708	22.60	ug/L	99
51)	1,1,2,2-Tetrachloroethane	9.81	83	43789	26.19	ug/L	100
52)	1,3-Dichlorobenzene	11.09	146	54967	22.73	ug/L	99
53)	1,4-Dichlorobenzene	11.22	146	58369	21.67	ug/L	98
54)	1,2-Dichlorobenzene	11.73	146	55600	24.23	ug/L	99
55)	1,2-Dibromo-3-chloropropan	12.85	75	6435	30.30	ug/L	90
56)	1,2,4-Trichlorobenzene	14.05	180	33130	25.76	ug/L	98
57)	Naphthalene	14.38	128	1420	Not Detected		

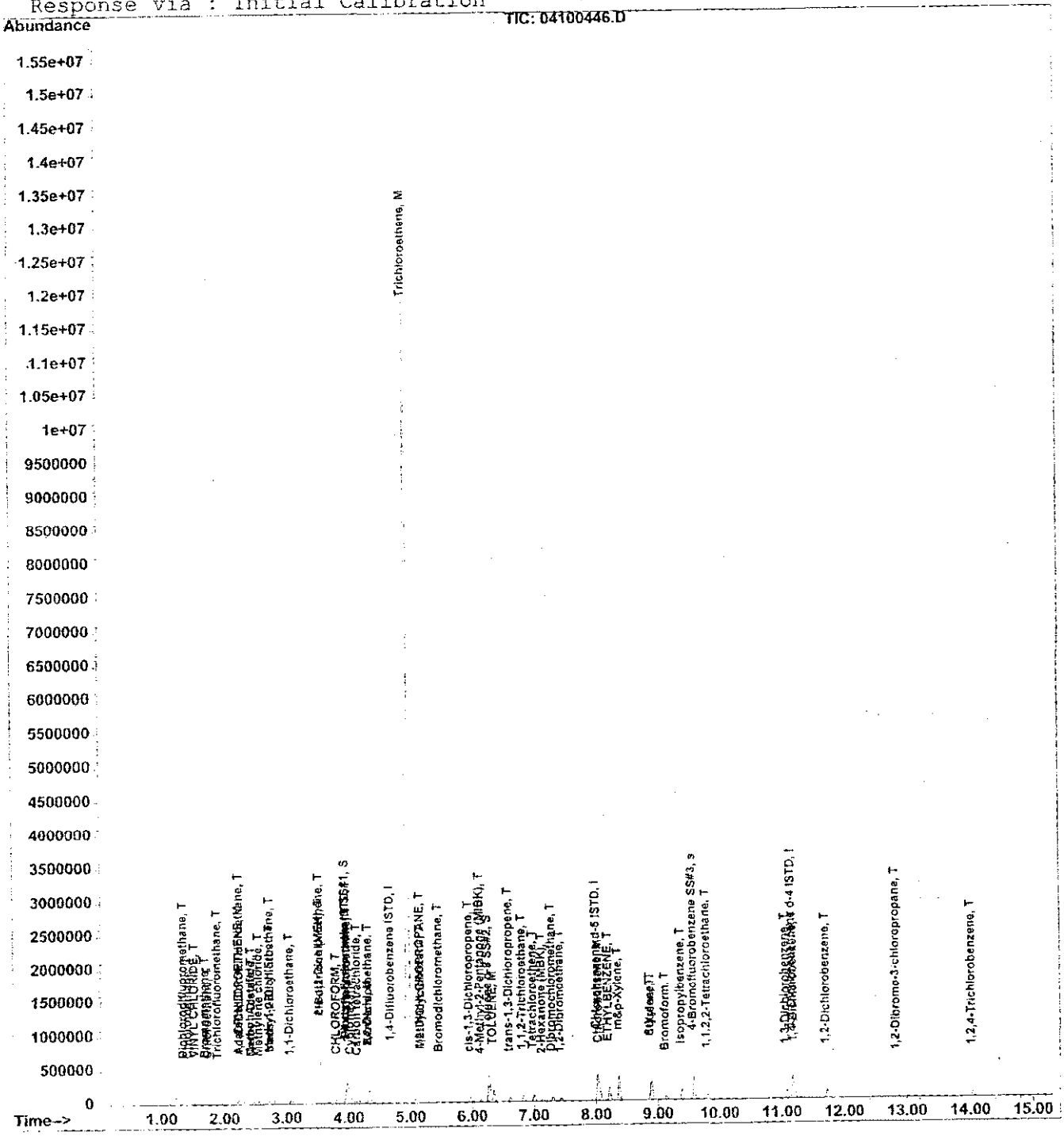
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100446.D
Acq On : 5 Oct 2004 7:05 am
Sample : 04092328-01 MSD 25ppb
Misc : IS/S 1uL #475, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 46
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



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PHASE SEPARATION SCIENCE, INC.

VOLATILES

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

METHOD: EPA 8260 **BATCH NUMBER:** 2043

MATRIX: WATER

SAMPLE ID: 04092201-01 MS
DATE ANALYZED: 10/06/04 04:35 AM
LAB FILE IDs: 04100543.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	0	22	90	61 - 145
BENZENE	25	0	22	90	76 - 127
TRICHLOROETHENE	25	0	24	95	71 - 120
TOLUENE	25	0	24	95	76 - 125
CHLOROBENZENE	25	0	24	95	75 - 130

SAMPLE ID: 04092201-01 MSD
DATE ANALYZED: 10/06/04 05:00 AM
LAB FILE IDs: 04100544.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	0	23	91	1.0	30	61 - 145
BENZENE	25	0	23	91	1.5	30	76 - 127
TRICHLOROETHENE	25	0	23	94	1.7	30	71 - 120
TOLUENE	25	0	22	89	6.8	30	76 - 125
CHLOROBENZENE	25	0	24	97	2.5	30	75 - 130

* - Indicates values outside of QC control limits.

Calculations:

$$\%\text{Recovery} = \left[\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right] * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\left(\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}\right)}\right| * 100$$

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100543.D
Acq On : 6 Oct 2004 4:35 am
Sample : 04092201-01 MS 25ppb
Misc : IS/S 1uL #493, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 6 9:55 2004

Vial: 43
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	191440	50.00	ug/L		-0.01
23) 1,4-Difluorobenzene ISTD	4.69	114	270286	50.00	ug/L		-0.01
39) Chlorobenzene d-5 ISTD	8.02	117	221734	50.00	ug/L		-0.02
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	100912	50.00	ug/L		-0.01
System Monitoring Compounds							
20) Dibromofluoromethane SS#1	3.96	113	95257	49.15	ug/L		-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.30%				
33) Toluene d-8 SS#2	6.28	98	341870	50.54	ug/L		-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.08%				
50) 4-Bromofluorobenzene SS#3	9.58	95	138481	48.82	ug/L		-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.64%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.36	85	43547	20.05	ug/L		100
3) Chloromethane	1.44	50	43185	22.85	ug/L		94
4) VINYL CHLORIDE	1.54	62	36431	21.69	ug/L		99
5) Bromomethane	1.71	94	37681	22.40	ug/L		99
6) Chloroethane	1.76	64	21803	25.67	ug/L		99
7) Trichlorofluoromethane	1.90	101	27323m	17.98	ug/L		
8) Acetone	2.23	43	15207	31.33	ug/L		97
9) 1,1-DICHLOROETHENE	2.25	96	38900	22.45	ug/L		95
10) 1,1,2-Trichlorotrifluoroet	2.24	101	34660	23.86	ug/L	#	75
11) Carbon Disulfide	2.45	76	122144	23.57	ug/L		98
12) Methyl Acetate	2.46	74	4603	25.79	ug/L		98
13) Methylene chloride	2.58	84	42390	19.38	ug/L		98
14) trans-1,2-Dichloroethene	2.76	96	42920	23.07	ug/L		97
15) Methyl-t-Butyl Ether	2.76	73	86953	25.29	ug/L		100
16) 1,1-Dichloroethane	3.07	63	65005	23.54	ug/L		99
17) cis-1,2-Dichloroethene	3.55	96	47166	24.31	ug/L		99
18) 2-Butanone (MEK)	3.53	43	21049	27.39	ug/L		98
19) CHLOROFORM	3.82	83	79200	22.37	ug/L		99
21) 1,1,1-Trichloroethane	4.00	97	67549	22.95	ug/L	#	1
22) Cyclohexane	4.06	56	48360	24.20	ug/L		89
24) Carbon tetrachloride	4.16	117	49356	23.64	ug/L		100
25) Benzene	4.33	78	152365	22.45	ug/L		98
26) 1,2-Dichloroethane	4.34	62	56728	24.05	ug/L		99
27) Trichloroethene	4.96	95	46306	23.80	ug/L		99
28) 1,2-DICHLOROPROPANE	5.18	63	34616	23.37	ug/L		100
29) Methylcyclohexane	5.17	83	38387	22.30	ug/L		99
30) Bromodichloromethane	5.48	83	61626	24.51	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100543.D Vial: 43
Acq On : 6 Oct 2004 4:35 am Operator: MI
Sample : 04092201-01 MS 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:55 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

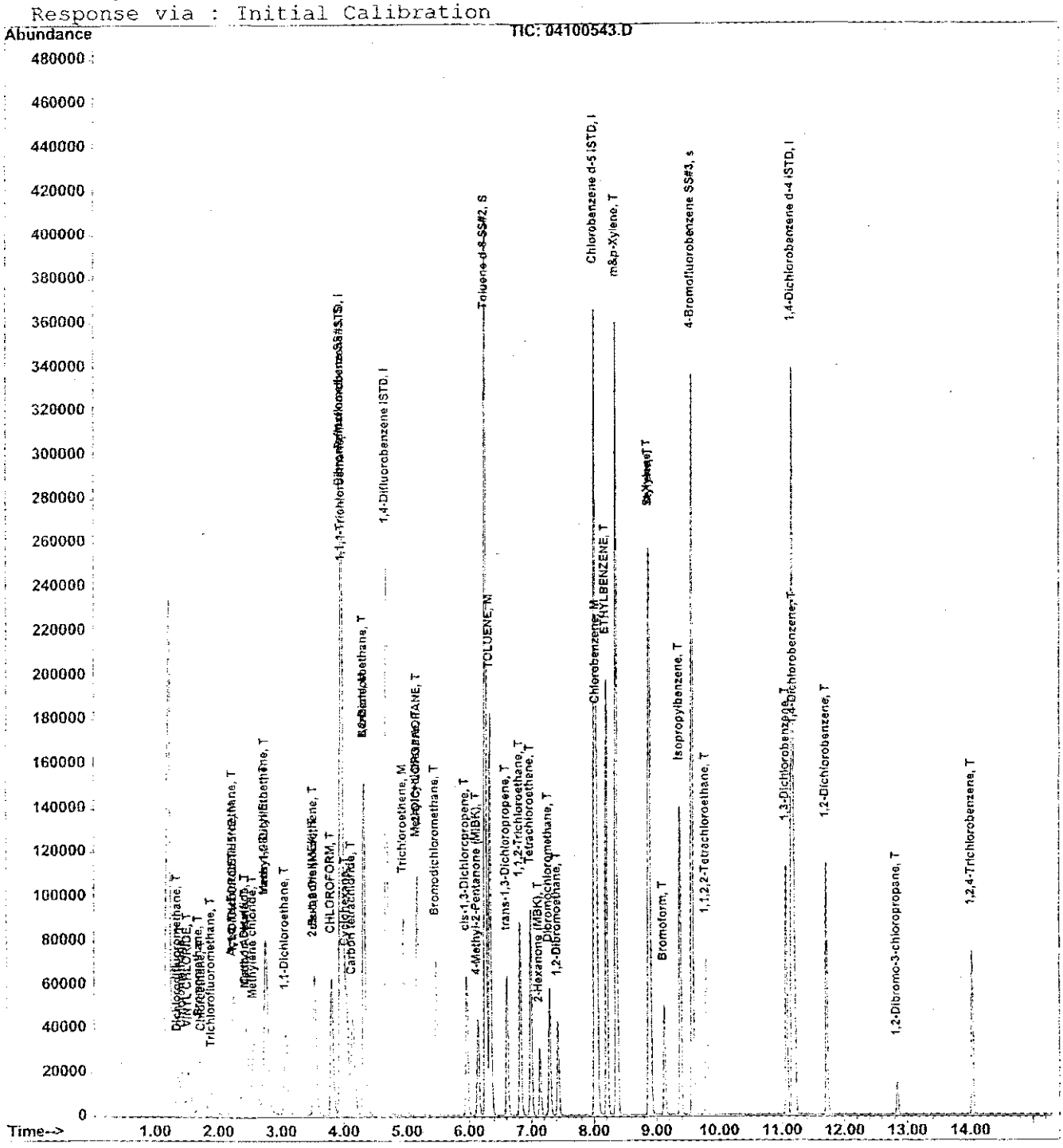
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31)	cis-1,3-Dichloropropene	5.96	75	62637	22.39 ug/L	99
32)	4-Methyl-2-Pentanone (MIBK	6.15	43	45180	29.29 ug/L	100
34)	TOLUENE	6.35	92	101922	23.75 ug/L	98
35)	trans-1,3-Dichloropropene	6.61	75	58241	23.30 ug/L	96
36)	1,1,2-Trichloroethane	6.83	83	28818	24.51 ug/L	98
37)	Tetrachloroethene	7.00	166	35413	22.94 ug/L	100
38)	2-Hexanone (MBK)	7.14	43	31215	30.56 ug/L	95
40)	Dibromochloromethane	7.30	129	34397	25.40 ug/L	98
41)	1,2-Dibromoethane	7.44	107	34915	25.77 ug/L	97
42)	Chlorobenzene	8.06	112	90338	23.69 ug/L	95
43)	ETHYLBENZENE	8.21	91	179488	25.26 ug/L	99
44)	m&p-Xylene	8.36	106	117028	49.82 ug/L	100
45)	o-Xylene	8.88	106	58138	24.67 ug/L	99
46)	Styrene	8.91	104	104809	24.66 ug/L	95
47)	Bromoform	9.14	173	27273	26.46 ug/L	99
49)	Isopropylbenzene	9.39	105	116403	22.65 ug/L	100
51)	1,1,2,2-Tetrachloroethane	9.81	83	43678	27.16 ug/L	100
52)	1,3-Dichlorobenzene	11.09	146	53045	22.80 ug/L	99
53)	1,4-Dichlorobenzene	11.21	146	56145	21.67 ug/L	98
54)	1,2-Dichlorobenzene	11.73	146	51198	23.19 ug/L	100
55)	1,2-Dibromo-3-chloropropan	12.85	75	6124	29.98 ug/L	94
56)	1,2,4-Trichlorobenzene	14.04	180	30122	24.35 ug/L	99
57)	Naphthalene	0.00	128	0	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041005\04100543.D Vial: 43
Acq On : 6 Oct 2004 4:35 am Operator: MI
Sample : 04092201-01 MS 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:55 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100544.D Vial: 44
Acq On : 6 Oct 2004 5:00 am Operator: MI
Sample : 04092201-01 MSD 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:47 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	193058	50.00	ug/L		0.00
23) 1,4-Difluorobenzene ISTD	4.69	114	275398	50.00	ug/L		0.00
39) Chlorobenzene d-5 ISTD	8.02	117	220407	50.00	ug/L		-0.02
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	100723	50.00	ug/L		0.00
System Monitoring Compounds							
20) Dibromofluoromethane SS#1	3.96	113	96795	49.52	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.04%				
33) Toluene d-8 SS#2	6.27	98	342755	49.73	ug/L		-0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.46%				
50) 4-Bromofluorobenzene SS#3	9.58	95	139079	49.12	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.24%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.36	85	44221	20.19	ug/L		100
3) Chloromethane	1.45	50	44846	23.53	ug/L		93
4) VINYL CHLORIDE	1.54	62	36814	21.74	ug/L		99
5) Bromomethane	1.71	94	37497	22.10	ug/L		100
6) Chloroethane	1.77	64	22024	25.71	ug/L		96
7) Trichlorofluoromethane	1.90	101	26491	17.29	ug/L		99
8) Acetone	2.25	43	14720	30.07	ug/L		99
9) 1,1-DICHLOROETHENE	2.25	96	39614	22.67	ug/L		96
10) 1,1,2-Trichlorotrifluoroet	2.24	101	33582	22.93	ug/L		99
11) Carbon Disulfide	2.46	76	122611	23.46	ug/L		99
12) Methyl Acetate	2.47	74	4706	26.15	ug/L		99
13) Methylene chloride	2.57	84	42442	19.24	ug/L		97
14) trans-1,2-Dichloroethene	2.77	96	43698	23.29	ug/L		98
15) Methyl-t-Butyl Ether	2.76	73	85263	24.59	ug/L		100
16) 1,1-Dichloroethane	3.07	63	64774	23.26	ug/L		99
17) cis-1,2-Dichloroethene	3.55	96	46390	23.71	ug/L		97
18) 2-Butanone (MEK)	3.54	43	20394	26.31	ug/L		99
19) CHLOROFORM	3.82	83	81545	22.84	ug/L		100
21) 1,1,1-Trichloroethane	4.00	97	68201	22.98	ug/L	#	1
22) Cyclohexane	4.06	56	48559	24.10	ug/L		87
24) Carbon tetrachloride	4.15	117	49891	23.45	ug/L		100
25) Benzene	4.33	78	157674	22.80	ug/L		99
26) 1,2-Dichloroethane	4.34	62	59151	24.61	ug/L		98
27) Trichloroethene	4.96	95	46387	23.40	ug/L		99
28) 1,2-DICHLOROPROPANE	5.19	63	34724	23.01	ug/L		99
29) Methylcyclohexane	5.17	83	37184	21.20	ug/L		99
30) Bromodichloromethane	5.48	83	61272	23.92	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100544.D Vial: 44
Acq On : 6 Oct 2004 5:00 am Operator: MI
Sample : 04092201-01 MSD 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:47 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

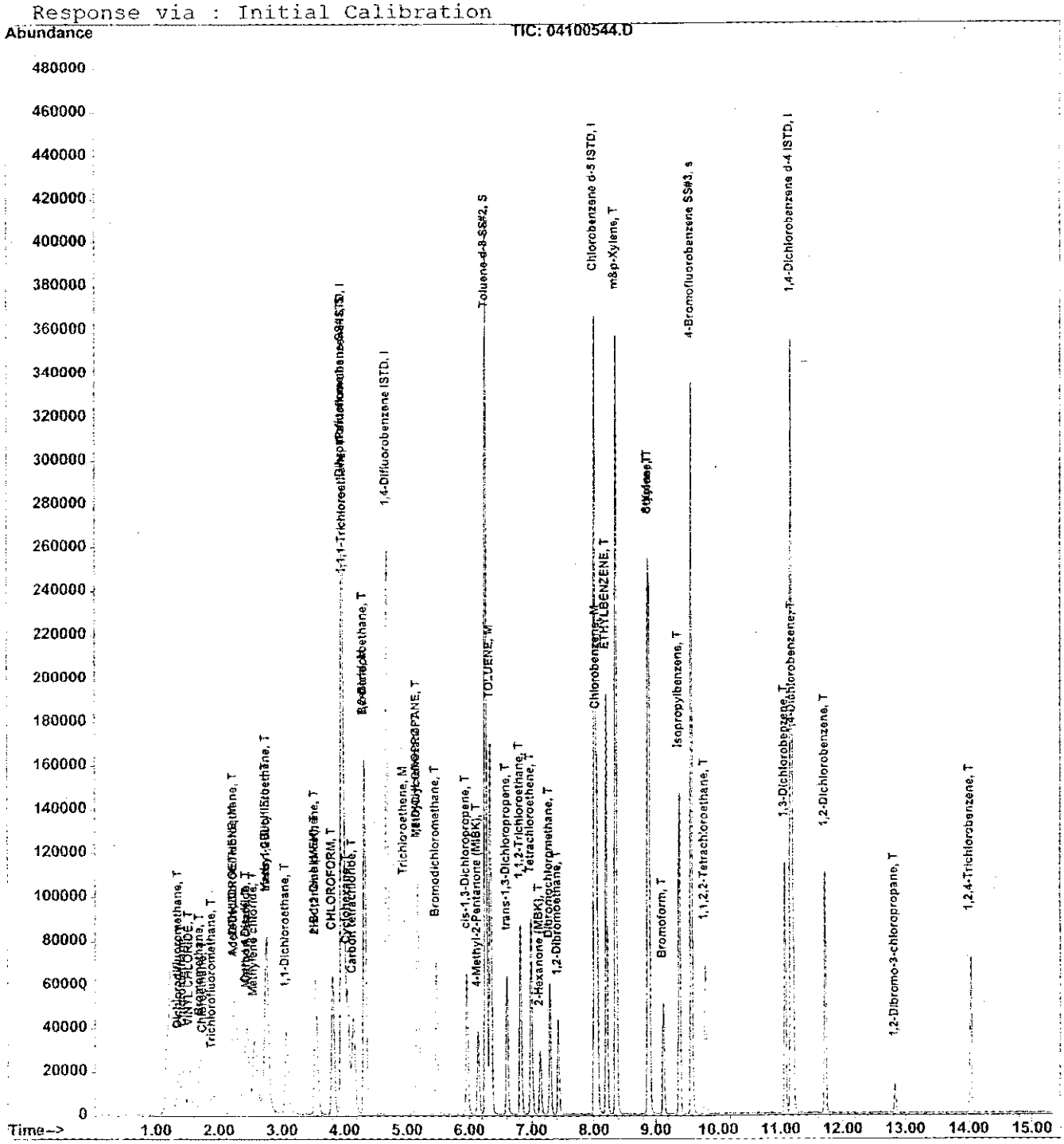
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	61699	21.65 ug/L	98
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	43507	27.68 ug/L	99
34) TOLUENE	6.35	92	97012	22.19 ug/L	98
35) trans-1,3-Dichloropropene	6.62	75	57906	22.74 ug/L	97
36) 1,1,2-Trichloroethane	6.82	83	28633	23.90 ug/L	99
37) Tetrachloroethene	7.00	166	34808	22.13 ug/L	98
38) 2-Hexanone (MBK)	7.14	43	29079	27.94 ug/L	99
40) Dibromochloromethane	7.30	129	34615	25.71 ug/L	99
41) 1,2-Dibromoethane	7.43	107	34646	25.72 ug/L	99
42) Chlorobenzene	8.06	112	92042	24.28 ug/L	96
43) ETHYLBENZENE	8.21	91	174052	24.64 ug/L	99
44) m&p-Xylene	8.37	106	117616	50.37 ug/L	100
45) o-Xylene	8.88	106	57714	24.64 ug/L	99
46) Styrene	8.90	104	103685	24.55 ug/L	94
47) Bromoform	9.13	173	26883	26.24 ug/L	100
49) Isopropylbenzene	9.39	105	118064	23.02 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	40769	25.40 ug/L	98
52) 1,3-Dichlorobenzene	11.08	146	52982	22.82 ug/L	99
53) 1,4-Dichlorobenzene	11.21	146	55133	21.32 ug/L	98
54) 1,2-Dichlorobenzene	11.73	146	50657	22.99 ug/L	98
55) 1,2-Dibromo-3-chloropropan	12.85	75	5331	26.15 ug/L	97
56) 1,2,4-Trichlorobenzene	14.04	180	27957	22.64 ug/L	97
57) Naphthalene	0.00	128	0	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041005\04100544.D Vial: 44
Acq On : 6 Oct 2004 5:00 am Operator: MI
Sample : 04092201-01 MSD 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:47 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041004\04100422.D Vial: 22
Acq On : 4 Oct 2004 8:44 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #475, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene ISTD	1.000	1.000	0.0	95	0.00
2	T	Dichlorodifluoromethane	0.567	0.568	-0.2	94	0.00
3	T	Chloromethane	0.494	0.492	0.4	109	-0.01
4	T	VINYL CHLORIDE	0.439	0.440	-0.2	95	0.00
5	T	Bromomethane	0.439	0.409	6.8	94	-0.01
6	T	Chloroethane	0.222	0.226	-1.8	92	0.00
7	T	Trichlorofluoromethane	0.306	0.335	-9.5	93	0.00
8	T	Acetone	0.162	0.121	25.3#	94	0.00
9	M	1,1-DICHLOROETHENE	0.453	0.438	3.3	93	0.00
10	T	1,1,2-Trichlorotrifluoroeth	0.379	0.397	-4.7	94	0.01
11	T	Carbon Disulfide	1.354	1.328	1.9	93	0.00
12	T	Methyl Acetate	0.047	0.052	-10.6	99	0.01
13	T	Methylene chloride	0.571	0.487	14.7	92	0.00
14	T	trans-1,2-Dichloroethene	0.486	0.473	2.7	94	0.00
15	T	Methyl-t-Butyl Ether	0.898	0.891	0.8	96	0.01
16	T	1,1-Dichloroethane	0.721	0.714	1.0	94	0.01
17	T	cis-1,2-Dichloroethene	0.507	0.500	1.4	95	0.00
18	T	2-Butanone (MEK)	0.201	0.188	6.5	99	0.01
19	T	CHLOROFORM	0.925	0.891	3.7	93	0.00
20	S	Dibromofluoromethane SS#1	0.506	0.510	-0.8	94	0.00
21	T	1,1,1-Trichloroethane	0.769	0.758	1.4	96	0.00
22	T	Cyclohexane	0.522	0.532	-1.9	94	0.01
23	I	1,4-Difluorobenzene ISTD	1.000	1.000	0.0	93	0.00
24	T	Carbon tetrachloride	0.386	0.385	0.3	94	0.00
25	M	Benzene	1.255	1.217	3.0	95	0.00
26	T	1,2-Dichloroethane	0.436	0.440	-0.9	99	0.00
27	M	Trichloroethene	0.360	0.351	2.5	97	0.00
28	T	1,2-DICHLOROPROPANE	0.274	0.268	2.2	95	0.01
29	T	Methylcyclohexane	0.318	0.323	-1.6	95	0.01
30	T	Bromodichloromethane	0.465	0.471	-1.3	95	0.00
31	T	cis-1,3-Dichloropropene	0.517	0.512	1.0	96	0.01
32	T	4-Methyl-2-Pentanone (MIBK)	0.285	0.296	-3.9	101	0.01
33	S	Toluene d-8 SS#2	1.251	1.276	-2.0	95	0.00
34	M	TOLUENE	0.794	0.766	3.5	94	0.00
35	T	trans-1,3-Dichloropropene	0.462	0.477	-3.2	98	0.00
36	T	1,1,2-Trichloroethane	0.217	0.223	-2.8	97	0.00
37	T	Tetrachloroethene	0.286	0.282	1.4	95	0.00
38	T	2-Hexanone (MBK)	0.189	0.198	-4.8	101	0.00
39	I	Chlorobenzene d-5 ISTD	1.000	1.000	0.0	96	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041004\04100422.D Vial: 22
Acq On : 4 Oct 2004 8:44 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #475, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	T	Dibromochloromethane	0.305	0.309	-1.3	97	0.00
41	T	1,2-Dibromoethane	0.306	0.298	2.6	94	0.00
42	M	Chlorobenzene	0.860	0.834	3.0	94	0.00
43	T	ETHYLBENZENE	1.602	1.535	4.2	91	0.00
44	T	m&p-Xylene	0.530	0.517	2.5	93	0.00
45	T	o-Xylene	0.531	0.505	4.9	92	0.00
46	T	Styrene	0.958	0.940	1.9	92	0.00
47	T	Bromoform	0.232	0.234	-0.9	94	0.00
48	I	1,4-Dichlorobenzene d-4 IST	1.000	1.000	0.0	97	0.01
49	T	Isopropylbenzene	2.546	2.412	5.3	93	0.00
50	s	4-Bromofluorobenzene SS#3	1.405	1.364	2.9	93	0.00
51	T	1,1,2,2-Tetrachloroethane	0.797	0.803	-0.8	100	0.01
52	T	1,3-Dichlorobenzene	1.153	1.082	6.2	91	0.00
53	T	1,4-Dichlorobenzene	1.284	1.143	11.0	95	0.01
54	T	1,2-Dichlorobenzene	1.094	1.007	8.0	91	0.00
55	T	1,2-Dibromo-3-chloropropane	0.101	0.102	-1.0	102	0.00
56	T	1,2,4-Trichlorobenzene	0.613	0.550	10.3	90	0.00
57	T	Naphthalene	0.887	0.812	8.5	90	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100422.D
Acq On : 4 Oct 2004 8:44 pm
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #475, CCV 10uL #548
MS Integration Params: rteint.p
Quant Time: Oct 4 23:03 2004

Vial: 22
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene ISTD	4.00	168	197265	50.00	ug/L		0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	281712	50.00	ug/L		0.00
39) Chlorobenzene d-5 ISTD	8.04	117	244159	50.00	ug/L		0.00
48) 1,4-Dichlorobenzene d-4 IS	11.20	152	108833	50.00	ug/L		0.01
System Monitoring Compounds							
20) Dibromofluoromethane SS#1	3.97	113	100520	50.33	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.66%				
33) Toluene d-8 SS#2	6.29	98	359338	50.97	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.94%				
50) 4-Bromofluorobenzene SS#3	9.60	95	148436	48.52	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.04%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.38	85	112071	50.08	ug/L		100
3) Chloromethane	1.47	50	97051m	49.84	ug/L		
4) VINYL CHLORIDE	1.56	62	86769	50.14	ug/L		99
5) Bromomethane	1.72	94	80732	46.57	ug/L		100
6) Chloroethane	1.77	64	44619	50.97	ug/L		100
7) Trichlorofluoromethane	1.94	101	66077	42.20	ug/L		99
8) Acetone	2.25	43	23925	47.83	ug/L		98
9) 1,1-DICHLOROETHENE	2.27	96	86446	48.41	ug/L		98
10) 1,1,2 Trichlorotrifluoroet	2.27	101	78379	52.37	ug/L		98
11) Carbon Disulfide	2.47	76	262009	49.06	ug/L		100
12) Methyl Acetate	2.48	74	10315	56.09	ug/L		100
13) Methylene chloride	2.58	84	96120	42.64	ug/L		99
14) trans-1,2-Dichloroethene	2.78	96	93397	48.72	ug/L		98
15) Methyl-t-Butyl Ether	2.77	73	175843	49.63	ug/L		100
16) 1,1-Dichloroethane	3.09	63	140831	49.49	ug/L		99
17) cis-1,2-Dichloroethene	3.56	96	98711	49.37	ug/L		99
18) 2-Butanone (MEK)	3.55	43	37139	46.90	ug/L		99
19) CHLOROFORM	3.83	83	175717	48.16	ug/L		99
21) 1,1,1-Trichloroethane	4.01	97	149581	49.32	ug/L	#	54
22) Cyclohexane	4.08	56	105016	51.00	ug/L		93
24) Carbon tetrachloride	4.17	117	108502	49.86	ug/L		100
25) Benzene	4.34	78	342715	48.46	ug/L		100
26) 1,2-Dichloroethane	4.35	62	124078	50.48	ug/L		100
27) Trichloroethene	4.98	95	98798	48.72	ug/L		100
28) 1,2-DICHLOROPROPANE	5.21	63	75628	48.99	ug/L		100
29) Methylcyclohexane	5.19	83	91071	50.77	ug/L		99
30) Bromodichloromethane	5.49	83	132549	50.58	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100422.D Vial: 22
Acq On : 4 Oct 2004 8:44 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #475, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 4 23:03 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

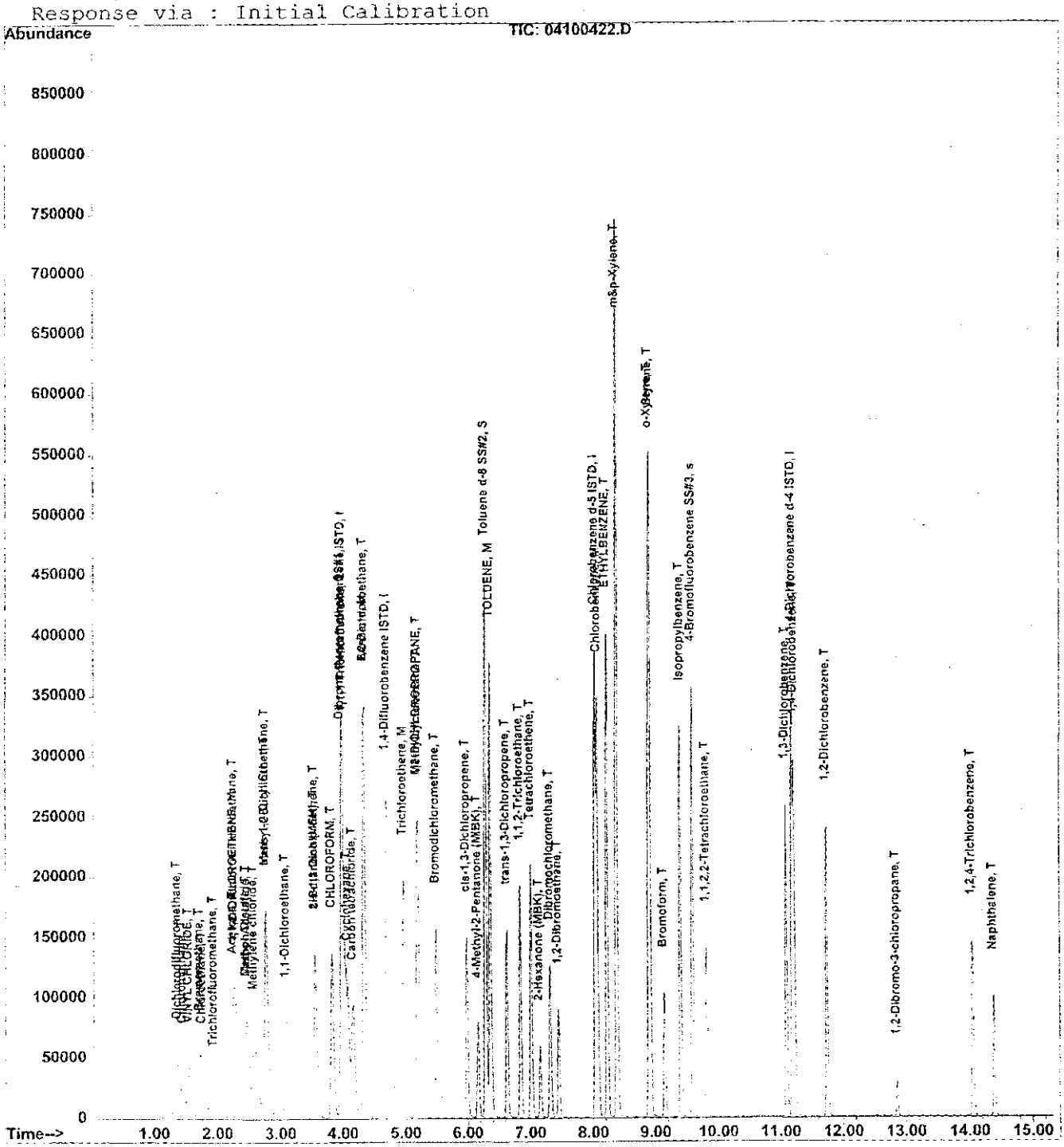
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.99	75	144131	49.44 ug/L	99
32) 4-Methyl-2-Pentanone (MIBK	6.17	43	83384	51.86 ug/L	99
34) TOLUENE	6.37	92	215794	48.25 ug/L	98
35) trans-1,3-Dichloropropene	6.63	75	134481	51.62 ug/L	98
36) 1,1,2-Trichloroethane	6.84	83	62873	51.31 ug/L	99
37) Tetrachloroethene	7.01	166	79393	49.35 ug/L	100
38) 2-Hexanone (MBK)	7.15	43	55778	52.39 ug/L	100
40) Dibromochloromethane	7.32	129	75510	50.63 ug/L	99
41) 1,2-Dibromoethane	7.45	107	72748	48.76 ug/L	98
42) Chlorobenzene	8.08	112	203595	48.48 ug/L	98
43) ETHYLBENZENE	8.22	91	374687	47.89 ug/L	100
44) m&p-Xylene	8.39	106	252632	97.66 ug/L	98
45) o-Xylene	8.90	106	123342	47.54 ug/L	97
46) Styrene	8.92	104	229401	49.02 ug/L	98
47) Bromoform	9.15	173	57172	50.38 ug/L	98
49) Isopropylbenzene	9.41	105	262517	47.37 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.83	83	87361	50.37 ug/L	100
52) 1,3-Dichlorobenzene	11.10	146	117708	46.92 ug/L	100
53) 1,4-Dichlorobenzene	11.23	146	124422	44.52 ug/L	98
54) 1,2-Dichlorobenzene	11.74	146	109597	46.04 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.86	75	11154	50.63 ug/L	94
56) 1,2,4-Trichlorobenzene	14.05	180	59813	44.82 ug/L	99
57) Naphthalene	14.39	128	88324	45.74 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100422.D Vial: 22
Acq On : 4 Oct 2004 8:44 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #475, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 4 23:03 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041004\04100423.D Vial: 23
Acq On : 4 Oct 2004 9:09 pm Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #475, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentaflourobenzene	1.000	1.000	0.0	95	0.00
2	t	acrolein	0.049	0.052	-6.1	99	0.05
3	t	iodomethane	0.630	0.622	1.3	95	0.00
4	t	acrylonitrile	0.103	0.113	-9.7	104	0.00
5	t	tert-butanol	0.045	0.050	-11.1	101	0.00
6	t	vinyl acetate	1.787	1.761	1.5	99	0.00
7	t	diisopropyl ether	1.638	1.596	2.6	96	0.00
8	t	tert-Butyl ethyl ether	1.147	1.108	3.4	94	0.00
9	T	2,2-Dichloropropane	0.610	0.598	2.0	103	0.00
10	T	Bromochloromethane	0.202	0.198	2.0	95	0.00
11	S	Dibromofluoromethane SS#1	0.507	0.507	0.0	94	0.00
12	I	1,4-Difluorobenzene	1.000	1.000	0.0	94	0.00
13	T	1,1-Dichloropropene	0.428	0.419	2.1	96	0.00
14	t	tert-amyl methyl ether	0.753	0.714	5.2	95	0.00
15	T	Dibromomethane	0.212	0.209	1.4	97	0.00
16	t	1,4-dioxane	0.001	0.000	100.0#	52	0.04
17	T	2-Chloroethylvinyl Ether	0.079	0.077	2.5	93	0.00
18	S	Toluene d-8 SS#2	1.254	1.248	0.5	93	0.00
19	I	Chlorobenzene d-5	1.000	1.000	0.0	93	0.00
20	T	1,3-Dichloropropane	0.526	0.514	2.3	97	0.00
21	T	1,1,1,2-Tetrachloroethane	0.289	0.276	4.5	93	0.00
22	T	1,2,3-Trichloropropane	0.100	0.100	0.0	101	0.00
23	s	4-Bromofluorobenzene SS#3	0.597	0.610	-2.2	95	0.00
24	T	Bromobenzene	0.369	0.348	5.7	93	0.00
25	t	trans-1,4-dichloro-2-butene	0.324	0.393	-21.3	145	0.00
26	T	n-Propylbenzene	1.535	1.506	1.9	96	0.00
27	I	1,4-Dichlorobenzene d-4	1.000	1.000	0.0	98	0.00
28	T	2-Chlorotoluene	2.429	2.203	9.3	94	0.00
29	T	4-Chlorotoluene	2.768	2.575	7.0	94	0.00
30	T	1,3,5-Trimethylbenzene	2.222	2.066	7.0	94	0.00
31	T	tert-Butylbenzene	1.574	1.431	9.1	91	0.00
32	T	1,2,4-Trimethylbenzene	2.328	2.152	7.6	91	0.00
33	T	sec-Butylbenzene	2.595	2.396	7.7	91	0.00
34	T	4-Isopropyltoluene	1.853	1.747	5.7	95	0.00
35	T	n-Butylbenzene	2.078	1.992	4.1	94	0.00
36	T	1,2,3-Trichlorobenzene	0.396	0.372	6.1	93	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100423.D Vial: 23
Acq On : 4 Oct 2004 9:09 pm Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #475, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:20 2004

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentaflourobenzene	4.00	168	198568	50.00	ug/L	0.00
12) 1,4-Difluorobenzene	4.71	114	285247	50.00	ug/L	0.00
19) Chlorobenzene d-5	8.04	117	238862	50.00	ug/L	0.00
27) 1,4-Dichlorobenzene d-4	11.19	152	109179	50.00	ug/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane SS#1	3.97	113	100596	50.01	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.02%			
18) Toluene d-8 SS#2	6.29	98	355861	49.75	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.50%			
23) 4-Bromofluorobenzene SS#3	9.60	95	145706	51.10	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.20%			
Target Compounds						Qvalue
2) acrolein	2.16	56	10340	53.05	ug/L #	100
3) iodomethane	2.39	142	123417	49.35	ug/L	99
4) acrylonitrile	2.73	53	22515	54.94	ug/L	99
5) tert-butanol	2.67	59	9881	54.98	ug/L	100
6) vinyl acetate	3.10	43	349583	49.25	ug/L	100
7) diisopropyl ether	3.12	45	316844	48.71	ug/L	100
8) tert-Butyl ethyl ether	3.43	59	219988	48.30	ug/L	99
9) 2,2-Dichloropropane	3.57	77	118703	61.34	ug/L	100
10) Bromochloromethane	3.77	128	39394	49.21	ug/L	99
13) 1,1-Dichloropropene	4.15	75	119583	49.00	ug/L	99
14) tert-amyl methyl ether	4.45	73	203594	47.39	ug/L	100
15) Dibromomethane	5.32	93	59614	49.29	ug/L	98
16) 1,4-dioxane	5.37	58	63	16.13	ug/L #	1
17) 2-Chloroethylvinyl Ether	5.82	63	21999	48.66	ug/L	96
20) 1,3-Dichloropropane	7.04	76	122834	48.92	ug/L	100
21) 1,1,1,2-Tetrachloroethane	8.18	131	65940	47.79	ug/L	99
22) 1,2,3-Trichloropropane	9.86	110	23888	49.77	ug/L	100
24) Bromobenzene	9.79	156	83085	47.18	ug/L	99
25) trans-1,4-dichloro-2-buten	9.86	75	93964	74.84	ug/L #	100
26) n-Propylbenzene	9.97	91	359820	49.06	ug/L	100
28) 2-Chlorotoluene	10.07	91	240517	45.34	ug/L	99
29) 4-Chlorotoluene	10.21	91	281120	46.51	ug/L	100
30) 1,3,5-Trimethylbenzene	10.22	105	225529	46.49	ug/L	100
31) tert-Butylbenzene	10.67	119	156236	45.46	ug/L	100
32) 1,2,4-Trimethylbenzene	10.73	105	234911	46.21	ug/L	100
33) sec-Butylbenzene	10.97	105	261597	46.16	ug/L	100
34) 4-Isopropyltoluene	11.19	119	190772	47.15	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100423.D Vial: 23
Acq On : 4 Oct 2004 9:09 pm Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #475, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:20 2004

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

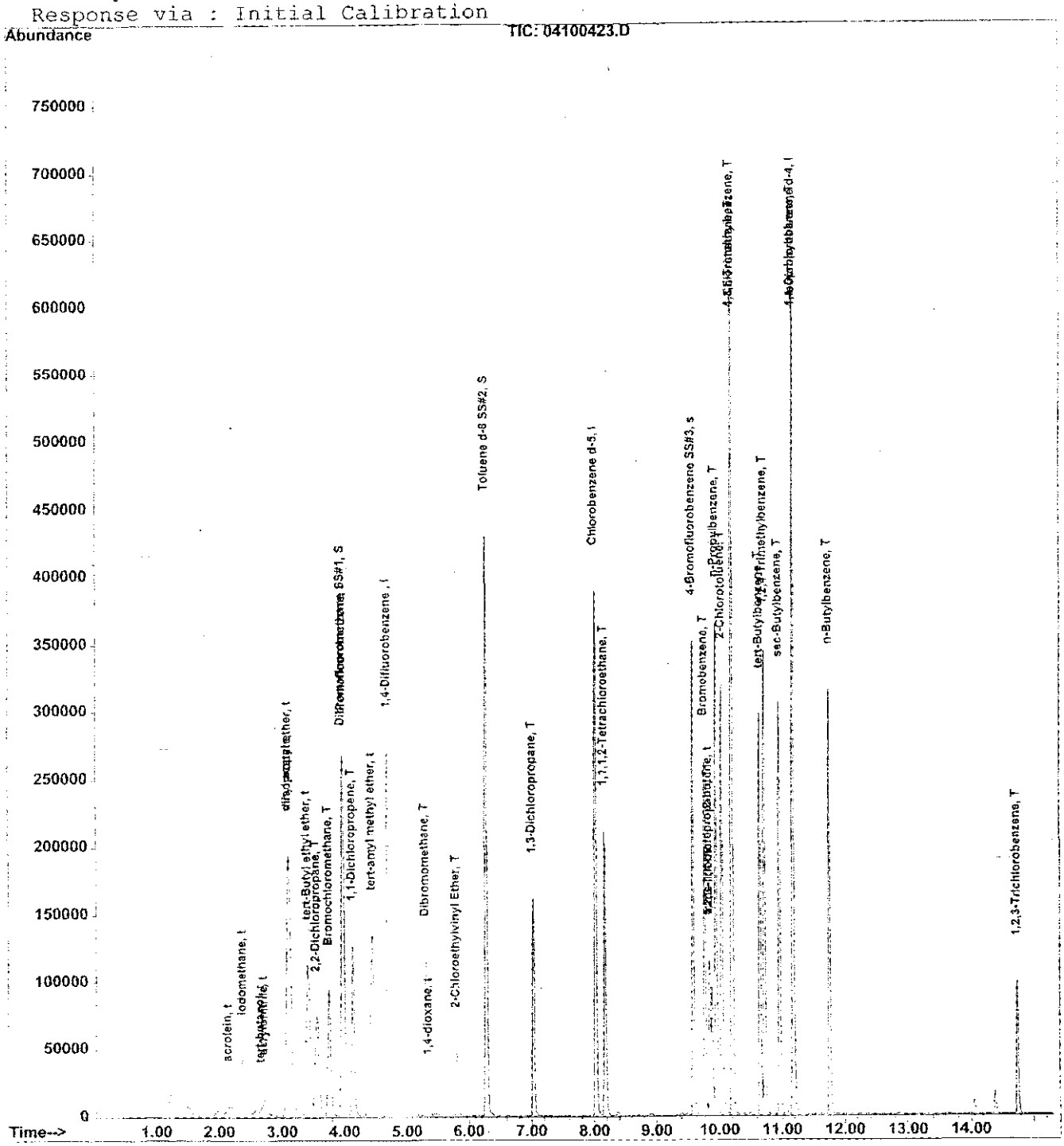
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) n-Butylbenzene	11.77	91	217494	47.92 ug/L	100
36) 1,2,3-Trichlorobenzene	14.75	180	40627	46.94 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100423.D Vial: 23
Acq On : 4 Oct 2004 9:09 pm Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #475, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:20 2004

Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041005\04100521.D Vial: 21
Acq On : 5 Oct 2004 7:00 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene ISTD	1.000	1.000	0.0	97	0.00
2	T	Dichlorodifluoromethane	0.567	0.547	3.5	92	0.00
3	T	Chloromethane	0.494	0.468	5.3	106	-0.02
4	T	VINYL CHLORIDE	0.439	0.424	3.4	93	0.00
5	T	Bromomethane	0.439	0.402	8.4	94	-0.02
6	T	Chloroethane	0.222	0.222	0.0	92	0.00
7	T	Trichlorofluoromethane	0.306	0.317	-3.6	90	0.00
8	T	Acetone	0.162	0.120	25.9#	95	0.00
9	M	1,1-DICHLOROETHENE	0.453	0.426	6.0	92	0.00
10	T	1,1,2-Trichlorotrifluoroeth	0.379	0.386	-1.8	93	0.00
11	T	Carbon Disulfide	1.354	1.292	4.6	92	0.00
12	T	Methyl Acetate	0.047	0.047	0.0	91	0.00
13	T	Methylene chloride	0.571	0.456	20.1	88	0.00
14	T	trans-1,2-Dichloroethene	0.486	0.458	5.8	93	0.00
15	T	Methyl-t-Butyl Ether	0.898	0.835	7.0	91	0.00
16	T	1,1-Dichloroethane	0.721	0.682	5.4	92	0.00
17	T	cis-1,2-Dichloroethene	0.507	0.482	4.9	93	0.00
18	T	2-Butanone (MEK)	0.201	0.177	11.9	95	0.00
19	T	CHLOROFORM	0.925	0.858	7.2	92	0.00
20	S	Dibromofluoromethane SS#1	0.506	0.501	1.0	94	0.00
21	T	1,1,1-Trichloroethane	0.769	0.734	4.6	94	0.00
22	T	Cyclohexane	0.522	0.512	1.9	92	0.00
23	I	1,4-Difluorobenzene ISTD	1.000	1.000	0.0	93	0.00
24	T	Carbon tetrachloride	0.386	0.382	1.0	93	0.00
25	M	Benzene	1.255	1.164	7.3	91	0.00
26	T	1,2-Dichloroethane	0.436	0.418	4.1	93	0.00
27	M	Trichloroethene	0.360	0.342	5.0	94	0.00
28	T	1,2-DICHLOROPROPANE	0.274	0.258	5.8	91	0.00
29	T	Methylcyclohexane	0.318	0.306	3.8	90	0.00
30	T	Bromodichloromethane	0.465	0.458	1.5	92	0.00
31	T	cis-1,3-Dichloropropene	0.517	0.486	6.0	91	0.00
32	T	4-Methyl-2-Pentanone (MIBK)	0.285	0.274	3.9	93	0.00
33	S	Toluene d-8 SS#2	1.251	1.266	-1.2	94	0.00
34	M	TOLUENE	0.794	0.760	4.3	93	0.00
35	T	trans-1,3-Dichloropropene	0.462	0.452	2.2	93	0.00
36	T	1,1,2-Trichloroethane	0.217	0.210	3.2	90	0.00
37	T	Tetrachloroethene	0.286	0.277	3.1	93	0.00
38	T	2-Hexanone (MBK)	0.189	0.185	2.1	95	0.00
39	I	Chlorobenzene d-5 ISTD	1.000	1.000	0.0	92	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041005\04100521.D Vial: 21
Acq On : 5 Oct 2004 7:00 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	T	Dibromochloromethane	0.305	0.305	0.0	92	0.00
41	T	1,2-Dibromoethane	0.306	0.295	3.6	90	0.00
42	M	Chlorobenzene	0.860	0.837	2.7	91	0.00
43	T	ETHYLBENZENE	1.602	1.589	0.8	91	-0.02
44	T	m&p-Xylene	0.530	0.518	2.3	89	0.00
45	T	o-Xylene	0.531	0.524	1.3	91	0.00
46	T	Styrene	0.958	0.968	-1.0	91	0.00
47	T	Bromoform	0.232	0.229	1.3	88	0.00
48	I	1,4-Dichlorobenzene d-4 IST	1.000	1.000	0.0	90	0.00
49	T	Isopropylbenzene	2.546	2.583	-1.5	92	0.00
50	s	4-Bromofluorobenzene SS#3	1.405	1.428	-1.6	90	0.00
51	T	1,1,2,2-Tetrachloroethane	0.797	0.794	0.4	92	0.00
52	T	1,3-Dichlorobenzene	1.153	1.132	1.8	88	0.00
53	T	1,4-Dichlorobenzene	1.284	1.188	7.5	91	0.00
54	T	1,2-Dichlorobenzene	1.094	1.066	2.6	89	0.00
55	T	1,2-Dibromo-3-chloropropane	0.101	0.100	1.0	93	0.00
56	T	1,2,4-Trichlorobenzene	0.613	0.543	11.4	83	0.00
57	T	Naphthalene	0.887	0.733	17.4	75	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100521.D Vial: 21
Acq On : 5 Oct 2004 7:00 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 23:20 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	200958	50.00	ug/L		0.00
23) 1,4-Difluorobenzene ISTD	4.69	114	280849	50.00	ug/L		0.00
39) Chlorobenzene d-5 ISTD	8.03	117	234841	50.00	ug/L		0.00
48) 1,4-Dichlorobenzene d-4 IS	11.19	152	100825	50.00	ug/L		0.00
System Monitoring Compounds							
20) Dibromofluoromethane SS#1	3.96	113	100626	49.46	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.92%				
33) Toluene d-8 SS#2	6.28	98	355549	50.59	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.18%				
50) 4-Bromofluorobenzene SS#3	9.58	95	143993	50.81	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.62%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.37	85	109931	48.22	ug/L		100
3) Chloromethane	1.45	50	94028m	47.40	ug/L		
4) VINYL CHLORIDE	1.55	62	85217	48.33	ug/L		99
5) Bromomethane	1.72	94	80816	45.76	ug/L		99
6) Chloroethane	1.77	64	44550	49.96	ug/L		98
7) Trichlorofluoromethane	1.94	101	63773	39.98	ug/L		100
8) Acetone	2.26	43	24071	47.24	ug/L		96
9) 1,1-DICHLOROETHENE	2.28	96	85534	47.02	ug/L		97
10) 1,1,2-Trichlorotrifluoroet	2.25	101	77644	50.92	ug/L		98
11) Carbon Disulfide	2.46	76	259634	47.73	ug/L		100
12) Methyl Acetate	2.47	74	9506	50.74	ug/L		100
13) Methylene chloride	2.58	84	91711	39.94	ug/L		99
14) trans-1,2-Dichloroethene	2.77	96	92079	47.15	ug/L		99
15) Methyl-t-Butyl Ether	2.76	73	167719	46.47	ug/L		100
16) 1,1-Dichloroethane	3.08	63	137125	47.31	ug/L		100
17) cis-1,2-Dichloroethene	3.56	96	96877	47.56	ug/L		99
18) 2-Butanone (MEK)	3.54	43	35666	44.21	ug/L		100
19) CHLOROFORM	3.82	83	172422	46.39	ug/L		99
21) 1,1,1-Trichloroethane	4.00	97	147404	47.71	ug/L	#	52
22) Cyclohexane	4.06	56	102866	49.04	ug/L	#	85
24) Carbon tetrachloride	4.16	117	107160	49.40	ug/L		99
25) Benzene	4.33	78	326872	46.36	ug/L		100
26) 1,2-Dichloroethane	4.35	62	117283	47.86	ug/L		99
27) Trichloroethene	4.96	95	96114	47.54	ug/L		98
28) 1,2-DICHLOROPROPANE	5.19	63	72511	47.11	ug/L		100
29) Methylcyclohexane	5.17	83	85821	47.99	ug/L		98
30) Bromodichloromethane	5.48	83	128746	49.28	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100521.D Vial: 21
Acq On : 5 Oct 2004 7:00 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 23:20 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31)	cis-1,3-Dichloropropene	5.98	75	136535	46.98 ug/L	98
32)	4-Methyl-2-Pentanone (MIBK	6.15	43	76871	47.96 ug/L	99
34)	TOLUENE	6.35	92	213365	47.85 ug/L	99
35)	trans-1,3-Dichloropropene	6.62	75	126995	48.90 ug/L	98
36)	1,1,2-Trichloroethane	6.83	83	58931	48.24 ug/L	100
37)	Tetrachloroethene	7.00	166	77718	48.46 ug/L	99
38)	2-Hexanone (MBK)	7.14	43	52096	49.08 ug/L	99
40)	Dibromochloromethane	7.31	129	71543	49.87 ug/L	99
41)	1,2-Dibromoethane	7.44	107	69269	48.27 ug/L	99
42)	Chlorobenzene	8.06	112	196612	48.68 ug/L	97
43)	ETHYLBENZENE	8.21	91	373260	49.60 ug/L	100
44)	m&p-Xylene	8.38	106	243492	97.86 ug/L	96
45)	o-Xylene	8.89	106	123010	49.29 ug/L	98
46)	Styrene	8.91	104	227360	50.52 ug/L	97
47)	Bromoform	9.14	173	53787	49.28 ug/L	98
49)	Isopropylbenzene	9.40	105	260456	50.73 ug/L	100
51)	1,1,2,2-Tetrachloroethane	9.81	83	80011	49.79 ug/L	100
52)	1,3-Dichlorobenzene	11.09	146	114121	49.10 ug/L	100
53)	1,4-Dichlorobenzene	11.22	146	119806	46.28 ug/L	99
54)	1,2-Dichlorobenzene	11.73	146	107447	48.72 ug/L	99
55)	1,2-Dibromo-3-chloropropan	12.85	75	10119	49.58 ug/L	92
56)	1,2,4-Trichlorobenzene	14.05	180	54781	44.31 ug/L	98
57)	Naphthalene	14.38	128	73921	41.32 ug/L	100

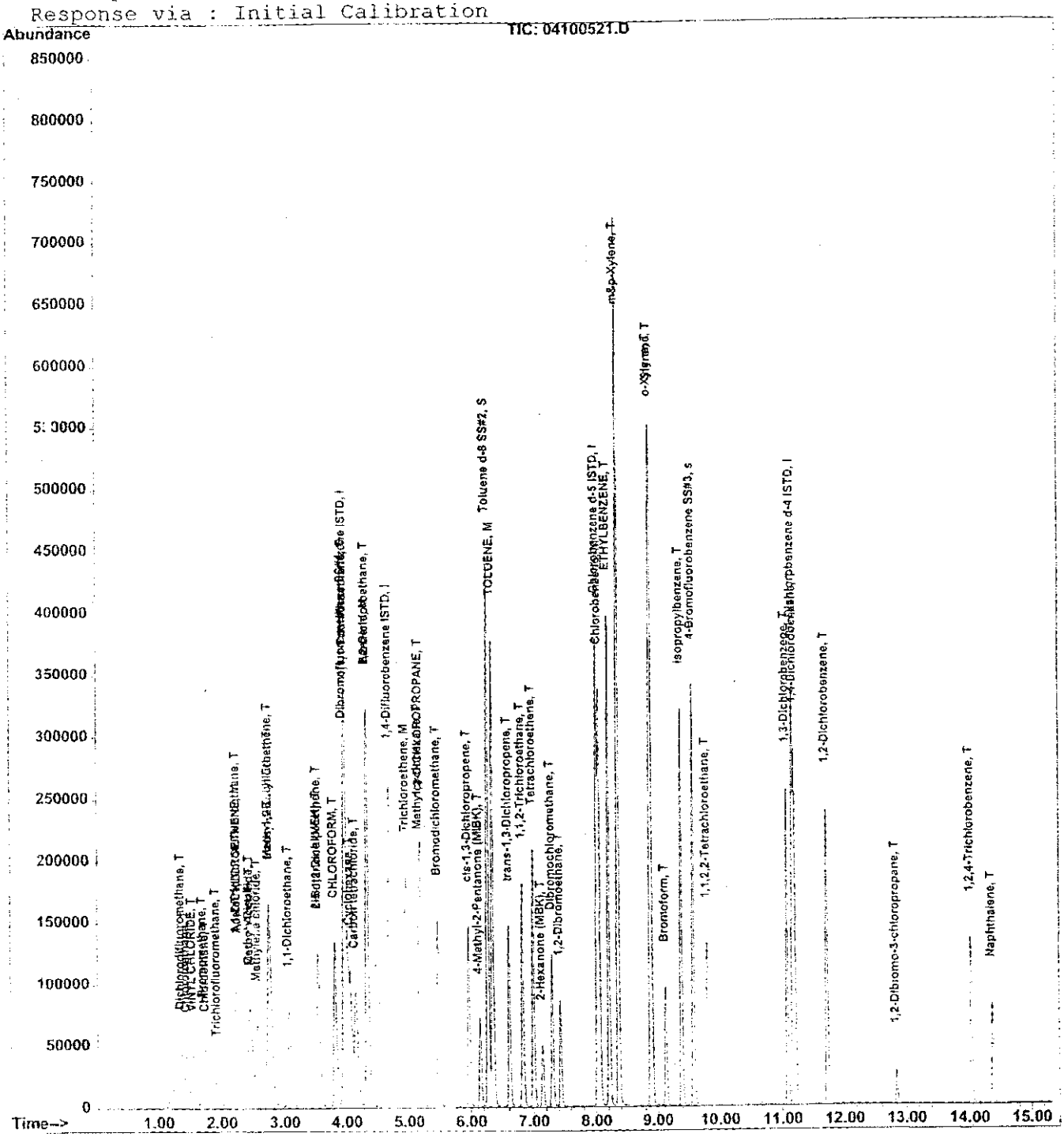
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041005\04100521.D
Acq On : 5 Oct 2004 7:00 pm
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #548
MS Integration Params: rteint.p
Quant Time: Oct 5 23:20 2004

Vial: 21
Operator: MT
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041005\04100522.D Vial: 22
Acq On : 5 Oct 2004 7:25 pm Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentaflourobenzene	1.000	1.000	0.0	96	0.00
2	t	acrolein	0.049	0.050	-2.0	97	0.04
3	t	iodomethane	0.630	0.591	6.2	91	-0.01
4	t	acrylonitrile	0.103	0.108	-4.9	100	0.00
5	t	tert-butanol	0.045	0.053	-17.8	109	0.00
6	t	vinyl acetate	1.787	1.667	6.7	95	0.00
7	t	diisopropyl ether	1.638	1.529	6.7	93	0.00
8	t	tert-Butyl ethyl ether	1.147	1.071	6.6	92	0.00
9	T	2,2-Dichloropropane	0.610	0.604	1.0	105	0.00
10	T	Bromochloromethane	0.202	0.188	6.9	90	0.00
11	S	Dibromofluoromethane SS#1	0.507	0.506	0.2	95	0.00
12	I	1,4-Difluorobenzene	1.000	1.000	0.0	93	0.00
13	T	1,1-Dichloropropene	0.428	0.399	6.8	91	0.00
14	t	tert-amyl methyl ether	0.753	0.705	6.4	93	0.00
15	T	Dibromomethane	0.212	0.195	8.0	90	0.00
16	t	1,4-dioxane	0.001	0.000	100.0#	50	0.03
17	T	2-Chloroethylvinyl Ether	0.079	0.071	10.1	85	-0.01
18	S	Toluene d-8 SS#2	1.254	1.271	-1.4	94	0.00
19	I	Chlorobenzene d-5	1.000	1.000	0.0	91	0.00
20	T	1,3-Dichloropropane	0.526	0.503	4.4	93	0.00
21	T	1,1,1,2-Tetrachloroethane	0.289	0.270	6.6	89	-0.01
22	T	1,2,3-Trichloropropane	0.100	0.096	4.0	94	0.00
23	s	4-Bromofluorobenzene SS#3	0.597	0.601	-0.7	91	0.00
24	T	Bromobenzene	0.369	0.336	8.9	88	0.00
25	t	trans-1,4-dichloro-2-butene	0.324	0.364	-12.3	131	-0.01
26	T	n-Propylbenzene	1.535	1.472	4.1	91	-0.01
27	I	1,4-Dichlorobenzene d-4	1.000	1.000	0.0	92	-0.01
28	T	2-Chlorotoluene	2.429	2.275	6.3	91	0.00
29	T	4-Chlorotoluene	2.768	2.664	3.8	92	-0.01
30	T	1,3,5-Trimethylbenzene	2.222	2.111	5.0	91	-0.01
31	T	tert-Butylbenzene	1.574	1.497	4.9	91	0.00
32	T	1,2,4-Trimethylbenzene	2.328	2.222	4.6	89	-0.01
33	T	sec-Butylbenzene	2.595	2.480	4.4	90	-0.01
34	T	4-Isopropyltoluene	1.853	1.794	3.2	92	0.00
35	T	n-Butylbenzene	2.078	2.019	2.8	90	-0.01
36	T	1,2,3-Trichlorobenzene	0.396	0.366	7.6	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100522.D Vial: 22
Acq On : 5 Oct 2004 7:25 pm Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:43 2004

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentaflourobenzene	3.99	168	200116	50.00	ug/L	0.00
12) 1,4-Difluorobenzene	4.69	114	282681	50.00	ug/L	0.00
19) Chlorobenzene d-5	8.02	117	233593	50.00	ug/L	0.00
27) 1,4-Dichlorobenzene d-4	11.18	152	103370	50.00	ug/L	-0.01
System Monitoring Compounds						
11) Dibromofluoromethane SS#1	3.96	113	101319	49.98	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.96%			
18) Toluene d-8 SS#2	6.28	98	359226	50.68	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.36%			
23) 4-Bromofluorobenzene SS#3	9.59	95	140436	50.36	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.72%			
Target Compounds						Qvalue
2) acrolein	2.15	56	10099m	51.42	ug/L	
3) iodomethane	2.37	142	118212	46.90	ug/L	99
4) acrylonitrile	2.72	53	21628	52.37	ug/L	98
5) tert-butanol	2.66	59	10629	58.69	ug/L	100
6) vinyl acetate	3.09	43	333633	46.64	ug/L	100
7) diisopropyl ether	3.12	45	305990	46.68	ug/L	99
8) tert-Butyl ethyl ether	3.42	59	214227	46.67	ug/L	100
9) 2,2-Dichloropropane	3.56	77	120881	61.99	ug/L	99
10) Bromochloromethane	3.76	128	37620	46.63	ug/L	99
13) 1,1-Dichloropropene	4.14	75	112907	46.68	ug/L	99
14) tert-amyl methyl ether	4.45	73	199161	46.78	ug/L	100
15) Dibromomethane	5.31	93	55251	46.10	ug/L	97
16) 1,4-dioxane	5.36	58	61	15.76	ug/L #	1
17) 2-Chloroethylvinyl Ether	5.80	63	20142	44.96	ug/L	98
20) 1,3-Dichloropropane	7.03	76	117553	47.87	ug/L	99
21) 1,1,1,2-Tetrachloroethane	8.17	131	63084	46.75	ug/L	99
22) 1,2,3-Trichloropropane	9.86	110	22326	47.57	ug/L	100
24) Bromobenzene	9.77	156	78593	45.63	ug/L	96
25) trans-1,4-dichloro-2-buten	9.85	75	85132	69.33	ug/L #	100
26) n-Propylbenzene	9.96	91	343811	47.93	ug/L	99
28) 2-Chlorotoluene	10.05	91	235141	46.82	ug/L	99
29) 4-Chlorotoluene	10.20	91	275400	48.13	ug/L	99
30) 1,3,5-Trimethylbenzene	10.21	105	218258	47.52	ug/L	99
31) tert-Butylbenzene	10.65	119	154735	47.55	ug/L	98
32) 1,2,4-Trimethylbenzene	10.72	105	229724	47.73	ug/L	99
33) sec-Butylbenzene	10.96	105	256355	47.78	ug/L	100
34) 4-Isopropyltoluene	11.18	119	185402	48.40	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100522.D Vial: 22
Acq On : 5 Oct 2004 7:25 pm Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:43 2004

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

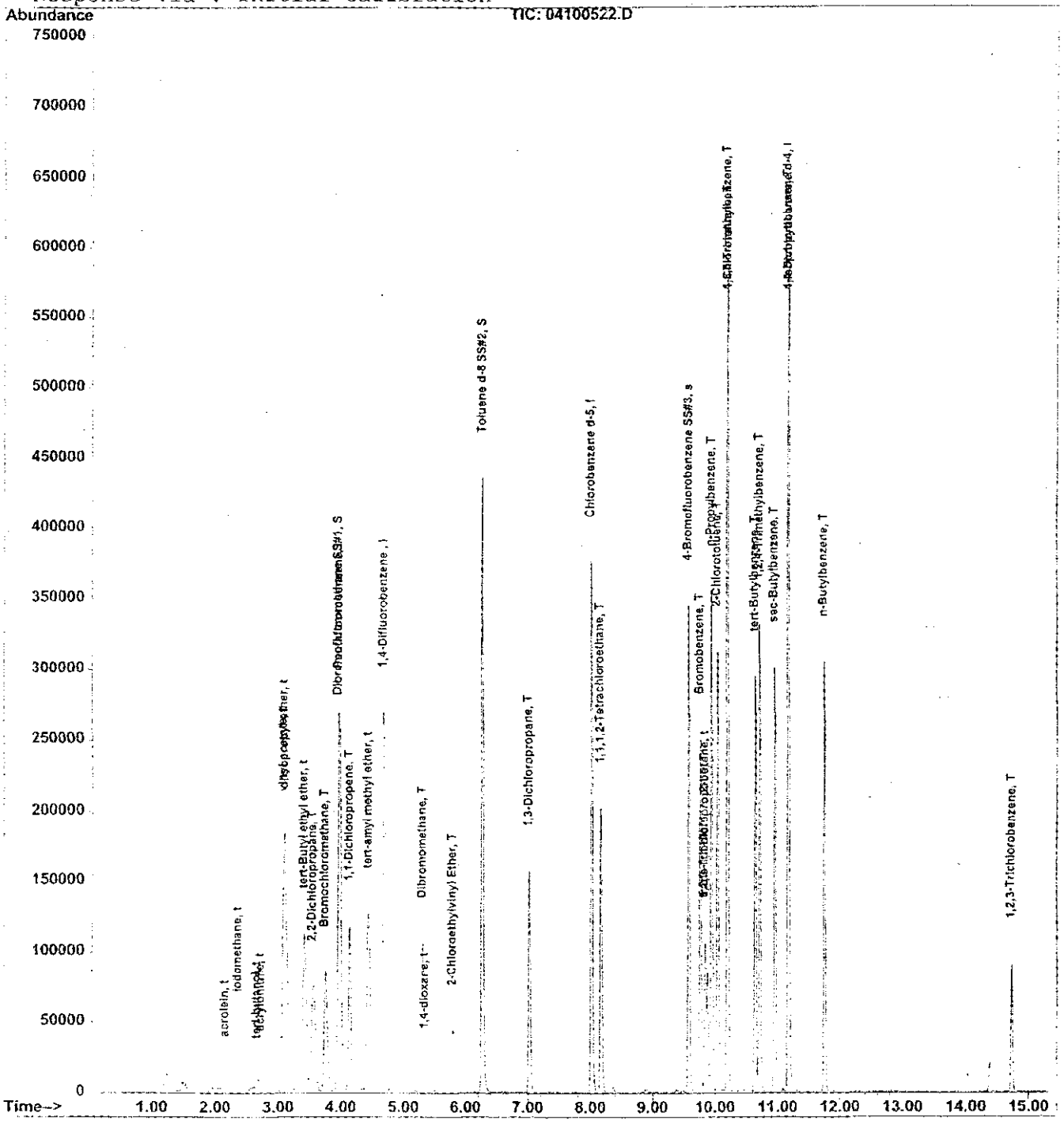
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) n-Butylbenzene	11.76	91	208722	48.57 ug/L	99
36) 1,2,3-Trichlorobenzene	14.74	180	37881	46.22 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041005\04100522.D Vial: 22
Acq On : 5 Oct 2004 7:25 pm Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:43 2004

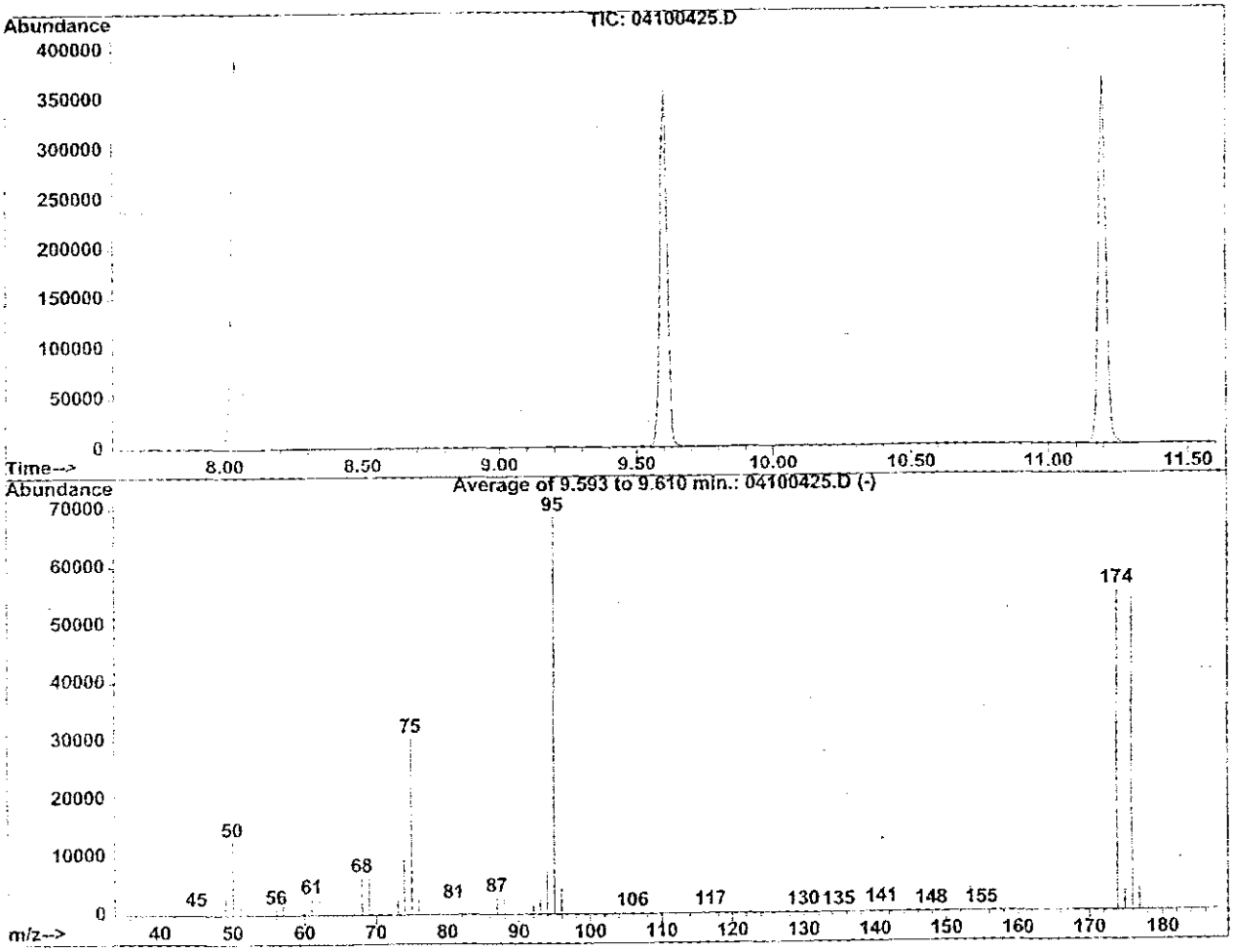
Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration



BFB

Data File : C:\HPCHEM\1\DATA\041004\04100425.D
Acq On : 4 Oct 2004 9:59 pm
Sample : METHOD BLANK 5mL
Misc : TS/S 1uL #475
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00



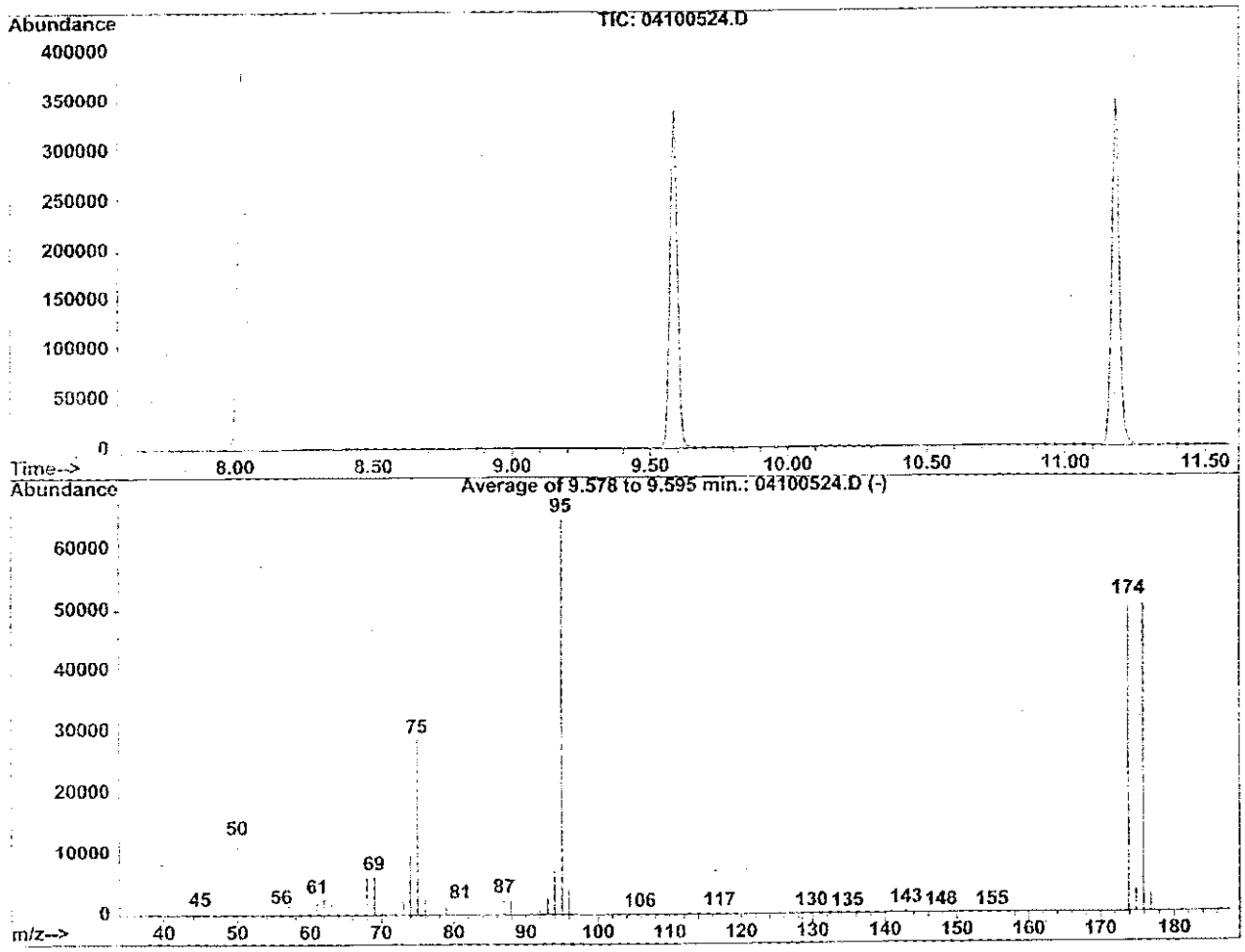
AutoFind: Scans 1162, 1163, 1164; Background Corrected with Scan 1155

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.6	12741	PASS
75	95	30	60	44.4	30376	PASS
95	95	100	100	100.0	68429	PASS
96	95	5	9	6.4	4349	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	80.7	55208	PASS
175	174	5	9	6.9	3824	PASS
176	174	95	101	97.6	53891	PASS
177	176	5	9	6.9	3718	PASS

BFB

Data File : C:\HPCHEM\1\DATA\041005\04100524.D
Acq On : 5 Oct 2004 8:15 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #493
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics

Vial: 24
Operator: MI
Inst : VOC#1
Multiplr: 1.00



AutoFind: Scans 1160, 1161, 1162; Background Corrected with Scan 1153

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.1	12397	PASS
75	95	30	60	44.2	28688	PASS
95	95	100	100	100.0	64971	PASS
96	95	5	9	6.4	4156	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	78.5	51013	PASS
175	174	5	9	7.1	3644	PASS
176	174	95	101	99.1	50544	PASS
177	176	5	9	6.4	3244	PASS

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Total Metals

- *Initial Calibration Verification Summary*
- *Continuing Calibration Verification Summary*
- *Duplicate Summary*
- *Matrix Spike Summary*
- *Post Digestion Spike (PDS)*
- *Dilution Test*
- *Method Blank Summary (PB)*
- *LCS Summary (LFB)*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\006ICV1.D\006ICV1.D#
Date Acquired: Sep 29 2004 03:06 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: ICV-50 PPB ; 2 PPB HG
Misc Info: 0.25 ML #444; 0.1 ML #A098-50 ML
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal. Update: Oct 01 2004 10:17 am
Sample Type: ICV1
Dilution Factor: 1.00

QC Elements

Element	Raw Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
52 Cr	47.40	ppb	0.29	50.00	95	89.5 - 111	
60 Ni	46.72	ppb	1.99	50.00	93	89.5 - 111	
63 Cu	46.74	ppb	1.56	50.00	93	89.5 - 111	
66 Zn	48.50	ppb	0.84	50.00	97	89.5 - 111	
75 As	47.58	ppb	0.56	50.00	95	89.5 - 111	
82 Se	49.13	ppb	0.84	50.00	98	89.5 - 111	
107 Ag	47.02	ppb	1.53	50.00	94	89.5 - 111	
111 Cd	48.49	ppb	0.69	50.00	97	89.5 - 111	
121 Sb	48.60	ppb	0.75	50.00	97	89.5 - 111	
202 Hg	1.90	ppb	3.30	2.00	95	89.5 - 111	
208 Pb	47.16	ppb	1.19	50.00	94	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11019667	3.93	11053959	99.7	30 - 140	
45 Sc	7115057	0.64	7135508	99.7	30 - 140	
72 Ge	1096300	0.86	1080707	101.4	30 - 140	
115 In	6146190	0.69	6203217	99.1	30 - 140	
159 Tb	7342503	0.46	7210263	101.8	30 - 140	
209 Bi	4931344	1.78	4930246	100.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
0.05 ML # 115; 1.25 ML # A100; HG 0.1 ML # A097
HNO3 #82; HCL #X13037; Au #174; IS # 168

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\008_ICB.D\008_ICB.D#
Date Acquired: Sep 29 2004 03:15 pm
Operator:
Sample Name: icb
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
52 Cr	0.37	ppb	3.49	2.50	
60 Ni	-0.11	ppb	95.22	2.50	
63 Cu	0.12	ppb	28.00	2.50	
66 Zn	3.27	ppb	3.20	25.00	
75 As	0.08	ppb	125.04	0.50	
82 Se	0.25	ppb	16.74	2.50	
107 Ag	0.12	ppb	1.26	2.50	
111 Cd	0.16	ppb	20.49	2.50	
121 Sb	0.17	ppb	2.23	2.50	
202 Hg	0.02	ppb	8.85	0.10	
208 Pb	0.10	ppb	4.76	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11435378	2.56	11053959	103.5	30 - 140	
45 Sc	7267131	1.00	7135508	101.8	30 - 140	
72 Ge	1115850	1.11	1080707	103.3	30 - 140	
115 In	6324378	1.34	6203217	102.0	30 - 140	
159 Tb	7372438	0.97	7210263	102.2	30 - 140	
209 Bi	5061691	1.13	4930246	102.7	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\022CCV1.D\022CCV1.D#
Date Acquired: Sep 29 2004 04:23 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
52 Cr	47.31	ppb	1.18	50.00	95	89.5 - 111	
60 Ni	47.21	ppb	2.27	50.00	94	89.5 - 111	
63 Cu	46.85	ppb	0.60	50.00	94	89.5 - 111	
66 Zn	48.44	ppb	1.05	50.00	97	89.5 - 111	
75 As	47.58	ppb	2.18	50.00	95	89.5 - 111	
82 Se	48.85	ppb	0.86	50.00	98	89.5 - 111	
107 Ag	46.43	ppb	2.77	50.00	93	89.5 - 111	
111 Cd	48.33	ppb	0.37	50.00	97	89.5 - 111	
121 Sb	47.84	ppb	1.19	50.00	96	89.5 - 111	
202 Hg	1.88	ppb	0.87	2.00	94	89.5 - 111	
208 Pb	46.98	ppb	1.21	50.00	94	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11684357	1.43	11053959	105.7	30 - 140	
45 Sc	7208785	0.62	7135508	101.0	30 - 140	
72 Ge	1117242	2.04	1080707	103.4	30 - 140	
115 In	6245341	0.40	6203217	100.7	30 - 140	
159 Tb	7212432	0.51	7210263	100.0	30 - 140	
209 Bi	4995989	0.44	4930246	101.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\024_CCB.D\024_CCB.D#
Date Acquired: Sep 29 2004 04:33 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
52 Cr	-0.08	ppb	31.65	2.50	
60 Ni	0.02	ppb	641.67	2.50	
63 Cu	0.14	ppb	25.43	2.50	
66 Zn	3.50	ppb	5.05	25.00	
75 As	0.15	ppb	162.36	0.50	
82 Se	0.20	ppb	3.07	2.50	
107 Ag	0.12	ppb	10.14	2.50	
111 Cd	0.25	ppb	5.08	2.50	
121 Sb	0.15	ppb	18.44	2.50	
202 Hg	0.02	ppb	11.03	0.10	
208 Pb	0.11	ppb	15.58	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11947954	2.06	11053959	108.1	30 - 140	
45 Sc	7157400	1.69	7135508	100.3	30 - 140	
72 Ge	1105238	1.12	1080707	102.3	30 - 140	
115 In	6408214	1.23	6203217	103.3	30 - 140	
159 Tb	7452809	0.83	7210263	103.4	30 - 140	
209 Bi	5076464	0.80	4930246	103.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

PB QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\035__PB.D\035__PB.D#
Date Acquired: Sep 29 2004 05:26 pm
Operator:
Sample Name: PB
Misc Info: BATCH 1861
Vial Number: 3311
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: PB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
52 Cr	0.03	ppb	127.61	2.50	
60 Ni	0.25	ppb	16.10	2.50	
63 Cu	0.28	ppb	38.59	2.50	
66 Zn	0.47	ppb	8.94	25.00	
75 As	0.15	ppb	155.43	0.50	
82 Se	0.12	ppb	29.17	2.50	
107 Ag	0.01	ppb	60.15	2.50	
111 Cd	0.15	ppb	7.45	2.50	
121 Sb	0.04	ppb	23.46	2.50	
202 Hg	0.01	ppb	30.58	0.10	
208 Pb	0.04	ppb	41.94	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	10820426	2.95	11053959	97.9	30 - 140	
45 Sc	6840178	2.56	7135508	95.9	30 - 140	
72 Ge	1140150	1.91	1080707	105.5	30 - 140	
115 In	6416751	2.17	6203217	103.4	30 - 140	
159 Tb	7526256	1.70	7210263	104.4	30 - 140	
209 Bi	5246293	0.50	4930246	106.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\037CCV1.D\037CCV1.D#
Date Acquired: Sep 29 2004 05:36 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
52 Cr	48.57	ppb	3.29	50.00	97	89.5 - 111	
60 Ni	46.32	ppb	2.40	50.00	93	89.5 - 111	
63 Cu	46.83	ppb	2.28	50.00	94	89.5 - 111	
66 Zn	51.38	ppb	0.51	50.00	103	89.5 - 111	
75 As	46.69	ppb	1.07	50.00	93	89.5 - 111	
82 Se	47.40	ppb	1.15	50.00	95	89.5 - 111	
107 Ag	45.67	ppb	1.54	50.00	91	89.5 - 111	
111 Cd	47.80	ppb	1.21	50.00	96	89.5 - 111	
121 Sb	47.39	ppb	1.11	50.00	95	89.5 - 111	
202 Hg	1.83	ppb	2.81	2.00	91	89.5 - 111	
208 Pb	46.81	ppb	0.61	50.00	94	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11297223	2.93	11053959	102.2	30 - 140	
45 Sc	7104475	0.17	7135508	99.6	30 - 140	
72 Ge	1174885	2.20	1080707	108.7	30 - 140	
115 In	6522711	1.44	6203217	105.2	30 - 140	
159 Tb	7667646	1.05	7210263	106.3	30 - 140	
209 Bi	5258609	1.38	4930246	106.7	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\038_CCB.D\038_CCB.D#
Date Acquired: Sep 29 2004 05:41 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
52 Cr	0.12	ppb	20.79	2.50	
60 Ni	0.02	ppb	568.95	2.50	
63 Cu	0.16	ppb	17.01	2.50	
66 Zn	3.56	ppb	2.45	25.00	
75 As	0.20	ppb	67.20	0.50	
82 Se	0.22	ppb	23.74	2.50	
107 Ag	0.13	ppb	9.06	2.50	
111 Cd	0.23	ppb	18.14	2.50	
121 Sb	0.14	ppb	7.63	2.50	
202 Hg	0.02	ppb	27.14	0.10	
208 Pb	0.11	ppb	13.82	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11698907	2.74	11053959	105.8	30 - 140	
45 Sc	7188447	2.11	7135508	100.7	30 - 140	
72 Ge	1163658	1.24	1080707	107.7	30 - 140	
115 In	6532168	2.05	6203217	105.3	30 - 140	
159 Tb	7674743	0.66	7210263	106.4	30 - 140	
209 Bi	5293527	0.97	4930246	107.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

LCS QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\039_LCS.D\039_LCS.D#
Date Acquired: Sep 29 2004 05:46 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: LCS
Misc Info: BATCH 1861
Vial Number: 3312
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal. Update: Oct 01 2004 10:17 am
Sample Type: LCS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Analyte Elements

Element	Raw Conc	Units	Rec(%)	Expected	QC Range(%)	Flag
52 Cr	46.20	ppb	92.4	50.00	75 - 125	
60 Ni	46.74	ppb	93.5	50.00	75 - 125	
63 Cu	45.91	ppb	91.8	50.00	75 - 125	
66 Zn	50.77	ppb	101.5	50.00	75 - 125	
75 As	47.13	ppb	94.3	50.00	75 - 125	
82 Se	49.65	ppb	99.3	50.00	75 - 125	
107 Ag	46.24	ppb	92.5	50.00	75 - 125	
111 Cd	48.75	ppb	97.5	50.00	75 - 125	
121 Sb	47.40	ppb	94.8	50.00	75 - 125	
202 Hg	1.92	ppb	96.0	2.00	75 - 125	
208 Pb	46.22	ppb	92.4	50.00	75 - 125	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11708089	0.98	11053959	105.9	30 - 140	
45 Sc	7473240	0.86	7135508	104.7	30 - 140	
72 Ge	1163843	1.38	1080707	107.7	30 - 140	
115 In	6467503	2.33	6203217	104.3	30 - 140	
159 Tb	7625045	0.92	7210263	105.8	30 - 140	
209 Bi	5306408	0.77	4930246	107.6	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:

W: 0.1 ML #A098; 0.1 ML # A100; 0.05 ML #115
S: 1.0 ML # A098; 1.0 ML #A100; 0.5 ML #115
HCL #X13037; AU #174; IS #168;HNO3 # 82; H2O2 #X44A01

All Reference Sample QC Report

Data File:	C:\ICPCHEM\1\DATA\040929B.B\040AREF.D\040AREF.D#
Date Acquired:	Sep 29 2004 05:51 pm
Acq. Method:	NOSALTS.M
Operator:	Lisa Miller
Sample Name:	04092503-01
Misc Info:	BATCH 1861
Vial Number:	3401
Current Method:	C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File:	C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal. Update:	Oct 01 2004 10:17 am
Sample Type:	AllRef
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
52 Cr	7.29	7.29	ppb	3.52	40000.00	
60 Ni	-5.65	-5.65	ppb	0.26	8000.00	
63 Cu	1.48	1.48	ppb	0.93	8000.00	
66 Zn	17.71	17.71	ppb	1.97	8000.00	
75 As	0.43	0.43	ppb	2.44	8000.00	
82 Se	0.48	0.48	ppb	2.58	8000.00	
107 Ag	-0.01	-0.01	ppb	154.24	8000.00	
111 Cd	0.46	0.46	ppb	16.21	8000.00	
121 Sb	0.18	0.18	ppb	8.43	8000.00	
202 Hg	0.06	0.06	ppb	1.40	8.00	
208 Pb	0.36	0.36	ppb	3.61	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11616714	2.90	11053959	105.1	30 - 140	
45 Sc	7316524	1.58	7135508	102.5	30 - 140	
72 Ge	1235332	0.93	1080707	114.3	30 - 140	
115 In	6863476	2.14	6203217	110.6	30 - 140	
159 Tb	8259613	1.01	7210263	114.6	30 - 140	
209 Bi	4969359	4.64	4930246	100.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:

H202 # X44A01; HNO3 # 82; HCL# X13037; Au #174; IS #168

Duplicate QC Report

Data File: z:\040929B.B\041DUP1.D\041DUP1.D#
Date Acquired: Sep 29 2004 05:55 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092503-01
Misc Info: BATCH 1861
Vial Number: 3402
Current Method: z:\040929B.B\NOSALTS.M
Calibration File: z:\040929B.B\NOSALTS.C
Last Cal. Update: Sep 30 2004 07:20 am
Sample Type: Dup1
Dilution Factor: 1.00

Duplicate Ref File: z:\040929B.B\040AREF.D\040AREF.D#

QC Elements

Element	Raw Conc	Units	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
52 Cr	6.80	ppb	2.41	7.29	6.90	20	
60 Ni	-5.71	ppb	0.24	-5.65	-1.04	20	<PQL
63 Cu	1.40	ppb	3.06	1.48	5.71	20	<PQL
66 Zn	17.33	ppb	3.14	17.71	2.17	20	<PQL
75 As	0.38	ppb	11.08	0.43	13.44	20	<PQL
82 Se	0.34	ppb	7.38	0.48	34.17	20	<PQL
107 Ag	-0.06	ppb	1.17	-0.01	-166.25	20	<PQL
111 Cd	0.43	ppb	7.19	0.46	5.74	20	<PQL
121 Sb	0.10	ppb	8.40	0.18	51.89	20	<PQL
202 Hg	0.06	ppb	8.09	0.06	7.65	20	<PQL
208 Pb	0.30	ppb	8.36	0.36	18.89	20	<PQL

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
45 Sc	7457162	2.04	7135508	104.5	30 - 140	
72 Ge	1223242	1.47	1080707	113.2	30 - 140	
115 In	6801480	1.01	6203217	109.6	30 - 140	
159 Tb	8177358	0.45	7210263	113.4	30 - 140	
209 Bi	5010963	4.27	4930246	101.6	30 - 140	

ISTD Ref. File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
H202 # X44A01; HNO3 # 82; IS # 168; AU # 174; HCL # X13037

LFM Sample QC Report

Data File: z:\040929B.B\042LFM1.D\042LFM1.D#
Date Acquired: Sep 29 2004 06:00 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092503-01
Misc Info: BATCH 1861
Vial Number: 3403
Current Method: z:\040929B.B\NOSALTS.M
Calibration File: z:\040929B.B\NOSALTS.C
Last Cal. Update: Sep 30 2004 07:20 am
Sample Type: LFM1
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: z:\040929B.B\040AREF.D\040AREF.D#

QC Elements

Element	Raw Conc	Units	Ref Conc	RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
52 Cr	56.03	ppb	7.29	5.20	50.00	97.5	75 - 125	
60 Ni	40.42	ppb	-5.65	4.22	50.00	92.1	75 - 125	
63 Cu	45.85	ppb	1.48	1.32	50.00	88.7	75 - 125	
66 Zn	108.80	ppb	17.71	2.64	50.00	182.2	75 - 125	Fail
75 As	52.99	ppb	0.43	3.14	50.00	105.1	75 - 125	
82 Se	62.84	ppb	0.48	2.32	50.00	124.7	75 - 125	
107 Ag	42.58	ppb	-0.01	2.67	50.00	85.2	75 - 125	
111 Cd	51.31	ppb	0.46	2.17	50.00	101.7	75 - 125	
121 Sb	49.35	ppb	0.18	3.26	50.00	98.3	75 - 125	
202 Hg	1.64	ppb	0.06	6.80	2.00	79.0	75 - 125	
208 Pb	51.62	ppb	0.36	7.63	50.00	102.5	75 - 125	

ISTD Elements

Element	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
45 Sc	7211020	3.96	7135508	101.1	30 - 140	
72 Ge	1196626	2.92	1080707	110.7	30 - 140	
115 In	6724016	2.15	6203217	108.4	30 - 140	
159 Tb	7871170	2.87	7210263	109.2	30 - 140	
209 Bi	4983267	7.30	4930246	101.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

PDS Sample QC Report

Data File: z:\040929B.B\043PDS1.D\043PDS1.D#
Date Acquired: Sep 29 2004 06:05 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092503-01
Misc Info: BATCH 1861
Vial Number: 3404
Current Method: z:\040929B.B\NOSALTS.M
Calibration File: z:\040929B.B\NOSALTS.C
Last Cal. Update: Sep 30 2004 07:20 am
Sample Type: PDS1
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: z:\040929B.B\040AREF.D\040AREF.D#

QC Elements

Element	Raw Conc	Units	Ref Conc	RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
52 Cr	54.75	ppb	7.29	2.43	50.00	94.9	75 - 126	
60 Ni	38.42	ppb	-5.65	3.19	50.00	88.1	75 - 126	
63 Cu	45.00	ppb	1.48	2.33	50.00	87.0	75 - 126	
66 Zn	77.27	ppb	17.71	1.85	50.00	119.1	75 - 126	
75 As	52.56	ppb	0.43	1.00	50.00	104.3	75 - 126	
82 Se	62.98	ppb	0.48	1.52	50.00	125.0	75 - 126	
107 Ag	43.49	ppb	-0.01	1.92	50.00	87.0	75 - 126	
111 Cd	51.53	ppb	0.46	0.81	50.00	102.1	75 - 126	
121 Sb	49.76	ppb	0.18	0.52	50.00	99.2	75 - 126	
202 Hg	1.43	ppb	0.06	2.56	2.00	68.8	75 - 126	Fail
208 Pb	51.12	ppb	0.36	4.03	50.00	101.5	75 - 126	

ISTD Elements

Element	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
45 Sc	6837300	1.77	7135508	95.8	30 - 140	
72 Ge	1132851	0.80	1080707	104.8	30 - 140	
115 In	6322178	1.03	6203217	101.9	30 - 140	
159 Tb	7790801	0.54	7210263	108.1	30 - 140	
209 Bi	4829160	2.92	4930246	97.9	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Dilution QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\044DIL1.D\044DIL1.D#
Date Acquired: Sep 29 2004 06:10 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092503-01
Misc Info: BATCH 1861
Vial Number: 3405
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal. Update: Oct 01 2004 10:17 am
Sample Type: Dil1
Dilution Factor: 5.00

Dilution Ref File: C:\ICPCHEM\1\DATA\040929B.B\040AREF.D\040AREF.D#

QC elements

Element	Raw Conc	Units	RSD(%)	*Ref conc*	Actual(%)	QC Range(%)	Flag
52 Cr	1.44	ppb	3.12	7.29	99.09	90 - 110	<100 PB
60 Ni	-0.97	ppb	28.76	-5.65	86.02	90 - 110	<100 PB
63 Cu	0.37	ppb	9.47	1.48	124.88	90 - 110	<100 PB
66 Zn	5.45	ppb	1.62	17.71	153.84	90 - 110	<100 PB
75 As	0.22	ppb	69.79	0.43	256.23	90 - 110	<100 PB
82 Se	0.37	ppb	9.83	0.48	384.65	90 - 110	<100 PB
107 Ag	0.19	ppb	4.65	-0.01	-17539.80	90 - 110	<100 PB
111 Cd	0.21	ppb	4.44	0.46	226.54	90 - 110	<100 PB
121 Sb	0.12	ppb	4.98	0.18	340.97	90 - 110	<100 PB
202 Hg	0.08	ppb	15.71	0.06	735.45	90 - 110	<100 PB
208 Pb	0.21	ppb	17.63	0.36	291.33	90 - 110	<100 PB

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\050CCV1.D\050CCV1.D#
Date Acquired: Sep 29 2004 06:39 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
52 Cr	47.76	ppb	2.54	50.00	96	89.5 - 111	
60 Ni	46.29	ppb	1.58	50.00	93	89.5 - 111	
63 Cu	46.43	ppb	1.45	50.00	93	89.5 - 111	
66 Zn	49.47	ppb	1.10	50.00	99	89.5 - 111	
75 As	47.21	ppb	1.92	50.00	94	89.5 - 111	
82 Se	48.45	ppb	1.85	50.00	97	89.5 - 111	
107 Ag	46.27	ppb	3.51	50.00	93	89.5 - 111	
111 Cd	48.26	ppb	1.38	50.00	97	89.5 - 111	
121 Sb	47.53	ppb	2.01	50.00	95	89.5 - 111	
202 Hg	1.88	ppb	1.71	2.00	94	89.5 - 111	
208 Pb	47.35	ppb	1.38	50.00	95	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11961947	1.17	11053959	108.2	30 - 140	
45 Sc	7210151	1.18	7135508	101.0	30 - 140	
72 Ge	1138631	1.67	1080707	105.4	30 - 140	
115 In	6322818	2.27	6203217	101.9	30 - 140	
159 Tb	7521458	1.49	7210263	104.3	30 - 140	
209 Bi	5034746	1.13	4930246	102.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\051_CCB.D\051_CCB.D#
Date Acquired: Sep 29 2004 06:44 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
52 Cr	0.37	ppb	19.34	2.50	
60 Ni	-0.09	ppb	118.36	2.50	
63 Cu	0.15	ppb	17.50	2.50	
66 Zn	3.48	ppb	2.23	25.00	
75 As	0.35	ppb	61.17	0.50	
82 Se	0.19	ppb	35.08	2.50	
107 Ag	0.18	ppb	8.93	2.50	
111 Cd	0.24	ppb	4.39	2.50	
121 Sb	0.17	ppb	17.43	2.50	
202 Hg	0.02	ppb	24.58	0.10	
208 Pb	0.12	ppb	11.51	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	12215976	3.90	11053959	110.5	30 - 140	
45 Sc	7311143	3.10	7135508	102.5	30 - 140	
72 Ge	1162897	1.39	1080707	107.6	30 - 140	
115 In	6478444	2.71	6203217	104.4	30 - 140	
159 Tb	7551455	0.86	7210263	104.7	30 - 140	
209 Bi	5199109	0.29	4930246	105.5	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\063CCV1.D\063CCV1.D#
Date Acquired: Sep 29 2004 07:42 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
52 Cr	48.53	ppb	1.42	50.00	97	89.5 - 111	
60 Ni	47.34	ppb	1.38	50.00	95	89.5 - 111	
63 Cu	47.41	ppb	1.48	50.00	95	89.5 - 111	
66 Zn	49.98	ppb	2.26	50.00	100	89.5 - 111	
75 As	46.54	ppb	0.62	50.00	93	89.5 - 111	
82 Se	48.39	ppb	3.70	50.00	97	89.5 - 111	
107 Ag	45.80	ppb	1.22	50.00	92	89.5 - 111	
111 Cd	48.27	ppb	1.16	50.00	97	89.5 - 111	
121 Sb	47.26	ppb	2.29	50.00	95	89.5 - 111	
202 Hg	1.82	ppb	1.10	2.00	91	89.5 - 111	
208 Pb	46.76	ppb	1.18	50.00	94	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	12868137	0.47	11053959	116.4	30 - 140	
45 Sc	7364864	0.98	7135508	103.2	30 - 140	
72 Ge	1170010	1.59	1080707	108.3	30 - 140	
115 In	6453689	1.95	6203217	104.0	30 - 140	
159 Tb	7585332	1.26	7210263	105.2	30 - 140	
209 Bi	5173518	1.61	4930246	104.9	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\064_CCB.D\064_CCB.D#
Date Acquired: Sep 29 2004 07:47 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
52 Cr	0.07	ppb	71.77	2.50	
60 Ni	-0.06	ppb	227.18	2.50	
63 Cu	0.21	ppb	17.85	2.50	
66 Zn	3.58	ppb	1.42	25.00	
75 As	0.19	ppb	90.26	0.50	
82 Se	0.19	ppb	11.40	2.50	
107 Ag	0.13	ppb	6.29	2.50	
111 Cd	0.23	ppb	13.29	2.50	
121 Sb	0.17	ppb	12.91	2.50	
202 Hg	0.01	ppb	32.61	0.10	
208 Pb	0.12	ppb	6.34	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	12845982	1.97	11053959	116.2	30 - 140	
45 Sc	7422783	1.85	7135508	104.0	30 - 140	
72 Ge	1185325	1.57	1080707	109.7	30 - 140	
115 In	6503639	2.73	6203217	104.8	30 - 140	
159 Tb	7662536	1.85	7210263	106.3	30 - 140	
209 Bi	5255039	1.94	4930246	106.6	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\066SMPL.D\066SMPL.D#
Date Acquired: Sep 29 2004 07:57 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092328-01
Misc Info: BATCH 1861
Vial Number: 3509
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal. Update: Oct 01 2004 10:17 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
52 Cr	7.42	7.42	ppb	2.75	40000.00	
60 Ni	90.00	90.00	ppb	1.28	8000.00	
63 Cu	63.58	63.58	ppb	1.52	8000.00	
66 Zn	277.90	277.90	ppb	3.50	8000.00	
75 As	0.45	0.45	ppb	46.20	8000.00	
82 Se	28.67	28.67	ppb	0.75	8000.00	
107 Ag	-0.02	-0.02	ppb	24.47	8000.00	
111 Cd	16.67	16.67	ppb	0.89	8000.00	
121 Sb	0.10	0.10	ppb	9.84	8000.00	
202 Hg	0.02	0.02	ppb	13.76	8.00	
208 Pb	2.53	2.53	ppb	1.09	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	12388603.00	2.82	###########	112.1	30 - 140	
45 Sc	7014950.50	3.02	7135508.00	98.3	30 - 140	
72 Ge	1147091.50	0.94	1080707.10	106.1	30 - 140	
115 In	6158848.50	0.71	6203217.00	99.3	30 - 140	
159 Tb	7938045.50	0.97	7210262.50	110.1	30 - 140	
209 Bi	4444386.00	0.94	4930246.00	90.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\067SMPL.D\067SMPL.D#
Date Acquired: Sep 29 2004 08:02 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092328-03
Misc Info: BATCH 1861
Vial Number: 3510
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal. Update: Oct 01 2004 10:17 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
52 Cr	15.27	15.27	ppb	1.65	40000.00	
60 Ni	67.61	67.61	ppb	1.27	8000.00	
63 Cu	15.88	15.88	ppb	1.51	8000.00	
66 Zn	206.20	206.20	ppb	1.32	8000.00	
75 As	-1.10	-1.10	ppb	15.55	8000.00	
82 Se	29.90	29.90	ppb	3.86	8000.00	
107 Ag	-0.04	-0.04	ppb	2.34	8000.00	
111 Cd	11.09	11.09	ppb	0.59	8000.00	
121 Sb	0.12	0.12	ppb	4.39	8000.00	
202 Hg	0.01	0.01	ppb	34.32	8.00	
208 Pb	4.69	4.69	ppb	0.37	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11774270.00	2.52	###########	106.5	30 - 140	
45 Sc	6937129.50	2.11	7135508.00	97.2	30 - 140	
72 Ge	1147138.10	1.92	1080707.10	106.1	30 - 140	
115 In	5963282.50	1.41	6203217.00	96.1	30 - 140	
159 Tb	7754651.50	1.19	7210262.50	107.6	30 - 140	
209 Bi	4276653.50	0.88	4930246.00	86.7	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\068SMPL.D\068SMPL.D#
Date Acquired: Sep 29 2004 08:07 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092328-05
Misc Info: BATCH 1861
Vial Number: 3511
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal. Update: Oct 01 2004 10:17 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
52 Cr	49.88	49.88	ppb	1.16	40000.00	
60 Ni	59.05	59.05	ppb	1.66	8000.00	
63 Cu	17.00	17.00	ppb	0.81	8000.00	
66 Zn	119.00	119.00	ppb	1.51	8000.00	
75 As	1.98	1.98	ppb	13.66	8000.00	
82 Se	7.96	7.96	ppb	2.44	8000.00	
107 Ag	-0.05	-0.05	ppb	7.68	8000.00	
111 Cd	5.32	5.32	ppb	2.04	8000.00	
121 Sb	0.05	0.05	ppb	6.70	8000.00	
202 Hg	0.01	0.01	ppb	17.10	8.00	
208 Pb	1.75	1.75	ppb	0.26	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11533148.00	4.78	###########	104.3	30 - 140	
45 Sc	6879080.00	1.00	7135508.00	96.4	30 - 140	
72 Ge	1101608.30	0.73	1080707.10	101.9	30 - 140	
115 In	5937993.00	1.79	6203217.00	95.7	30 - 140	
159 Tb	7151230.00	0.38	7210262.50	99.2	30 - 140	
209 Bi	4279131.50	0.87	4930246.00	86.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\069SMPL.D\069SMPL.D#
Date Acquired: Sep 29 2004 08:12 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092328-07
Misc Info: BATCH 1861
Vial Number: 3512
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal. Update: Oct 01 2004 10:17 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
52 Cr	11.07	11.07	ppb	3.60	40000.00	
60 Ni	147.80	147.80	ppb	2.08	8000.00	
63 Cu	109.00	109.00	ppb	0.81	8000.00	
66 Zn	502.10	502.10	ppb	3.83	8000.00	
75 As	-0.14	-0.14	ppb	184.70	8000.00	
82 Se	14.23	14.23	ppb	4.56	8000.00	
107 Ag	-0.01	-0.01	ppb	42.84	8000.00	
111 Cd	755.30	755.30	ppb	2.80	8000.00	
121 Sb	0.13	0.13	ppb	12.15	8000.00	
202 Hg	0.17	0.17	ppb	3.51	8.00	
208 Pb	5.94	5.94	ppb	1.22	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11934462.00	3.37	###########	108.0	30 - 140	
45 Sc	7214620.50	2.45	7135508.00	101.1	30 - 140	
72 Ge	1116468.50	1.56	1080707.10	103.3	30 - 140	
115 In	6013686.00	3.36	6203217.00	96.9	30 - 140	
159 Tb	7384239.00	1.02	7210262.50	102.4	30 - 140	
209 Bi	4259891.50	1.17	4930246.00	86.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\071CCV1.D\071CCV1.D#
Date Acquired: Sep 29 2004 08:21 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
52 Cr	47.47	ppb	2.54	50.00	95	89.5 - 111	
60 Ni	46.56	ppb	2.93	50.00	93	89.5 - 111	
63 Cu	47.20	ppb	2.77	50.00	94	89.5 - 111	
66 Zn	49.24	ppb	1.88	50.00	98	89.5 - 111	
75 As	46.57	ppb	1.47	50.00	93	89.5 - 111	
82 Se	48.53	ppb	1.79	50.00	97	89.5 - 111	
107 Ag	45.75	ppb	4.09	50.00	92	89.5 - 111	
111 Cd	48.01	ppb	0.94	50.00	96	89.5 - 111	
121 Sb	47.08	ppb	2.35	50.00	94	89.5 - 111	
202 Hg	1.84	ppb	0.32	2.00	92	89.5 - 111	
208 Pb	47.41	ppb	0.75	50.00	95	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	12851513	2.02	11053959	116.3	30 - 140	
45 Sc	7642748	3.83	7135508	107.1	30 - 140	
72 Ge	1204357	2.29	1080707	111.4	30 - 140	
115 In	6648781	1.30	6203217	107.2	30 - 140	
159 Tb	7636916	1.24	7210263	105.9	30 - 140	
209 Bi	5146319	0.17	4930246	104.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:

HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\072_CCB.D\072_CCB.D#
Date Acquired: Sep 29 2004 08:26 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
52 Cr	0.20	ppb	22.96	2.50	
60 Ni	0.15	ppb	88.69	2.50	
63 Cu	0.32	ppb	13.03	2.50	
66 Zn	3.84	ppb	1.43	25.00	
75 As	0.15	ppb	100.27	0.50	
82 Se	0.23	ppb	11.09	2.50	
107 Ag	0.14	ppb	9.43	2.50	
111 Cd	0.53	ppb	12.79	2.50	
121 Sb	0.17	ppb	14.48	2.50	
202 Hg	0.01	ppb	33.50	0.10	
208 Pb	0.13	ppb	3.88	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	13229406	1.19	11053959	119.7	30 - 140	
45 Sc	7506077	1.37	7135508	105.2	30 - 140	
72 Ge	1212580	0.51	1080707	112.2	30 - 140	
115 In	6759626	1.55	6203217	109.0	30 - 140	
159 Tb	7728313	1.01	7210263	107.2	30 - 140	
209 Bi	5329166	1.35	4930246	108.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\040930B.B\006ICV1.D\006ICV1.D#
Date Acquired: Sep 30 2004 05:42 pm
Acq. Method: BETLAG.M
Operator:
Sample Name: ICV-50 PPB ; 2 PPB HG
Misc Info: 0.25 ML #444; 0.1 ML #A098-50 ML
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.M
Calibration File: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.C
Last Cal. Update: Oct 01 2004 10:00 am
Sample Type: ICV1
Dilution Factor: 1.00

QC Elements

Element	Raw Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	46.74	ppb	1.22	50.00	93	89.5 - 111	
205 Tl	53.34	ppb	0.90	50.00	107	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6405776	1.47	6343109	101.0	30 - 140	
45 Sc	5058507	1.46	5171825	97.8	30 - 140	
115 In	4225990	0.70	4276962	98.8	30 - 140	
209 Bi	2386697	0.58	2492755	95.7	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040930B.B\002CALB.D\002CALB.D#

Traceability:

0.05 ML # 115; 1.25 ML # A100; HG 0.1 ML # A097
HNO3 #82; HCL #X13037; Au #174; IS # 168

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\040930B.B\007_ICB.D\007_ICB.D#
Date Acquired: Sep 30 2004 05:45 pm
Operator:
Sample Name: icb
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.M
Calibration File: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.C
Last Cal Update: Oct 01 2004 10:00 am
Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.05	ppb	30.36	2.50	
205 Tl	1.55	ppb	7.62	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6432598	1.72	6343109	101.4	30 - 140	
45 Sc	5075552	0.66	5171825	98.1	30 - 140	
115 In	4240901	1.33	4276962	99.2	30 - 140	
209 Bi	2469318	0.70	2492755	99.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040930B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040930B.B\014SMPL.D\014SMPL.D#
Date Acquired: Sep 30 2004 06:09 pm
Acq. Method: BETLAG.M
Operator: Lisa Miller
Sample Name: 04092328-01
Misc Info: BATCH 1861
Vial Number: 3509
Current Method: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.M
Calibration File: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.C
Last Cal. Update: Oct 01 2004 10:00 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	2.67	2.67	ppb	0.25	8000.00	
205 Tl	-0.33	-0.33	ppb	9.92	8000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6095902.00	2.32	6343109.00	96.1	30 - 140	
45 Sc	5078007.50	1.81	5171824.50	98.2	30 - 140	
115 In	3988412.80	1.09	4276962.00	93.3	30 - 140	
209 Bi	2120533.50	0.36	2492754.80	85.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040930B.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040930B.B\015SMPL.D\015SMPL.D#
Date Acquired: Sep 30 2004 06:13 pm
Acq. Method: BETLAG.M
Operator: Lisa Miller
Sample Name: 04092328-03
Misc Info: BATCH 1861
Vial Number: 3510
Current Method: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.M
Calibration File: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.C
Last Cal. Update: Oct 01 2004 10:00 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	5.37	5.37	ppb	2.59	8000.00	
205 Tl	-0.41	-0.41	ppb	6.10	8000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5971525.50	1.59	6343109.00	94.1	30 - 140	
45 Sc	5066318.50	2.08	5171824.50	98.0	30 - 140	
115 In	3893011.50	1.06	4276962.00	91.0	30 - 140	
209 Bi	2028959.40	0.23	2492754.80	81.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040930B.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040930B.B\016SMPL.D\016SMPL.D#
Date Acquired: Sep 30 2004 06:16 pm
Acq. Method: BETLAG.M
Operator: Lisa Miller
Sample Name: 04092328-05
Misc Info: BATCH 1861
Vial Number: 3511
Current Method: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.M
Calibration File: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.C
Last Cal. Update: Oct 01 2004 10:00 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	2.03	2.03	ppb	0.90	8000.00	
205 Tl	-0.55	-0.55	ppb	7.73	8000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5845056.00	1.58	6343109.00	92.1	30 - 140	
45 Sc	4968005.50	1.46	5171824.50	96.1	30 - 140	
115 In	3830190.30	0.75	4276962.00	89.6	30 - 140	
209 Bi	2030646.30	0.95	2492754.80	81.5	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040930B.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

Sample QC Report

Data File:	C:\ICPCHEM\1\DATA\040930B.B\017SMPL.D\017SMPL.D#
Date Acquired:	Sep 30 2004 06:20 pm
Acq. Method:	BETLAG.M
Operator:	Lisa Miller
Sample Name:	04092328-07
Misc Info:	BATCH 1861
Vial Number:	3512
Current Method:	C:\ICPCHEM\1\DATA\040930B.B\BETLAG.M
Calibration File:	C:\ICPCHEM\1\DATA\040930B.B\BETLAG.C
Last Cal. Update:	Oct 01 2004 10:00 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	1.71	1.71	ppb	1.40	8000.00	
205 Tl	-0.35	-0.35	ppb	11.23	8000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5872869.50	3.09	6343109.00	92.6	30 - 140	
45 Sc	4894896.00	0.48	5171824.50	94.6	30 - 140	
115 In	3822800.80	0.43	4276962.00	89.4	30 - 140	
209 Bi	1976303.80	0.65	2492754.80	79.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040930B.B\002CALB.D\002CALB.D#

Traceability:

IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040930B.B\019CCV1.D\019CCV1.D#
Date Acquired: Sep 30 2004 06:27 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1103
Current Method: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.M
Calibration File: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.C
Last Cal Update: Oct 01 2004 10:00 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	39.48	ppb	0.73	40.00	99	89.5 - 111	
205 Tl	36.62	ppb	0.99	40.00	92	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6349688	2.74	6343109	100.1	30 - 140	
45 Sc	5275460	1.68	5171825	102.0	30 - 140	
115 In	4243102	1.14	4276962	99.2	30 - 140	
209 Bi	2351790	0.50	2492755	94.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040930B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040930B.B\021_CCB.D\021_CCB.D#
Date Acquired: Sep 30 2004 06:34 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.M
Calibration File: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.C
Last Cal Update: Oct 01 2004 10:00 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.11	ppb	9.01	2.50	
205 Tl	1.42	ppb	6.97	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6707568	1.56	6343109	105.7	30 - 140	
45 Sc	5180561	1.23	5171825	100.2	30 - 140	
115 In	4267009	0.93	4276962	99.8	30 - 140	
209 Bi	2444022	0.26	2492755	98.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040930B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040930B.B\023CCV1.D\023CCV1.D#
Date Acquired: Sep 30 2004 06:40 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1103
Current Method: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.M
Calibration File: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.C
Last Cal Update: Oct 01 2004 10:00 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	39.94	ppb	0.65	40.00	100	89.5 - 111	
205 Tl	37.48	ppb	0.86	40.00	94	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6442213	3.45	6343109	101.6	30 - 140	
45 Sc	5063930	0.80	5171825	97.9	30 - 140	
115 In	4237198	0.73	4276962	99.1	30 - 140	
209 Bi	2387792	1.01	2492755	95.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040930B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040930B.B\024_CCB.D\024_CCB.D#
Date Acquired: Sep 30 2004 06:44 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.M
Calibration File: C:\ICPCHEM\1\DATA\040930B.B\BETLAG.C
Last Cal Update: Oct 01 2004 10:00 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.12	ppb	12.59	2.50	
205 Tl	1.20	ppb	5.83	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6591198	1.52	6343109	103.9	30 - 140	
45 Sc	5142120	1.88	5171825	99.4	30 - 140	
115 In	4284798	0.83	4276962	100.2	30 - 140	
209 Bi	2450482	0.41	2492755	98.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040930B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Dissolved Metals

- *Initial Calibration Verification Summary*
- *Continuing Calibration Verification Summary*
- *Duplicate Summary*
- *Matrix Spike Summary (LFM)*

5630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\007ICV1.D\007ICV1.D#
Date Acquired: Sep 24 2004 07:58 am
Acq. Method: NOSALTS.M
Operator:
Sample Name: ICV-50 PPB ; 2 PPB HG
Misc Info: 0.25 ML #444; 0.1 ML #A098-50 ML
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 09:10 am
Sample Type: ICV1
Dilution Factor: 1.00

QC Elements

Element	Raw Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	48.70	ppb	3.66	50.00	97	89.5 - 111	
52 Cr	47.55	ppb	0.79	50.00	95	89.5 - 111	
60 Ni	50.12	ppb	2.57	50.00	100	89.5 - 111	
63 Cu	47.54	ppb	2.27	50.00	95	89.5 - 111	
66 Zn	48.81	ppb	2.14	50.00	98	89.5 - 111	
75 As	49.43	ppb	0.66	50.00	99	89.5 - 111	
82 Se	49.90	ppb	0.83	50.00	100	89.5 - 111	
107 Ag	49.00	ppb	1.80	50.00	98	89.5 - 111	
111 Cd	49.55	ppb	1.34	50.00	99	89.5 - 111	
121 Sb	48.88	ppb	0.38	50.00	98	89.5 - 111	
202 Hg	1.95	ppb	1.34	2.00	98	89.5 - 111	
205 Tl	45.31	ppb	3.02	50.00	91	89.5 - 111	
208 Pb	48.31	ppb	0.44	50.00	97	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5477276	4.60	5160836	106.1	30 - 140	
45 Sc	5392751	1.75	5088704	106.0	30 - 140	
72 Ge	961152	0.69	905447	106.2	30 - 140	
115 In	4870917	0.34	4704637	103.5	30 - 140	
159 Tb	6129676	1.16	6330834	96.8	30 - 140	
209 Bi	3405106	0.51	3475168	98.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
0.05 ML # 115; 1.25 ML # A100; HG 0.1 ML # A097
HNO3 #82; HCL #X13037; Au #174; IS # 168

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\008_ICB.D\008_ICB.D#
Date Acquired: Sep 24 2004 08:03 am
Operator:
Sample Name: icb
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.00	ppb	417.53	2.50	
52 Cr	0.02	ppb	106.90	2.50	
60 Ni	0.15	ppb	100.71	2.50	
63 Cu	-0.19	ppb	25.39	2.50	
66 Zn	-0.18	ppb	15.15	25.00	
75 As	-0.08	ppb	140.69	0.50	
82 Se	0.07	ppb	47.82	2.50	
107 Ag	-0.32	ppb	12.10	2.50	
111 Cd	0.10	ppb	78.90	2.50	
121 Sb	0.04	ppb	57.69	2.50	
202 Hg	0.02	ppb	43.55	0.10	
205 Tl	0.94	ppb	6.04	2.50	
208 Pb	-0.03	ppb	7.94	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5574560	0.55	5160836	108.0	30 - 140	
45 Sc	5424524	2.13	5088704	106.6	30 - 140	
72 Ge	976467	1.68	905447	107.8	30 - 140	
115 In	5017052	1.49	4704637	106.6	30 - 140	
159 Tb	6214886	0.74	6330834	98.2	30 - 140	
209 Bi	3491284	0.33	3475168	100.5	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\009SMPL.D\009SMPL.D#
Date Acquired: Sep 24 2004 08:08 am
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 1.0 PPB CHECK
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 09:10 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.95	0.95	ppb	7.00	8000.00	
52 Cr	1.11	1.11	ppb	1.11	40000.00	
60 Ni	1.61	1.61	ppb	2.77	8000.00	
63 Cu	0.86	0.86	ppb	3.13	8000.00	
66 Zn	2.32	2.32	ppb	1.63	8000.00	
75 As	0.97	0.97	ppb	7.42	8000.00	
82 Se	1.05	1.05	ppb	5.18	8000.00	
107 Ag	0.64	0.64	ppb	5.38	8000.00	
111 Cd	1.10	1.10	ppb	3.22	8000.00	
121 Sb	1.02	1.02	ppb	2.33	8000.00	
202 Hg	0.00	0.00	ppb	84.56	8.00	
205 Tl	1.17	1.17	ppb	7.44	8000.00	
208 Pb	0.94	0.94	ppb	1.84	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5602703.50	0.79	5160836.00	108.6	30 - 140	
45 Sc	5402707.50	0.57	5088704.00	106.2	30 - 140	
72 Ge	980298.00	1.09	905446.56	108.3	30 - 140	
115 In	4973490.50	0.73	4704637.00	105.7	30 - 140	
159 Tb	6210047.00	0.99	6330833.50	98.1	30 - 140	
209 Bi	3501271.50	0.22	3475167.80	100.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\021CCV1.D\021CCV1.D#
Date Acquired: Sep 24 2004 09:06 am
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	49.59	ppb	1.90	50.00	99	89.5 - 111	
52 Cr	48.88	ppb	2.40	50.00	98	89.5 - 111	
60 Ni	50.66	ppb	1.45	50.00	101	89.5 - 111	
63 Cu	48.95	ppb	2.15	50.00	98	89.5 - 111	
66 Zn	50.62	ppb	2.83	50.00	101	89.5 - 111	
75 As	49.08	ppb	1.20	50.00	98	89.5 - 111	
82 Se	50.57	ppb	0.86	50.00	101	89.5 - 111	
107 Ag	47.90	ppb	0.95	50.00	96	89.5 - 111	
111 Cd	49.59	ppb	1.87	50.00	99	89.5 - 111	
121 Sb	47.85	ppb	0.45	50.00	96	89.5 - 111	
202 Hg	1.91	ppb	2.56	2.00	95	89.5 - 111	
205 Tl	45.80	ppb	1.04	50.00	92	89.5 - 111	
208 Pb	48.19	ppb	1.22	50.00	96	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5455679	1.92	5160836	105.7	30 - 140	
45 Sc	5527509	1.24	5088704	108.6	30 - 140	
72 Ge	1001581	0.65	905447	110.6	30 - 140	
115 In	4999289	0.92	4704637	106.3	30 - 140	
159 Tb	5859017	0.79	6330834	92.5	30 - 140	
209 Bi	3271515	1.59	3475168	94.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:

HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\023_CCB.D\023_CCB.D#
Date Acquired: Sep 24 2004 09:16 am
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.01	ppb	109.68	2.50	
52 Cr	0.08	ppb	35.71	2.50	
60 Ni	0.24	ppb	67.28	2.50	
63 Cu	-0.17	ppb	16.41	2.50	
66 Zn	-0.04	ppb	235.03	25.00	
75 As	-0.08	ppb	196.09	0.50	
82 Se	0.13	ppb	13.63	2.50	
107 Ag	-0.39	ppb	2.36	2.50	
111 Cd	0.13	ppb	31.29	2.50	
121 Sb	0.03	ppb	43.80	2.50	
202 Hg	0.02	ppb	31.57	0.10	
205 Tl	1.00	ppb	4.45	2.50	
208 Pb	-0.02	ppb	75.58	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5407411	1.23	5160836	104.8	30 - 140	
45 Sc	5336455	2.00	5088704	104.9	30 - 140	
72 Ge	1017824	2.46	905447	112.4	30 - 140	
115 In	5158716	0.88	4704637	109.7	30 - 140	
159 Tb	5965583	1.97	6330834	94.2	30 - 140	
209 Bi	3370057	0.87	3475168	97.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\035CCV1.D\035CCV1.D#
Date Acquired: Sep 24 2004 10:13 am
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	49.70	ppb	1.80	50.00	99	89.5 - 111	
52 Cr	50.93	ppb	2.76	50.00	102	89.5 - 111	
60 Ni	49.62	ppb	1.25	50.00	99	89.5 - 111	
63 Cu	48.08	ppb	0.69	50.00	96	89.5 - 111	
66 Zn	53.33	ppb	2.04	50.00	107	89.5 - 111	
75 As	48.29	ppb	1.45	50.00	97	89.5 - 111	
82 Se	51.42	ppb	1.44	50.00	103	89.5 - 111	
107 Ag	46.76	ppb	1.86	50.00	94	89.5 - 111	
111 Cd	49.93	ppb	0.44	50.00	100	89.5 - 111	
121 Sb	48.56	ppb	2.33	50.00	97	89.5 - 111	
202 Hg	1.87	ppb	1.82	2.00	94	89.5 - 111	
205 Tl	44.06	ppb	1.75	50.00	88	89.5 - 111	Fail
208 Pb	47.63	ppb	0.82	50.00	95	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5396481	1.41	5160836	104.6	30 - 140	
45 Sc	5562136	0.46	5088704	109.3	30 - 140	
72 Ge	1066681	0.96	905447	117.8	30 - 140	
115 In	5151707	1.74	4704637	109.5	30 - 140	
159 Tb	5965844	1.91	6330834	94.2	30 - 140	
209 Bi	3301793	1.13	3475168	95.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\036_CCB.D\036_CCB.D#
Date Acquired: Sep 24 2004 10:17 am
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.00	ppb	192.49	2.50	
52 Cr	0.04	ppb	61.12	2.50	
60 Ni	0.26	ppb	34.65	2.50	
63 Cu	-0.16	ppb	6.43	2.50	
66 Zn	-0.09	ppb	102.15	25.00	
75 As	-0.03	ppb	239.92	0.50	
82 Se	0.10	ppb	17.33	2.50	
107 Ag	-0.43	ppb	1.59	2.50	
111 Cd	0.11	ppb	25.30	2.50	
121 Sb	0.01	ppb	45.86	2.50	
202 Hg	0.01	ppb	37.93	0.10	
205 Tl	0.70	ppb	5.96	2.50	
208 Pb	-0.03	ppb	17.32	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5558378	1.13	5160836	107.7	30 - 140	
45 Sc	5578121	1.26	5088704	109.6	30 - 140	
72 Ge	1071886	1.76	905447	118.4	30 - 140	
115 In	5298511	0.78	4704637	112.6	30 - 140	
159 Tb	5960313	2.21	6330834	94.1	30 - 140	
209 Bi	3385469	1.36	3475168	97.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\048CCV1.D\048CCV1.D#
Date Acquired: Sep 24 2004 11:16 am
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	50.20	ppb	1.85	50.00	100	89.5 - 111	
52 Cr	49.57	ppb	2.36	50.00	99	89.5 - 111	
60 Ni	49.03	ppb	0.50	50.00	98	89.5 - 111	
63 Cu	46.88	ppb	1.20	50.00	94	89.5 - 111	
66 Zn	51.68	ppb	0.97	50.00	103	89.5 - 111	
75 As	48.33	ppb	0.87	50.00	97	89.5 - 111	
82 Se	51.13	ppb	1.42	50.00	102	89.5 - 111	
107 Ag	46.40	ppb	2.50	50.00	93	89.5 - 111	
111 Cd	49.63	ppb	0.86	50.00	99	89.5 - 111	
121 Sb	47.54	ppb	0.57	50.00	95	89.5 - 111	
202 Hg	1.88	ppb	1.74	2.00	94	89.5 - 111	
205 Tl	45.21	ppb	2.84	50.00	90	89.5 - 111	
208 Pb	47.67	ppb	1.12	50.00	95	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5524836	2.63	5160836	107.1	30 - 140	
45 Sc	5561919	1.07	5088704	109.3	30 - 140	
72 Ge	1060174	0.96	905447	117.1	30 - 140	
115 In	5116661	1.16	4704637	108.8	30 - 140	
159 Tb	5737385	0.37	6330834	90.6	30 - 140	
209 Bi	3276117	0.75	3475168	94.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\049_CCB.D\049_CCB.D#
Date Acquired: Sep 24 2004 11:21 am
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.01	ppb	313.23	2.50	
52 Cr	0.00	ppb	564.30	2.50	
60 Ni	0.19	ppb	33.35	2.50	
63 Cu	-0.09	ppb	7.60	2.50	
66 Zn	-0.03	ppb	188.69	25.00	
75 As	-0.03	ppb	219.86	0.50	
82 Se	0.16	ppb	17.43	2.50	
107 Ag	-0.42	ppb	2.75	2.50	
111 Cd	0.13	ppb	29.95	2.50	
121 Sb	0.03	ppb	19.50	2.50	
202 Hg	0.01	ppb	83.26	0.10	
205 Tl	0.46	ppb	3.98	2.50	
208 Pb	-0.03	ppb	50.15	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5626698	1.98	5160836	109.0	30 - 140	
45 Sc	5507546	1.05	5088704	108.2	30 - 140	
72 Ge	1064422	0.54	905447	117.6	30 - 140	
115 In	5296180	0.54	4704637	112.6	30 - 140	
159 Tb	5920484	1.48	6330834	93.5	30 - 140	
209 Bi	3347888	0.72	3475168	96.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\061CCV1.D\061CCV1.D#
Date Acquired: Sep 24 2004 12:19 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	50.47	ppb	3.29	50.00	101	89.5 - 111	
52 Cr	51.14	ppb	2.48	50.00	102	89.5 - 111	
60 Ni	49.17	ppb	1.83	50.00	98	89.5 - 111	
63 Cu	48.07	ppb	1.17	50.00	96	89.5 - 111	
66 Zn	53.27	ppb	0.47	50.00	107	89.5 - 111	
75 As	48.35	ppb	1.67	50.00	97	89.5 - 111	
82 Se	50.03	ppb	0.29	50.00	100	89.5 - 111	
107 Ag	46.83	ppb	1.52	50.00	94	89.5 - 111	
111 Cd	48.85	ppb	0.49	50.00	98	89.5 - 111	
121 Sb	47.36	ppb	0.81	50.00	95	89.5 - 111	
202 Hg	1.89	ppb	0.83	2.00	94	89.5 - 111	
205 Tl	44.39	ppb	2.23	50.00	89	89.5 - 111	Fail
208 Pb	47.79	ppb	0.58	50.00	96	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5560108	2.26	5160836	107.7	30 - 140	
45 Sc	5472040	1.25	5088704	107.5	30 - 140	
72 Ge	1062161	0.59	905447	117.3	30 - 140	
115 In	5223838	0.48	4704637	111.0	30 - 140	
159 Tb	5881745	2.39	6330834	92.9	30 - 140	
209 Bi	3300672	0.86	3475168	95.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\062_CCB.D\062_CCB.D#
Date Acquired: Sep 24 2004 12:24 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.00	ppb	144.95	2.50	
52 Cr	0.03	ppb	42.99	2.50	
60 Ni	0.10	ppb	53.45	2.50	
63 Cu	-0.15	ppb	10.28	2.50	
66 Zn	-0.03	ppb	172.62	25.00	
75 As	-0.03	ppb	92.33	0.50	
82 Se	0.11	ppb	16.17	2.50	
107 Ag	-0.43	ppb	0.77	2.50	
111 Cd	0.19	ppb	14.72	2.50	
121 Sb	0.00	ppb	221.27	2.50	
202 Hg	0.01	ppb	16.22	0.10	
205 Tl	0.60	ppb	6.38	2.50	
208 Pb	-0.02	ppb	23.64	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5728168	1.23	5160836	111.0	30 - 140	
45 Sc	5528999	1.65	5088704	108.7	30 - 140	
72 Ge	1080350	0.97	905447	119.3	30 - 140	
115 In	5362315	1.32	4704637	114.0	30 - 140	
159 Tb	5972602	1.56	6330834	94.3	30 - 140	
209 Bi	3376328	0.88	3475168	97.2	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\074CCV1.D\074CCV1.D#
Date Acquired: Sep 24 2004 01:23 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	50.11	ppb	1.74	50.00	100	89.5 - 111	
52 Cr	50.08	ppb	3.39	50.00	100	89.5 - 111	
60 Ni	49.46	ppb	2.70	50.00	99	89.5 - 111	
63 Cu	47.36	ppb	2.06	50.00	95	89.5 - 111	
66 Zn	52.51	ppb	0.58	50.00	105	89.5 - 111	
75 As	47.61	ppb	1.21	50.00	95	89.5 - 111	
82 Se	50.41	ppb	0.76	50.00	101	89.5 - 111	
107 Ag	46.17	ppb	1.44	50.00	92	89.5 - 111	
111 Cd	49.60	ppb	1.71	50.00	99	89.5 - 111	
121 Sb	47.31	ppb	0.90	50.00	95	89.5 - 111	
202 Hg	1.88	ppb	1.31	2.00	94	89.5 - 111	
205 Tl	44.45	ppb	1.74	50.00	89	89.5 - 111	Fail
208 Pb	47.79	ppb	1.32	50.00	96	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5784623	1.35	5160836	112.1	30 - 140	
45 Sc	5556189	1.92	5088704	109.2	30 - 140	
72 Ge	1079253	0.27	905447	119.2	30 - 140	
115 In	5228869	1.35	4704637	111.1	30 - 140	
159 Tb	5826183	0.94	6330834	92.0	30 - 140	
209 Bi	3249972	1.50	3475168	93.5	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\075_CCB.D\075_CCB.D#
Date Acquired: Sep 24 2004 01:28 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 09:10 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.00	ppb	381.78	2.50	
52 Cr	0.06	ppb	42.66	2.50	
60 Ni	0.37	ppb	10.15	2.50	
63 Cu	-0.11	ppb	28.28	2.50	
66 Zn	0.04	ppb	170.55	25.00	
75 As	-0.03	ppb	295.69	0.50	
82 Se	0.18	ppb	27.71	2.50	
107 Ag	-0.43	ppb	1.71	2.50	
111 Cd	0.15	ppb	5.77	2.50	
121 Sb	0.11	ppb	12.06	2.50	
202 Hg	0.01	ppb	40.35	0.10	
205 Tl	0.66	ppb	6.40	2.50	
208 Pb	-0.02	ppb	51.23	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5811061	1.40	5160836	112.6	30 - 140	
45 Sc	5556679	2.08	5088704	109.2	30 - 140	
72 Ge	1078002	0.43	905447	119.1	30 - 140	
115 In	5309089	0.75	4704637	112.8	30 - 140	
159 Tb	5826972	2.36	6330834	92.0	30 - 140	
209 Bi	3365777	1.68	3475168	96.9	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

All Reference Sample QC Report

Data File:	C:\ICPCHEM\1\DATA\040924A.B\080AREF.D\080AREF.D#
Date Acquired:	Sep 24 2004 01:52 pm
Acq. Method:	NOSALTS.M
Operator:	Lisa Miller
Sample Name:	04092201-02
Misc Info:	BATCH 1859
Vial Number:	2101
Current Method:	C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File:	C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update:	Sep 24 2004 09:10 am
Sample Type:	AllRef
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.06	-0.06	ppb	4.55	8000.00	
52 Cr	2.37	2.37	ppb	3.74	40000.00	
60 Ni	2.35	2.35	ppb	4.40	8000.00	
63 Cu	29.00	29.00	ppb	2.54	8000.00	
66 Zn	95.74	95.74	ppb	2.44	8000.00	
75 As	0.94	0.94	ppb	5.09	8000.00	
82 Se	0.76	0.76	ppb	2.23	8000.00	
107 Ag	-0.60	-0.60	ppb	0.59	8000.00	
111 Cd	1.36	1.36	ppb	6.53	8000.00	
121 Sb	2.61	2.61	ppb	2.18	8000.00	
202 Hg	0.05	0.05	ppb	13.47	8.00	
205 Tl	-0.05	-0.05	ppb	7.39	8000.00	
208 Pb	4.53	4.53	ppb	3.22	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5791498	1.66	5160836	112.2	30 - 140	
45 Sc	5572786	2.93	5088704	109.5	30 - 140	
72 Ge	1109962	1.21	905447	122.6	30 - 140	
115 In	5418242	1.75	4704637	115.2	30 - 140	
159 Tb	6208847	1.07	6330834	98.1	30 - 140	
209 Bi	3315531	2.20	3475168	95.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:

H202 # X44A01; HNO3 # 82; HCL# X13037; Au #174; IS #168

Duplicate QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\081DUP1.D\081DUP1.D#
Date Acquired: Sep 24 2004 01:57 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092201-02
Misc Info: BATCH 1859
Vial Number: 2102
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 09:10 am
Sample Type: Dup1
Dilution Factor: 1.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\040924A.B\080AREF.D\080AREF.D#

QC Elements

Element	Raw Conc	Units	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	-0.07	ppb	4.69	-0.06	-20.63	20	<PQL
52 Cr	2.66	ppb	1.41	2.37	11.41	20	<PQL
60 Ni	2.42	ppb	6.55	2.35	2.64	20	<PQL
63 Cu	29.43	ppb	2.07	29.00	1.47	20	
66 Zn	99.26	ppb	2.11	95.74	3.61	20	
75 As	0.95	ppb	0.87	0.94	1.37	20	<PQL
82 Se	0.80	ppb	0.31	0.76	4.92	20	<PQL
107 Ag	-0.61	ppb	0.43	-0.60	-1.33	20	<PQL
111 Cd	1.52	ppb	8.05	1.36	11.00	20	<PQL
121 Sb	2.63	ppb	2.50	2.61	0.76	20	<PQL
202 Hg	0.07	ppb	10.51	0.05	39.96	20	<PQL
205 Tl	-0.10	ppb	6.26	-0.05	-69.56	20	<PQL
208 Pb	4.71	ppb	4.14	4.53	3.83	20	<PQL

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5573910	3.66	5160836	108.0	30 - 140	
45 Sc	5414404	1.08	5088704	106.4	30 - 140	
72 Ge	1095176	1.42	905447	121.0	30 - 140	
115 In	5336854	1.54	4704637	113.4	30 - 140	
159 Tb	5921626	2.76	6330834	93.5	30 - 140	
209 Bi	3143256	3.23	3475168	90.4	30 - 140	

ISTD Ref. File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
H202 # X44A01; HNO3 # 82; IS # 168; AU # 174; HCL # X13037

LFM Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\082LFM1.D\082LFM1.D#
Date Acquired: Sep 24 2004 02:01 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092201-02
Misc Info: BATCH 1859
Vial Number: 2103
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 09:10 am
Sample Type: LFM1
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: C:\ICPCHEM\1\DATA\040924A.B\080AREF.D\080AREF.D#

QC Elements

Element	Raw Conc	Units	Ref Conc	RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	68.48	ppb	-0.06	1.72	70.00	97.9	75 - 125	
52 Cr	66.51	ppb	2.37	2.77	70.00	91.6	75 - 125	
60 Ni	62.64	ppb	2.35	2.31	70.00	86.1	75 - 125	
63 Cu	91.77	ppb	29.00	0.21	70.00	89.7	75 - 125	
66 Zn	165.20	ppb	95.74	1.79	70.00	99.2	75 - 125	
75 As	69.54	ppb	0.94	2.26	70.00	98.0	75 - 125	
82 Se	80.39	ppb	0.76	0.28	70.00	113.8	75 - 125	
107 Ag	50.17	ppb	-0.60	1.58	70.00	72.5	75 - 125	Fail
111 Cd	64.32	ppb	1.36	1.14	70.00	89.9	75 - 125	
121 Sb	61.24	ppb	2.61	0.77	70.00	83.8	75 - 125	
202 Hg	3.06	ppb	0.05	2.32	4.00	75.2	75 - 125	
205 Tl	65.87	ppb	-0.05	0.47	70.00	94.2	75 - 125	
208 Pb	63.93	ppb	4.53	1.13	70.00	84.9	75 - 125	

ISTD Elements

Element	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	5493226	1.04	5160836	106.4	30 - 140	
45 Sc	5499512	0.77	5088704	108.1	30 - 140	
72 Ge	1096248	1.65	905447	121.1	30 - 140	
115 In	5315318	0.69	4704637	113.0	30 - 140	
159 Tb	5861720	1.08	6330834	92.6	30 - 140	
209 Bi	3288141	0.76	3475168	94.6	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
W 0.1 ML #A098; 0.1 ML #A100; 0.05 ML #115; HNO3 # 82
S 1.0 ML #A098; 1.0ML #A100; 0.5 ML # 115; H2O2 # X44A01
HCL # X13037; Au IN RINSE #174

LFM Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\083LFM1.D\083LFM1.D#
Date Acquired: Sep 24 2004 02:06 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092201-02
Misc Info: BATCH 1859
Vial Number: 2104
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 09:10 am
Sample Type: LFM1
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: C:\ICPCHEM\1\DATA\040924A.B\080AREF.D\080AREF.D#

QC Elements

Element	Raw Conc	Units	Ref Conc	RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	51.80	ppb	-0.06	1.58	50.00	103.7	75 - 125	
52 Cr	49.71	ppb	2.37	0.75	50.00	94.7	75 - 125	
60 Ni	46.75	ppb	2.35	1.08	50.00	88.8	75 - 125	
63 Cu	75.16	ppb	29.00	2.90	50.00	92.3	75 - 125	
66 Zn	146.50	ppb	95.74	1.44	50.00	101.5	75 - 125	
75 As	52.25	ppb	0.94	0.49	50.00	102.6	75 - 125	
82 Se	61.01	ppb	0.76	2.26	50.00	120.5	75 - 125	
107 Ag	37.69	ppb	-0.60	1.17	50.00	76.6	75 - 125	
111 Cd	48.92	ppb	1.36	1.81	50.00	95.1	75 - 125	
121 Sb	46.78	ppb	2.61	0.40	50.00	88.3	75 - 125	
202 Hg	1.87	ppb	0.05	3.29	2.00	90.8	75 - 125	
205 Tl	48.72	ppb	-0.05	2.32	50.00	97.5	75 - 125	
208 Pb	49.96	ppb	4.53	2.04	50.00	90.9	75 - 125	

ISTD Elements

Element	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	5570704	2.27	5160836	107.9	30 - 140	
45 Sc	5594900	1.50	5088704	109.9	30 - 140	
72 Ge	1102542	0.58	905447	121.8	30 - 140	
115 In	5349004	1.74	4704637	113.7	30 - 140	
159 Tb	5950973	0.52	6330834	94.0	30 - 140	
209 Bi	3222198	1.46	3475168	92.7	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
W 0.1 ML #A098; 0.1 ML #A100; 0.05 ML #115; HNO3 # 82
S 1.0 ML #A098; 1.0ML #A100; 0.5 ML # 115; H2O2 # X44A01
HCL # X13037; Au IN RINSE #174

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\088CCV1.D\088CCV1.D#
Date Acquired: Sep 24 2004 02:30 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 07:53 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	51.26	ppb	0.57	50.00	103	89.5 - 111	
52 Cr	50.32	ppb	1.60	50.00	101	89.5 - 111	
60 Ni	49.19	ppb	0.54	50.00	98	89.5 - 111	
63 Cu	47.50	ppb	2.44	50.00	95	89.5 - 111	
66 Zn	52.27	ppb	0.84	50.00	105	89.5 - 111	
75 As	47.87	ppb	0.63	50.00	96	89.5 - 111	
82 Se	50.89	ppb	0.51	50.00	102	89.5 - 111	
107 Ag	46.46	ppb	0.60	50.00	93	89.5 - 111	
111 Cd	49.23	ppb	0.15	50.00	98	89.5 - 111	
121 Sb	47.26	ppb	0.92	50.00	95	89.5 - 111	
202 Hg	1.90	ppb	1.97	2.00	95	89.5 - 111	
205 Tl	54.55	ppb	3.20	50.00	109	89.5 - 111	
208 Pb	47.00	ppb	0.59	50.00	94	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5797524	1.16	5160836	112.3	30 - 140	
45 Sc	5652303	0.49	5088704	111.1	30 - 140	
72 Ge	1081901	0.49	905447	119.5	30 - 140	
115 In	5256748	0.30	4704637	111.7	30 - 140	
159 Tb	5786663	0.46	6330834	91.4	30 - 140	
209 Bi	3272809	0.92	3475168	94.2	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\089_CCB.D\089_CCB.D#
Date Acquired: Sep 24 2004 02:35 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 07:53 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.06	ppb	33.83	2.50	
52 Cr	0.17	ppb	5.38	2.50	
60 Ni	0.17	ppb	69.59	2.50	
63 Cu	-0.01	ppb	123.31	2.50	
66 Zn	0.02	ppb	59.56	25.00	
75 As	-0.01	ppb	273.89	0.50	
82 Se	0.19	ppb	38.07	2.50	
107 Ag	-0.18	ppb	16.24	2.50	
111 Cd	0.19	ppb	19.22	2.50	
121 Sb	0.25	ppb	6.81	2.50	
202 Hg	0.03	ppb	16.18	0.10	
205 Tl	0.84	ppb	6.27	2.50	
208 Pb	0.02	ppb	73.23	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5949290	2.55	5160836	115.3	30 - 140	
45 Sc	5686283	1.98	5088704	111.7	30 - 140	
72 Ge	1104048	0.35	905447	121.9	30 - 140	
115 In	5352405	2.66	4704637	113.8	30 - 140	
159 Tb	5907627	1.58	6330834	93.3	30 - 140	
209 Bi	3347018	2.18	3475168	96.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\096SMPL.D\096SMPL.D#
Date Acquired: Sep 24 2004 03:09 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092328-02
Misc Info: BATCH 1859
Vial Number: 2202
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 07:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	3.00	3.00	ppb	2.47	8000.00	
52 Cr	5.05	5.05	ppb	1.34	40000.00	
60 Ni	84.80	84.80	ppb	0.63	8000.00	
63 Cu	50.95	50.95	ppb	2.45	8000.00	
66 Zn	310.70	310.70	ppb	0.62	8000.00	
75 As	-0.69	-0.69	ppb	14.25	8000.00	
82 Se	24.89	24.89	ppb	0.78	8000.00	
107 Ag	-0.62	-0.62	ppb	0.76	8000.00	
111 Cd	17.60	17.60	ppb	0.76	8000.00	
121 Sb	-0.13	-0.13	ppb	4.57	8000.00	
202 Hg	0.01	0.01	ppb	21.42	8.00	
205 Tl	-0.04	-0.04	ppb	48.85	8000.00	
208 Pb	2.41	2.41	ppb	1.40	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5432485.50	1.83	5160836.00	105.3	30 - 140	
45 Sc	5566077.00	0.46	5088704.00	109.4	30 - 140	
72 Ge	1110511.90	1.38	905446.56	122.6	30 - 140	
115 In	5170949.50	1.30	4704637.00	109.9	30 - 140	
159 Tb	6506025.00	0.51	6330833.50	102.8	30 - 140	
209 Bi	3106859.30	1.82	3475167.80	89.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\097SMPL.D\097SMPL.D#
Date Acquired: Sep 24 2004 03:14 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092328-04
Misc Info: BATCH 1859
Vial Number: 2203
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 07:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	5.73	5.73	ppb	2.80	8000.00	
52 Cr	15.15	15.15	ppb	2.21	40000.00	
60 Ni	63.46	63.46	ppb	1.22	8000.00	
63 Cu	4.96	4.96	ppb	1.56	8000.00	
66 Zn	205.70	205.70	ppb	1.83	8000.00	
75 As	-0.34	-0.34	ppb	23.04	8000.00	
82 Se	24.30	24.30	ppb	2.42	8000.00	
107 Ag	-0.63	-0.63	ppb	0.23	8000.00	
111 Cd	2.39	2.39	ppb	1.90	8000.00	
121 Sb	-0.12	-0.12	ppb	6.91	8000.00	
202 Hg	0.01	0.01	ppb	28.53	8.00	
205 Tl	-0.19	-0.19	ppb	6.74	8000.00	
208 Pb	1.85	1.85	ppb	2.55	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5425556.00	0.91	5160836.00	105.1	30 - 140	
45 Sc	5424819.50	0.75	5088704.00	106.6	30 - 140	
72 Ge	1109758.60	0.72	905446.56	122.6	30 - 140	
115 In	5089465.50	1.32	4704637.00	108.2	30 - 140	
159 Tb	6477433.00	0.91	6330833.50	102.3	30 - 140	
209 Bi	2952748.50	1.93	3475167.80	85.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\098SMPL.D\098SMPL.D#
Date Acquired: Sep 24 2004 03:19 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092328-06
Misc Info: BATCH 1859
Vial Number: 2204
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 07:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	2.28	2.28	ppb	1.91	8000.00	
52 Cr	6.99	6.99	ppb	2.27	40000.00	
60 Ni	53.79	53.79	ppb	0.85	8000.00	
63 Cu	6.97	6.97	ppb	0.65	8000.00	
66 Zn	131.10	131.10	ppb	1.80	8000.00	
75 As	2.33	2.33	ppb	2.25	8000.00	
82 Se	6.10	6.10	ppb	1.95	8000.00	
107 Ag	-0.63	-0.63	ppb	0.13	8000.00	
111 Cd	0.68	0.68	ppb	2.63	8000.00	
121 Sb	-0.13	-0.13	ppb	2.81	8000.00	
202 Hg	0.01	0.01	ppb	70.41	8.00	
205 Tl	-0.20	-0.20	ppb	8.95	8000.00	
208 Pb	1.51	1.51	ppb	0.71	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5448258.50	1.79	5160836.00	105.6	30 - 140	
45 Sc	5425113.50	0.79	5088704.00	106.6	30 - 140	
72 Ge	1100192.90	0.42	905446.56	121.5	30 - 140	
115 In	5090036.50	1.33	4704637.00	108.2	30 - 140	
159 Tb	6065605.00	1.00	6330833.50	95.8	30 - 140	
209 Bi	3092000.00	1.30	3475167.80	89.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\099SMPL.D\099SMPL.D#
Date Acquired: Sep 24 2004 03:24 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092328-08
Misc Info: BATCH 1859
Vial Number: 2205
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal. Update: Sep 24 2004 07:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	1.88	1.88	ppb	6.28	8000.00	
52 Cr	10.82	10.82	ppb	3.64	40000.00	
60 Ni	133.90	133.90	ppb	2.03	8000.00	
63 Cu	41.50	41.50	ppb	1.29	8000.00	
66 Zn	597.30	597.30	ppb	1.95	8000.00	
75 As	0.34	0.34	ppb	24.05	8000.00	
82 Se	11.23	11.23	ppb	2.91	8000.00	
107 Ag	-0.63	-0.63	ppb	0.24	8000.00	
111 Cd	766.00	766.00	ppb	0.51	8000.00	
121 Sb	-0.11	-0.11	ppb	5.70	8000.00	
202 Hg	0.00	0.00	ppb	1389.60	8.00	
205 Tl	0.03	0.03	ppb	52.04	8000.00	
208 Pb	4.13	4.13	ppb	2.09	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5421316.00	2.09	5160836.00	105.0	30 - 140	
45 Sc	5527752.50	1.84	5088704.00	108.6	30 - 140	
72 Ge	1115439.10	0.78	905446.56	123.2	30 - 140	
115 In	5176563.50	0.52	4704637.00	110.0	30 - 140	
159 Tb	6256744.50	1.27	6330833.50	98.8	30 - 140	
209 Bi	3139844.30	2.02	3475167.80	90.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\101CCV1.D\101CCV1.D#
Date Acquired: Sep 24 2004 03:33 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 07:53 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	52.04	ppb	3.48	50.00	104	89.5 - 111	
52 Cr	49.75	ppb	0.43	50.00	100	89.5 - 111	
60 Ni	48.61	ppb	2.22	50.00	97	89.5 - 111	
63 Cu	46.90	ppb	1.03	50.00	94	89.5 - 111	
66 Zn	52.13	ppb	1.35	50.00	104	89.5 - 111	
75 As	47.33	ppb	0.75	50.00	95	89.5 - 111	
82 Se	51.49	ppb	1.19	50.00	103	89.5 - 111	
107 Ag	42.14	ppb	10.14	50.00	84	89.5 - 111	Fail
111 Cd	49.38	ppb	0.56	50.00	99	89.5 - 111	
121 Sb	46.99	ppb	1.39	50.00	94	89.5 - 111	
202 Hg	0.75	ppb	6.70	2.00	38	89.5 - 111	Fail
205 Tl	49.78	ppb	4.78	50.00	100	89.5 - 111	
208 Pb	44.20	ppb	2.55	50.00	88	89.5 - 111	Fail

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5911931	2.13	5160836	114.6	30 - 140	
45 Sc	5748627	1.48	5088704	113.0	30 - 140	
72 Ge	1126504	1.09	905447	124.4	30 - 140	
115 In	5348137	0.04	4704637	113.7	30 - 140	
159 Tb	5790257	1.68	6330834	91.5	30 - 140	
209 Bi	3505918	2.08	3475168	100.9	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\102_CCB.D\102_CCB.D#
Date Acquired: Sep 24 2004 03:38 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 07:53 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.05	ppb	14.99	2.50	
52 Cr	0.29	ppb	9.24	2.50	
60 Ni	0.35	ppb	13.06	2.50	
63 Cu	0.05	ppb	49.58	2.50	
66 Zn	0.14	ppb	48.39	25.00	
75 As	0.11	ppb	98.08	0.50	
82 Se	0.31	ppb	20.88	2.50	
107 Ag	1.10	ppb	12.05	2.50	
111 Cd	0.31	ppb	6.73	2.50	
121 Sb	0.10	ppb	8.53	2.50	
202 Hg	0.02	ppb	16.22	0.10	
205 Tl	0.86	ppb	5.72	2.50	
208 Pb	0.02	ppb	43.07	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6000065	0.97	5160836	116.3	30 - 140	
45 Sc	5653140	0.73	5088704	111.1	30 - 140	
72 Ge	1126178	1.11	905447	124.4	30 - 140	
115 In	5440703	1.04	4704637	115.6	30 - 140	
159 Tb	5953689	1.16	6330834	94.0	30 - 140	
209 Bi	3363382	1.38	3475168	96.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\107CCV1.D\107CCV1.D#
Date Acquired: Sep 24 2004 04:02 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 07:53 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	51.61	ppb	0.98	50.00	103	89.5 - 111	
52 Cr	50.49	ppb	2.15	50.00	101	89.5 - 111	
60 Ni	48.56	ppb	1.47	50.00	97	89.5 - 111	
63 Cu	47.88	ppb	1.22	50.00	96	89.5 - 111	
66 Zn	52.81	ppb	0.58	50.00	106	89.5 - 111	
75 As	47.21	ppb	0.23	50.00	94	89.5 - 111	
82 Se	50.48	ppb	2.07	50.00	101	89.5 - 111	
107 Ag	46.35	ppb	0.87	50.00	93	89.5 - 111	
111 Cd	48.59	ppb	2.29	50.00	97	89.5 - 111	
121 Sb	46.38	ppb	1.47	50.00	93	89.5 - 111	
202 Hg	1.93	ppb	5.96	2.00	97	89.5 - 111	
205 Tl	52.93	ppb	4.98	50.00	106	89.5 - 111	
208 Pb	46.92	ppb	1.65	50.00	94	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6012775	1.97	5160836	116.5	30 - 140	
45 Sc	5636620	1.45	5088704	110.8	30 - 140	
72 Ge	1119504	0.67	905447	123.6	30 - 140	
115 In	5348497	2.09	4704637	113.7	30 - 140	
159 Tb	5841595	1.93	6330834	92.3	30 - 140	
209 Bi	3317084	0.91	3475168	95.5	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:

HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040924A.B\108_CCB.D\108_CCB.D#
Date Acquired: Sep 24 2004 04:07 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040924A.B\NOSALTS.C
Last Cal Update: Sep 24 2004 07:53 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.07	ppb	16.11	2.50	
52 Cr	0.20	ppb	16.69	2.50	
60 Ni	0.10	ppb	133.42	2.50	
63 Cu	0.00	ppb	351.80	2.50	
66 Zn	0.11	ppb	55.23	25.00	
75 As	0.04	ppb	168.92	0.50	
82 Se	0.24	ppb	27.30	2.50	
107 Ag	-0.05	ppb	71.42	2.50	
111 Cd	0.27	ppb	2.18	2.50	
121 Sb	0.09	ppb	22.41	2.50	
202 Hg	0.04	ppb	11.35	0.10	
205 Tl	0.86	ppb	4.72	2.50	
208 Pb	0.02	ppb	66.54	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6091607	2.30	5160836	118.0	30 - 140	
45 Sc	5592974	0.11	5088704	109.9	30 - 140	
72 Ge	1133062	2.02	905447	125.1	30 - 140	
115 In	5430781	0.17	4704637	115.4	30 - 140	
159 Tb	5891995	0.91	6330834	93.1	30 - 140	
209 Bi	3383749	1.41	3475168	97.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040924A.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Nitrate / Sulfate Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ENVIRO-CHEM
LABORATORIES, INC.

100 Lakefront Drive, Hunt Valley, Maryland 21030 (410) 785-9739

FINAL REPORT OF ANALYSES

Phase Separation Science, Inc.
6630 Baltimore Nat. Pike
Baltimore, MD 21228-
Attn: Mr. John Richardson

PROJECT NAME: 04092328
REPORT DATE: 10/01/2004

SAMPLE NUMBER- 33493 SAMPLE ID- 04092328-01 SAMPLE MATRIX- WA
DATE SAMPLED- 09/23/04
DATE RECEIVED- 09/24/04 SAMPLER- NOT SPECIFIED RECEIVED BY- SES
TIME RECEIVED- 1145 DELIVERED BY- Courier

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	DET. LIMIT
NITRATE	EPA 300.0	09/24/04	SES	2.1	mg/L as N	0.2
SULFATE	EPA 300.0	09/27/04	SES	494	mg/L	1.0

LABORATORY DIRECTOR

ENVIRO-CHEM LABORATORIES, INC.

100 Lakefront Drive, Hunt Valley, Maryland 21030 (410) 785-9739

FINAL REPORT OF ANALYSES

Phase Separation Science, Inc.
6630 Baltimore Nat. Pike
Baltimore, MD 21228-
Attn: Mr. John Richardson

PROJECT NAME: 04092328
REPORT DATE: 10/01/2004

SAMPLE NUMBER- 33494 SAMPLE ID- 04092328-03 SAMPLE MATRIX- WA
DATE SAMPLED- 09/23/04
DATE RECEIVED- 09/24/04 SAMPLER- NOT SPECIFIED RECEIVED BY- SES
TIME RECEIVED- 1145 DELIVERED BY- Courier

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	DET. LIMIT
NITRATE	EPA 300.0	09/24/04	SES	<0.2	mg/L as N	0.2
SULFATE	EPA 300.0	09/27/04	SES	848	mg/L	1.0

LABORATORY DIRECTOR Stephen E Stella

ENVIRO-CHEM
LABORATORIES, INC.

100 Lakefront Drive, Hunt Valley, Maryland 21030 (410) 785-9739

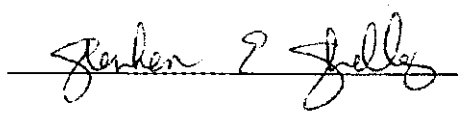
FINAL REPORT OF ANALYSES

Phase Separation Science, Inc.
6630 Baltimore Nat. Pike
Baltimore, MD 21228-
Attn: Mr. John Richardson

PROJECT NAME: 04092328
REPORT DATE: 10/01/2004

SAMPLE NUMBER- 33495 SAMPLE ID- 04092328-05 SAMPLE MATRIX- WA
DATE SAMPLED- 09/23/04
DATE RECEIVED- 09/24/04 SAMPLER- NOT SPECIFIED RECEIVED BY- SES
TIME RECEIVED- 1145 DELIVERED BY- Courier

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	DET. LIMIT
NITRATE	EPA 300.0	09/24/04	SES	<0.2	mg/L as N	0.2
SULFATE	EPA 300.0	09/27/04	SES	635	mg/L	1.0

LABORATORY DIRECTOR 

ENVIRO-CHEM
LABORATORIES, INC.

100 Lakefront Drive, Hunt Valley, Maryland 21030 (410) 785-9739

FINAL REPORT OF ANALYSES

Phase Separation Science, Inc.
6630 Baltimore Nat. Pike
Baltimore, MD 21228-
Attn: Mr. John Richardson

PROJECT NAME: 04092328
REPORT DATE: 10/01/2004

SAMPLE NUMBER- 33496 SAMPLE ID- 04092328-07 SAMPLE MATRIX- WA
DATE SAMPLED- 09/23/04
DATE RECEIVED- 09/24/04 SAMPLER- NOT SPECIFIED RECEIVED BY- SES
TIME RECEIVED- 1145 DELIVERED BY- Courier

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	DET. LIMIT
NITRATE	EPA 300.0	09/24/04	SES	<0.2	mg/L as N	0.2
SULFATE	EPA 300.0	09/27/04	SES	557	mg/L	1.0

LABORATORY DIRECTOR

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

9330

Chain of Custody

RUSH TURNAROUND!!!!

COC- ID	3664	**Phone Number**	410-785-9739
Date Shipped	09/23/04	**Fax Number**	410-785-9410
Organization	SS	**Shipped Via**	Dial Courier
Address	Enviro-Chem Laboratories, Inc. 100 Lakefront Drive Hunt Valley, Maryland 21030	**Airbill Number**	
		Due Date	10/07/04 5:00:00 PM

Lab Number: 04092328
Project: Martin State Airport- Data Gap

	Sample Number	Description	Analysis	Method	No. of Cont.	Date Sampled
3493	04092328-01	DMW 4D-092304	Nitrate	EPA 300.0	1	09/23/04 8:45:00 AM
			Sulfate	EPA 300.0	1	09/23/04 8:45:00 AM
3494	04092328-03	DMW 4I-092304	Nitrate	EPA 300.0	1	09/23/04 10:15:00 AM
			Sulfate	EPA 300.0	1	09/23/04 10:15:00 AM
3495	04092328-05	DMW 4S-092304	Nitrate	EPA 300.0	1	09/23/04 11:35:00 AM
			Sulfate	EPA 300.0	1	09/23/04 11:35:00 AM
3496	04092328-07	DMW 2A-092304	Nitrate	EPA 300.0	1	09/23/04 1:45:00 PM
			Sulfate	EPA 300.0	1	09/23/04 1:45:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
	9/24		9/24/04 1145

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Ferric Iron Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

MICROSEEPS

Client Name:	Phase Separation Science	Page:	Page 1 of 5
Contact:	Bryan Ridgell	Lab Proj #:	P0409432
Address:	6630 Baltimore National P	Report Date:	09/28/04
		Client Proj Name:	Martin State Airport
	Baltimore, MD 21228	Client Proj #:	04092328

Laboratory Results

Total pages in data package: 6

Lab Sample #	Client Sample ID
P0409432-01	04092328-01
P0409432-02	04092328-03
P0409432-03	04092328-05
P0409432-04	04092328-07

Microseeps test results meet all the requirements of the NELAC standards.

Approved By: Debra J. Hans

The analytical results reported here are reliable and usable to the precision expressed in this report. As required by some regulating authorities, a full discussion of the uncertainty in our analytical results can be obtained at our web site or through customer service. Unless otherwise specified, all results

As a valued client we would appreciate your comments on our service.
Please call customer servce at (412)826-5245 or email bhans@microseeps.com

Case Narrative:

Lab Proj #: P0409432
Report Date: 09/28/04
Client Proj Name: Martin State Airport
Client Proj #: 04092328

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P
Baltimore, MD 21228

Lab Sample #: P0409432-01

Sample Description	Matrix	Sampled Date/Time	Received
04092328-01	Water	23 Sep. 04 8:45	24 Sep. 04

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
WetChem						
Ferric Iron	<1.0	1.0	mg/L	Mod.7199	md	9/24/04 21:06

N - NELAC certified analysis

Lab Proj #: P0409432
Report Date: 09/28/04
Client Proj Name: Martin State Airport
Client Proj #: 04092328

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P
Baltimore, MD 21228

Lab Sample #: P0409432-02

Sample Description	Matrix	Sampled Date/Time	Received
04092328-03 ✓	Water	23 Sep. 04 10:15	24 Sep. 04

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
WetChem						
Ferric Iron	<1.0 ✓	1.0 ✓	mg/L	Mod.7199 ✓	md	9/24/04 21:23 ✓

N - NELAC certified analysis

Lab Proj #: P0409432
Report Date: 09/28/04
Client Proj Name: Martin State Airport
Client Proj #: 04092328

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P
Baltimore, MD 21228

Lab Sample #: P0409432-03

Sample Description	Matrix	Sampled Date/Time	Received
04092328-05 ✓	Water	23 Sep. 04 11:35	24 Sep. 04

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
WetChem						
Ferric Iron	<1.0	1.0	mg/L	Mod.7199	md	9/24/04 21:39
	✓			✓		✓

N - NELAC certified analysis

Lab Proj #: P0409432
Report Date: 09/28/04
Client Proj Name: Martin State Airport
Client Proj #: 04092328

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P
Baltimore, MD 21228

Lab Sample #: P0409432-04

Sample Description	Matrix	Sampled Date/Time	Received
04092328-07 ✓	Water	23 Sep. 04 13:45	24 Sep. 04

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
WetChem						
Ferric Iron	1.1 ✓	1.0	mg/L	Mod.7199 ✓	md	9/24/04 21:56 ✓

N - NELAC certified analysis

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

Chain of Custody

P0409432

COC- ID	3662	**Phone Number**	412-826-5245
Date Shipped	09/23/04	**Fax Number**	412-826-3433
Organization	Microseeps, Inc.	**Shipped Via**	Fed Ex
Address	220 William Pitt Way Pittsburgh, PA 15238	**Airbill Number**	
		Due Date	10/07/04 5:00:00 PM

Lab Number: 04092328
Project: Martin State Airport- Data Gap

	Sample Number	Description	Analysis	Method	No. of Cont.	Date Sampled
01	04092328-01	DMW 4D-092304	Iron (Fe3+)	Mod_7199	1	09/23/04 8:45:00 AM
02	04092328-03	DMW 4I-092304	Iron (Fe3+)	Mod_7199	1	09/23/04 10:15:00 AM
03	04092328-05	DMW 4S-092304	Iron (Fe3+)	Mod_7199	1	09/23/04 11:35:00 AM
04	04092328-07	DMW 2A-092304	Iron (Fe3+)	Mod_7199	1	09/23/04 1:45:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
[signature]	9/23/04 4:15pm	[signature]	9/24/04 1140

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Dissolved Gasses Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

04092328

MARYLAND SPECTRAL SERVICES, INC.

1500 CATON CENTER DRIVE, BALTIMORE, MD 21227

(410) 247-7600

LABORATORY RESULTS

RESULTS OF ANALYSIS OF

MARTIN STATE AIRPORT WATER SAMPLES

COLLECTED 23 SEPTEMBER 2004

Prepared For

PHASE SEPARATION SCIENCE, INC.

BALTIMORE, MD

28 September 2004

SAMPLE DATA SUMMARY PACKAGE

Table of Contents

1. Narrative

2. Chain-of-Custody Records

3. Results of Analyses

4. Chromatograms of Samples and Method Blanks

1. Narrative

NARRATIVE

Laboratory Name: Maryland Spectral Services, Inc. (MSS)

Date Samples Delivered to MSS Laboratory: 24 September 2004

Client: Phase Separation Science, Inc.

Project: Martin State Airport-Data Gap; 04092328

Results for the following samples are included in this data package:

Client ID	MSS ID	Matrix	Analysis
04092328-01 DMW 4D-092304	040924-13	Water	Ethane, Ethene
04092328-03 DMW 4I-092304	040924-14	Water	Ethane, Ethene
04092328-05 DMW 4S-092304	040924-15	Water	Ethane, Ethene
04092328-07 DMW 2A-092304	040924-16	Water	Ethane, Ethene

The samples were analyzed for ethane (C_2H_6) and ethene (C_2H_4) using Method 6211B of *Standard Methods* (1989) for the sample preparation and calculation steps and replacing the combustible-gas indicator with capillary gas chromatography and a flame ionization detector (FID) as in U.S. EPA Method 8015.

The samples were received in nominal 40-mL septum-sealed vials with no headspace. Prior to analysis, the vials were allowed to reach room temperature. Approximately half of the liquid was removed from each vial. The vials were shaken for 15 min and then allowed to stand for one hour.

An aliquot of the headspace vapor was removed from each vial with a gas-tight syringe. Fifty microliters of the headspace vapor, or of a dilution thereof, was injected directly into a Hewlett Packard 5890 gas chromatograph equipped with an FID. A RTx-200 capillary column (60 m x 0.53 mm i.d., 5.0-um film thickness) was used for the separation. The GC oven temperature was maintained at 45 C.

The GC detector response was calibrated by analysis of three levels of methane, ethane, and ethene prepared from a certified mixture in nitrogen obtained from Scott Specialty Gases.

Samples with high concentrations were diluted to keep the analyte response within the calibration range.

See the appendix to this narrative for a discussion of the values for the Henry's law constants used in the conversion of the headspace concentrations to aqueous concentrations.

The results of the analyses are presented in Section 3 and are reported as milligrams per liter (parts per million).

Prior to the analysis of the samples, a method blank consisting of laboratory helium was analyzed. The method blank results are present on the sample data tables in Section 3.

Chromatograms of sample and method blank analyses are provided in Section 4 and are labeled for the target compounds.

NARRATIVE (continued)

RELEASE OF THE DATA CONTAINED IN THIS HARDCOPY DATA PACKAGE HAS BEEN AUTHORIZED BY THE LABORATORY MANAGER OR HIS DESIGNEE, AS VERIFIED BY THE FOLLOWING SIGNATURE:

Michael M. Robison DATE: 28 Sept 2004

Michael M. Robison 28 September 2004

APPENDIX - Henry's Law Constants

The calculation of the original aqueous phase concentration from the headspace concentration require Henry's law constant, but Method 6211B only provides the constant for methane. The Henry's law constants for ethane and ethene were derived from values given by Lide & Frederikse (1995) and Wilhelm et al. (1997) as collected in Sander (1999). The values for 25 C were converted to 20 C using the temperature dependence constants given with the values. (A value for methane at 20 C calculated by the same process differed from the value in Method 6211B by less than 4%.) The following values were used in the calculations:

Analyte	Henry's Law Constant (kPa)	Reference
Ethane	2.59×10^6	Lide & Frederikse (1995)
Ethene	1.08×10^6	Wilhelm et al. (1997)

For T = 20 C and P = 100 kPa, the concentration in the original aqueous sample is given by:

$$C_o = C_v \cdot MW \cdot [0.4103 \times 10^{-4}(V_v/V_a) + 5.541/H] \cdot D$$

where

C_o = analyte concentration in original aqueous sample (mg/L)
C_v = analyte concentration in headspace vapor phase (uL/L)
MW = molecular weight of analyte
V_v = volume of headspace vapor phase (mL)
V_a = volume of headspace aqueous phase (mL)
H = Henry's law constant (kPa)
D = dilution factor

References

American Public Health Association, American Water Works Association, Water Pollution Control Federation. 1989. Method 6211B: Methane/Combustible-gas indicator method. In *Standard Methods for the Examination of Water and Wastewater*, 17th ed. APHA, Washington, D.C.

Lide, D.R. and H.P.R. Frederikse, Eds. 1995. *CRC Handbook of Chemistry and Physics*, 76th ed. CRC Press, Inc., Boca Raton, Florida.

Sander, R. 1999. Compilation of Henry's Law Constants for Inorganic and Organic Species of Potential Importance in Environmental Chemistry, ver. 3. http://www.mpch-mainz.mpg.de/~sander/res/henry.html (accessed June 2000).

Wilhelm, E., R. Battino, and R.J. Wilcock. 1977. Low-pressure solubility of gases in liquid water. *Chem. Rev.* 77:219-262.

2. Chain-of-Custody Records

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

Chain of Custody

RUSH TURNAROUND!!!!

COC- ID	3663	**Phone Number**	410-247-7600
Date Shipped	09/23/04	**Fax Number**	410-247-7602
Organization	MSS	**Shipped Via**	Dial Courier
Address	1500 Caton Center Drive Baltimore, MD 21227	**Airbill Number**	
		Due Date	10/07/04 5:00:00 PM

Lab Number: 04092328
Project: Martin State Airport- Data Gap

Sample Number	Description	Analysis		Method	No. of Cont.	Date Sampled
04092328-01	DMW 4D-092304	Ethane	04-0924-13	SM6211B/EPA8	1	09/23/04 8:45:00 AM
		Ethene		SM6211B/EPA8	1	09/23/04 8:45:00 AM
04092328-03	DMW 4I-092304	Ethane		SM6211B/EPA8	1	09/23/04 10:15:00 AM
		Ethene	04-0924-14	SM6211B/EPA8	1	09/23/04 10:15:00 AM
04092328-05	DMW 4S-092304	Ethane	04-0924-15	SM6211B/EPA8	1	09/23/04 11:35:00 AM
		Ethene		SM6211B/EPA8	1	09/23/04 11:35:00 AM
04092328-07	DMW 2A-092304	Ethane		SM6211B/EPA8	1	09/23/04 1:45:00 PM
		Ethene	04-0924-16	SM6211B/EPA8	1	09/23/04 1:45:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
PSS Courier	9/24		9/24 12pm

3. Results of Analyses

MARYLAND SPECTRAL SERVICES, INC.
1500 Caton Center Drive, Baltimore, MD 21227

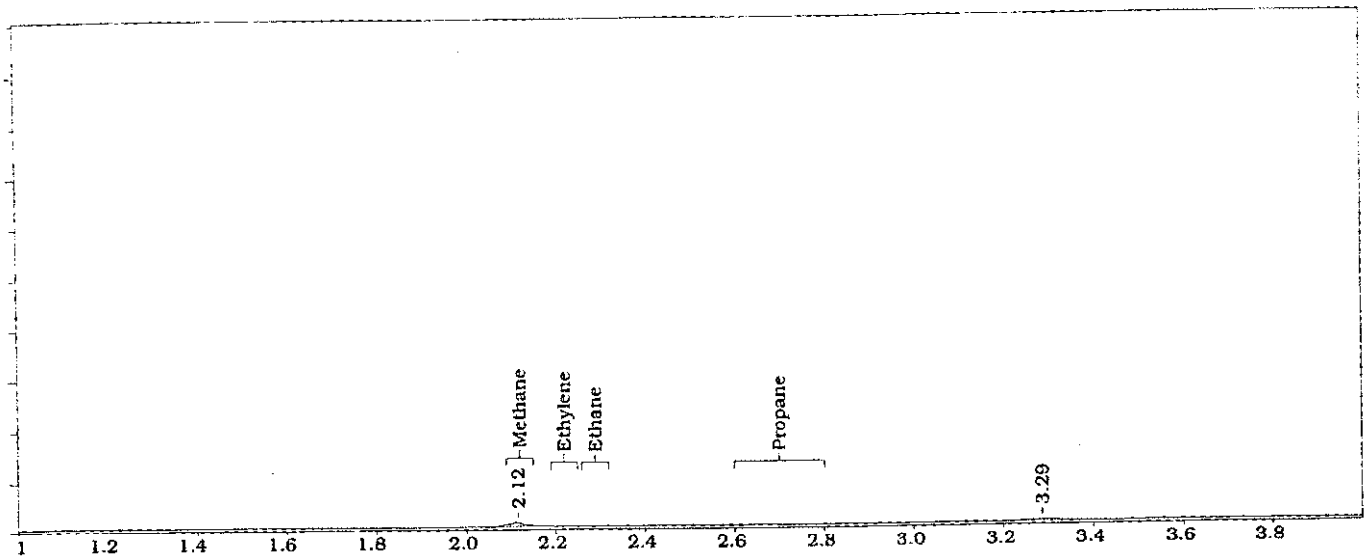
HYDROCARBONS BY METHODS SM 6211B/EPA 8015 (HEADSPACE/GC/FID)

CLIENT SAMPLE ID:	DMW 4D MARTIN STATE	DMW 4I MARTIN STATE	DMW 4S MARTIN STATE	DMW 2A MARTIN STATE	WBLK0924
LAB SAMPLE ID:	04092413	04092414	04092415	04092416	METHOD BLANK
SAMPLE DATE:	09/23/04	09/23/04	09/23/04	09/23/04	
RECEIVED DATE:	09/24/04	09/24/04	09/24/04	09/24/04	
ANALYSIS DATE:	09/24/04	09/24/04	09/24/04	09/24/04	09/24/04
INSTRUMENT ID:	GC-G	GC-G	GC-G	GC-G	GC-G
MATRIX:	WATER	WATER	WATER	WATER	WATER
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L
DILUTION FACTOR:	1.0	1.0	1.0	1.0	1.0
ANALYTE					
Ethane	0.011 U	0.011 U	0.010 U	0.013 U	0.012 U
Ethene	0.011 U	0.021	0.012	0.048	0.012 U

mg/L - Milligrams per liter (parts per million)
U - Less than reported quantitation limit

4. Chromatograms of Samples and Method Blanks

File=C:\DIRECT\DATAG1\0924G.05R Date printed=09-27-2004 Time= 12:39:46
Sample Name=METHOD BLANK
1.0 to 4.0 min. Low Y=3.285 High Y=63.285 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- METHOD BLANK-----
ANALYSIS DATE: Sep 24, 2004 12:43:53
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 33
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0924G.05R
RUN TIME 5

DILUTION FACTOR 1
AMOUNT INJECTED 1

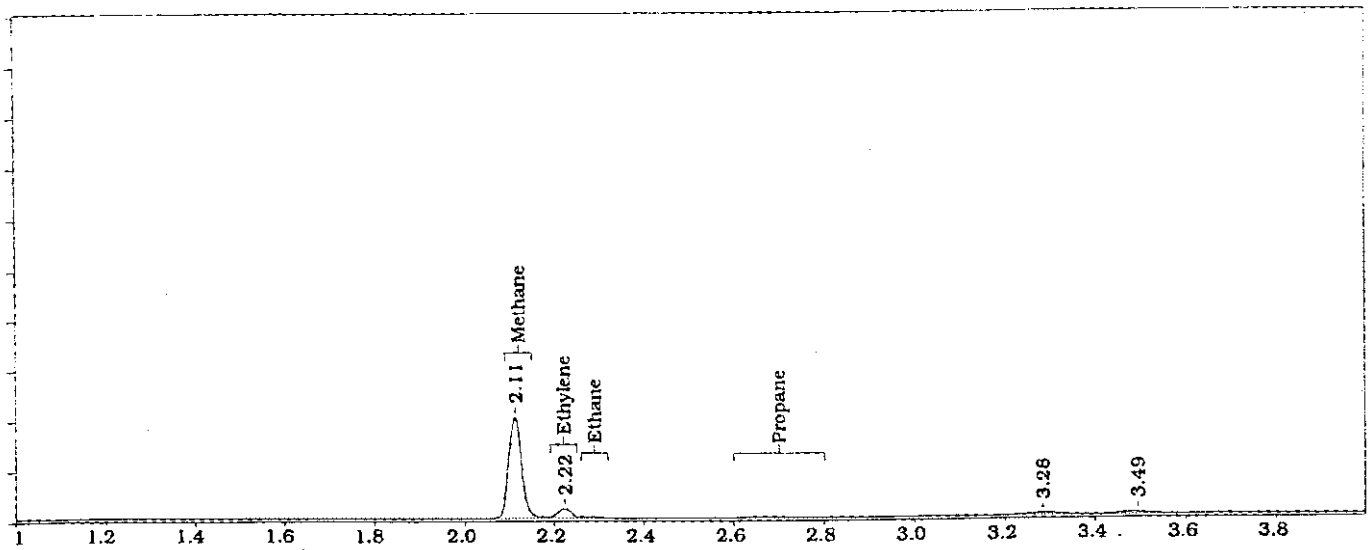
RTX-1 60M X .53MMID X 5.0 UM FILM
DISOLVED HYDROCARBONS BY METHOD EPA8015M SM621

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
1	2.115	Methane	6.3130	1081	480
2	3.287		0.0000	1144	206

File name: C:\DIRECT\DATAG1\0924G.05R
Total area for this analysis = 2224.988

File=C:\DIRECT\DATAG1\0924G.06R Date printed=09-24-2004 Time= 13:05:19
Sample Name=040924-13
1.0 to 4.0 min. Low Y=3.323 High Y=63.323 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- 040924-13-----
ANALYSIS DATE: Sep 24, 2004 13:05:17
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 33
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0924G.06R
RUN TIME 5

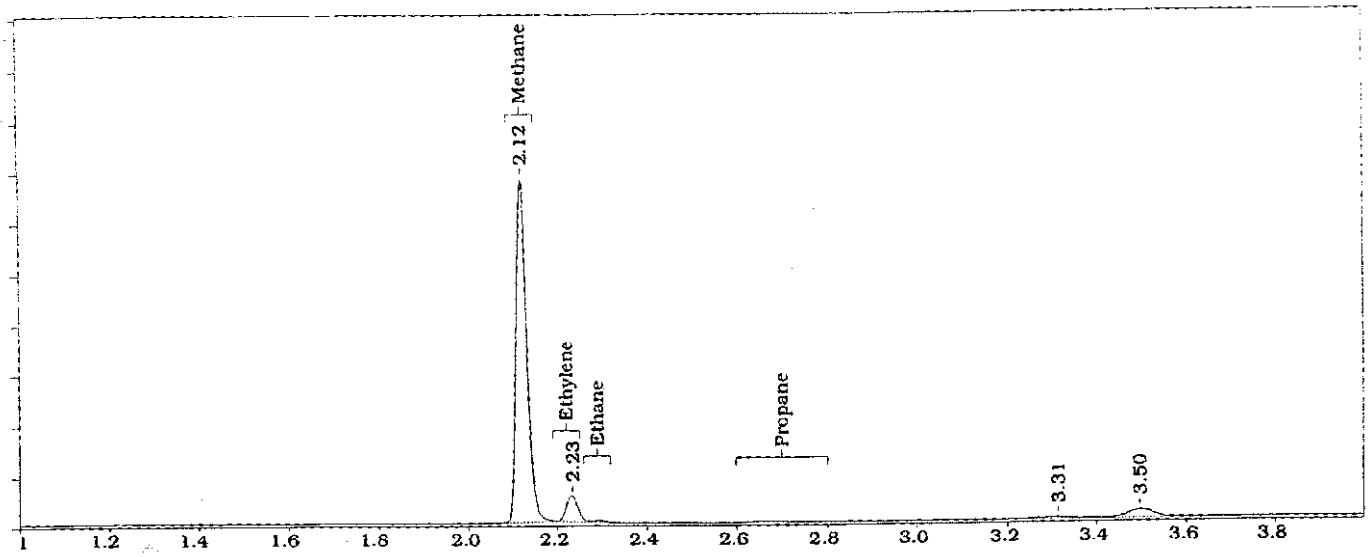
DILUTION FACTOR 1 RTX-1 60M X .53MMID X 5.0 UM FILM
AMOUNT INJECTED 1 DISOLVED HYDROCARBONS BY METHOD EPA8015M SME 1

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
1	2.114	Methane	139.4247	23878	12048
2	2.224	Ethylene	7.3898	2405	1061
3	3.283		0.0000	1293	242
4	3.493		0.0000	1247	279

File name: C:\DIRECT\DATAG1\0924G.06R
Total area for this analysis = 28823.35

File=C:\DIRECT\DATAG1\0924G.07R Date printed=09-24-2004 Time= 13:21:55
Sample Name=040924-14
1.0 to 4.0 min. Low Y=3.286 High Y=63.286 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- 040924-14-----
ANALYSIS DATE: Sep 24, 2004 13:21:54
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 33
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0924G.07R
RUN TIME 5

DILUTION FACTOR 1
AMOUNT INJECTED 1

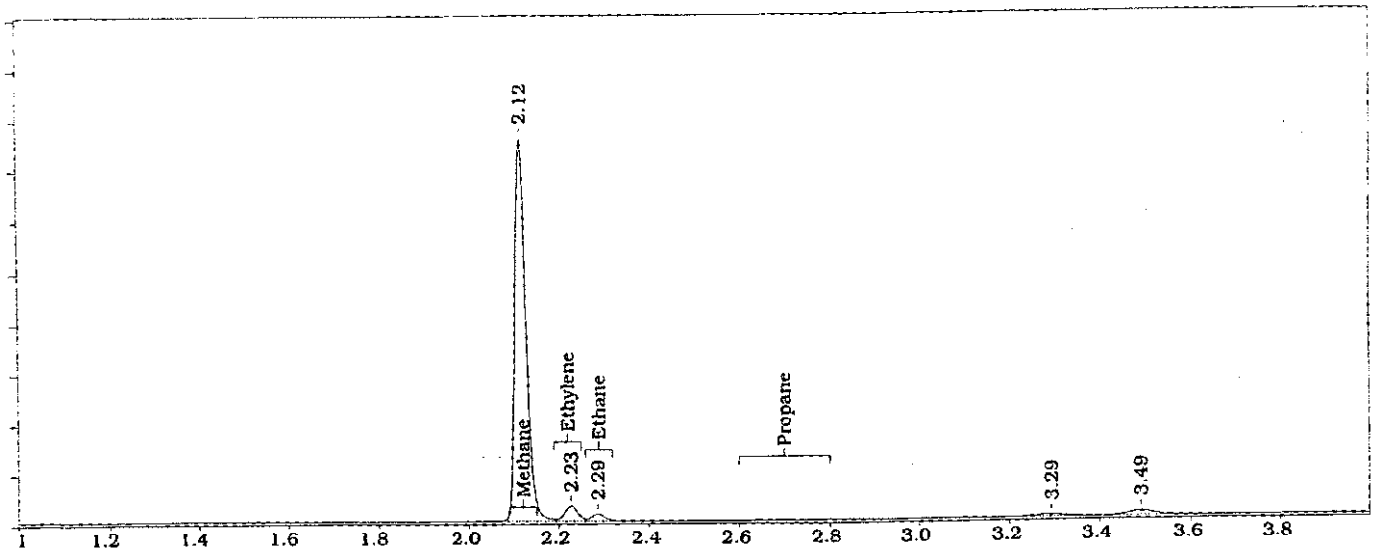
RTX-1 60M X .53MMID X 5.0 UM FILM
DISOLVED HYDROCARBONS BY METHOD EPA8015M SM621

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
1	2.121	Methane	397.8190	68131	40653
2	2.232	Ethylene	18.9891	6181	3150
3	3.313		0.0000	1283	207
4	3.498		0.0000	4800	1020

File name: C:\DIRECT\DATAG1\0924G.07R
Total area for this analysis = 80394.05

File=C:\DIRECT\DATAG1\0924G.08R Date printed=09-27-2004 Time= 12:44:10
Sample Name=040924-15
1.0 to 4.0 min. Low Y=3.319 High Y=63.319 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- 040924-15-----
ANALYSIS DATE: Sep 24, 2004 13:35:02
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 33
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0924G.08R
RUN TIME 5

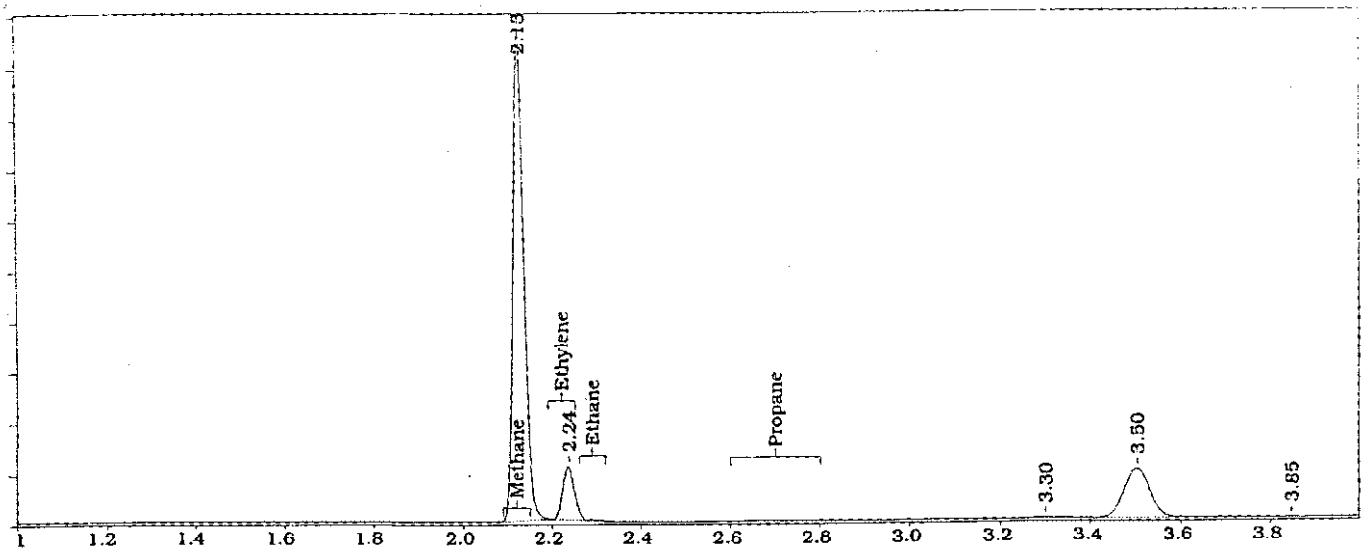
DILUTION FACTOR 1 RTX-1 60M X .53MMID X 5.0 UM FILM
AMOUNT INJECTED 1 DISOLVED HYDROCARBONS BY METHOD EPA8015M SM6 1

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
1	2.117	Methane	453.4348	77655	45154
2	2.228	Ethylene	11.2716	3669	1842
3	2.288	Ethane	5.4412	1750	849
4	3.293		0.0000	1072	260
5	3.491		0.0000	2267	567

File name: C:\DIRECT\DATAG1\0924G.08R
Total area for this analysis = 86412.45

File=C:\DIRECT\DATAG1\0924G.09R Date printed=09-24-2004 Time= 13:52:31
Sample Name=040924-16
1.0 to 4.0 min. Low Y=3.306 High Y=63.306 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- 040924-16-----
ANALYSIS DATE: Sep 24, 2004 13:52:29
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 33
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0924G.09R
RUN TIME 5

DILUTION FACTOR 1
AMOUNT INJECTED 1

RTX-1 60M X .53MMID X 5.0 UM FILM
DISOLVED HYDROCARBONS BY METHOD EPA8015M SM621

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
1	2.125	Methane	568.8734	97426	57752
2	2.236	Ethylene	36.4568	11866	6376
3	3.300		0.0000	772	171
4	3.503		0.0000	24239	5942
5	3.848		0.0000	803	67

File name: C:\DIRECT\DATAG1\0924G.09R
Total area for this analysis = 135104.8

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Perchlorate Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ANALYTICAL LABORATORY SERVICES, INC.

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NJ PA010 NY 11759

ACCREDITED IN ACCORDANCE WITH nelac

34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
6630 Baltimore National Pike
Route 40 West
Catonsville, MD 21228

Lab ID#: 279510

Project Name: **Routine Sample Submission-RUSH**

PO#:

This report relates only to the sample(s) as received by the laboratory. Laboratory reports may not be reproduced, except in full, without the written approval of the laboratory.

Qualifier Flags - These flags may follow individual results for a specific analyte

- U - Indicates that the analyte was not detected
- J - Indicates an estimated value between method detection limit and the practical quantitation limit for the analyte
- E - Indicates an estimated value outside of the calibration range of the analysis
- B - Indicates that the analyte was found in the method blank associated with the sample

A result of ND indicates that the analyte was Not Detected at the Reporting Detection Limit (RDL).

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If you have any questions in reference to this laboratory report, please contact your ALSI project coordinator or the laboratory manager listed at the bottom of this report at 717-944-5541.

Note: This document is included as part of the Analytical Report and must be retained as a permanent record thereof.

Raymond J. Martrano
Laboratory Manager

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NJ PA010 NY 11759

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Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
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Catonsville, MD 21228

Lab ID #: **279510001**
Received: 09/29/04 14:00
Discard: 10/21/04

Page: 1 Of 1

Project Name: **Routine Sample Submission-RUSH**

PO#:

Sample ID: **04092328-01**
Date Collected: 09/23/04 08:45

Matrix: Water
Collected by: Collected by Customer

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Perchlorate	7	ug/L	4	EPA 314.0	10/05/04 13:15	10/05/04	JWB

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Raymond J. Martrano
Laboratory Manager

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Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
6630 Baltimore National Pike
Route 40 West
Catonsville, MD 21228

Lab ID #: **279510002**
Received: 09/29/04 14:00
Discard: 10/21/04

Page: 1 Of 1

Project Name: **Routine Sample Submission-RUSH**

PO#:

Sample ID: **04092328-03**
Date Collected: 09/23/04 10:15

Matrix: Water
Collected by: Collected by Customer

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Perchlorate [1]	ND	ug/L	20	EPA 314.0	10/06/04 05:33	10/06/04	KLB

1 - Due to sample matrix interferences, this analyte was analyzed at a dilution and the detection levels adjusted accordingly.

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Raymond J. Martrano
Laboratory Manager

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Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
6630 Baltimore National Pike
Route 40 West
Catonsville, MD 21228

Lab ID #: **279510003**
Received: 09/29/04 14:00
Discard: 10/21/04

Project Name: **Routine Sample Submission-RUSH**

PO#:

Sample ID: **04092328-05**
Date Collected: 09/23/04 11:35

Matrix: Water
Collected by: Collected by Customer

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Perchlorate	ND	ug/L	4	EPA 314.0	10/05/04 13:41	10/05/04	JWB

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Raymond J. Martrano
Laboratory Manager

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Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
6630 Baltimore National Pike
Route 40 West
Catonsville, MD 21228

Lab ID #: **279510004**
Received: 09/29/04 14:00
Discard: 10/21/04

Project Name: **Routine Sample Submission-RUSH**

PO#:

Sample ID: **04092328-07**
Date Collected: 09/23/04 13:45

Matrix: Water
Collected by: Collected by Customer

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Perchlorate [1]	ND	ug/L	20	EPA 314.0	10/06/04 05:20	10/06/04	KLB

1 - Due to sample matrix interferences, this analyte was analyzed at a dilution and the detection levels adjusted accordingly.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

Raymond J. Martrano
Laboratory Manager

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
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FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

Chain of Custody

RUSH TURNAROUND!!!!

4°C

COC- ID	3666	**Phone Number**	717-944-5541
Date Shipped	09/23/04	**Fax Number**	717-944-1430
Organization	ALS	**Shipped Via**	UPS O/N
Address	Analytical Laboratory Services, Inc. 34 Dogwood Lane Middletown, PA 17057	**Airbill Number**	
		Due Date	10/07/04 5:00:00 PM

Lab Number: 04092328
Project: Martin State Airport- Data Gap

Sample Number	Description	Analysis	Method	No. of Cont.	Date Sampled
04092328-01	DMW 4D-092304	Perchlorate	314.0	1	09/23/04 8:45:00 AM
04092328-03	DMW 4I-092304	Perchlorate	314.0	1	09/23/04 10:15:00 AM
04092328-05	DMW 4S-092304	Perchlorate	314.0	1	09/23/04 11:35:00 AM
04092328-07	DMW 2A-092304	Perchlorate	314.0	1	09/23/04 1:45:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
[signature]	9/28	MRH	9-29-04 1400

ENTERED 10/4/04

9-29-04 2017

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

LABORATORY RESULTS

DATE RECEIVED: September 24, 2004

PROJECT: Martin State Airport- Quarterly Sampling

Project #: N5784-0000

CERTIFICATE OF ANALYSIS #: *04092410*

PREPARED FOR:

Tetra Tech, Inc.
10670 White Rock Rd., Ste. 100
Rancho Cordova, CA 95670

October 19, 2004

6630 Baltimore National Pike Baltimore, Maryland 21228 (410) 747-8770 (800) 932-9047 fax (410) 788-8723

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
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PHASE SEPARATION SCIENCE, INC.

ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE

CERTIFICATE OF ANALYSIS
No. 04092410 Page 1 of 16
Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: MW5 092404 / 04092410-01						
Dissolved Gases in Water						
Ethane	ND	mg/L	SM6211B/EPA8015	0.015		09/28/04
Ethene	0.018	mg/L	SM6211B/EPA8015	0.015		09/28/04
Ferric Iron						
Iron (Fe3+)	4.50	mg/L	Mod_7199	1		09/25/04
Nitrate Nitrogen						
Nitrate	50	mg/L	EPA 300.0	0.2		09/28/04
Perchlorate						
Perchlorate	ND	ug/L	EPA 314.0	80	10/06/04	10/06/04
Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/27/04	09/28/04
Arsenic	ND	ug/L	EPA 6020	5	09/27/04	09/28/04
Beryllium	4.9	ug/L	EPA 6020	4	09/27/04	09/28/04
Cadmium	7.5	ug/L	EPA 6020	5	09/27/04	09/28/04
Chromium	17	ug/L	EPA 6020	5	09/27/04	09/28/04
Copper	100	ug/L	EPA 6020	5	09/27/04	09/28/04
Lead	5.8	ug/L	EPA 6020	5	09/27/04	09/28/04
Mercury	ND	ug/L	EPA 6020	1	09/27/04	09/28/04
Nickel	110	ug/L	EPA 6020	5	09/27/04	09/28/04
Selenium	45	ug/L	EPA 6020	5	09/27/04	09/28/04
Silver	ND	ug/L	EPA 6020	5	09/27/04	09/28/04
Thallium	ND	ug/L	EPA 6020	2	09/27/04	09/28/04
Zinc	220	ug/L	EPA 6020	50	09/27/04	09/28/04
Total Sulfate						
Sulfate	2,600	mg/L	EPA 300.0	1		09/29/04
Volatile Organic Compounds						
Benzene	68	ug/L	EPA 8260B	1		10/05/04
Bromobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Bromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromodichloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromoform	ND	ug/L	EPA 8260B	1		10/05/04
Bromomethane	ND	ug/L	EPA 8260B	1		10/05/04
n-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1		10/05/04
sec-Butylbenzene	4	ug/L	EPA 8260B	1		10/05/04

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BALTIMORE, MARYLAND 21228
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800-932-9047
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PHASE SEPARATION SCIENCE, INC.

Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: MW5 092404 / 04092410-01						
Volatile Organic Compounds						
tert-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Carbon tetrachloride	ND	ug/L	EPA 8260B	1		10/05/04
Chlorobenzene	7	ug/L	EPA 8260B	1		10/05/04
Chloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Chloroform	7	ug/L	EPA 8260B	1		10/05/04
Chloromethane	ND	ug/L	EPA 8260B	1		10/05/04
2-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
4-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
Dibromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1		10/05/04
Dibromomethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethane	E 290	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloroethane	190	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethene	490	ug/L	EPA 8260B	100		10/07/04
cis-1,2-Dichloroethene	100,000	ug/L	EPA 8260B	1000		10/07/04
trans-1,2-Dichloroethene	850	ug/L	EPA 8260B	100		10/07/04
1,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
2,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Ethylbenzene	E 250	ug/L	EPA 8260B	1		10/05/04
Isopropylbenzene	10	ug/L	EPA 8260B	1		10/05/04
p-Isopropyltoluene	ND	ug/L	EPA 8260B	1		10/05/04
Methylene chloride	E, b 240	ug/L	EPA 8260B	1		10/05/04
Naphthalene	26	ug/L	EPA 8260B	1		10/05/04
n-Propylbenzene	20	ug/L	EPA 8260B	1		10/05/04
Styrene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
www.phaseonline.com

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CERTIFICATE OF ANALYSIS
No. 04092410 Page 3 of 16
Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: MW5 092404 / 04092410-01						
Volatile Organic Compounds						
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Tetrachloroethene	17	ug/L	EPA 8260B	1		10/05/04
Toluene	2,600	ug/L	EPA 8260B	100		10/07/04
1,2,3-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1-Trichloroethane	E 500	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichloroethane	11	ug/L	EPA 8260B	1		10/05/04
Trichloroethene	19,000	ug/L	EPA 8260B	100		10/07/04
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trimethylbenzene	130	ug/L	EPA 8260B	1		10/05/04
1,3,5-Trimethylbenzene	39	ug/L	EPA 8260B	1		10/05/04
Vinyl chloride	E 300	ug/L	EPA 8260B	1		10/05/04
m&p-Xylene	220	ug/L	EPA 8260B	3		10/05/04
o-Xylene	72	ug/L	EPA 8260B	3		10/05/04
Methyl-t-butyl ether	ND	ug/L	EPA 8260B	1		10/05/04
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10		10/05/04
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10		10/05/04
4-Methyl-2-Pentanone (MIBK)	13	ug/L	EPA 8260B	10		10/05/04
Acetone	ND	ug/L	EPA 8260B	10		10/05/04
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5		10/05/04
Carbon disulfide	ND	ug/L	EPA 8260B	1		10/05/04
Vinyl acetate	ND	ug/L	EPA 8260B	1		10/05/04
2-Chloroethylvinyl ether	ND	ug/L	EPA 8260B	1		10/05/04
Cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04

Reviewed By: Matt Collier
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.
b - found in blank / suspected lab artifact.
E - estimated value, exceeds calibration range.

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CERTIFICATE OF ANALYSIS
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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: MW5 092404 (dissolved) / 04092410-02						
Dissolved Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Arsenic	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Beryllium	**5.3**	ug/L	EPA 6020	4	10/04/04	10/11/04
Cadmium	**5.3**	ug/L	EPA 6020	5	10/04/04	10/11/04
Chromium	**15**	ug/L	EPA 6020	5	10/04/04	10/11/04
Copper	**99**	ug/L	EPA 6020	5	10/04/04	10/11/04
Lead	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Mercury	ND	ug/L	EPA 6020	1	10/04/04	10/11/04
Nickel	**120**	ug/L	EPA 6020	5	10/04/04	10/11/04
Selenium	**32**	ug/L	EPA 6020	5	10/04/04	10/11/04
Silver	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Thallium	ND	ug/L	EPA 6020	2	10/04/04	10/11/04
Zinc	**240**	ug/L	EPA 6020	50	10/04/04	10/11/04

Reviewed By: Matt Cahee
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

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CERTIFICATE OF ANALYSIS
No. 04092410 Page 5 of 16
Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: MW3 092404 / 04092410-03						
Dissolved Gases in Water						
Ethane	ND	mg/L	SM6211B/EPA8015	0.01		09/28/04
Ethene	ND	mg/L	SM6211B/EPA8015	0.01		09/28/04
Ferric Iron						
Iron (Fe3+)	ND	mg/L	Mod_7199	1		09/25/04
Nitrate Nitrogen						
Nitrate	ND	mg/L	EPA 300.0	0.2		09/27/04
Perchlorate						
Perchlorate	ND	ug/L	EPA 314.0	4	10/05/04	10/05/04
Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Arsenic	9.7	ug/L	EPA 6020	5	09/27/04	09/29/04
Beryllium	ND	ug/L	EPA 6020	4	09/27/04	09/29/04
Cadmium	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Chromium	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Copper	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Lead	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Mercury	ND	ug/L	EPA 6020	1	09/27/04	09/29/04
Nickel	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Selenium	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Silver	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Thallium	ND	ug/L	EPA 6020	2	09/27/04	09/29/04
Zinc	69	ug/L	EPA 6020	50	09/27/04	09/29/04
Total Sulfate						
Sulfate	69	mg/L	EPA 300.0	1		09/27/04
Volatile Organic Compounds						
Benzene	ND	ug/L	EPA 8260B	1		10/06/04
Bromobenzene	ND	ug/L	EPA 8260B	1		10/06/04
Bromochloromethane	ND	ug/L	EPA 8260B	1		10/06/04
Bromodichloromethane	ND	ug/L	EPA 8260B	1		10/06/04
Bromoform	ND	ug/L	EPA 8260B	1		10/06/04
Bromomethane	ND	ug/L	EPA 8260B	1		10/06/04
n-Butylbenzene	ND	ug/L	EPA 8260B	1		10/06/04
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1		10/06/04
sec-Butylbenzene	ND	ug/L	EPA 8260B	1		10/06/04

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: MW3 092404 / 04092410-03						
Volatile Organic Compounds						
tert-Butylbenzene	ND	ug/L	EPA 8260B	1		10/06/04
Carbon tetrachloride	ND	ug/L	EPA 8260B	1		10/06/04
Chlorobenzene	ND	ug/L	EPA 8260B	1		10/06/04
Chloroethane	ND	ug/L	EPA 8260B	1		10/06/04
Chloroform	ND	ug/L	EPA 8260B	1		10/06/04
Chloromethane	ND	ug/L	EPA 8260B	1		10/06/04
2-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/06/04
4-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/06/04
Dibromochloromethane	ND	ug/L	EPA 8260B	1		10/06/04
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1		10/06/04
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1		10/06/04
Dibromomethane	ND	ug/L	EPA 8260B	1		10/06/04
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/06/04
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/06/04
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/06/04
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1		10/06/04
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1		10/06/04
1,2-Dichloroethane	ND	ug/L	EPA 8260B	1		10/06/04
1,1-Dichloroethene	ND	ug/L	EPA 8260B	1		10/06/04
cis-1,2-Dichloroethene	330	ug/L	EPA 8260B	10		10/07/04
trans-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1		10/06/04
1,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/06/04
1,3-Dichloropropane	ND	ug/L	EPA 8260B	1		10/06/04
2,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/06/04
1,1-Dichloropropene	ND	ug/L	EPA 8260B	1		10/06/04
Ethylbenzene	ND	ug/L	EPA 8260B	1		10/06/04
Isopropylbenzene	ND	ug/L	EPA 8260B	1		10/06/04
p-Isopropyltoluene	ND	ug/L	EPA 8260B	1		10/06/04
Methylene chloride	ND	ug/L	EPA 8260B	1		10/06/04
Naphthalene	ND	ug/L	EPA 8260B	1		10/06/04
n-Propylbenzene	ND	ug/L	EPA 8260B	1		10/06/04
Styrene	ND	ug/L	EPA 8260B	1		10/06/04
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/06/04

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: MW3 092404 / 04092410-03						
Volatile Organic Compounds						
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/06/04
Tetrachloroethene	ND	ug/L	EPA 8260B	1		10/06/04
Toluene	ND	ug/L	EPA 8260B	1		10/06/04
1,2,3-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/06/04
1,2,4-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/06/04
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1		10/06/04
1,1,2-Trichloroethane	ND	ug/L	EPA 8260B	1		10/06/04
Trichloroethene	120	ug/L	EPA 8260B	1		10/06/04
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	1		10/06/04
1,2,4-Trimethylbenzene	ND	ug/L	EPA 8260B	1		10/06/04
1,3,5-Trimethylbenzene	ND	ug/L	EPA 8260B	1		10/06/04
Vinyl chloride	29	ug/L	EPA 8260B	1		10/06/04
m&p-Xylene	ND	ug/L	EPA 8260B	3		10/06/04
o-Xylene	ND	ug/L	EPA 8260B	3		10/06/04
Methyl-t-butyl ether	ND	ug/L	EPA 8260B	1		10/06/04
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10		10/06/04
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10		10/06/04
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10		10/06/04
Acetone	ND	ug/L	EPA 8260B	10		10/06/04
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5		10/06/04
Carbon disulfide	ND	ug/L	EPA 8260B	1		10/06/04
Vinyl acetate	ND	ug/L	EPA 8260B	1		10/06/04
2-Chloroethylvinyl ether	ND	ug/L	EPA 8260B	1		10/06/04
Cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/06/04
Trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/06/04

Reviewed By: Matt Calve
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: MW3 092404 (dissolved) / 04092410-04						
Dissolved Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Arsenic	9.0	ug/L	EPA 6020	5	10/04/04	10/11/04
Beryllium	ND	ug/L	EPA 6020	4	10/04/04	10/11/04
Cadmium	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Chromium	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Copper	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Lead	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Mercury	ND	ug/L	EPA 6020	1	10/04/04	10/11/04
Nickel	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Selenium	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Silver	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Thallium	ND	ug/L	EPA 6020	2	10/04/04	10/11/04
Zinc	ND	ug/L	EPA 6020	50	10/04/04	10/11/04

Reviewed By:
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW1B 092404 / 04092410-05						
Dissolved Gases in Water						
Ethane	**0.092**	mg/L	SM6211B/EPA8015	0.012		09/28/04
Ethene	**0.611**	mg/L	SM6211B/EPA8015	0.012		09/28/04
Ferric Iron						
Iron (Fe3+)	ND	mg/L	Mod_7199	1		09/25/04
Nitrate Nitrogen						
Nitrate	ND	mg/L	EPA 300.0	0.2		09/27/04
Perchlorate						
Perchlorate	ND	ug/L	EPA 314.0	20	10/06/04	10/06/04
Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Arsenic	**20**	ug/L	EPA 6020	5	09/27/04	09/29/04
Beryllium	ND	ug/L	EPA 6020	4	09/27/04	09/29/04
Cadmium	**98**	ug/L	EPA 6020	5	09/27/04	09/29/04
Chromium	**39**	ug/L	EPA 6020	5	09/27/04	09/29/04
Copper	**28**	ug/L	EPA 6020	5	09/27/04	09/29/04
Lead	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Mercury	**3.8**	ug/L	EPA 6020	1	09/27/04	09/29/04
Nickel	**28**	ug/L	EPA 6020	5	09/27/04	09/29/04
Selenium	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Silver	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Thallium	ND	ug/L	EPA 6020	2	09/27/04	09/29/04
Zinc	**160**	ug/L	EPA 6020	50	09/27/04	09/29/04
Total Sulfate						
Sulfate	**69**	mg/L	EPA 300.0	1		09/27/04
Volatile Organic Compounds						
Benzene	**42**	ug/L	EPA 8260B	1		10/05/04
Bromobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Bromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromodichloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromoform	ND	ug/L	EPA 8260B	1		10/05/04
Bromomethane	ND	ug/L	EPA 8260B	1		10/05/04
n-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1		10/05/04
sec-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW1B 092404 / 04092410-05						
Volatile Organic Compounds						
tert-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Carbon tetrachloride	ND	ug/L	EPA 8260B	1		10/05/04
Chlorobenzene	9	ug/L	EPA 8260B	1		10/05/04
Chloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Chloroform	3	ug/L	EPA 8260B	1		10/05/04
Chloromethane	ND	ug/L	EPA 8260B	1		10/05/04
2-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
4-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
Dibromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1		10/05/04
Dibromomethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloroethane	39	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethene	14	ug/L	EPA 8260B	1		10/05/04
cis-1,2-Dichloroethene	4,900	ug/L	EPA 8260B	100		10/07/04
trans-1,2-Dichloroethene	24	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
2,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Ethylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Isopropylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
p-Isopropyltoluene	ND	ug/L	EPA 8260B	1		10/05/04
Methylene chloride	ND	ug/L	EPA 8260B	1		10/05/04
Naphthalene	ND	ug/L	EPA 8260B	1		10/05/04
n-Propylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Styrene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04

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Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW1B 092404 / 04092410-05						
Volatile Organic Compounds						
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Tetrachloroethene	ND	ug/L	EPA 8260B	1		10/05/04
Toluene	17	ug/L	EPA 8260B	1		10/05/04
1,2,3-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trichlorobenzene	2	ug/L	EPA 8260B	1		10/05/04
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Trichloroethene	E 260	ug/L	EPA 8260B	1		10/05/04
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trimethylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,3,5-Trimethylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Vinyl chloride	7,700	ug/L	EPA 8260B	100		10/07/04
m&p-Xylene	4	ug/L	EPA 8260B	3		10/05/04
o-Xylene	9	ug/L	EPA 8260B	3		10/05/04
Methyl-t-butyl ether	ND	ug/L	EPA 8260B	1		10/05/04
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10		10/05/04
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10		10/05/04
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10		10/05/04
Acetone	ND	ug/L	EPA 8260B	10		10/05/04
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5		10/05/04
Carbon disulfide	ND	ug/L	EPA 8260B	1		10/05/04
Vinyl acetate	ND	ug/L	EPA 8260B	1		10/05/04
2-Chloroethylvinyl ether	ND	ug/L	EPA 8260B	1		10/05/04
Cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04

Reviewed By: Matt Cohee
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL
E - estimated value, exceeds calibration range.

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ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE •

CERTIFICATE OF ANALYSIS
No. 04092410 Page 12 of 16
Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW1B 092404 (dissolved) / 04092410-06						
Dissolved Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Arsenic	18	ug/L	EPA 6020	5	10/04/04	10/11/04
Beryllium	ND	ug/L	EPA 6020	4	10/04/04	10/11/04
Cadmium	88	ug/L	EPA 6020	5	10/04/04	10/11/04
Chromium	15	ug/L	EPA 6020	5	10/04/04	10/11/04
Copper	21	ug/L	EPA 6020	5	10/04/04	10/11/04
Lead	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Mercury	ND	ug/L	EPA 6020	1	10/04/04	10/11/04
Nickel	25	ug/L	EPA 6020	5	10/04/04	10/11/04
Selenium	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Silver	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Thallium	ND	ug/L	EPA 6020	2	10/04/04	10/11/04
Zinc	160	ug/L	EPA 6020	50	10/04/04	10/11/04

Reviewed By: Matt Oakes
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

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CERTIFICATE OF ANALYSIS
No. 04092410 Page 13 of 16
Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW1A 092404 / 04092410-07						
Dissolved Gases in Water						
Ethane	**0.022**	mg/L	SM6211B/EPA8015	0.012		09/28/04
Ethene	**0.244**	mg/L	SM6211B/EPA8015	0.012		09/28/04
Ferric Iron						
Iron (Fe3+)	**3.70**	mg/L	Mod_7199	1		09/25/04
Nitrate Nitrogen						
Nitrate	**0.60**	mg/L	EPA 300.0	0.2		09/27/04
Perchlorate						
Perchlorate	ND	ug/L	EPA 314.0	20	10/06/04	10/06/04
Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Arsenic	**6.4**	ug/L	EPA 6020	5	09/27/04	09/29/04
Beryllium	ND	ug/L	EPA 6020	4	09/27/04	09/29/04
Cadmium	**930**	ug/L	EPA 6020	5	09/27/04	09/29/04
Chromium	**420**	ug/L	EPA 6020	5	09/27/04	09/29/04
Copper	**22**	ug/L	EPA 6020	5	09/27/04	09/29/04
Lead	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Mercury	**1.5**	ug/L	EPA 6020	1	09/27/04	09/29/04
Nickel	**110**	ug/L	EPA 6020	5	09/27/04	09/29/04
Selenium	**5.9**	ug/L	EPA 6020	5	09/27/04	09/29/04
Silver	ND	ug/L	EPA 6020	5	09/27/04	09/29/04
Thallium	ND	ug/L	EPA 6020	2	09/27/04	09/29/04
Zinc	**390**	ug/L	EPA 6020	50	09/27/04	09/29/04
Total Sulfate						
Sulfate	**79**	mg/L	EPA 300.0	1		09/27/04
Volatile Organic Compounds						
Benzene	**25**	ug/L	EPA 8260B	1		10/05/04
Bromobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Bromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromodichloromethane	ND	ug/L	EPA 8260B	1		10/05/04
Bromoform	ND	ug/L	EPA 8260B	1		10/05/04
Bromomethane	ND	ug/L	EPA 8260B	1		10/05/04
n-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1		10/05/04
sec-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04

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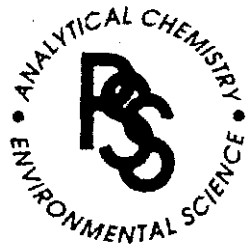

CERTIFICATE OF ANALYSIS
No. 04092410 Page 14 of 16
Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW1A 092404 / 04092410-07						
Volatile Organic Compounds						
tert-Butylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Carbon tetrachloride	2	ug/L	EPA 8260B	1		10/05/04
Chlorobenzene	7	ug/L	EPA 8260B	1		10/05/04
Chloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Chloroform	11	ug/L	EPA 8260B	1		10/05/04
Chloromethane	ND	ug/L	EPA 8260B	1		10/05/04
2-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
4-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/05/04
Dibromochloromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1		10/05/04
Dibromomethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/05/04
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloroethane	45	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloroethene	28	ug/L	EPA 8260B	1		10/05/04
cis-1,2-Dichloroethene	8,900	ug/L	EPA 8260B	100		10/07/04
trans-1,2-Dichloroethene	62	ug/L	EPA 8260B	1		10/05/04
1,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,3-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
2,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,1-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Ethylbenzene	2	ug/L	EPA 8260B	1		10/05/04
Isopropylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
p-Isopropyltoluene	ND	ug/L	EPA 8260B	1		10/05/04
Methylene chloride	E, b 220	ug/L	EPA 8260B	1		10/05/04
Naphthalene	1	ug/L	EPA 8260B	1		10/05/04
n-Propylbenzene	ND	ug/L	EPA 8260B	1		10/05/04
Styrene	ND	ug/L	EPA 8260B	1		10/05/04
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04

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CERTIFICATE OF ANALYSIS
No. 04092410 Page 15 of 16
Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW1A 092404 / 04092410-07						
Volatile Organic Compounds						
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/05/04
Tetrachloroethene	7	ug/L	EPA 8260B	1		10/05/04
Toluene	180	ug/L	EPA 8260B	1		10/05/04
1,2,3-Trichlorobenzene	3	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trichlorobenzene	19	ug/L	EPA 8260B	1		10/05/04
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1		10/05/04
1,1,2-Trichloroethane	4	ug/L	EPA 8260B	1		10/05/04
Trichloroethene	6,200	ug/L	EPA 8260B	1		10/05/04
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	1		10/05/04
1,2,4-Trimethylbenzene	3	ug/L	EPA 8260B	1		10/05/04
1,3,5-Trimethylbenzene	1	ug/L	EPA 8260B	1		10/05/04
Vinyl chloride	5,300	ug/L	EPA 8260B	100		10/07/04
m&p-Xylene	9	ug/L	EPA 8260B	3		10/05/04
o-Xylene	10	ug/L	EPA 8260B	3		10/05/04
Methyl-t-butyl ether	ND	ug/L	EPA 8260B	1		10/05/04
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10		10/05/04
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10		10/05/04
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10		10/05/04
Acetone	ND	ug/L	EPA 8260B	10		10/05/04
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5		10/05/04
Carbon disulfide	ND	ug/L	EPA 8260B	1		10/05/04
Vinyl acetate	ND	ug/L	EPA 8260B	1		10/05/04
2-Chloroethylvinyl ether	ND	ug/L	EPA 8260B	1		10/05/04
Cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04
Trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/05/04

Reviewed By: Matt Allen
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.
b - found in blank / suspected lab artifact.
E - estimated value, exceeds calibration range.

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CERTIFICATE OF ANALYSIS
No. 04092410 Page 16 of 16
Tetra Tech, Inc.
October 19, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW1A 092404 (dissolved) / 04092410-08						
Dissolved Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Arsenic	5.7	ug/L	EPA 6020	5	10/04/04	10/11/04
Beryllium	ND	ug/L	EPA 6020	4	10/04/04	10/11/04
Cadmium	1000	ug/L	EPA 6020	5	10/04/04	10/11/04
Chromium	350	ug/L	EPA 6020	5	10/04/04	10/11/04
Copper	19	ug/L	EPA 6020	5	10/04/04	10/11/04
Lead	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Mercury	ND	ug/L	EPA 6020	1	10/04/04	10/11/04
Nickel	110	ug/L	EPA 6020	5	10/04/04	10/11/04
Selenium	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Silver	ND	ug/L	EPA 6020	5	10/04/04	10/11/04
Thallium	ND	ug/L	EPA 6020	2	10/04/04	10/11/04
Zinc	400	ug/L	EPA 6020	50	10/04/04	10/11/04

Reviewed By: Matt Collier
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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email: info@phaseonline.com

(1) CLIENT: Tetra Tech NUS PHONE NO.: (916) 276-7846
PROJECT MGR: Nisha Bansal FAX NO.: ( )
EMAIL:
PROJECT NAME: Martin State Airport Data-Gap
SITE LOCATION: Martin State Airport
PROJECT NO.: N5704-0000 P.O. NO.:

PSS Project #: 0409241.0

PAGE 1 OF 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No. CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Preservatives Used	HCl	HCl	HCl	HNO_3	$NaHS$	ICE	ICE			REMARKS
							Analysis Required (3)	Volatiles organic Compounds	Ethene, Ethane	Total Iron	Total Recov. Petroleum Hydrocarbons	Dissolved Priority Pollutant metals	Nitrate + Sulfate	Alkalinity			
	MW5-092404	9-24-04	0840	Water	10	G		X	X	X	X	X	X	X			
	MW3-092404	9-24-04	1015		10	G		X	X	X	X	X	X	X			
	DMW10-092404		1140		10	G		X	X	X	X	X	X	X			
	DMW11-092404		1250		10	G		X	X	X	X	X	X	X			

(5)

Collected / Relinquished By: (1)	Date	Time	Received By:
Martin Ephraim	9-24-04	1500	
Relinquished By: (2)	Date 9/24	Time 2:40	Received By:
Relinquished By: (3)	Date	Time	Received By:
Collected / Relinquished By: (4)	Date	Time	Received By:

(4)

Requested Turnaround Time
☐ 5-Day (Std.) ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☐ Other

Sample Condition Upon Receipt: Cool on ice
Custody Seal:
Data Deliverables Required:
Shipping Carrier: Hand
Shipping Ticket No.:
Special Instructions:

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The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

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TENTATIVELY IDENTIFIED COMPOUNDS

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PHASE SEPARATION SCIENCE, INC.

Tentatively Identified Compounds

LID #: **04092410**
Client: Tetra Tech, Inc.
Project: Martin State Airport- Quarterly Sampling

	Estimated Concentration	Units	CAS #	Matrix	Collected	Analyzed
Sample ID: 04092410-01 / MW5 092404						
VOC Tentatively Identified Compounds						
Benzene, 1,3-dimethyl-	40	ug/L	000108-38-3	Water	09/24/04	10/05/04

Sample ID: 04092410-03 / MW3 092404
No tentatively identified compounds were detected in this sample.

Sample ID: 04092410-05 / DMW1B 092404
No tentatively identified compounds were detected in this sample.

Sample ID: 04092410-07 / DMW1A 092404
No tentatively identified compounds were detected in this sample.

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Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Volatile Organic Compounds

- *Surrogate Summary*
- *Method Blank Summary*
- *LCS Summary*
- *Continuing Calibration Verification Summary*
- *BFB Tune Summary*

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VOLATILES

SYSTEM MONITORING COMPOUND RECOVERY (SURROGATES)

METHOD: EPA 8260 **LAB CODE:** SURR

MATRIX: WATER **BATCH NUMBER:** 2043

Sample ID	Date/Time Analyzed	4-Bromofluorobenzene	Dibromofluoromethane	Toluene d-8
MW5 092404 / 04092410-01	10/05/04 08:41 PM	104	97	97
DMW1D 092404 / 04092410-05	10/05/04 09:30 PM	101	98	101
DMW1I 092404 / 04092410-07	10/05/04 09:55 PM	100	98	98
Upper Limit		113	113	110
Lower Limit		67	84	83

* - Indicates values outside of QC control limits.

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VOLATILES

SYSTEM MONITORING COMPOUND RECOVERY (SURROGATES)

METHOD: EPA 8260B **LAB CODE:** SURR

MATRIX: WATER **BATCH NUMBER:** 2051

Sample ID	Date/Time Analyzed	4-Bromofluorobenzene	Dibromofluoromethane	Toluene d-8
MW5 092404 / 04092410-01	10/05/04 08:41 PM	104	97	97
MW3 092404 / 04092410-03	10/06/04 11:32 AM	100	101	100
DMW1D 092404 / 04092410-05	10/05/04 09:30 PM	101	98	101
DMW1I 092404 / 04092410-07	10/05/04 09:55 PM	100	98	98
Upper Limit		113	113	110
Lower Limit		67	84	83

* - Indicates values outside of QC control limits.

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VOLATILES

SYSTEM MONITORING COMPOUND RECOVERY (SURROGATES)

METHOD: **LAB CODE:** SURR

MATRIX: WATER **BATCH NUMBER:** 2056

Sample ID	Date/Time Analyzed	4-Bromofluorobenzene	Dibromofluoromethane	Toluene d-8
MW5 092404 / 04092410-01	10/05/04 08:41 PM	104	97	97
MW3 092404 / 04092410-03	10/06/04 11:32 AM	100	101	100
Upper Limit		113	113	110
Lower Limit		67	84	83

* - Indicates values outside of QC control limits.

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VOLATILES

METHOD BLANK SUMMARY

ANALYSIS:	**VOLATILES**	**BATCH ID:**	**2043**
METHOD NO.:	**EPA 8260**	**LAB SAMPLE ID:**	**MB - Water**
LAB FILE ID:	**04100524.D**	**DATE/TIME ANALYZED:**	**10/05/04 08:15 PM**

This Method Blank applies to the following samples:

Field Sample ID	Lab Sample ID	Lab File ID	Date/Time Analyzed
MW5 092404	04092410-01	04100525.D	10/07/04 04:07 PM
DMW1D 092404	04092410-05	04100527.D	10/07/04 12:32 AM
DMW1I 092404	04092410-07	04100528.D	10/07/04 01:01 AM

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METHOD BLANK RESULTS

Analysis: Volatiles
Matrix: Water

Batch ID: 2043
Batch Date: 10/05/04

	Result	Unit	Method	PQL	Analyzed
Benzene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Bromodichloromethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Bromoform	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Bromomethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Carbon tetrachloride	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Chlorobenzene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Chloroethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
CHLOROFORM	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Chloromethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Dibromochloromethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,2-Dichloroethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,1-DICHLOROETHENE	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
cis-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
trans-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,2-DICHLOROPROPANE	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
ETHYLBENZENE	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Isopropylbenzene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Methylene chloride	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Naphthalene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Styrene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Tetrachloroethene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
TOLUENE	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,2,4-Trichlorobenzene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
1,1,2-Trichloroethane	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
Trichloroethene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
VINYL CHLORIDE	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
m&p-Xylene	ND	ug/L	EPA 8260B	3	10/05/04 08:15 PM

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METHOD BLANK RESULTS

Analysis: Volatiles
Matrix: Water
Batch ID: 2043
Batch Date: 10/05/04

	Result	Unit	Method	PQL	Analyzed
o-Xylene	ND	ug/L	EPA 8260B	3	10/05/04 08:15 PM
Methyl-t-Butyl Ether	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10	10/05/04 08:15 PM
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10	10/05/04 08:15 PM
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10	10/05/04 08:15 PM
Acetone	ND	ug/L	EPA 8260B	10	10/05/04 08:15 PM
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5	10/05/04 08:15 PM
Carbon Disulfide	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM
trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1	10/05/04 08:15 PM

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100524.D
Acq On : 5 Oct 2004 8:15 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #493
MS Integration Params: rteint.p
Quant Time: Oct 6 9:44 2004

Vial: 24
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	198485	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	279683	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.02	117	229035	50.00	ug/L	-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	98019	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	100509	50.02	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.04%			
33) Toluene d-8 SS#2	6.27	98	352392	50.35	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.70%			
50) 4-Bromofluorobenzene SS#3	9.59	95	138587	50.30	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.60%			

Target Compounds				Qvalue
2) Dichlorodifluoromethane	0.00	85	0	Not Detected
3) Chloromethane	0.00	50	0	Not Detected
4) VINYL CHLORIDE	0.00	62	0	Not Detected
5) Bromomethane	0.00	94	0	Not Detected
6) Chloroethane	0.00	64	0	Not Detected
7) Trichlorofluoromethane	0.00	101	0	Not Detected
8) Acetone	2.23	43	61	Not Detected
9) 1,1-DICHLOROETHENE	0.00	96	0	Not Detected
10) 1,1,2-Trichlorotrifluoroet	0.00	101	0	Not Detected
11) Carbon Disulfide	0.00	76	0	Not Detected
12) Methyl Acetate	0.00	74	0	Not Detected
13) Methylene chloride	2.59	84	1515	Not Detected
14) trans-1,2-Dichloroethene	0.00	96	0	Not Detected
15) Methyl-t-Butyl Ether	0.00	73	0	Not Detected
16) 1,1-Dichloroethane	0.00	63	0	Not Detected
17) cis-1,2-Dichloroethene	0.00	96	0	Not Detected
18) 2-Butanone (MEK)	3.54	43	129	Not Detected
19) CHLOROFORM	0.00	83	0	Not Detected
21) 1,1,1-Trichloroethane	0.00	97	0	Not Detected
22) Cyclohexane	0.00	56	0	Not Detected d
24) Carbon tetrachloride	0.00	117	0	Not Detected
25) Benzene	4.31	78	237	Not Detected
26) 1,2-Dichloroethane	0.00	62	0	Not Detected
27) Trichloroethene	0.00	95	0	Not Detected
28) 1,2-DICHLOROPROPANE	0.00	63	0	Not Detected
29) Methylcyclohexane	0.00	83	0	Not Detected
30) Bromodichloromethane	0.00	83	0	Not Detected

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100524.D
Acq On : 5 Oct 2004 8:15 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #493
MS Integration Params: rteint.p
Quant Time: Oct 6 9:44 2004

Vial: 24
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	0.00	75	0	Not Detected	
32) 4-Methyl-2-Pentanone (MIBK	0.00	43	0	Not Detected	d
34) TOLUENE	0.00	92	0	Not Detected	
35) trans-1,3-Dichloropropene	0.00	75	0	Not Detected	
36) 1,1,2-Trichloroethane	0.00	83	0	Not Detected	
37) Tetrachloroethene	0.00	166	0	Not Detected	
38) 2-Hexanone (MBK)	0.00	43	0	Not Detected	
40) Dibromochloromethane	0.00	129	0	Not Detected	
41) 1,2-Dibromoethane	0.00	107	0	Not Detected	
42) Chlorobenzene	0.00	112	0	Not Detected	
43) ETHYLBENZENE	8.21	91	68	Not Detected	
44) m&p-Xylene	8.36	106	108	Not Detected	
45) o-Xylene	0.00	106	0	Not Detected	
46) Styrene	0.00	104	0	Not Detected	
47) Bromoform	0.00	173	0	Not Detected	
49) Isopropylbenzene	0.00	105	0	Not Detected	
51) 1,1,2,2-Tetrachloroethane	0.00	83	0	Not Detected	
52) 1,3-Dichlorobenzene	0.00	146	0	Not Detected	d
53) 1,4-Dichlorobenzene	0.00	146	0	Not Detected	d
54) 1,2-Dichlorobenzene	0.00	146	0	Not Detected	
55) 1,2-Dibromo-3-chloropropan	0.00	75	0	Not Detected	
56) 1,2,4-Trichlorobenzene	14.04	180	223	Not Detected	
57) Naphthalene	14.38	128	688	Not Detected	

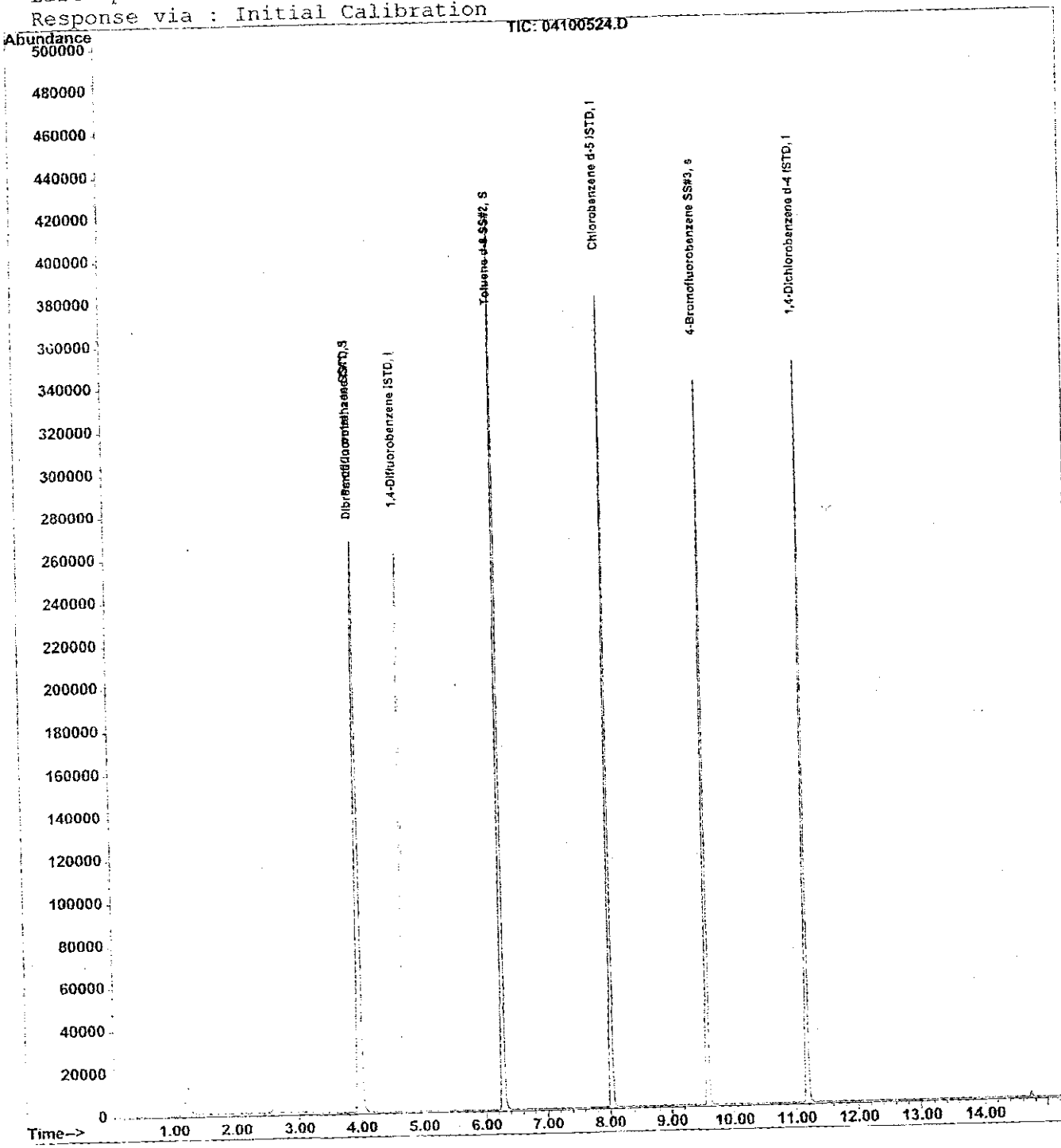
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041005\04100524.D
Acq On : 5 Oct 2004 8:15 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #493
MS Integration Params: rteint.p
Quant Time: Oct 6 9:44 2004

Vial: 24
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



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VOLATILES

METHOD BLANK SUMMARY

ANALYSIS:	**VOLATILES**	**BATCH ID:**	**2056**
METHOD NO.:		**LAB SAMPLE ID:**	**MB - Water**
LAB FILE ID:	**04100705.D**	**DATE/TIME ANALYZED:**	**10/07/04 12:01 PM**

This Method Blank applies to the following samples:

Field Sample ID	Lab Sample ID	Lab File ID	Date/Time Analyzed
MW5 092404	04092410-01	04100525.D	10/07/04 04:07 PM
MW3 092404	04092410-03	04100606.D	10/07/04 05:30 PM

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METHOD BLANK RESULTS

Analysis: Volatiles
Matrix: Water

Batch ID: 2056
Batch Date: 10/07/04

	Result	Unit	Method	PQL	Analyzed
Benzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Bromobenzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Bromochloromethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Bromodichloromethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Bromoform	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Bromomethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
n-Butylbenzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
sec-Butylbenzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
tert-Butylbenzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Carbon tetrachloride	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Chlorobenzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Chloroethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
CHLOROFORM	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Chloromethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
2-Chlorotoluene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
4-Chlorotoluene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Dibromochloromethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Dibromomethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,2-Dichloroethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,1-DICHLOROETHENE	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
cis-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
trans-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,2-DICHLOROPROPANE	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,3-Dichloropropane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
2,2-Dichloropropane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,1-Dichloropropene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
ETHYLBENZENE	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Isopropylbenzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
p-Isopropyltoluene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM

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METHOD BLANK RESULTS

Analysis: Volatiles
Matrix: Water
Batch ID: 2056
Batch Date: 10/07/04

	Result	Unit	Method	PQL	Analyzed
Methylene chloride	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Naphthalene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
n-Propylbenzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Styrene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Tetrachloroethene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
TOLUENE	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,2,3-Trichlorobenzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,2,4-Trichlorobenzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,1,2-Trichloroethane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
Trichloroethene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,2,4-Trimethylbenzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
1,3,5-Trimethylbenzene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
VINYL CHLORIDE	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
m&p-Xylene	ND	ug/L	EPA 8260B	3	10/07/04 12:01 PM
o-Xylene	ND	ug/L	EPA 8260B	3	10/07/04 12:01 PM
Methyl-t-Butyl Ether	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10	10/07/04 12:01 PM
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10	10/07/04 12:01 PM
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10	10/07/04 12:01 PM
Acetone	ND	ug/L	EPA 8260B	10	10/07/04 12:01 PM
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5	10/07/04 12:01 PM
Carbon Disulfide	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
vinyl acetate	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
2-Chloroethylvinyl Ether	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM
trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1	10/07/04 12:01 PM

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100705.D
Acq On : 7 Oct 2004 12:01 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #493
MS Integration Params: rteint.p
Quant Time: Oct 7 15:45 2004

Vial: 5
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	197645	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	280747	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.02	117	234158	50.00	ug/L	-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	96046	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	99583	49.77	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.54%			
33) Toluene d-8 SS#2	6.27	98	354885	50.51	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.02%			
50) 4-Bromofluorobenzene SS#3	9.58	95	141835	52.53	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 105.06%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	Not Detected		
3) Chloromethane	0.00	50	0	Not Detected		
4) VINYL CHLORIDE	0.00	62	0	Not Detected		
5) Bromomethane	0.00	94	0	Not Detected		
6) Chloroethane	0.00	64	0	Not Detected		
7) Trichlorofluoromethane	0.00	101	0	Not Detected		
8) Acetone	2.25	43	284	Not Detected		
9) 1,1-DICHLOROETHENE	0.00	96	0	Not Detected		
10) 1,1,2-Trichlorotrifluoroet	0.00	101	0	Not Detected		
11) Carbon Disulfide	0.00	76	0	Not Detected		
12) Methyl Acetate	0.00	74	0	Not Detected		
13) Methylene chloride	2.57	84	249	Not Detected		
14) trans-1,2-Dichloroethene	0.00	96	0	Not Detected		
15) Methyl-t-Butyl Ether	0.00	73	0	Not Detected		
16) 1,1-Dichloroethane	0.00	63	0	Not Detected		
17) cis-1,2-Dichloroethene	0.00	96	0	Not Detected		
18) 2-Butanone (MEK)	0.00	43	0	Not Detected		
19) CHLOROFORM	0.00	83	0	Not Detected		
21) 1,1,1-Trichloroethane	0.00	97	0	Not Detected		
22) Cyclohexane	0.00	56	0	Not Detected d		
24) Carbon tetrachloride	0.00	117	0	Not Detected		
25) Benzene	4.34	78	221	Not Detected		
26) 1,2-Dichloroethane	0.00	62	0	Not Detected		
27) Trichloroethene	0.00	95	0	Not Detected		
28) 1,2-DICHLOROPROPANE	0.00	63	0	Not Detected		
29) Methylcyclohexane	0.00	83	0	Not Detected		
30) Bromodichloromethane	0.00	83	0	Not Detected		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100705.D Vial: 5
Acq On : 7 Oct 2004 12:01 pm Operator: MI
Sample : METHOD BLANK 5mL Inst : VOC#1
Misc : IS/S 1uL #493 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 15:45 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31)	cis-1,3-Dichloropropene	0.00	75	0	Not Detected	
32)	4-Methyl-2-Pentanone (MIBK	0.00	43	0	Not Detected	d
34)	TOLUENE	0.00	92	0	Not Detected	
35)	trans-1,3-Dichloropropene	0.00	75	0	Not Detected	
36)	1,1,2-Trichloroethane	0.00	83	0	Not Detected	
37)	Tetrachloroethene	0.00	166	0	Not Detected	
38)	2-Hexanone (MBK)	0.00	43	0	Not Detected	
40)	Dibromochloromethane	0.00	129	0	Not Detected	
41)	1,2-Dibromoethane	0.00	107	0	Not Detected	
42)	Chlorobenzene	0.00	112	0	Not Detected	
43)	ETHYLBENZENE	8.37	91	158	Not Detected	
44)	m&p-Xylene	0.00	106	0	Not Detected	
45)	o-Xylene	0.00	106	0	Not Detected	
46)	Styrene	0.00	104	0	Not Detected	
47)	Bromoform	0.00	173	0	Not Detected	
49)	Isopropylbenzene	9.58	105	69	Not Detected	
51)	1,1,2,2-Tetrachloroethane	0.00	83	0	Not Detected	
52)	1,3-Dichlorobenzene	0.00	146	0	Not Detected	d
53)	1,4-Dichlorobenzene	11.21	146	2117	Not Detected	
54)	1,2-Dichlorobenzene	0.00	146	0	Not Detected	
55)	1,2-Dibromo-3-chloropropan	0.00	75	0	Not Detected	
56)	1,2,4-Trichlorobenzene	14.05	180	62	Not Detected	
57)	Naphthalene	14.38	128	532	Not Detected	

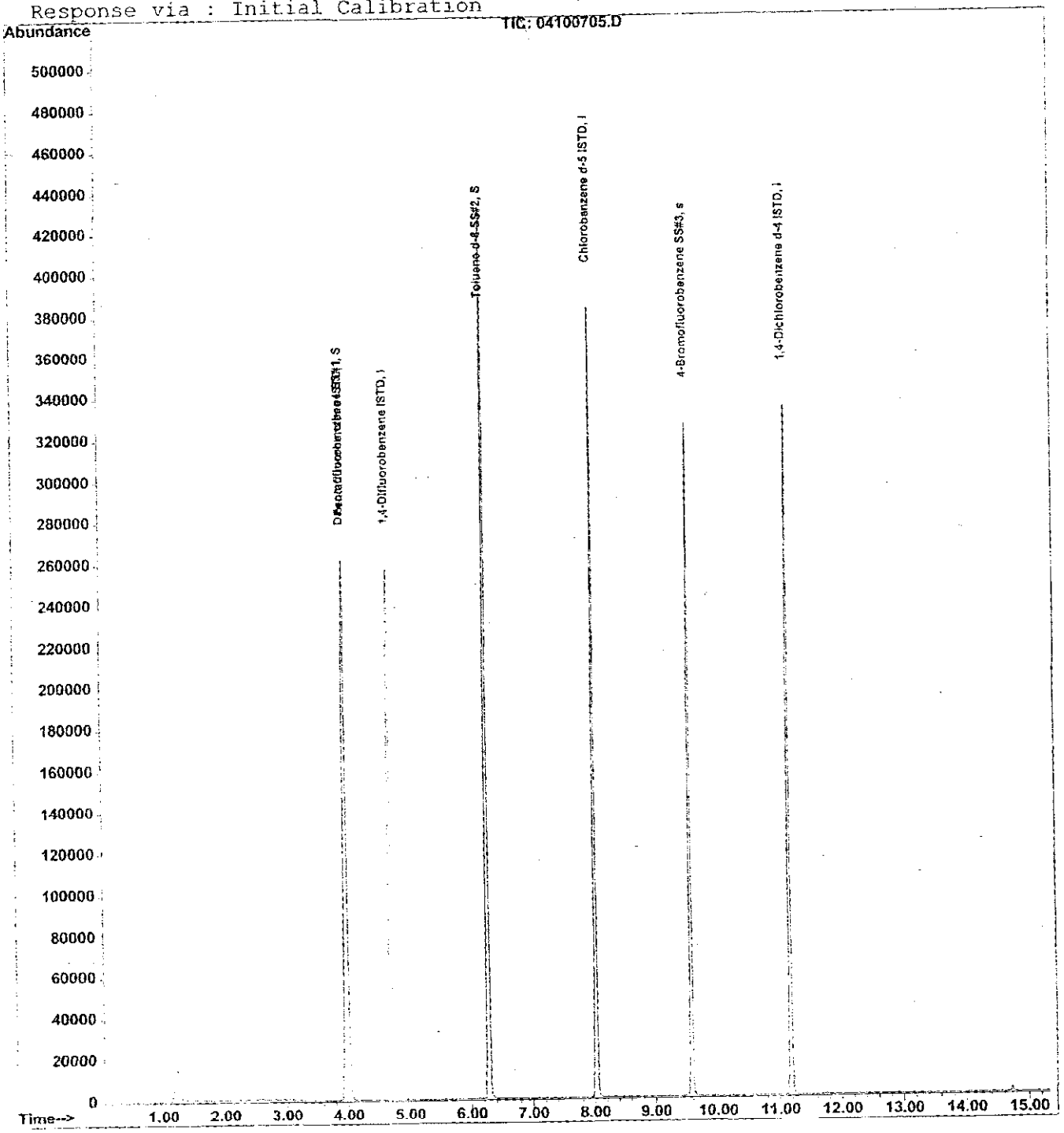
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041007\04100705.D
Acq On : 7 Oct 2004 12:01 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #493
MS Integration Params: rteint.p
Quant Time: Oct 7 15:45 2004

Vial: 5
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100705.D
Acq On : 7 Oct 2004 12:01 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #493
MS Integration Params: rteint.p
Quant Time: Oct 7 15:46 2004

Vial: 5
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentaflourobenzene	3.99	168	197645	50.00	ug/L	0.00
12) 1,4-Difluorobenzene	4.70	114	280747	50.00	ug/L	0.00
19) Chlorobenzene d-5	8.02	117	234158	50.00	ug/L	0.00
27) 1,4-Dichlorobenzene d-4	11.18	152	96046	50.00	ug/L	-0.01
System Monitoring Compounds						
11) Dibromofluoromethane SS#1	3.96	113	99583	49.74	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.48%			
18) Toluene d-8 SS#2	6.27	98	354885	50.41	ug/L	-0.01
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.82%			
23) 4-Bromofluorobenzene SS#3	9.58	95	141835	50.74	ug/L	-0.01
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.48%			
Target Compounds						Qvalue
2) acrolein	0.00	56	0	Not Detected		
3) iodomethane	0.00	142	0	Not Detected		
4) acrylonitrile	0.00	53	0	Not Detected		
5) tert-butanol	0.00	59	0	Not Detected		
6) vinyl acetate	0.00	43	0	Not Detected		
7) diisopropyl ether	0.00	45	0	Not Detected		
8) tert-Butyl ethyl ether	0.00	59	0	Not Detected		
9) 2,2-Dichloropropane	0.00	77	0	Not Detected		
10) Bromochloromethane	0.00	128	0	Not Detected		
13) 1,1-Dichloropropene	0.00	75	0	Not Detected		
14) tert-amyl methyl ether	0.00	73	0	Not Detected		
15) Dibromomethane	0.00	93	0	Not Detected		
16) 1,4-dioxane	0.00	58	0	Not Detected		
17) 2-Chloroethylvinyl Ether	0.00	63	0	Not Detected		
20) 1,3-Dichloropropane	0.00	76	0	Not Detected		
21) 1,1,1,2-Tetrachloroethane	0.00	131	0	Not Detected		
22) 1,2,3-Trichloropropane	0.00	110	0	Not Detected		
24) Bromobenzene	0.00	156	0	Not Detected		
25) trans-1,4-dichloro-2-buten	0.00	75	0	Not Detected		
26) n-Propylbenzene	9.96	91	156	Not Detected		
28) 2-Chlorotoluene	10.05	91	50	Not Detected		
29) 4-Chlorotoluene	10.21	91	199	Not Detected		
30) 1,3,5-Trimethylbenzene	10.21	105	130	Not Detected		
31) tert-Butylbenzene	0.00	119	0	Not Detected		
32) 1,2,4-Trimethylbenzene	10.71	105	202	Not Detected		
33) sec-Butylbenzene	10.96	105	248	Not Detected		
34) 4-Isopropyltoluene	11.18	119	247	Not Detected		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100705.D
Acq On : 7 Oct 2004 12:01 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #493
MS Integration Params: rteint.p
Quant Time: Oct 7 15:46 2004

Vial: 5
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) n-Butylbenzene	11.76	91	573	Not Detected	
36) 1,2,3-Trichlorobenzene	0.00	180	0	Not Detected	d

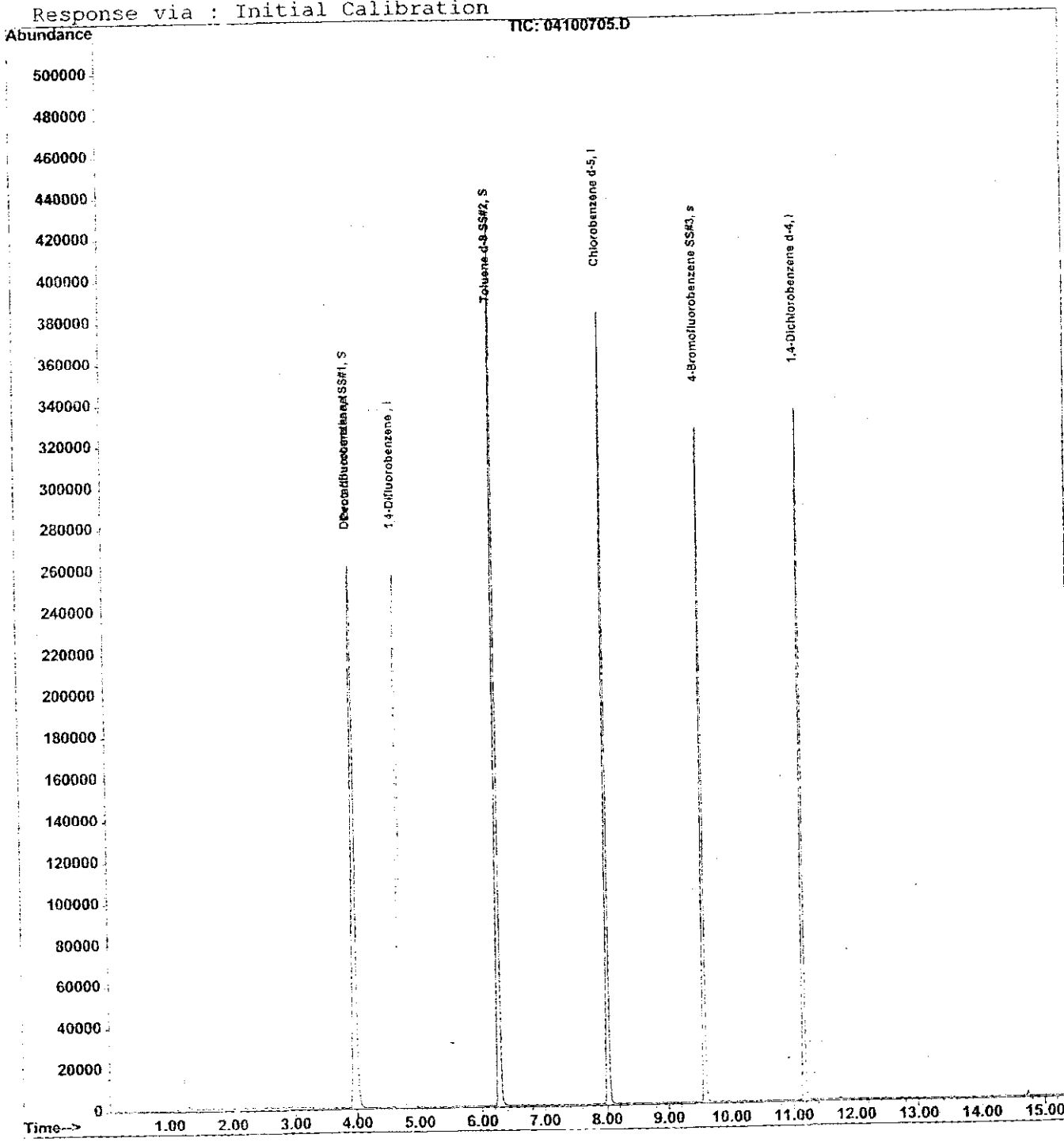
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041007\04100705.D
Acq On : 7 Oct 2004 12:01 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #493
MS Integration Params: rteint.p
Quant Time: Oct 7 15:46 2004

Vial: 5
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration



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410-747-8770
800-932-9047
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PHASE SEPARATION SCIENCE, INC.

VOLATILES

METHOD BLANK SUMMARY

ANALYSIS:	**VOLATILES**	**BATCH ID:**	**2051**
METHOD NO.:	**EPA 8260B**	**LAB SAMPLE ID:**	**MB - Water**
LAB FILE ID:	**04100605.D**	**DATE/TIME ANALYZED:**	**10/06/04 11:07 AM**

This Method Blank applies to the following samples:

Field Sample ID	Lab Sample ID	Lab File ID	Date/Time Analyzed
MW5 092404	04092410-01	04100525.D	10/07/04 04:07 PM
MW3 092404	04092410-03	04100606.D	10/07/04 05:30 PM
DMW1D 092404	04092410-05	04100527.D	10/07/04 12:32 AM
DMW1I 092404	04092410-07	04100528.D	10/07/04 01:01 AM

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ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
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PHASE SEPARATION SCIENCE, INC.

ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE

METHOD BLANK RESULTS

Analysis: Volatiles
Matrix: Water
Batch ID: 2051
Batch Date: 10/15/04

	Result	Unit	Method	PQL	Analyzed
Benzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Bromobenzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Bromochloromethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Bromodichloromethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Bromoform	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Bromomethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
n-Butylbenzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
sec-Butylbenzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
tert-Butylbenzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Carbon tetrachloride	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Chlorobenzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Chloroethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
CHLOROFORM	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Chloromethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
2-Chlorotoluene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
4-Chlorotoluene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Dibromochloromethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Dibromomethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,2-Dichloroethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,1-DICHLOROETHENE	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
cis-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
trans-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,2-DICHLOROPROPANE	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,3-Dichloropropane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
2,2-Dichloropropane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,1-Dichloropropene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
ETHYLBENZENE	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Isopropylbenzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
p-Isopropyltoluene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM

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PHASE SEPARATION SCIENCE, INC.

METHOD BLANK RESULTS

Analysis: Volatiles
Matrix: Water

Batch ID: 2051
Batch Date: 10/15/04

	Result	Unit	Method	PQL	Analyzed
Methylene chloride	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Naphthalene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
n-Propylbenzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Styrene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Tetrachloroethene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
TOLUENE	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,2,3-Trichlorobenzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,2,4-Trichlorobenzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,1,2-Trichloroethane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
Trichloroethene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,2,4-Trimethylbenzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
1,3,5-Trimethylbenzene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
VINYL CHLORIDE	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
m&p-Xylene	ND	ug/L	EPA 8260B	3	10/06/04 11:07 AM
o-Xylene	ND	ug/L	EPA 8260B	3	10/06/04 11:07 AM
Methyl-t-Butyl Ether	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10	10/06/04 11:07 AM
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10	10/06/04 11:07 AM
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10	10/06/04 11:07 AM
Acetone	ND	ug/L	EPA 8260B	10	10/06/04 11:07 AM
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5	10/06/04 11:07 AM
Carbon Disulfide	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
vinyl acetate	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
2-Chloroethylvinyl Ether	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM
trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1	10/06/04 11:07 AM

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100605.D Vial: 5
Acq On : 6 Oct 2004 11:07 am Operator: MI
Sample : METHOD BLANK 5mL Inst : VOC#1
Misc : IS/S 1uL #493 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 14:08 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	197086	50.00	ug/L	-0.01
23) 1,4-Difluorobenzene ISTD	4.69	114	272248	50.00	ug/L	-0.01
39) Chlorobenzene d-5 ISTD	8.02	117	233869	50.00	ug/L	-0.02
48) 1,4-Dichlorobenzene d-4 IS	11.17	152	99500	50.00	ug/L	-0.01
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	99947	50.09	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.18%			
33) Toluene d-8 SS#2	6.28	98	351117	51.53	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 103.06%			
50) 4-Bromofluorobenzene SS#3	9.58	95	140655	50.29	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.58%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	Not Detected		
3) Chloromethane	0.00	50	0	Not Detected		
4) VINYL CHLORIDE	0.00	62	0	Not Detected		
5) Bromomethane	0.00	94	0	Not Detected		
6) Chloroethane	0.00	64	0	Not Detected		
7) Trichlorofluoromethane	0.00	101	0	Not Detected		
8) Acetone	2.26	43	364	Not Detected		
9) 1,1-DICHLOROETHENE	0.00	96	0	Not Detected		
10) 1,1,2-Trichlorotrifluoroet	0.00	101	0	Not Detected		
11) Carbon Disulfide	0.00	76	0	Not Detected		
12) Methyl Acetate	0.00	74	0	Not Detected		
13) Methylene chloride	2.55	84	54	Not Detected		
14) trans-1,2-Dichloroethene	0.00	96	0	Not Detected		
15) Methyl-t-Butyl Ether	0.00	73	0	Not Detected		
16) 1,1-Dichloroethane	0.00	63	0	Not Detected		
17) cis-1,2-Dichloroethene	3.55	96	256	Not Detected		
18) 2-Butanone (MEK)	0.00	43	0	Not Detected		
19) CHLOROFORM	0.00	83	0	Not Detected		
21) 1,1,1-Trichloroethane	0.00	97	0	Not Detected		
22) Cyclohexane	0.00	56	0	Not Detected d		
24) Carbon tetrachloride	0.00	117	0	Not Detected		
25) Benzene	4.31	78	1151	Not Detected		
26) 1,2-Dichloroethane	0.00	62	0	Not Detected		
27) Trichloroethene	4.95	95	449	Not Detected		
28) 1,2-DICHLOROPROPANE	0.00	63	0	Not Detected		
29) Methylcyclohexane	0.00	83	0	Not Detected		
30) Bromodichloromethane	0.00	83	0	Not Detected		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100605.D
Acq On : 6 Oct 2004 11:07 am
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #493
MS Integration Params: rteint.p
Quant Time: Oct 6 14:08 2004

Vial: 5
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

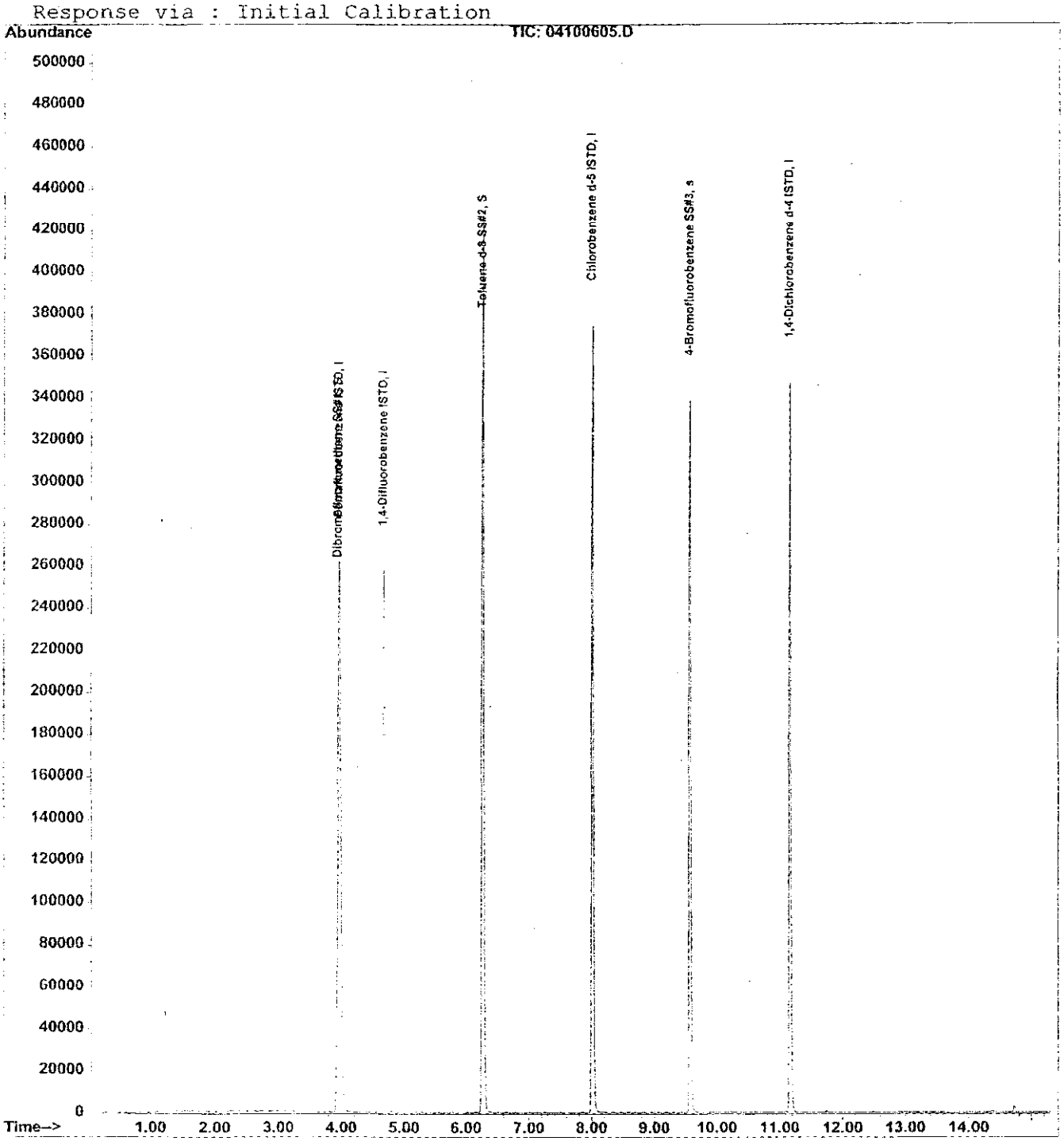
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	0.00	75	0	Not Detected	
32) 4-Methyl-2-Pentanone (MIBK	0.00	43	0	Not Detected	d
34) TOLUENE	0.00	92	0	Not Detected	
35) trans-1,3-Dichloropropene	0.00	75	0	Not Detected	
36) 1,1,2-Trichloroethane	0.00	83	0	Not Detected	
37) Tetrachloroethene	0.00	166	0	Not Detected	
38) 2-Hexanone (MBK)	0.00	43	0	Not Detected	
40) Dibromochloromethane	0.00	129	0	Not Detected	
41) 1,2-Dibromoethane	0.00	107	0	Not Detected	
42) Chlorobenzene	0.00	112	0	Not Detected	
43) ETHYLBENZENE	8.37	91	192	Not Detected	
44) m&p-Xylene	0.00	106	0	Not Detected	
45) o-Xylene	0.00	106	0	Not Detected	
46) Styrene	0.00	104	0	Not Detected	
47) Bromoform	0.00	173	0	Not Detected	
49) Isopropylbenzene	0.00	105	0	Not Detected	
51) 1,1,2,2-Tetrachloroethane	0.00	83	0	Not Detected	
52) 1,3-Dichlorobenzene	11.22	146	1037	Not Detected	
53) 1,4-Dichlorobenzene	11.22	146	1037	Not Detected	
54) 1,2-Dichlorobenzene	0.00	146	0	Not Detected	
55) 1,2-Dibromo-3-chloropropan	0.00	75	0	Not Detected	
56) 1,2,4-Trichlorobenzene	14.04	180	152	Not Detected	
57) Naphthalene	14.38	128	633	Not Detected	

(#) = qualifier out of range (m) = manual integration
04100605.D TCL-W.M Wed Oct 06 14:09:03 2004

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041006\04100605.D Vial: 5
Acq On : 6 Oct 2004 11:07 am Operator: MI
Sample : METHOD BLANK 5mL Inst : VOC#1
Misc : IS/S 1uL #493 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 14:08 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100605.D
Acq On : 6 Oct 2004 11:07 am
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #493
MS Integration Params: rteint.p
Quant Time: Oct 6 14:09 2004

Vial: 5
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentaflourobenzene	3.98	168	197086	50.00	ug/L	-0.01
12) 1,4-Difluorobenzene	4.69	114	272248	50.00	ug/L	-0.01
19) Chlorobenzene d-5	8.02	117	233869	50.00	ug/L	-0.01
27) 1,4-Dichlorobenzene d-4	11.17	152	99500	50.00	ug/L	-0.02
System Monitoring Compounds						
11) Dibromofluoromethane SS#1	3.96	113	99947	50.06	ug/L	-0.01
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.12%			
18) Toluene d-8 SS#2	6.28	98	351117	51.43	ug/L	-0.01
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.86%			
23) 4-Bromofluorobenzene SS#3	9.58	95	140655	50.38	ug/L	-0.01
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.76%			
Target Compounds						Qvalue
2) acrolein	0.00	56	0	Not Detected		
3) iodomethane	0.00	142	0	Not Detected		
4) acrylonitrile	0.00	53	0	Not Detected		
5) tert-butanol	0.00	59	0	Not Detected		
6) vinyl acetate	0.00	43	0	Not Detected		
7) diisopropyl ether	0.00	45	0	Not Detected		
8) tert-Butyl ethyl ether	0.00	59	0	Not Detected		
9) 2,2-Dichloropropane	3.63	77	65	Not Detected		
10) Bromochloromethane	0.00	128	0	Not Detected		
13) 1,1-Dichloropropene	0.00	75	0	Not Detected		
14) tert-amyl methyl ether	0.00	73	0	Not Detected		
15) Dibromomethane	0.00	93	0	Not Detected		
16) 1,4-dioxane	0.00	58	0	Not Detected		
17) 2-Chloroethylvinyl Ether	0.00	63	0	Not Detected		
20) 1,3-Dichloropropane	0.00	76	0	Not Detected		
21) 1,1,1,2-Tetrachloroethane	0.00	131	0	Not Detected		
22) 1,2,3-Trichloropropane	0.00	110	0	Not Detected		
24) Bromobenzene	0.00	156	0	Not Detected		
25) trans-1,4-dichloro-2-buten	0.00	75	0	Not Detected		
26) n-Propylbenzene	9.94	91	241	Not Detected		
28) 2-Chlorotoluene	10.06	91	52	Not Detected		
29) 4-Chlorotoluene	10.19	91	165	Not Detected		
30) 1,3,5-Trimethylbenzene	10.20	105	105	Not Detected		
31) tert-Butylbenzene	10.65	119	56	Not Detected		
32) 1,2,4-Trimethylbenzene	10.71	105	216	Not Detected		
33) sec-Butylbenzene	10.96	105	280	Not Detected		
34) 4-Isopropyltoluene	11.17	119	270	Not Detected		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100605.D Vial: 5
Acq On : 6 Oct 2004 11:07 am Operator: MI
Sample : METHOD BLANK 5mL Inst : VOC#1
Misc : IS/S 1uL #493 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 14:09 2004

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) n-Butylbenzene	11.76	91	502	Not Detected	
36) 1,2,3-Trichlorobenzene	0.00	180	0	Not Detected	d

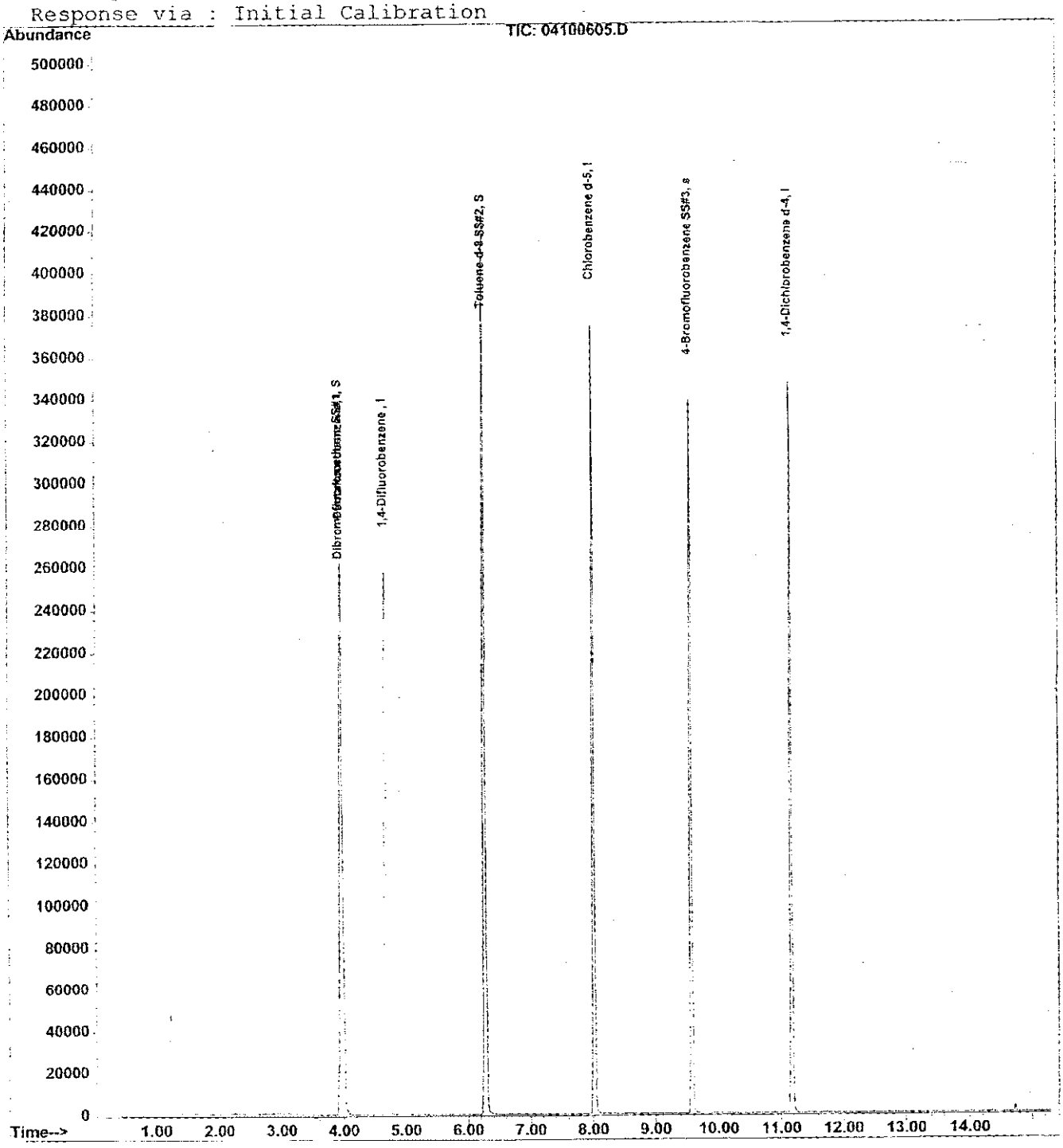
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041006\04100605.D
Acq On : 6 Oct 2004 11:07 am
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #493
MS Integration Params: rteint.p
Quant Time: Oct 6 14:09 2004

Vial: 5
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration



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6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
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PHASE SEPARATION SCIENCE, INC.

VOLATILES
LABORATORY CONTROL SAMPLE SUMMARY

METHOD: EPA 8260 **BATCH NUMBER:** 2043

MATRIX: WATER

SAMPLE ID: LCS
DATE ANALYZED: 10/06/04 05:25 AM
LAB FILE IDs: 04100545.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	NA	22	87	61 - 145
BENZENE	25	NA	22	89	76 - 127
CHLOROBENZENE	25	NA	24	96	75 - 130
TOLUENE	25	NA	23	91	76 - 125
TRICHLOROETHENE	25	NA	23	93	71 - 120

SAMPLE ID: LCSD
DATE ANALYZED: 10/06/04 05:50 AM
LAB FILE IDs: 04100546.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	NA	21	85	1.5	30	61 - 145
BENZENE	25	NA	22	88	1.5	30	76 - 127
CHLOROBENZENE	25	NA	23	93	2.9	30	75 - 130
TOLUENE	25	NA	22	89	2.2	30	76 - 125
TRICHLOROETHENE	25	NA	23	90	3.0	30	71 - 120

* - Indicates values outside of QC control limits.

Calculations:

$$\%\text{Recovery} = \left[\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right] * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\left(\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}\right)}\right| * 100$$

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100545.D Vial: 45
Acq On : 6 Oct 2004 5:25 am Operator: MI
Sample : LCS 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:48 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	191523	50.00	ug/L	-0.01
23) 1,4-Difluorobenzene ISTD	4.69	114	269545	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.02	117	217669	50.00	ug/L	-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	97174	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.95	113	96790	49.92	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.84%			
33) Toluene d-8 SS#2	6.27	98	341679	50.65	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.30%			
50) 4-Bromofluorobenzene SS#3	9.58	95	135065	49.45	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.36	85	43004	19.79	ug/L	100
3) Chloromethane	1.44	50	42416	22.43	ug/L	94
4) VINYL CHLORIDE	1.54	62	34940	20.79	ug/L	99
5) Bromomethane	1.70	94	36648	21.77	ug/L	99
6) Chloroethane	1.77	64	21198	24.94	ug/L	98
7) Trichlorofluoromethane	1.90	101	25551	16.81	ug/L	98
8) Acetone	2.25	43	12804	26.37	ug/L	99
9) 1,1-DICHLOROETHENE	2.25	96	37542	21.65	ug/L	95
10) 1,1,2-Trichlorotrifluoroet	2.25	101	34321	23.62	ug/L	98
11) Carbon Disulfide	2.45	76	117996	22.76	ug/L	98
12) Methyl Acetate	2.45	74	4698	26.31	ug/L	98
13) Methylene chloride	2.56	84	40654	18.58	ug/L	97
14) trans-1,2-Dichloroethene	2.76	96	41561	22.33	ug/L	98
15) Methyl-t-Butyl Ether	2.75	73	82109	23.87	ug/L	100
16) 1,1-Dichloroethane	3.07	63	61320	22.20	ug/L	99
17) cis-1,2-Dichloroethene	3.54	96	44572	22.96	ug/L	96
18) 2-Butanone (MEK)	3.54	43	19016	24.73	ug/L	98
19) CHLOROFORM	3.81	83	77990	22.02	ug/L	100
21) 1,1,1-Trichloroethane	4.00	97	66391	22.55	ug/L #	1
22) Cyclohexane	4.05	56	48067	24.04	ug/L	94
24) Carbon tetrachloride	4.15	117	48244	23.17	ug/L	99
25) Benzene	4.33	78	150324	22.21	ug/L	98
26) 1,2-Dichloroethane	4.34	62	56433	23.99	ug/L	96
27) Trichloroethene	4.96	95	45210	23.30	ug/L	99
28) 1,2-DICHLOROPROPANE	5.18	63	33586	22.74	ug/L	99
29) Methylcyclohexane	5.16	83	38102	22.20	ug/L	99
30) Bromodichloromethane	5.48	83	57906	23.09	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100545.D
Acq On : 6 Oct 2004 5:25 am
Sample : LCS 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 6 9:48 2004

Vial: 45
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
31)	cis-1,3-Dichloropropene	5.97	75	59532	21.34	ug/L	100
32)	4-Methyl-2-Pentanone (MIBK	6.15	43	40328	26.22	ug/L	98
34)	TOLUENE	6.35	92	97738	22.84	ug/L	99
35)	trans-1,3-Dichloropropene	6.61	75	55117	22.11	ug/L	98
36)	1,1,2-Trichloroethane	6.82	83	27613	23.55	ug/L	99
37)	Tetrachloroethene	7.00	166	34561	22.45	ug/L	98
38)	2-Hexanone (MBK)	7.14	43	27627	27.12	ug/L	98
40)	Dibromochloromethane	7.30	129	32752	24.63	ug/L	99
41)	1,2-Dibromoethane	7.43	107	33558	25.23	ug/L	100
42)	Chlorobenzene	8.06	112	89391	23.88	ug/L	97
43)	ETHYLBENZENE	8.21	91	171587	24.60	ug/L	99
44)	m&p-Xylene	8.37	106	110808	48.05	ug/L	99
45)	o-Xylene	8.89	106	55709	24.08	ug/L	100
46)	Styrene	8.90	104	102063	24.47	ug/L	96
47)	Bromoform	9.13	173	25920	25.62	ug/L	99
49)	Isopropylbenzene	9.39	105	114348	23.11	ug/L	99
51)	1,1,2,2-Tetrachloroethane	9.81	83	38545	24.89	ug/L	99
52)	1,3-Dichlorobenzene	11.08	146	51687	23.07	ug/L	99
53)	1,4-Dichlorobenzene	11.21	146	55543	22.26	ug/L	98
54)	1,2-Dichlorobenzene	11.72	146	49992	23.52	ug/L	99
55)	1,2-Dibromo-3-chloropropan	12.84	75	5603	28.48	ug/L	94
56)	1,2,4-Trichlorobenzene	14.04	180	29579	24.83	ug/L	100
57)	Naphthalene	0.00	128	0	Not Detected		

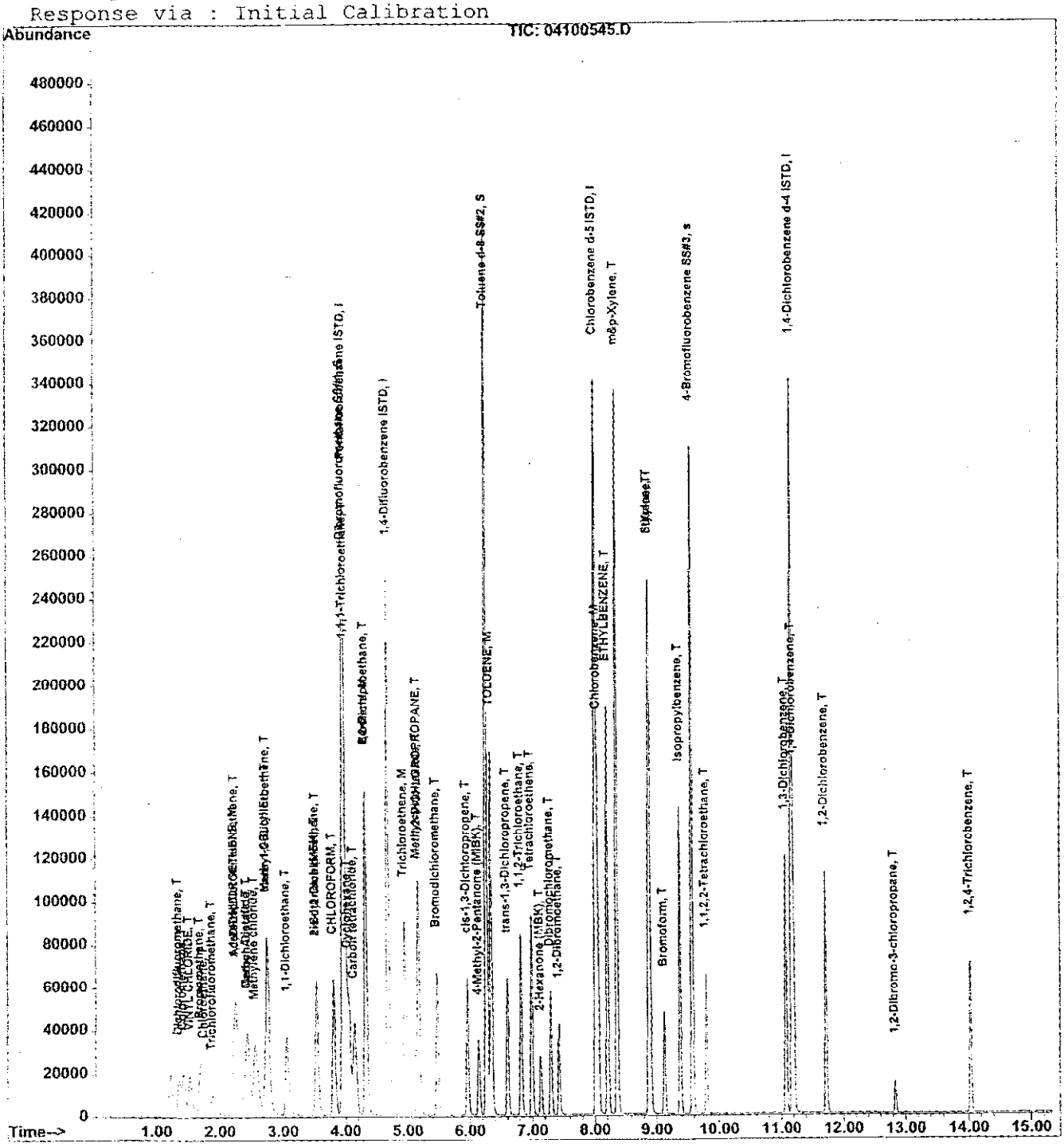
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041005\04100545.D
Acq On : 6 Oct 2004 5:25 am
Sample : LCS 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 6 9:48 2004

Vial: 45
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100546.D
Acq On : 6 Oct 2004 5:50 am
Sample : LCS-DUP 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 6 9:48 2004

Vial: 46
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	193462	50.00	ug/L	-0.01
23) 1,4-Difluorobenzene ISTD	4.69	114	271836	50.00	ug/L	-0.01
39) Chlorobenzene d-5 ISTD	8.03	117	222161	50.00	ug/L	-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	99721	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	96894	49.47	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.94%			
33) Toluene d-8 SS#2	6.27	98	344178	50.59	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.18%			
50) 4-Bromofluorobenzene SS#3	9.58	95	138533	49.42	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.84%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.36	85	43225	19.70	ug/L	100
3) Chloromethane	1.44	50	41102	21.52	ug/L	94
4) VINYL CHLORIDE	1.54	62	34675	20.43	ug/L	99
5) Bromomethane	1.71	94	35975	21.16	ug/L	99
6) Chloroethane	1.77	64	20592	23.99	ug/L	97
7) Trichlorofluoromethane	1.90	101	26394	17.19	ug/L	99
8) Acetone	2.25	43	12631	25.75	ug/L	93
9) 1,1-DICHLOROETHENE	2.25	96	37362	21.33	ug/L	95
10) 1,1,2-Trichlorotrifluoroet	2.26	101	33493	22.82	ug/L	97
11) Carbon Disulfide	2.44	76	117608	22.46	ug/L	99
12) Methyl Acetate	2.46	74	4805	26.64	ug/L	91
13) Methylene chloride	2.57	84	40426	18.29	ug/L	97
14) trans-1,2-Dichloroethene	2.76	96	40601	21.60	ug/L	97
15) Methyl-t-Butyl Ether	2.76	73	81963	23.59	ug/L	100
16) 1,1-Dichloroethane	3.08	63	62738	22.48	ug/L	100
17) cis-1,2-Dichloroethene	3.54	96	44134	22.51	ug/L	99
18) 2-Butanone (MEK)	3.54	43	19291	24.84	ug/L	98
19) CHLOROFORM	3.82	83	78246	21.87	ug/L	100
21) 1,1,1-Trichloroethane	4.00	97	64811	21.79	ug/L #	1
22) Cyclohexane	4.06	56	47464	23.50	ug/L	97
24) Carbon tetrachloride	4.15	117	47638	22.69	ug/L	99
25) Benzene	4.33	78	149343	21.88	ug/L	97
26) 1,2-Dichloroethane	4.33	62	55118	23.24	ug/L	99
27) Trichloroethene	4.96	95	44259	22.62	ug/L	99
28) 1,2-DICHLOROPROPANE	5.19	63	33285	22.34	ug/L	100
29) Methylcyclohexane	5.17	83	37953	21.93	ug/L	98
30) Bromodichloromethane	5.48	83	58484	23.13	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100546.D
Acq On : 6 Oct 2004 5:50 am
Sample : LCS-DUP 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 6 9:48 2004

Vial: 46
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

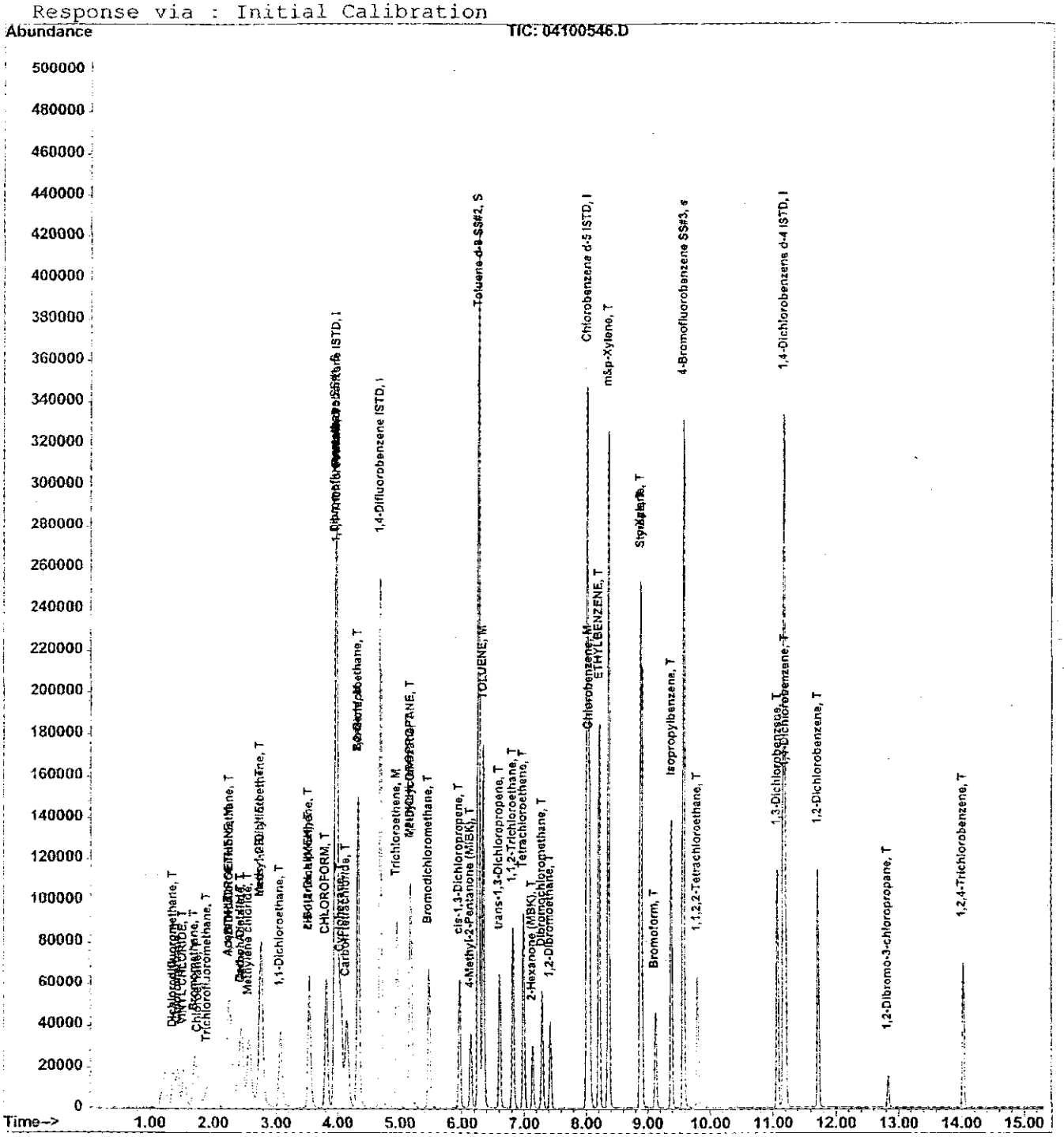
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	59918	21.30 ug/L	98
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	41299	26.62 ug/L	96
34) TOLUENE	6.35	92	96446	22.35 ug/L	97
35) trans-1,3-Dichloropropene	6.61	75	55988	22.27 ug/L	97
36) 1,1,2-Trichloroethane	6.83	83	27297	23.09 ug/L	99
37) Tetrachloroethene	7.00	166	33741	21.74 ug/L	98
38) 2-Hexanone (MBK)	7.14	43	28844	28.08 ug/L	98
40) Dibromochloromethane	7.30	129	32667	24.07 ug/L	99
41) 1,2-Dibromoethane	7.43	107	33388	24.59 ug/L	99
42) Chlorobenzene	8.06	112	88629	23.20 ug/L	97
43) ETHYLBENZENE	8.21	91	172522	24.23 ug/L	100
44) m&p-Xylene	8.37	106	111754	47.48 ug/L	100
45) o-Xylene	8.88	106	55822	23.64 ug/L	97
46) Styrene	8.90	104	104166	24.47 ug/L	98
47) Bromoform	9.14	173	25894	25.08 ug/L	100
49) Isopropylbenzene	9.39	105	113134	22.28 ug/L	99
51) 1,1,2,2-Tetrachloroethane	9.81	83	38679	24.34 ug/L	99
52) 1,3-Dichlorobenzene	11.08	146	51596	22.44 ug/L	99
53) 1,4-Dichlorobenzene	11.21	146	55596	21.71 ug/L	98
54) 1,2-Dichlorobenzene	11.72	146	48928	22.43 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.84	75	5943	29.44 ug/L	89
56) 1,2,4-Trichlorobenzene	14.04	180	28555	23.35 ug/L	99
57) Naphthalene	0.00	128	0	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041005\04100546.D Vial: 46
Acq On : 6 Oct 2004 5:50 am Operator: MI
Sample : LCS-DUP 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:48 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



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6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
www.phaseonline.com

PHASE SEPARATION SCIENCE, INC.

VOLATILES
LABORATORY CONTROL SAMPLE SUMMARY

METHOD: EPA 8260B **BATCH NUMBER:** 2051

MATRIX: WATER

SAMPLE ID: LCS
DATE ANALYZED: 10/07/04 03:33 AM
LAB FILE IDs: 04100644.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	NA	22	90	61 - 145
BENZENE	25	NA	23	92	76 - 127
CHLOROBENZENE	25	NA	24	96	75 - 130
TOLUENE	25	NA	23	93	76 - 125
TRICHLOROETHENE	25	NA	23	91	71 - 120

SAMPLE ID: LCSD
DATE ANALYZED: 10/07/04 03:58 AM
LAB FILE IDs: 04100645.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	NA	22	88	1.8	30	61 - 145
BENZENE	25	NA	23	91	0.8	30	76 - 127
CHLOROBENZENE	25	NA	23	94	2.2	30	75 - 130
TOLUENE	25	NA	23	92	1.0	30	76 - 125
TRICHLOROETHENE	25	NA	22	90	1.0	30	71 - 120

* - Indicates values outside of QC control limits.

Calculations:

$$\%\text{Recovery} = \left[\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right] * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\left(\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}\right)}\right| * 100$$

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100644.D Vial: 44
Acq On : 7 Oct 2004 3:33 am Operator: MI
Sample : LCS-1 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:23 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	189475	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.69	114	267125	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.02	117	220401	50.00	ug/L	-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	97129	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.95	113	94729	49.38	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.76%			
33) Toluene d-8 SS#2	6.27	98	338467	50.63	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.26%			
50) 4-Bromofluorobenzene SS#3	9.59	95	136305	49.92	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.84%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.36	85	43516	20.25	ug/L	100
3) Chloromethane	1.44	50	42351	22.64	ug/L	93
4) VINYL CHLORIDE	1.54	62	35465	21.33	ug/L	100
5) Bromomethane	1.69	94	37054	22.25	ug/L	98
6) Chloroethane	1.76	64	21153	25.16	ug/L	99
7) Trichlorofluoromethane	1.90	101	26498	17.62	ug/L	99
8) Acetone	2.24	43	12463	25.94	ug/L	95
9) 1,1-DICHLOROETHENE	2.26	96	38520	22.46	ug/L	97
10) 1,1,2-Trichlorotrifluoroet	2.25	101	34544	24.03	ug/L	98
11) Carbon Disulfide	2.44	76	120722	23.54	ug/L	98
12) Methyl Acetate	2.44	74	4883	27.65	ug/L	91
13) Methylene chloride	2.58	84	41501	19.17	ug/L	97
14) trans-1,2-Dichloroethene	2.76	96	41712	22.65	ug/L	97
15) Methyl-t-Butyl Ether	2.75	73	84633	24.87	ug/L	100
16) 1,1-Dichloroethane	3.07	63	63622	23.28	ug/L	99
17) cis-1,2-Dichloroethene	3.54	96	45197	23.53	ug/L	97
18) 2-Butanone (MEK)	3.54	43	19493	25.63	ug/L	94
19) CHLOROFORM	3.82	83	80386	22.94	ug/L	99
21) 1,1,1-Trichloroethane	4.00	97	67006	23.00	ug/L #	1
22) Cyclohexane	4.06	56	44481	22.49	ug/L	86
24) Carbon tetrachloride	4.15	117	49270	23.88	ug/L	99
25) Benzene	4.33	78	153871	22.94	ug/L	98
26) 1,2-Dichloroethane	4.34	62	56447	24.22	ug/L	98
27) Trichloroethene	4.96	95	43557	22.65	ug/L	99
28) 1,2-DICHLOROPROPANE	5.19	63	34177	23.35	ug/L	100
29) Methylcyclohexane	5.17	83	39311	23.11	ug/L	99
30) Bromodichloromethane	5.48	83	59985	24.14	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100644.D Vial: 44
Acq On : 7 Oct 2004 3:33 am Operator: MI
Sample : LCS-1 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:23 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	59068	21.37 ug/L	98
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	41538	27.25 ug/L	98
34) TOLUENE	6.35	92	98196	23.15 ug/L	99
35) trans-1,3-Dichloropropene	6.61	75	55785	22.58 ug/L	96
36) 1,1,2-Trichloroethane	6.82	83	27809	23.93 ug/L	98
37) Tetrachloroethene	7.00	166	34122	22.37 ug/L	99
38) 2-Hexanone (MBK)	7.14	43	28692	28.42 ug/L	95
40) Dibromochloromethane	7.30	129	32824	24.38 ug/L	99
41) 1,2-Dibromoethane	7.43	107	34072	25.30 ug/L	99
42) Chlorobenzene	8.06	112	90711	23.93 ug/L	96
43) ETHYLBENZENE	8.21	91	173887	24.62 ug/L	99
44) m&p-Xylene	8.37	106	110037	47.12 ug/L	96
45) o-Xylene	8.89	106	56815	24.26 ug/L	98
46) Styrene	8.90	104	103961	24.61 ug/L	96
47) Bromoform	9.13	173	25390	24.79 ug/L	99
49) Isopropylbenzene	9.39	105	118057	23.87 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	40679	26.28 ug/L	99
52) 1,3-Dichlorobenzene	11.08	146	52832	23.60 ug/L	99
53) 1,4-Dichlorobenzene	11.21	146	57690	23.13 ug/L	98
54) 1,2-Dichlorobenzene	11.73	146	51434	24.21 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.84	75	5541	28.18 ug/L	95
56) 1,2,4-Trichlorobenzene	14.04	180	29096	24.43 ug/L	100
57) Naphthalene	0.00	128	0	Not Detected	

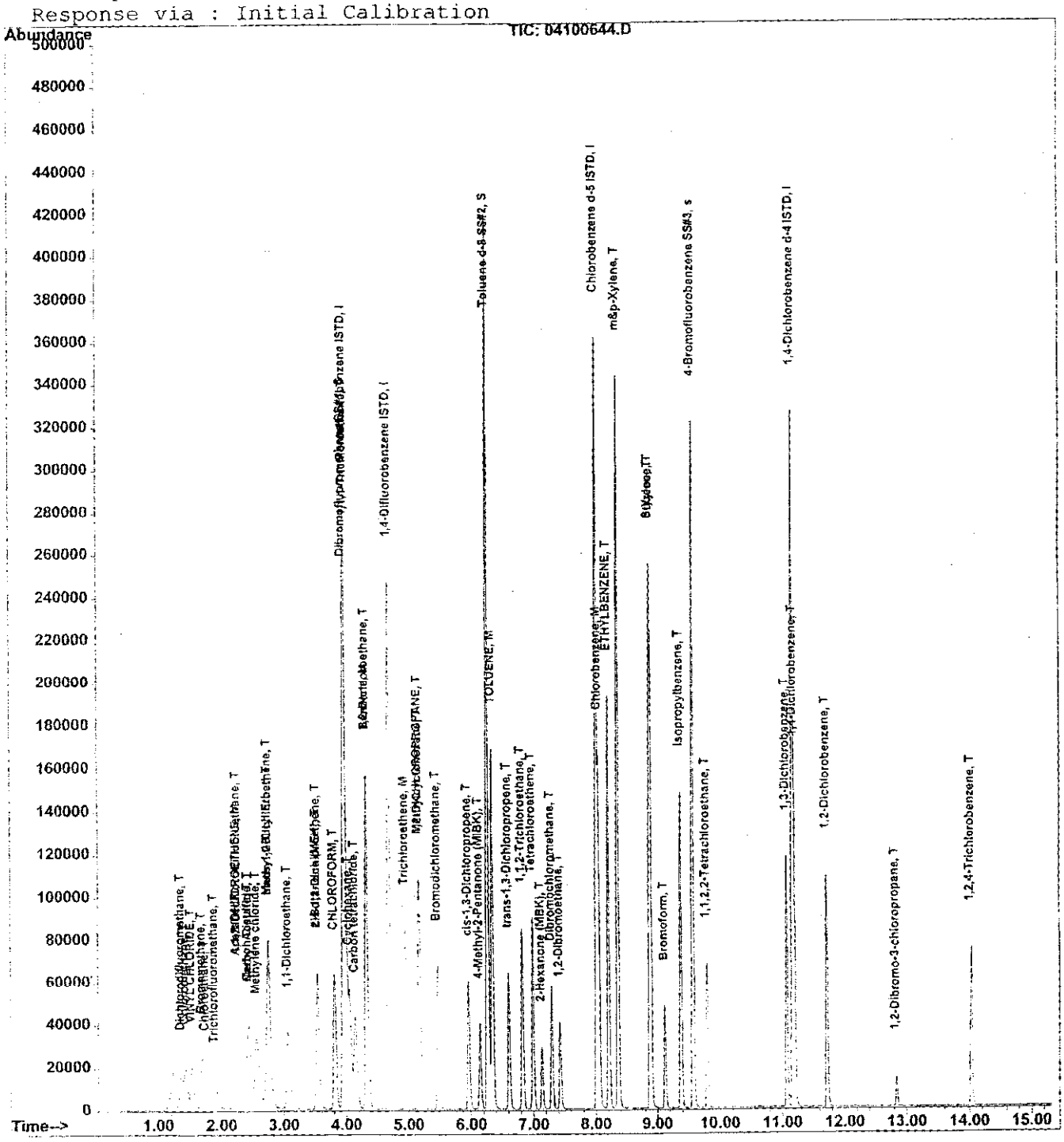
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041006\04100644.D
Acq On : 7 Oct 2004 3:33 am
Sample : LCS-1 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 7 14:23 2004

Vial: 44
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100645.D Vial: 45
Acq On : 7 Oct 2004 3:58 am Operator: MI
Sample : LCS,1-DUP 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:23 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	190041	50.00	ug/L		-0.01
23) 1,4-Difluorobenzene ISTD	4.69	114	269015	50.00	ug/L		-0.01
39) Chlorobenzene d-5 ISTD	8.02	117	224608	50.00	ug/L		-0.02
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	95837	50.00	ug/L		-0.01
System Monitoring Compounds							
20) Dibromofluoromethane SS#1	3.96	113	94946	49.35	ug/L		-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.70%				
33) Toluene d-8 SS#2	6.28	98	338846	50.33	ug/L		-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.66%				
50) 4-Bromofluorobenzene SS#3	9.58	95	138914	51.56	ug/L		-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 103.12%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.36	85	42440	19.69	ug/L		100
3) Chloromethane	1.44	50	42323	22.56	ug/L		93
4) VINYL CHLORIDE	1.54	62	34614	20.76	ug/L		98
5) Bromomethane	1.71	94	36511	21.86	ug/L		100
6) Chloroethane	1.76	64	20643	24.48	ug/L		99
7) Trichlorofluoromethane	1.89	101	26653	17.67	ug/L		99
8) Acetone	2.24	43	12126	25.16	ug/L		75
9) 1,1-DICHLOROETHENE	2.26	96	37968	22.07	ug/L		98
10) 1,1,2-Trichlorotrifluoroet	2.24	101	33885	23.50	ug/L	#	74
11) Carbon Disulfide	2.45	76	118138	22.96	ug/L		99
12) Methyl Acetate	2.46	74	4575	25.82	ug/L		98
13) Methylene chloride	2.58	84	41990	19.34	ug/L		99
14) trans-1,2-Dichloroethene	2.77	96	41574	22.51	ug/L		97
15) Methyl-t-Butyl Ether	2.75	73	82238	24.09	ug/L		100
16) 1,1-Dichloroethane	3.07	63	62879	22.94	ug/L		99
17) cis-1,2-Dichloroethene	3.55	96	45297	23.52	ug/L		98
18) 2-Butanone (MEK)	3.54	43	17655	23.14	ug/L		97
19) CHLOROFORM	3.82	83	78734	22.40	ug/L		99
21) 1,1,1-Trichloroethane	4.00	97	66707	22.83	ug/L	#	1
22) Cyclohexane	4.06	56	47683	24.04	ug/L	#	79
24) Carbon tetrachloride	4.16	117	48869	23.52	ug/L		100
25) Benzene	4.33	78	153696	22.76	ug/L		100
26) 1,2-Dichloroethane	4.34	62	56771	24.18	ug/L		99
27) Trichloroethene	4.96	95	43442	22.43	ug/L		99
28) 1,2-DICHLOROPROPANE	5.18	63	34436	23.36	ug/L		99
29) Methylcyclohexane	5.17	83	38362	22.39	ug/L		98
30) Bromodichloromethane	5.48	83	59813	23.90	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100645.D Vial: 45
Acq On : 7 Oct 2004 3:58 am Operator: MI
Sample : LCS,1-DUP 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:23 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	58068	20.86 ug/L	99
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	39533	25.75 ug/L	100
34) TOLUENE	6.35	92	97913	22.93 ug/L	100
35) trans-1,3-Dichloropropene	6.61	75	53221	21.39 ug/L	99
36) 1,1,2-Trichloroethane	6.83	83	27902	23.85 ug/L	99
37) Tetrachloroethene	7.00	166	34493	22.45 ug/L	98
38) 2-Hexanone (MBK)	7.14	43	26596	26.16 ug/L	99
40) Dibromochloromethane	7.30	129	32450	23.65 ug/L	99
41) 1,2-Dibromoethane	7.44	107	32871	23.95 ug/L	99
42) Chlorobenzene	8.06	112	90411	23.40 ug/L	96
43) ETHYLBENZENE	8.21	91	172038	23.90 ug/L	100
44) m&p-Xylene	8.36	106	112572	47.31 ug/L	97
45) o-Xylene	8.88	106	56520	23.68 ug/L	98
46) Styrene	8.91	104	103756	24.10 ug/L	96
47) Bromoform	9.13	173	25170	24.11 ug/L	100
49) Isopropylbenzene	9.39	105	117553	24.09 ug/L	99
51) 1,1,2,2-Tetrachloroethane	9.80	83	38361	25.12 ug/L	98
52) 1,3-Dichlorobenzene	11.09	146	52384	23.71 ug/L	99
53) 1,4-Dichlorobenzene	11.22	146	58328	23.70 ug/L	99
54) 1,2-Dichlorobenzene	11.73	146	49610	23.66 ug/L	98
55) 1,2-Dibromo-3-chloropropan	12.85	75	5117	26.38 ug/L	97
56) 1,2,4-Trichlorobenzene	14.04	180	28182	23.98 ug/L	99
57) Naphthalene	0.00	128	0	Not Detected	

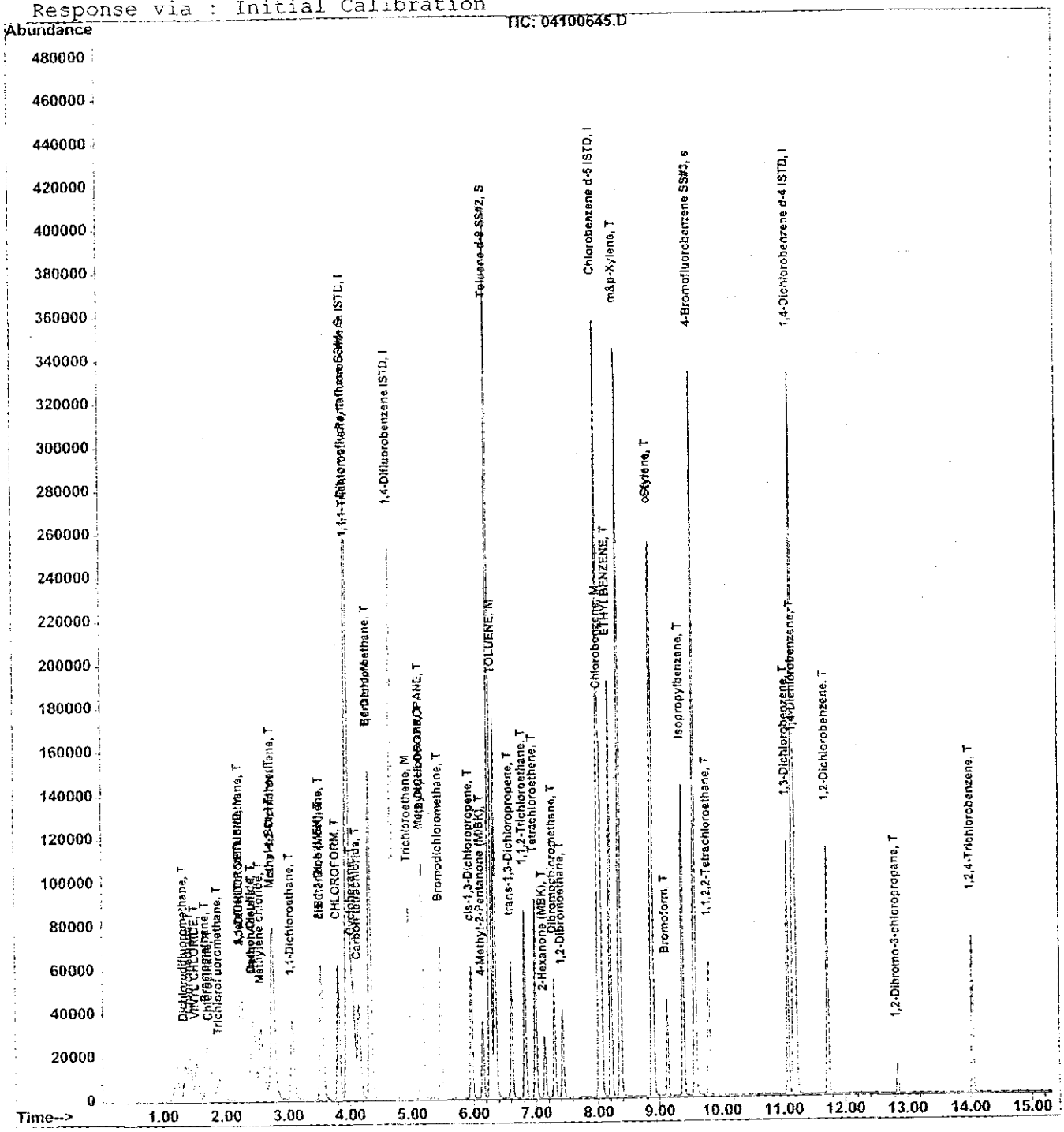
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041006\04100645.D
Acq On : 7 Oct 2004 3:58 am
Sample : LCS,1-DUP 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 7 14:23 2004

Vial: 45
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



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VOLATILES
LABORATORY CONTROL SAMPLE SUMMARY

METHOD: **BATCH NUMBER:** 2056

MATRIX: WATER

SAMPLE ID: LCS
DATE ANALYZED: 10/07/04 09:05 PM
LAB FILE IDs: 04100724.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	NA	23	92	61 - 145
BENZENE	25	NA	23	92	76 - 127
CHLOROBENZENE	25	NA	24	95	75 - 130
TOLUENE	25	NA	23	93	76 - 125
TRICHLOROETHENE	25	NA	22	90	71 - 120

SAMPLE ID: LCSD
DATE ANALYZED: 10/07/04 09:30 PM
LAB FILE IDs: 04100725.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	NA	23	90	1.8	30	61 - 145
BENZENE	25	NA	22	89	3.3	30	76 - 127
CHLOROBENZENE	25	NA	23	94	1.7	30	75 - 130
TOLUENE	25	NA	23	92	1.5	30	76 - 125
TRICHLOROETHENE	25	NA	22	87	2.9	30	71 - 120

* - Indicates values outside of QC control limits.

Calculations:

$$\%\text{Recovery} = \left[\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right] * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\left(\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}\right)}\right| * 100$$

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100724.D
Acq On : 7 Oct 2004 9:05 pm
Sample : LCS 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 8 11:50 2004

Vial: 24
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	186755	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.69	114	264622	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.02	117	215965	50.00	ug/L	-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	93810	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	94777	50.13	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.26%			
33) Toluene d-8 SS#2	6.28	98	335862	50.72	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.44%			
50) 4-Bromofluorobenzene SS#3	9.58	95	135316	51.31	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 102.62%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.37	85	42255	19.95	ug/L	100
3) Chloromethane	1.44	50	42335	22.96	ug/L	92
4) VINYL CHLORIDE	1.55	62	36019	21.98	ug/L	99
5) Bromomethane	1.72	94	36724	22.37	ug/L	99
6) Chloroethane	1.77	64	20154	24.32	ug/L	95
7) Trichlorofluoromethane	1.90	101	23462	15.83	ug/L	98
8) Acetone	2.24	43	11524	24.34	ug/L	92
9) 1,1-DICHLOROETHENE	2.27	96	38819	22.96	ug/L	96
10) 1,1,2-Trichlorotrifluoroet	2.28	101	34754	24.53	ug/L	99
11) Carbon Disulfide	2.46	76	119936	23.72	ug/L	98
12) Methyl Acetate	2.47	74	4344	24.95	ug/L	99
13) Methylene chloride	2.58	84	41460	19.43	ug/L	99
14) trans-1,2-Dichloroethene	2.76	96	41895	23.08	ug/L	97
15) Methyl-t-Butyl Ether	2.75	73	79329	23.65	ug/L	100
16) 1,1-Dichloroethane	3.09	63	62307	23.13	ug/L	98
17) cis-1,2-Dichloroethene	3.55	96	44489	23.50	ug/L	97
18) 2-Butanone (MEK)	3.54	43	16977	22.64	ug/L	100
19) CHLOROFORM	3.82	83	78651	22.77	ug/L	100
21) 1,1,1-Trichloroethane	4.01	97	66154	23.04	ug/L #	1
22) Cyclohexane	4.06	56	48248	24.75	ug/L #	87
24) Carbon tetrachloride	4.15	117	47806	23.39	ug/L	99
25) Benzene	4.33	78	153409	23.09	ug/L	100
26) 1,2-Dichloroethane	4.34	62	55503	24.04	ug/L	98
27) Trichloroethene	4.96	95	42815	22.48	ug/L	99
28) 1,2-DICHLOROPROPANE	5.19	63	33253	22.93	ug/L	99
29) Methylcyclohexane	5.17	83	39594	23.50	ug/L	98
30) Bromodichloromethane	5.48	83	59134	24.02	ug/L	100

(#) = qualifier out of range (m) = manual integration
04100724.D TCL-W.M Fri Oct 08 11:53:22 2004

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100724.D
Acq On : 7 Oct 2004 9:05 pm
Sample : LCS 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 8 11:50 2004

Vial: 24
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.98	75	62355	22.77 ug/L	97
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	38058	25.20 ug/L	96
34) TOLUENE	6.35	92	97577	23.23 ug/L	98
35) trans-1,3-Dichloropropene	6.62	75	56937	23.27 ug/L	97
36) 1,1,2-Trichloroethane	6.83	83	27296	23.71 ug/L	97
37) Tetrachloroethene	7.00	166	34544	22.86 ug/L	99
38) 2-Hexanone (MBK)	7.14	43	24901	24.90 ug/L	98
40) Dibromochloromethane	7.31	129	31501	23.88 ug/L	100
41) 1,2-Dibromoethane	7.43	107	31559	23.91 ug/L	96
42) Chlorobenzene	8.06	112	88602	23.85 ug/L	96
43) ETHYLBENZENE	8.21	91	173071	25.01 ug/L	99
44) m&p-Xylene	8.37	106	110980	48.50 ug/L	94
45) o-Xylene	8.89	106	56080	24.43 ug/L	97
46) Styrene	8.90	104	102565	24.78 ug/L	96
47) Bromoform	9.13	173	24164	24.07 ug/L	99
49) Isopropylbenzene	9.39	105	117475	24.59 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	37453	25.05 ug/L	99
52) 1,3-Dichlorobenzene	11.08	146	52856	24.44 ug/L	99
53) 1,4-Dichlorobenzene	11.21	146	55751	23.14 ug/L	99
54) 1,2-Dichlorobenzene	11.73	146	48647	23.71 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.84	75	4801	25.28 ug/L	90
56) 1,2,4-Trichlorobenzene	14.04	180	27042	23.51 ug/L	100
57) Naphthalene	0.00	128	0	Not Detected	

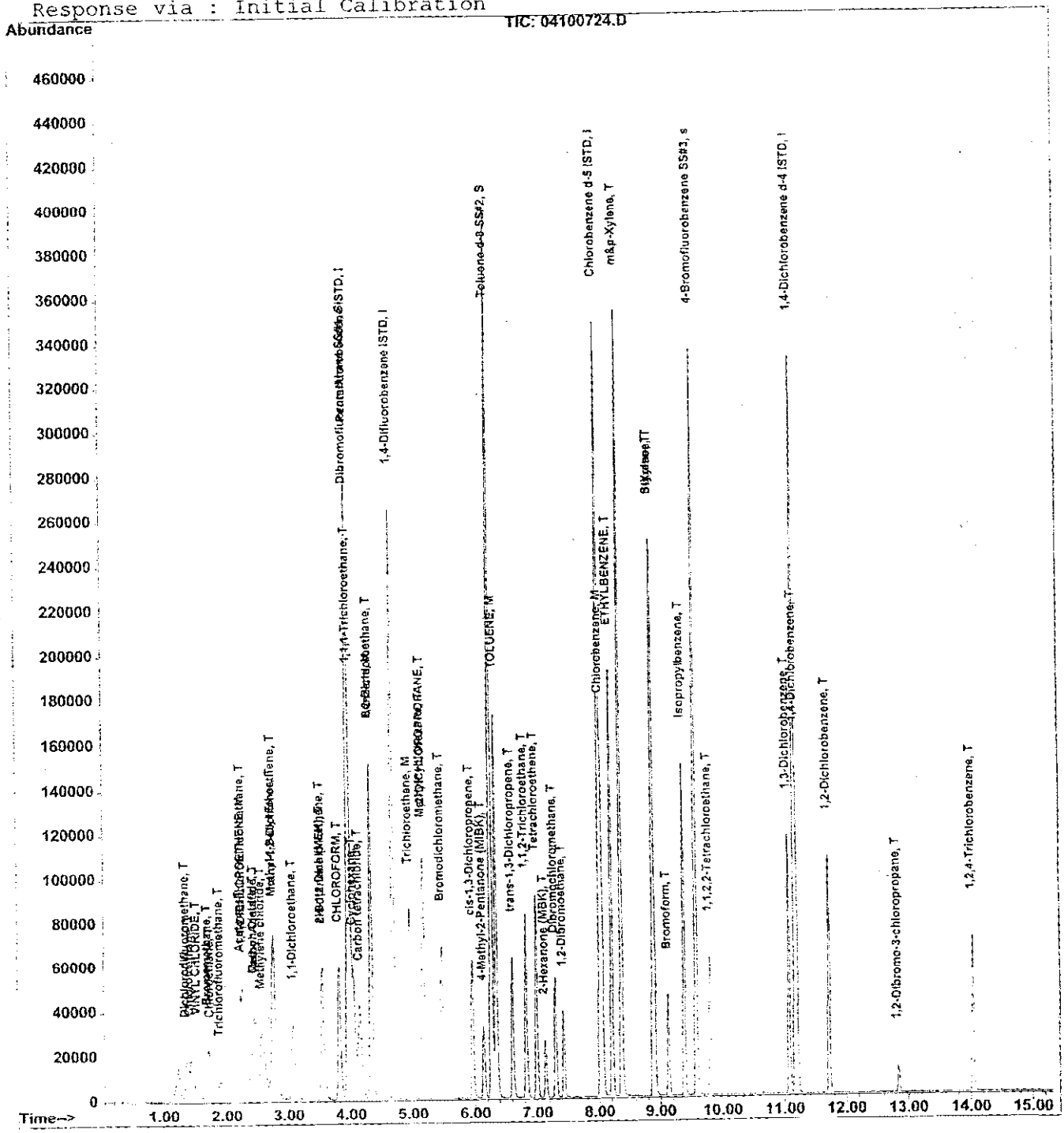
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041007\04100724.D
Acq On : 7 Oct 2004 9:05 pm
Sample : LCS 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 8 11:50 2004

Vial: 24
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100725.D
Acq On : 7 Oct 2004 9:30 pm
Sample : LCS-DUP 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 8 11:50 2004

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	191308	50.00	ug/L		0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	267864	50.00	ug/L		0.00
39) Chlorobenzene d-5 ISTD	8.03	117	221452	50.00	ug/L		-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	96831	50.00	ug/L		0.00
System Monitoring Compounds							
20) Dibromofluoromethane SS#1	3.96	113	95939	49.53	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.06%				
33) Toluene d-8 SS#2	6.27	98	337921	50.41	ug/L		-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.82%				
50) 4-Bromofluorobenzene SS#3	9.59	95	137563	50.54	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.08%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.37	85	43189	19.90	ug/L		100
3) Chloromethane	1.45	50	42036	22.26	ug/L		93
4) VINYL CHLORIDE	1.55	62	35420	21.10	ug/L		99
5) Bromomethane	1.71	94	37684	22.41	ug/L		100
6) Chloroethane	1.79	64	20897	24.62	ug/L		97
7) Trichlorofluoromethane	1.91	101	23467	15.46	ug/L		99
8) Acetone	2.25	43	11771	24.27	ug/L		97
9) 1,1-DICHLOROETHENE	2.27	96	39050	22.55	ug/L		97
10) 1,1,2-Trichlorotrifluoroet	2.27	101	34927	24.06	ug/L	#	81
11) Carbon Disulfide	2.46	76	121632	23.49	ug/L		98
12) Methyl Acetate	2.47	74	4577	25.67	ug/L		96
13) Methylene chloride	2.57	84	41803	19.12	ug/L		98
14) trans-1,2-Dichloroethene	2.76	96	42253	22.73	ug/L		98
15) Methyl-t-Butyl Ether	2.76	73	79993	23.28	ug/L		100
16) 1,1-Dichloroethane	3.08	63	63432	22.99	ug/L		99
17) cis-1,2-Dichloroethene	3.55	96	44759	23.08	ug/L		98
18) 2-Butanone (MEK)	3.54	43	16910	22.02	ug/L		100
19) CHLOROFORM	3.82	83	78599	22.22	ug/L		98
21) 1,1,1-Trichloroethane	4.00	97	65820	22.38	ug/L	#	1
22) Cyclohexane	4.05	56	48178	24.13	ug/L	#	84
24) Carbon tetrachloride	4.15	117	46870	22.65	ug/L		98
25) Benzene	4.33	78	150287	22.35	ug/L		99
26) 1,2-Dichloroethane	4.34	62	55874	23.90	ug/L		97
27) Trichloroethene	4.96	95	42111	21.84	ug/L		99
28) 1,2-DICHLOROPROPANE	5.19	63	33850	23.06	ug/L		100
29) Methylcyclohexane	5.17	83	39280	23.03	ug/L		99
30) Bromodichloromethane	5.48	83	58908	23.64	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100725.D
Acq On : 7 Oct 2004 9:30 pm
Sample : LCS-DUP 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 8 11:50 2004

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	61321	22.12 ug/L	100
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	37635	24.62 ug/L	99
34) TOLUENE	6.36	92	97300	22.88 ug/L	97
35) trans-1,3-Dichloropropene	6.61	75	58181	23.49 ug/L	97
36) 1,1,2-Trichloroethane	6.83	83	26458	22.71 ug/L	98
37) Tetrachloroethene	7.01	166	33912	22.17 ug/L	99
38) 2-Hexanone (MBK)	7.15	43	25483	25.17 ug/L	97
40) Dibromochloromethane	7.30	129	32181	23.79 ug/L	99
41) 1,2-Dibromoethane	7.43	107	32283	23.86 ug/L	98
42) Chlorobenzene	8.06	112	89332	23.45 ug/L	95
43) ETHYLBENZENE	8.21	91	167510	23.60 ug/L	99
44) m&p-Xylene	8.37	106	111969	47.72 ug/L	95
45) o-Xylene	8.89	106	54703	23.24 ug/L	95
46) Styrene	8.90	104	103213	24.32 ug/L	95
47) Bromoform	9.14	173	24248	23.56 ug/L	97
49) Isopropylbenzene	9.39	105	112917	22.90 ug/L	99
51) 1,1,2,2-Tetrachloroethane	9.81	83	37166	24.08 ug/L	100
52) 1,3-Dichlorobenzene	11.08	146	51249	22.96 ug/L	99
53) 1,4-Dichlorobenzene	11.21	146	56084	22.56 ug/L	98
54) 1,2-Dichlorobenzene	11.72	146	47823	22.58 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.84	75	4688	23.92 ug/L	97
56) 1,2,4-Trichlorobenzene	14.04	180	27232	22.94 ug/L	99
57) Naphthalene	0.00	128	0	Not Detected	

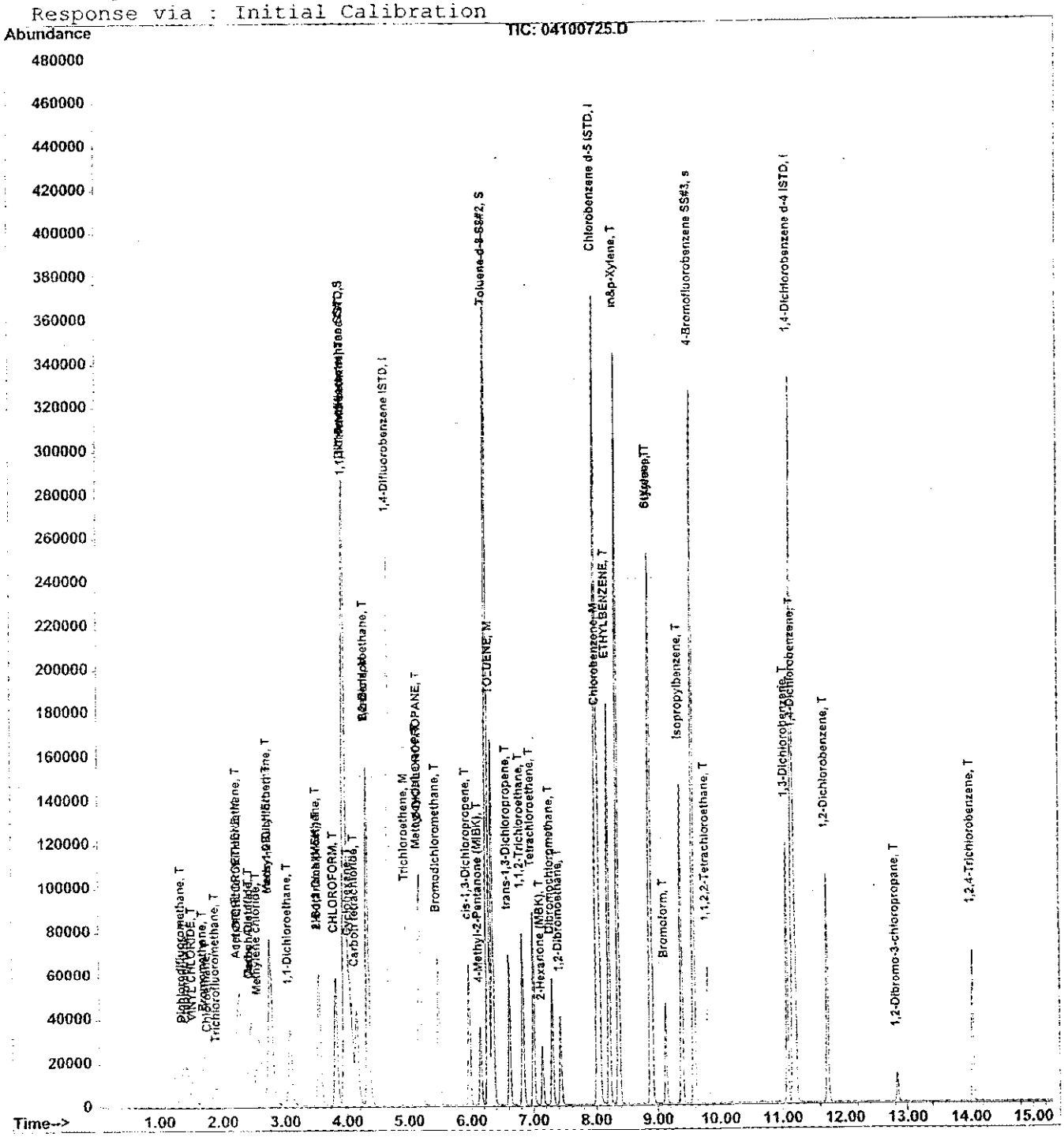
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041007\04100725.D
Acq On : 7 Oct 2004 9:30 pm
Sample : LCS-DUP 25ppb
Misc : IS/S 1uL #493, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 8 11:50 2004

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



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VOLATILES

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

METHOD: EPA 8260 **BATCH NUMBER:** 2043

MATRIX: WATER

SAMPLE ID: 04092201-01 MS
DATE ANALYZED: 10/06/04 04:35 AM
LAB FILE IDs: 04100543.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	0	22	90	61 - 145
BENZENE	25	0	22	90	76 - 127
TRICHLOROETHENE	25	0	24	95	71 - 120
TOLUENE	25	0	24	95	76 - 125
CHLOROBENZENE	25	0	24	95	75 - 130

SAMPLE ID: 04092201-01 MSD
DATE ANALYZED: 10/06/04 05:00 AM
LAB FILE IDs: 04100544.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	0	23	91	1.0	30	61 - 145
BENZENE	25	0	23	91	1.5	30	76 - 127
TRICHLOROETHENE	25	0	23	94	1.7	30	71 - 120
TOLUENE	25	0	22	89	6.8	30	76 - 125
CHLOROBENZENE	25	0	24	97	2.5	30	75 - 130

* - Indicates values outside of QC control limits.

Calculations:

$$\%\text{Recovery} = \left[\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right] * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\left(\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}\right)}\right| * 100$$

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100543.D Vial: 43
Acq On : 6 Oct 2004 4:35 am Operator: MI
Sample : 04092201-01 MS 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:55 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	191440	50.00	ug/L	-0.01
23) 1,4-Difluorobenzene ISTD	4.69	114	270286	50.00	ug/L	-0.01
39) Chlorobenzene d-5 ISTD	8.02	117	221734	50.00	ug/L	-0.02
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	100912	50.00	ug/L	-0.01
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	95257	49.15	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.30%			
33) Toluene d-8 SS#2	6.28	98	341870	50.54	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.08%			
50) 4-Bromofluorobenzene SS#3	9.58	95	138481	48.82	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.64%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.36	85	43547	20.05	ug/L	100
3) Chloromethane	1.44	50	43185	22.85	ug/L	94
4) VINYL CHLORIDE	1.54	62	36431	21.69	ug/L	99
5) Bromomethane	1.71	94	37681	22.40	ug/L	99
6) Chloroethane	1.76	64	21803	25.67	ug/L	99
7) Trichlorofluoromethane	1.90	101	27323m	17.98	ug/L	
8) Acetone	2.23	43	15207	31.33	ug/L	97
9) 1,1-DICHLOROETHENE	2.25	96	38900	22.45	ug/L	95
10) 1,1,2-Trichlorotrifluoroet	2.24	101	34660	23.86	ug/L #	75
11) Carbon Disulfide	2.45	76	122144	23.57	ug/L	98
12) Methyl Acetate	2.46	74	4603	25.79	ug/L	98
13) Methylene chloride	2.58	84	42390	19.38	ug/L	98
14) trans-1,2-Dichloroethene	2.76	96	42920	23.07	ug/L	97
15) Methyl-t-Butyl Ether	2.76	73	86953	25.29	ug/L	100
16) 1,1-Dichloroethane	3.07	63	65005	23.54	ug/L	99
17) cis-1,2-Dichloroethene	3.55	96	47166	24.31	ug/L	99
18) 2-Butanone (MEK)	3.53	43	21049	27.39	ug/L	98
19) CHLOROFORM	3.82	83	79200	22.37	ug/L	99
21) 1,1,1-Trichloroethane	4.00	97	67549	22.95	ug/L #	1
22) Cyclohexane	4.06	56	48360	24.20	ug/L	89
24) Carbon tetrachloride	4.16	117	49356	23.64	ug/L	100
25) Benzene	4.33	78	152365	22.45	ug/L	98
26) 1,2-Dichloroethane	4.34	62	56728	24.05	ug/L	99
27) Trichloroethene	4.96	95	46306	23.80	ug/L	99
28) 1,2-DICHLOROPROPANE	5.18	63	34616	23.37	ug/L	100
29) Methylcyclohexane	5.17	83	38387	22.30	ug/L	99
30) Bromodichloromethane	5.48	83	61626	24.51	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100543.D
Acq On : 6 Oct 2004 4:35 am
Sample : 04092201-01 MS 25ppb
Misc : IS/S 1uL #493, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 6 9:55 2004

Vial: 43
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

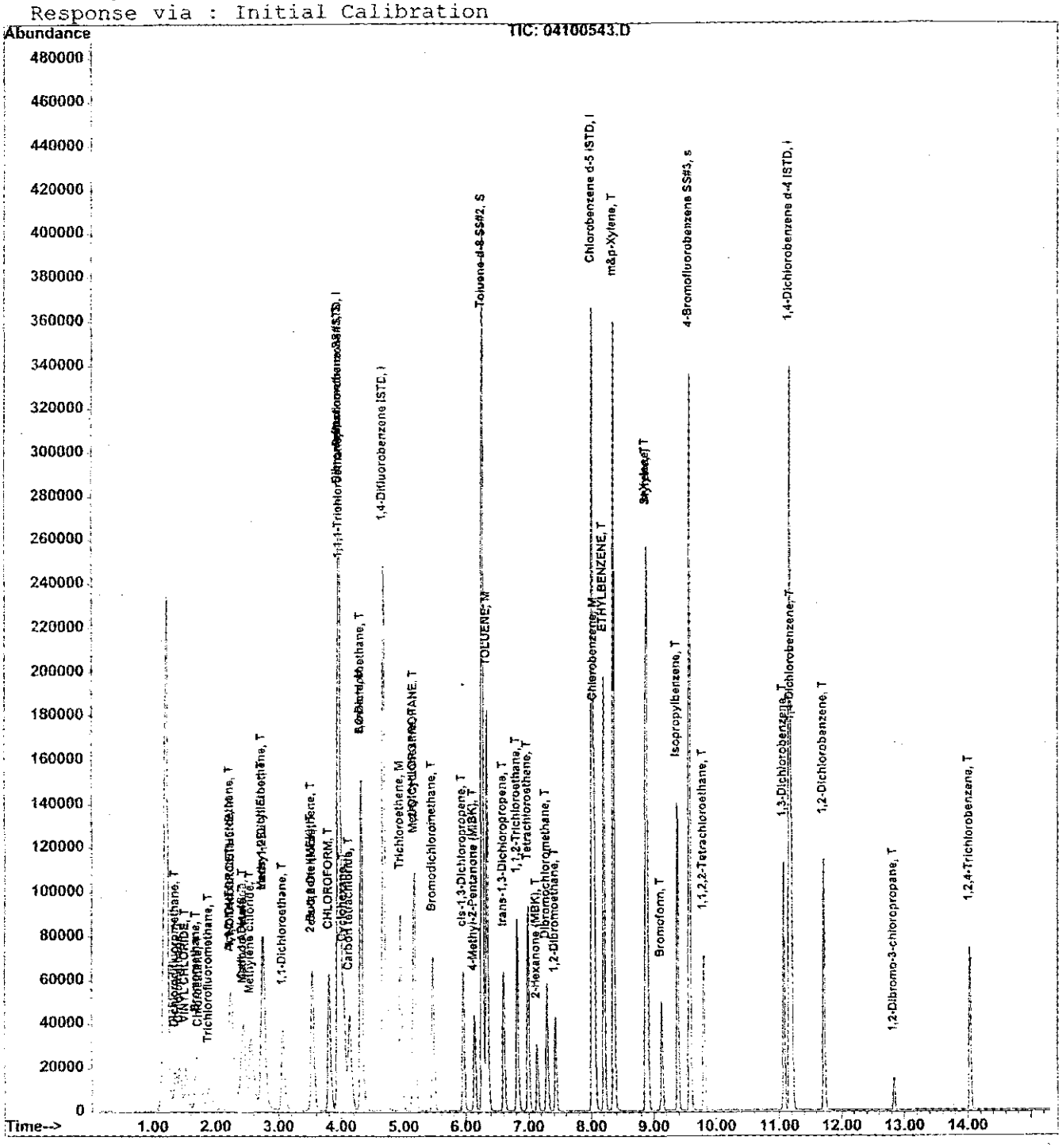
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.96	75	62637	22.39 ug/L	99
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	45180	29.29 ug/L	100
34) TOLUENE	6.35	92	101922	23.75 ug/L	98
35) trans-1,3-Dichloropropene	6.61	75	58241	23.30 ug/L	96
36) 1,1,2-Trichloroethane	6.83	83	28818	24.51 ug/L	98
37) Tetrachloroethene	7.00	166	35413	22.94 ug/L	100
38) 2-Hexanone (MBK)	7.14	43	31215	30.56 ug/L	95
40) Dibromochloromethane	7.30	129	34397	25.40 ug/L	98
41) 1,2-Dibromoethane	7.44	107	34915	25.77 ug/L	97
42) Chlorobenzene	8.06	112	90338	23.69 ug/L	95
43) ETHYLBENZENE	8.21	91	179488	25.26 ug/L	99
44) m&p-Xylene	8.36	106	117028	49.82 ug/L	100
45) o-Xylene	8.88	106	58138	24.67 ug/L	99
46) Styrene	8.91	104	104809	24.66 ug/L	95
47) Bromoform	9.14	173	27273	26.46 ug/L	99
49) Isopropylbenzene	9.39	105	116403	22.65 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	43678	27.16 ug/L	100
52) 1,3-Dichlorobenzene	11.09	146	53045	22.80 ug/L	99
53) 1,4-Dichlorobenzene	11.21	146	56145	21.67 ug/L	98
54) 1,2-Dichlorobenzene	11.73	146	51198	23.19 ug/L	100
55) 1,2-Dibromo-3-chloropropan	12.85	75	6124	29.98 ug/L	94
56) 1,2,4-Trichlorobenzene	14.04	180	30122	24.35 ug/L	99
57) Naphthalene	0.00	128	0	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041005\04100543.D Vial: 43
Acq On : 6 Oct 2004 4:35 am Operator: MI
Sample : 04092201-01 MS 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:55 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100544.D Vial: 44
Acq On : 6 Oct 2004 5:00 am Operator: MI
Sample : 04092201-01 MSD 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:47 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	193058	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.69	114	275398	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.02	117	220407	50.00	ug/L	-0.02
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	100723	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	96795	49.52	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.04%			
33) Toluene d-8 SS#2	6.27	98	342755	49.73	ug/L	-0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.46%			
50) 4-Bromofluorobenzene SS#3	9.58	95	139079	49.12	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.24%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.36	85	44221	20.19	ug/L	100
3) Chloromethane	1.45	50	44846	23.53	ug/L	93
4) VINYL CHLORIDE	1.54	62	36814	21.74	ug/L	99
5) Bromomethane	1.71	94	37497	22.10	ug/L	100
6) Chloroethane	1.77	64	22024	25.71	ug/L	96
7) Trichlorofluoromethane	1.90	101	26491	17.29	ug/L	99
8) Acetone	2.25	43	14720	30.07	ug/L	99
9) 1,1-DICHLOROETHENE	2.25	96	39614	22.67	ug/L	96
10) 1,1,2-Trichlorotrifluoroet	2.24	101	33582	22.93	ug/L	99
11) Carbon Disulfide	2.46	76	122611	23.46	ug/L	99
12) Methyl Acetate	2.47	74	4706	26.15	ug/L	99
13) Methylene chloride	2.57	84	42442	19.24	ug/L	97
14) trans-1,2-Dichloroethene	2.77	96	43698	23.29	ug/L	98
15) Methyl-t-Butyl Ether	2.76	73	85263	24.59	ug/L	100
16) 1,1-Dichloroethane	3.07	63	64774	23.26	ug/L	99
17) cis-1,2-Dichloroethene	3.55	96	46390	23.71	ug/L	97
18) 2-Butanone (MEK)	3.54	43	20394	26.31	ug/L	99
19) CHLOROFORM	3.82	83	81545	22.84	ug/L	100
21) 1,1,1-Trichloroethane	4.00	97	68201	22.98	ug/L #	1
22) Cyclohexane	4.06	56	48559	24.10	ug/L	87
24) Carbon tetrachloride	4.15	117	49891	23.45	ug/L	100
25) Benzene	4.33	78	157674	22.80	ug/L	99
26) 1,2-Dichloroethane	4.34	62	59151	24.61	ug/L	98
27) Trichloroethene	4.96	95	46387	23.40	ug/L	99
28) 1,2-DICHLOROPROPANE	5.19	63	34724	23.01	ug/L	99
29) Methylcyclohexane	5.17	83	37184	21.20	ug/L	99
30) Bromodichloromethane	5.48	83	61272	23.92	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100544.D Vial: 44
Acq On : 6 Oct 2004 5:00 am Operator: MI
Sample : 04092201-01 MSD 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:47 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

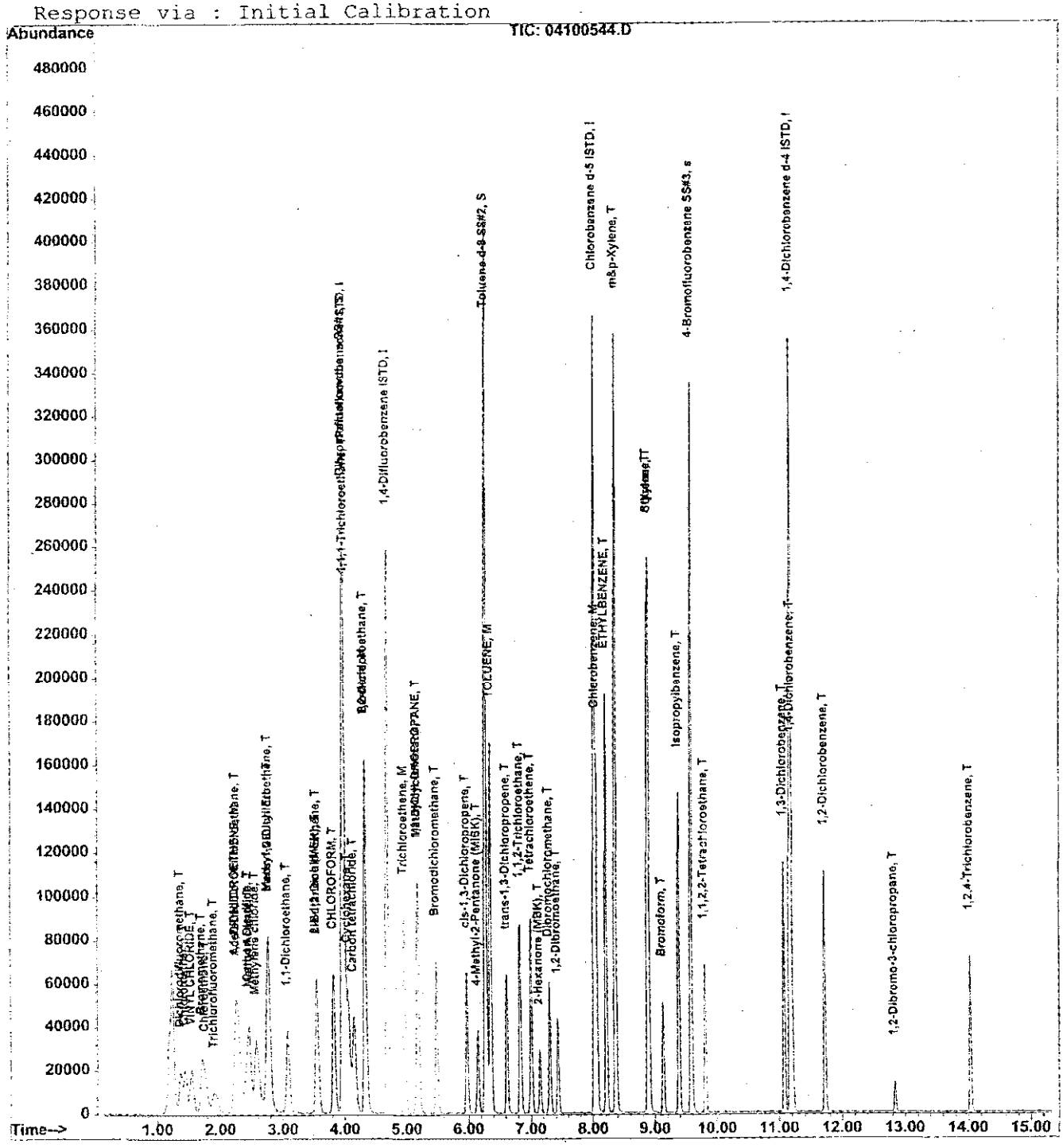
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	61699	21.65	ug/L	98
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	43507	27.68	ug/L	99
34) TOLUENE	6.35	92	97012	22.19	ug/L	98
35) trans-1,3-Dichloropropene	6.62	75	57906	22.74	ug/L	97
36) 1,1,2-Trichloroethane	6.82	83	28633	23.90	ug/L	99
37) Tetrachloroethene	7.00	166	34808	22.13	ug/L	98
38) 2-Hexanone (MBK)	7.14	43	29079	27.94	ug/L	99
40) Dibromochloromethane	7.30	129	34615	25.71	ug/L	99
41) 1,2-Dibromoethane	7.43	107	34646	25.72	ug/L	99
42) Chlorobenzene	8.06	112	92042	24.28	ug/L	96
43) ETHYLBENZENE	8.21	91	174052	24.64	ug/L	99
44) m&p-Xylene	8.37	106	117616	50.37	ug/L	100
45) o-Xylene	8.88	106	57714	24.64	ug/L	99
46) Styrene	8.90	104	103685	24.55	ug/L	94
47) Bromoform	9.13	173	26883	26.24	ug/L	100
49) Isopropylbenzene	9.39	105	118064	23.02	ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	40769	25.40	ug/L	98
52) 1,3-Dichlorobenzene	11.08	146	52982	22.82	ug/L	99
53) 1,4-Dichlorobenzene	11.21	146	55133	21.32	ug/L	98
54) 1,2-Dichlorobenzene	11.73	146	50657	22.99	ug/L	98
55) 1,2-Dibromo-3-chloropropan	12.85	75	5331	26.15	ug/L	97
56) 1,2,4-Trichlorobenzene	14.04	180	27957	22.64	ug/L	97
57) Naphthalene	0.00	128	0	Not Detected		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041005\04100544.D Vial: 44
Acq On : 6 Oct 2004 5:00 am Operator: MI
Sample : 04092201-01 MSD 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 9:47 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



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VOLATILES

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

METHOD: EPA 8260B **BATCH NUMBER:** 2051

MATRIX: WATER

SAMPLE ID: 04093025-03 MS
DATE ANALYZED: 10/07/04 01:54 AM
LAB FILE IDs: 04100640.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	3	26	94	61 - 145
BENZENE	25	0	23	92	76 - 127
TRICHLOROETHENE	25	0	23	91	71 - 120
TOLUENE	25	0	24	96	76 - 125
CHLOROBENZENE	25	0	24	95	75 - 130

SAMPLE ID: 04093025-03 MSD
DATE ANALYZED: 10/07/04 02:18 AM
LAB FILE IDs: 04100641.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	3	25	90	3.7	30	61 - 145
BENZENE	25	0	23	90	2.0	30	76 - 127
TRICHLOROETHENE	25	0	22	88	3.0	30	71 - 120
TOLUENE	25	0	23	92	4.0	30	76 - 125
CHLOROBENZENE	25	0	23	92	2.5	30	75 - 130

* - Indicates values outside of QC control limits.

Calculations:

$$\%\text{Recovery} = \left[\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right] * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\left(\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}\right)}\right| * 100$$

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100640.D
Acq On : 7 Oct 2004 1:54 am
Sample : 04093025-03 MS 25ppb
Misc : IS/S 1uL #493, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 7 14:22 2004

Vial: 40
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	191230	50.00	ug/L	-0.01
23) 1,4-Difluorobenzene ISTD	4.69	114	270588	50.00	ug/L	-0.01
39) Chlorobenzene d-5 ISTD	8.03	117	223998	50.00	ug/L	-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	100436	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	96254	49.72	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.44%			
33) Toluene d-8 SS#2	6.27	98	345565	51.03	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 102.06%			
50) 4-Bromofluorobenzene SS#3	9.58	95	139018	49.24	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.48%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.37	85	41980	19.35	ug/L	100
3) Chloromethane	1.44	50	42706	22.62	ug/L	91
4) VINYL CHLORIDE	1.53	62	35521	21.17	ug/L	99
5) Bromomethane	1.70	94	36675	21.82	ug/L	98
6) Chloroethane	1.77	64	21642	25.50	ug/L	96
7) Trichlorofluoromethane	1.89	101	22123	14.58	ug/L	98
8) Acetone	2.25	43	13590	28.03	ug/L	82
9) 1,1-DICHLOROETHENE	2.25	96	45329	26.19	ug/L	97
10) 1,1,2-Trichlorotrifluoroet	2.25	101	33495	23.08	ug/L #	64
11) Carbon Disulfide	2.45	76	120319	23.24	ug/L	99
12) Methyl Acetate	2.47	74	4168	23.38	ug/L	99
13) Methylene chloride	2.57	84	43527	19.92	ug/L	100
14) trans-1,2-Dichloroethene	2.76	96	42200	22.71	ug/L	97
15) Methyl-t-Butyl Ether	2.76	73	84342	24.56	ug/L	100
16) 1,1-Dichloroethane	3.08	63	91004	32.99	ug/L	99
17) cis-1,2-Dichloroethene	3.55	96	49222	25.39	ug/L	98
18) 2-Butanone (MEK)	3.55	43	18738	24.41	ug/L	100
19) CHLOROFORM	3.82	83	80163	22.67	ug/L	100
21) 1,1,1-Trichloroethane	4.00	97	67916	23.10	ug/L #	1
22) Cyclohexane	4.06	56	48334	24.21	ug/L #	77
24) Carbon tetrachloride	4.15	117	46739	22.36	ug/L	100
25) Benzene	4.33	78	156419	23.03	ug/L	100
26) 1,2-Dichloroethane	4.34	62	56168	23.79	ug/L	98
27) Trichloroethene	4.96	95	44345	22.77	ug/L	98
28) 1,2-DICHLOROPROPANE	5.19	63	34544	23.30	ug/L	100
29) Methylcyclohexane	5.16	83	37742	21.90	ug/L	99
30) Bromodichloromethane	5.48	83	60045	23.85	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100640.D Vial: 40
Acq On : 7 Oct 2004 1:54 am Operator: MI
Sample : 04093025-03 MS 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:22 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	60003	21.43 ug/L	99
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	41365	26.79 ug/L	98
34) TOLUENE	6.35	92	102737	23.92 ug/L	100
35) trans-1,3-Dichloropropene	6.61	75	56550	22.60 ug/L	95
36) 1,1,2-Trichloroethane	6.83	83	28380	24.11 ug/L	98
37) Tetrachloroethene	7.00	166	34718	22.47 ug/L	98
38) 2-Hexanone (MBK)	7.15	43	27255	26.65 ug/L	99
40) Dibromochloromethane	7.30	129	33086	24.18 ug/L	97
41) 1,2-Dibromoethane	7.43	107	33598	24.54 ug/L	100
42) Chlorobenzene	8.06	112	91081	23.64 ug/L	96
43) ETHYLBENZENE	8.21	91	169277	23.58 ug/L	99
44) m&p-Xylene	8.37	106	112421	47.37 ug/L	95
45) o-Xylene	8.89	106	55508	23.32 ug/L	97
46) Styrene	8.90	104	102560	23.89 ug/L	94
47) Bromoform	9.14	173	25344	24.34 ug/L	99
49) Isopropylbenzene	9.39	105	117587	22.99 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	39597	24.74 ug/L	99
52) 1,3-Dichlorobenzene	11.08	146	51401	22.20 ug/L	98
53) 1,4-Dichlorobenzene	11.22	146	53524	20.75 ug/L	97
54) 1,2-Dichlorobenzene	11.73	146	49858	22.69 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.84	75	5650	27.79 ug/L	83
56) 1,2,4-Trichlorobenzene	14.04	180	25664	20.84 ug/L	100
57) Naphthalene	14.38	128	1593	Not Detected	

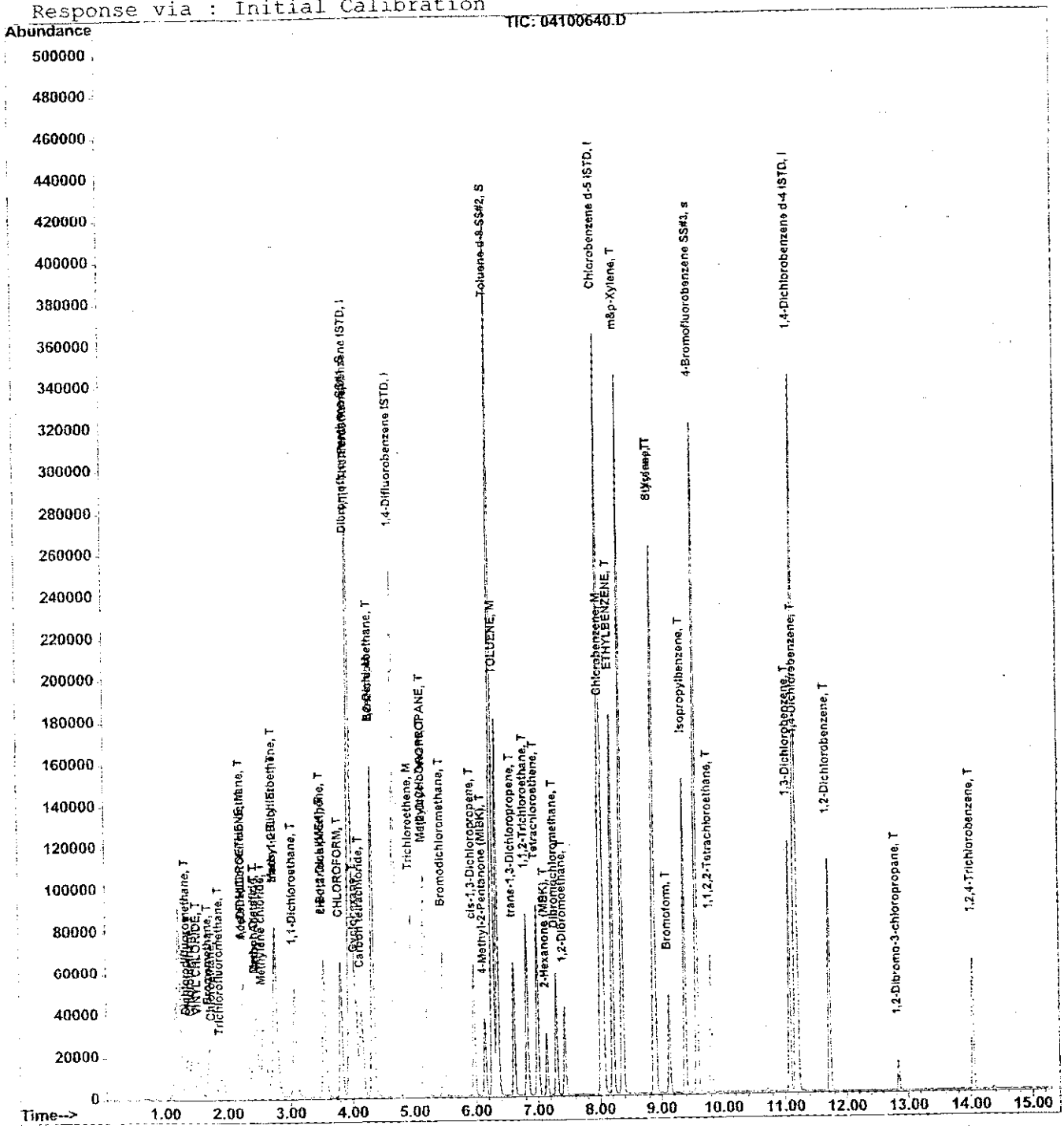
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041006\04100640.D
Acq On : 7 Oct 2004 1:54 am
Sample : 04093025-03 MS 25ppb
Misc : IS/S 1uL #493, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 7 14:22 2004

Vial: 40
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100641.D Vial: 41
Acq On : 7 Oct 2004 2:18 am Operator: MI
Sample : 04093025-03 MSD 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:28 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	191422	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.69	114	273655	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.02	117	223401	50.00	ug/L	-0.02
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	97999	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	95872	49.47	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.94%			
33) Toluene d-8 SS#2	6.28	98	337318	49.25	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.50%			
50) 4-Bromofluorobenzene SS#3	9.58	95	138903	50.42	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.84%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.36	85	41990	19.34	ug/L	100
3) Chloromethane	1.44	50	42264m	22.36	ug/L	
4) VINYL CHLORIDE	1.53	62	35485	21.13	ug/L	98
5) Bromomethane	1.71	94	35600	21.16	ug/L	99
6) Chloroethane	1.76	64	21362	25.15	ug/L	97
7) Trichlorofluoromethane	1.91	101	24693	16.25	ug/L	97
8) Acetone	2.24	43	13781	28.39	ug/L	98
9) 1,1-DICHLOROETHENE	2.25	96	43755	25.25	ug/L	95
10) 1,1,2-Trichlorotrifluoroet	2.24	101	31592	21.75	ug/L	97
11) Carbon Disulfide	2.45	76	117730	22.72	ug/L	99
12) Methyl Acetate	2.45	74	4101	22.98	ug/L	94
13) Methylene chloride	2.57	84	41773	19.10	ug/L	98
14) trans-1,2-Dichloroethene	2.77	96	41222	22.16	ug/L	97
15) Methyl-t-Butyl Ether	2.75	73	85553	24.88	ug/L	100
16) 1,1-Dichloroethane	3.07	63	88733	32.14	ug/L	99
17) cis-1,2-Dichloroethene	3.54	96	48323	24.91	ug/L	98
18) 2-Butanone (MEK)	3.54	43	19125	24.89	ug/L	100
19) CHLOROFORM	3.82	83	79937	22.58	ug/L	99
21) 1,1,1-Trichloroethane	4.00	97	66536	22.61	ug/L #	1
22) Cyclohexane	4.06	56	48338	24.19	ug/L	84
24) Carbon tetrachloride	4.15	117	48460	22.92	ug/L	98
25) Benzene	4.33	78	155136	22.58	ug/L	100
26) 1,2-Dichloroethane	4.34	62	58027	24.30	ug/L	98
27) Trichloroethene	4.96	95	43535	22.10	ug/L	97
28) 1,2-DICHLOROPROPANE	5.18	63	33873	22.59	ug/L	100
29) Methylcyclohexane	5.17	83	38029	21.82	ug/L	99
30) Bromodichloromethane	5.48	83	59497	23.37	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100641.D
Acq On : 7 Oct 2004 2:18 am
Sample : 04093025-03 MSD 25ppb
Misc : IS/S 1uL #493, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 7 14:28 2004

Vial: 41
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

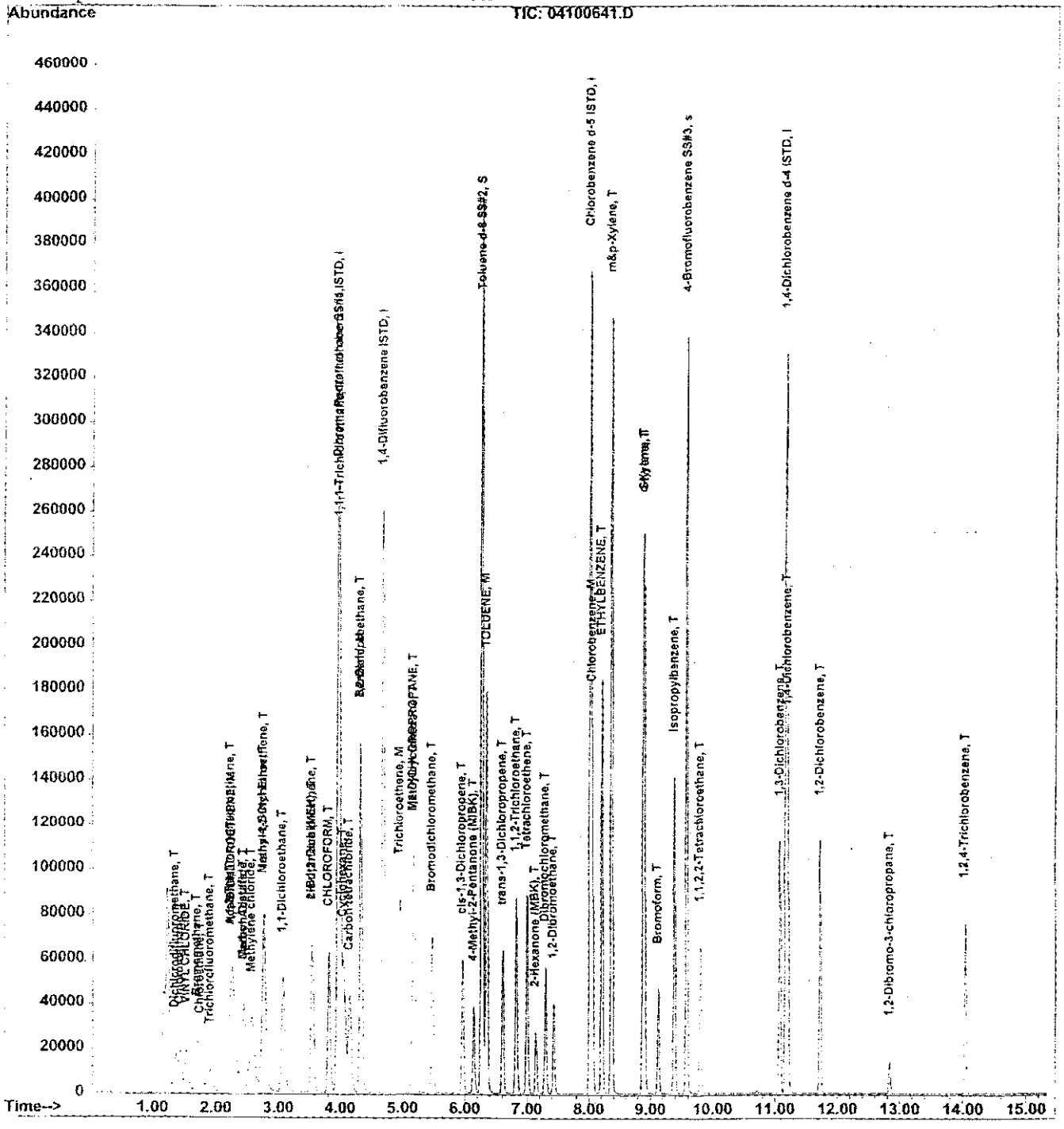
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	58533	20.67 ug/L	98
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	41619	26.65 ug/L	98
34) TOLUENE	6.35	92	99874	22.99 ug/L	98
35) trans-1,3-Dichloropropene	6.61	75	56112	22.17 ug/L	96
36) 1,1,2-Trichloroethane	6.83	83	28545	23.98 ug/L	99
37) Tetrachloroethene	7.00	166	34080	21.81 ug/L	99
38) 2-Hexanone (MBK)	7.14	43	28300	27.36 ug/L	97
40) Dibromochloromethane	7.30	129	32843	24.07 ug/L	98
41) 1,2-Dibromoethane	7.43	107	33982	24.89 ug/L	100
42) Chlorobenzene	8.06	112	88584	23.05 ug/L	95
43) ETHYLBENZENE	8.21	91	170697	23.84 ug/L	99
44) m&p-Xylene	8.37	106	111304	47.03 ug/L	96
45) o-Xylene	8.88	106	56089	23.63 ug/L	95
46) Styrene	8.91	104	101527	23.71 ug/L	95
47) Bromoform	9.13	173	25515	24.57 ug/L	99
49) Isopropylbenzene	9.39	105	114429	22.93 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.80	83	40531	25.95 ug/L	99
52) 1,3-Dichlorobenzene	11.09	146	51804	22.93 ug/L	99
53) 1,4-Dichlorobenzene	11.21	146	54138	21.51 ug/L	98
54) 1,2-Dichlorobenzene	11.73	146	49887	23.27 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.84	75	5633	28.39 ug/L	91
56) 1,2,4-Trichlorobenzene	14.04	180	29246	24.34 ug/L	98
57) Naphthalene	14.38	128	492	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041006\04100641.D Vial: 41
Acq On : 7 Oct 2004 2:18 am Operator: MI
Sample : 04093025-03 MSD 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:28 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



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VOLATILES

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

METHOD: **BATCH NUMBER:** 2056

MATRIX: WATER

SAMPLE ID: 04100522-02 MS
DATE ANALYZED: 10/07/04 08:15 PM
LAB FILE IDs: 04100722.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	0	23	91	61 - 145
BENZENE	25	0	23	94	76 - 127
TRICHLOROETHENE	25	0	23	92	71 - 120
TOLUENE	25	0	24	97	76 - 125
CHLOROBENZENE	25	0	25	101	75 - 130

SAMPLE ID: 04100522-02 MSD
DATE ANALYZED: 10/07/04 08:40 PM
LAB FILE IDs: 04100723.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	0	22	88	3.3	30	61 - 145
BENZENE	25	0	22	89	5.3	30	76 - 127
TRICHLOROETHENE	25	0	22	88	4.5	30	71 - 120
TOLUENE	25	0	22	90	7.7	30	76 - 125
CHLOROBENZENE	25	0	23	93	8.5	30	75 - 130

* - Indicates values outside of QC control limits.

Calculations:

$$\%\text{Recovery} = \left[\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right] * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\left(\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}\right)}\right| * 100$$

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100722.D Vial: 22
Acq On : 7 Oct 2004 8:15 pm Operator: MI
Sample : 04100522-02 MS 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 8 11:50 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	192263	50.00	ug/L		0.00
23) 1,4-Difluorobenzene ISTD	4.69	114	270176	50.00	ug/L		0.00
39) Chlorobenzene d-5 ISTD	8.02	117	215174	50.00	ug/L		-0.02
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	98311	50.00	ug/L		0.00
System Monitoring Compounds							
20) Dibromofluoromethane SS#1	3.96	113	97297	49.99	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.98%				
33) Toluene d-8 SS#2	6.28	98	333222	49.28	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.56%				
50) 4-Bromofluorobenzene SS#3	9.58	95	139861	50.61	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.22%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.37	85	44017	20.18	ug/L		100
3) Chloromethane	1.45	50	43245	22.78	ug/L		94
4) VINYL CHLORIDE	1.55	62	36418	21.59	ug/L		99
5) Bromomethane	1.72	94	38590	22.84	ug/L		98
6) Chloroethane	1.77	64	21206	24.86	ug/L		98
7) Trichlorofluoromethane	1.91	101	24373	15.97	ug/L		98
8) Acetone	2.24	43	11934	24.48	ug/L		86
9) 1,1-DICHLOROETHENE	2.28	96	39418	22.65	ug/L		93
10) 1,1,2-Trichlorotrifluoroet	2.28	101	34475	23.63	ug/L	#	41
11) Carbon Disulfide	2.46	76	124762	23.97	ug/L		98
12) Methyl Acetate	2.47	74	4246	23.69	ug/L		68
13) Methylene chloride	2.59	84	42852	19.50	ug/L		99
14) trans-1,2-Dichloroethene	2.77	96	42457	22.72	ug/L		96
15) Methyl-t-Butyl Ether	2.75	73	83780	24.26	ug/L		100
16) 1,1-Dichloroethane	3.08	63	65979	23.79	ug/L		98
17) cis-1,2-Dichloroethene	3.55	96	45915	23.56	ug/L		99
18) 2-Butanone (MEK)	3.53	43	18675	24.20	ug/L		97
19) CHLOROFORM	3.82	83	84723	23.83	ug/L		100
21) 1,1,1-Trichloroethane	4.00	97	68389	23.14	ug/L	#	1
22) Cyclohexane	4.06	56	48718	24.28	ug/L	#	78
24) Carbon tetrachloride	4.16	117	48999	23.48	ug/L		100
25) Benzene	4.33	78	158977	23.44	ug/L		99
26) 1,2-Dichloroethane	4.34	62	57927	24.57	ug/L		99
27) Trichloroethene	4.96	95	44912	23.09	ug/L		99
28) 1,2-DICHLOROPROPANE	5.19	63	34486	23.29	ug/L		99
29) Methylcyclohexane	5.17	83	39178	22.77	ug/L		97
30) Bromodichloromethane	5.48	83	60533	24.09	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100722.D Vial: 22
Acq On : 7 Oct 2004 8:15 pm Operator: MI
Sample : 04100522-02 MS 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 8 11:50 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.98	75	64827	23.19 ug/L	98
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	38382	24.89 ug/L	99
34) TOLUENE	6.35	92	103789	24.20 ug/L	99
35) trans-1,3-Dichloropropene	6.61	75	61377	24.57 ug/L	96
36) 1,1,2-Trichloroethane	6.83	83	28598	24.33 ug/L	96
37) Tetrachloroethene	7.00	166	35020	22.70 ug/L	99
38) 2-Hexanone (MBK)	7.14	43	26690	26.14 ug/L	96
40) Dibromochloromethane	7.31	129	33250	25.30 ug/L	97
41) 1,2-Dibromoethane	7.44	107	32429	24.66 ug/L	99
42) Chlorobenzene	8.06	112	93363	25.23 ug/L	97
43) ETHYLBENZENE	8.21	91	170863	24.78 ug/L	99
44) m&p-Xylene	8.37	106	114318	50.15 ug/L	94
45) o-Xylene	8.89	106	56723	24.81 ug/L	96
46) Styrene	8.91	104	102921	24.96 ug/L	95
47) Bromoform	9.13	173	25150	25.15 ug/L	97
49) Isopropylbenzene	9.39	105	118987	23.77 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	38778	24.75 ug/L	99
52) 1,3-Dichlorobenzene	11.09	146	52613	23.22 ug/L	99
53) 1,4-Dichlorobenzene	11.21	146	54246	21.49 ug/L	98
54) 1,2-Dichlorobenzene	11.73	146	49523	23.03 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.84	75	4883	24.54 ug/L	92
56) 1,2,4-Trichlorobenzene	14.04	180	25211	20.92 ug/L	99
57) Naphthalene	0.00	128	0	Not Detected	

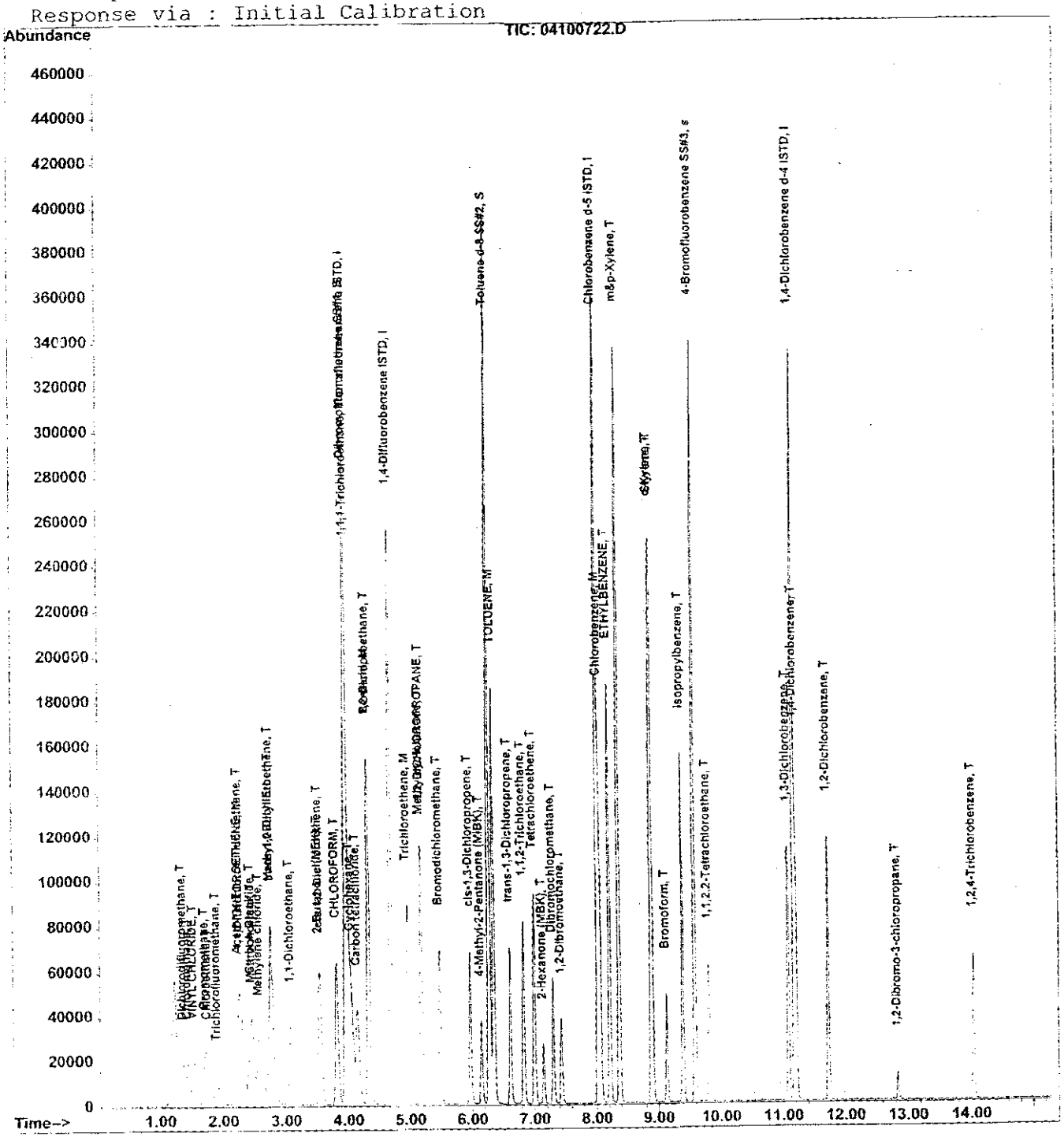
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041007\04100722.D
Acq On : 7 Oct 2004 8:15 pm
Sample : 04100522-02 MS 25ppb
Misc : IS/S 1uL #493, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 8 11:50 2004

Vial: 22
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100723.D Vial: 23
Acq On : 7 Oct 2004 8:40 pm Operator: MI
Sample : 04100522-02 MSD 25ppb Inst : VOC#1
Misc : IS/S 1uL #493, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 8 11:50 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	194087	50.00	ug/L		-0.01
23) 1,4-Difluorobenzene ISTD	4.69	114	274556	50.00	ug/L		-0.01
39) Chlorobenzene d-5 ISTD	8.03	117	224692	50.00	ug/L		-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	93263	50.00	ug/L		0.00
System Monitoring Compounds							
20) Dibromofluoromethane SS#1	3.97	113	96012	48.86	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.72%				
33) Toluene d-8 SS#2	6.28	98	330551	48.11	ug/L		-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 96.22%				
50) 4-Bromofluorobenzene SS#3	9.59	95	135394	51.65	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 103.30%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.38	85	43421	19.72	ug/L		100
3) Chloromethane	1.44	50	41399	21.61	ug/L		93
4) VINYL CHLORIDE	1.54	62	35895	21.08	ug/L		98
5) Bromomethane	1.71	94	38280	22.44	ug/L		97
6) Chloroethane	1.76	64	21199	24.61	ug/L		98
7) Trichlorofluoromethane	1.91	101	23851	15.48	ug/L		100
8) Acetone	2.25	43	13092	26.60	ug/L		95
9) 1,1-DICHLOROETHENE	2.25	96	38507	21.92	ug/L		94
10) 1,1,2-Trichlorotrifluoroet	2.25	101	14272	9.69	ug/L		99
11) Carbon Disulfide	2.46	76	118162	22.49	ug/L		98
12) Methyl Acetate	2.46	74	4370	24.15	ug/L		93
13) Methylene chloride	2.58	84	40165	18.11	ug/L		97
14) trans-1,2-Dichloroethene	2.77	96	43131	22.87	ug/L		97
15) Methyl-t-Butyl Ether	2.77	73	87107	24.99	ug/L		100
16) 1,1-Dichloroethane	3.08	63	66293	23.68	ug/L		99
17) cis-1,2-Dichloroethene	3.55	96	43522	22.12	ug/L		95
18) 2-Butanone (MEK)	3.55	43	19570	25.12	ug/L		98
19) CHLOROFORM	3.81	83	81404	22.68	ug/L		99
21) 1,1,1-Trichloroethane	4.00	97	66147	22.17	ug/L	#	1
22) Cyclohexane	4.06	56	47416	23.40	ug/L	#	71
24) Carbon tetrachloride	4.15	117	48226	22.74	ug/L		100
25) Benzene	4.33	78	153329	22.24	ug/L		100
26) 1,2-Dichloroethane	4.34	62	56936	23.77	ug/L		99
27) Trichloroethene	4.96	95	43608	22.07	ug/L		99
28) 1,2-DICHLOROPROPANE	5.18	63	35214	23.40	ug/L		99
29) Methylcyclohexane	5.17	83	38033	21.75	ug/L		99
30) Bromodichloromethane	5.48	83	59252	23.20	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100723.D
Acq On : 7 Oct 2004 8:40 pm
Sample : 04100522-02 MSD 25ppb
Misc : 1S/S 1uL #493, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 8 11:50 2004

Vial: 23
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	64657	22.76 ug/L	96
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	40118	25.60 ug/L	98
34) TOLUENE	6.36	92	97673	22.41 ug/L	98
35) trans-1,3-Dichloropropene	6.61	75	58614	23.09 ug/L	95
36) 1,1,2-Trichloroethane	6.83	83	26964	22.58 ug/L	98
37) Tetrachloroethene	7.00	166	33271	21.22 ug/L	98
38) 2-Hexanone (MBK)	7.15	43	29100	28.05 ug/L	95
40) Dibromochloromethane	7.30	129	33919	24.71 ug/L	100
41) 1,2-Dibromoethane	7.43	107	34630	25.22 ug/L	98
42) Chlorobenzene	8.06	112	89573	23.18 ug/L	95
43) ETHYLBENZENE	8.22	91	175360	24.35 ug/L	99
44) m&p-Xylene	8.37	106	112339	47.19 ug/L	95
45) o-Xylene	8.89	106	57489	24.08 ug/L	98
46) Styrene	8.91	104	103294	23.99 ug/L	92
47) Bromoform	9.14	173	25724	24.63 ug/L	99
49) Isopropylbenzene	9.39	105	111567	23.49 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	38374	25.82 ug/L	100
52) 1,3-Dichlorobenzene	11.08	146	49573	23.06 ug/L	99
53) 1,4-Dichlorobenzene	11.22	146	53979	22.54 ug/L	97
54) 1,2-Dichlorobenzene	11.73	146	49571	24.30 ug/L	98
55) 1,2-Dibromo-3-chloropropan	12.84	75	5467	28.96 ug/L	88
56) 1,2,4-Trichlorobenzene	14.04	180	27880	24.38 ug/L	100
57) Naphthalene	0.00	128	0	Not Detected	

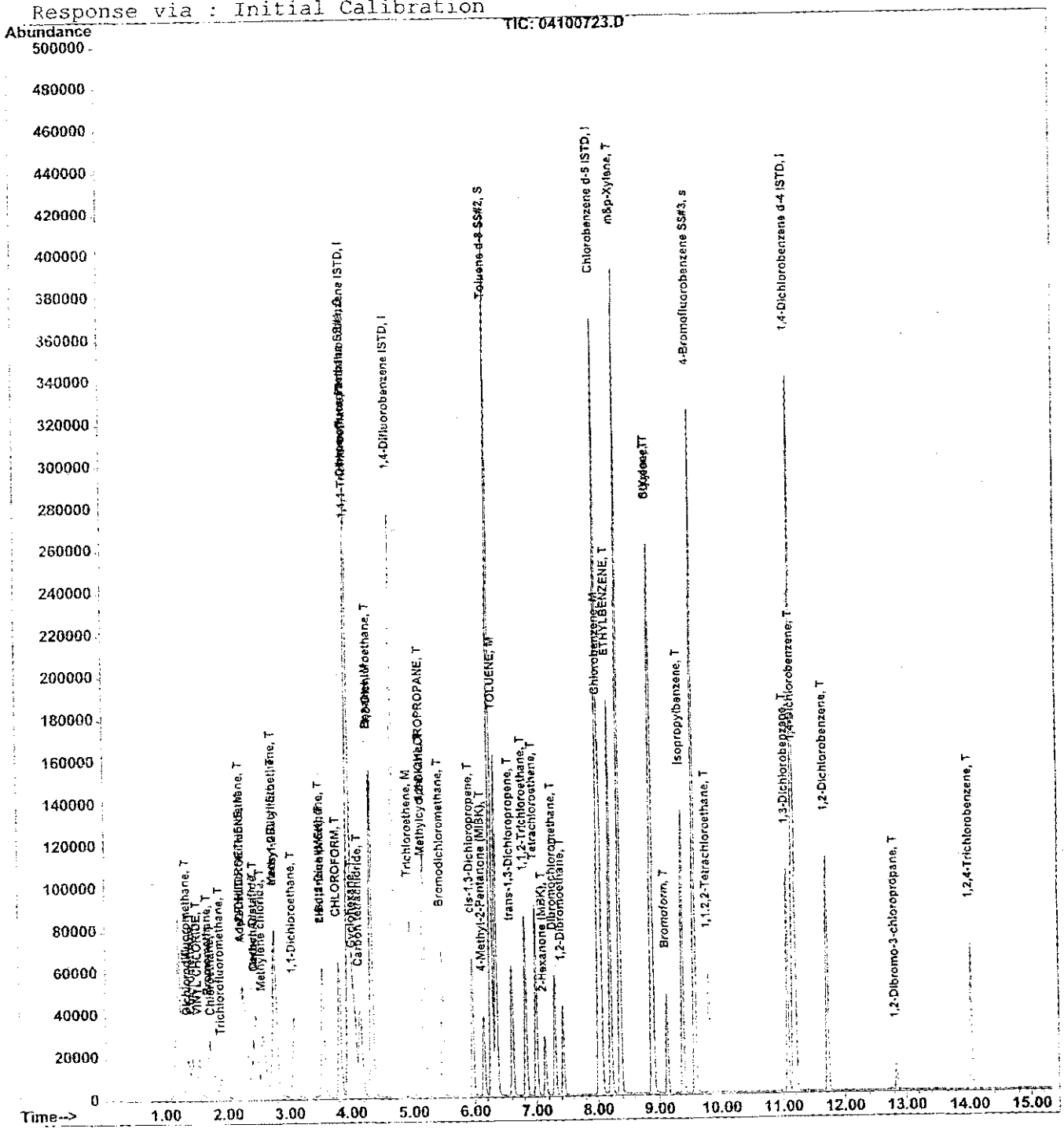
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041007\04100723.D
Acq On : 7 Oct 2004 8:40 pm
Sample : 04100522-02 MSD 25ppb
Misc : IS/S 1uL #493, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 8 11:50 2004

Vial: 23
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041005\04100521.D Vial: 21
Acq On : 5 Oct 2004 7:00 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene ISTD	1.000	1.000	0.0	97	0.00
2	T	Dichlorodifluoromethane	0.567	0.547	3.5	92	0.00
3	T	Chloromethane	0.494	0.468	5.3	106	-0.02
4	T	VINYL CHLORIDE	0.439	0.424	3.4	93	0.00
5	T	Bromomethane	0.439	0.402	8.4	94	-0.02
6	T	Chloroethane	0.222	0.222	0.0	92	0.00
7	T	Trichlorofluoromethane	0.306	0.317	-3.6	90	0.00
8	T	Acetone	0.162	0.120	25.9#	95	0.00
9	M	1,1-DICHLOROETHENE	0.453	0.426	6.0	92	0.00
10	T	1,1,2-Trichlorotrifluoroeth	0.379	0.386	-1.8	93	0.00
11	T	Carbon Disulfide	1.354	1.292	4.6	92	0.00
12	T	Methyl Acetate	0.047	0.047	0.0	91	0.00
13	T	Methylene chloride	0.571	0.456	20.1	88	0.00
14	T	trans-1,2-Dichloroethene	0.486	0.458	5.8	93	0.00
15	T	Methyl-t-Butyl Ether	0.898	0.835	7.0	91	0.00
16	T	1,1-Dichloroethane	0.721	0.682	5.4	92	0.00
17	T	cis-1,2-Dichloroethene	0.507	0.482	4.9	93	0.00
18	T	2-Butanone (MEK)	0.201	0.177	11.9	95	0.00
19	T	CHLOROFORM	0.925	0.858	7.2	92	0.00
20	S	Dibromofluoromethane SS#1	0.506	0.501	1.0	94	0.00
21	T	1,1,1-Trichloroethane	0.769	0.734	4.6	94	0.00
22	T	Cyclohexane	0.522	0.512	1.9	92	0.00
23	I	1,4-Difluorobenzene ISTD	1.000	1.000	0.0	93	0.00
24	T	Carbon tetrachloride	0.386	0.382	1.0	93	0.00
25	M	Benzene	1.255	1.164	7.3	91	0.00
26	T	1,2-Dichloroethane	0.436	0.418	4.1	93	0.00
27	M	Trichloroethene	0.360	0.342	5.0	94	0.00
28	T	1,2-DICHLOROPROPANE	0.274	0.258	5.8	91	0.00
29	T	Methylcyclohexane	0.318	0.306	3.8	90	0.00
30	T	Bromodichloromethane	0.465	0.458	1.5	92	0.00
31	T	cis-1,3-Dichloropropene	0.517	0.486	6.0	91	0.00
32	T	4-Methyl-2-Pentanone (MIBK)	0.285	0.274	3.9	93	0.00
33	S	Toluene d-8 SS#2	1.251	1.266	-1.2	94	0.00
34	M	TOLUENE	0.794	0.760	4.3	93	0.00
35	T	trans-1,3-Dichloropropene	0.462	0.452	2.2	93	0.00
36	T	1,1,2-Trichloroethane	0.217	0.210	3.2	90	0.00
37	T	Tetrachloroethene	0.286	0.277	3.1	93	0.00
38	T	2-Hexanone (MBK)	0.189	0.185	2.1	95	0.00
39	I	Chlorobenzene d-5 ISTD	1.000	1.000	0.0	92	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041005\04100521.D
Acq On : 5 Oct 2004 7:00 pm
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #548
MS Integration Params: rteint.p

Vial: 21
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	T	Dibromochloromethane	0.305	0.305	0.0	92	0.00
41	T	1,2-Dibromoethane	0.306	0.295	3.6	90	0.00
42	M	Chlorobenzene	0.860	0.837	2.7	91	0.00
43	T	ETHYLBENZENE	1.602	1.589	0.8	91	-0.02
44	T	m&p-Xylene	0.530	0.518	2.3	89	0.00
45	T	o-Xylene	0.531	0.524	1.3	91	0.00
46	T	Styrene	0.958	0.968	-1.0	91	0.00
47	T	Bromoform	0.232	0.229	1.3	88	0.00
48	I	1,4-Dichlorobenzene d-4 IST	1.000	1.000	0.0	90	0.00
49	T	Isopropylbenzene	2.546	2.583	-1.5	92	0.00
50	s	4-Bromofluorobenzene SS#3	1.405	1.428	-1.6	90	0.00
51	T	1,1,2,2-Tetrachloroethane	0.797	0.794	0.4	92	0.00
52	T	1,3-Dichlorobenzene	1.153	1.132	1.8	88	0.00
53	T	1,4-Dichlorobenzene	1.284	1.188	7.5	91	0.00
54	T	1,2-Dichlorobenzene	1.094	1.066	2.6	89	0.00
55	T	1,2-Dibromo-3-chloropropane	0.101	0.100	1.0	93	0.00
56	T	1,2,4-Trichlorobenzene	0.613	0.543	11.4	83	0.00
57	T	Naphthalene	0.887	0.733	17.4	75	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100521.D Vial: 21
Acq On : 5 Oct 2004 7:00 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 23:20 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	200958	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.69	114	280849	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.03	117	234841	50.00	ug/L	0.00
48) 1,4-Dichlorobenzene d-4 IS	11.19	152	100825	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	100626	49.46	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.92%			
33) Toluene d-8 SS#2	6.28	98	355549	50.59	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.18%			
50) 4-Bromofluorobenzene SS#3	9.58	95	143993	50.81	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.62%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.37	85	109931	48.22	ug/L	100
3) Chloromethane	1.45	50	94028m	47.40	ug/L	
4) VINYL CHLORIDE	1.55	62	85217	48.33	ug/L	99
5) Bromomethane	1.72	94	80816	45.76	ug/L	99
6) Chloroethane	1.77	64	44550	49.96	ug/L	98
7) Trichlorofluoromethane	1.94	101	63773	39.98	ug/L	100
8) Acetone	2.26	43	24071	47.24	ug/L	96
9) 1,1-DICHLOROETHENE	2.28	96	85534	47.02	ug/L	97
10) 1,1,2-Trichlorotrifluoroet	2.25	101	77644	50.92	ug/L	98
11) Carbon Disulfide	2.46	76	259634	47.73	ug/L	100
12) Methyl Acetate	2.47	74	9506	50.74	ug/L	100
13) Methylene chloride	2.58	84	91711	39.94	ug/L	99
14) trans-1,2-Dichloroethene	2.77	96	92079	47.15	ug/L	99
15) Methyl-t-Butyl Ether	2.76	73	167719	46.47	ug/L	100
16) 1,1-Dichloroethane	3.08	63	137125	47.31	ug/L	100
17) cis-1,2-Dichloroethene	3.56	96	96877	47.56	ug/L	99
18) 2-Butanone (MEK)	3.54	43	35666	44.21	ug/L	100
19) CHLOROFORM	3.82	83	172422	46.39	ug/L	99
21) 1,1,1-Trichloroethane	4.00	97	147404	47.71	ug/L #	52
22) Cyclohexane	4.06	56	102866	49.04	ug/L #	85
24) Carbon tetrachloride	4.16	117	107160	49.40	ug/L	99
25) Benzene	4.33	78	326872	46.36	ug/L	100
26) 1,2-Dichloroethane	4.35	62	117283	47.86	ug/L	99
27) Trichloroethene	4.96	95	96114	47.54	ug/L	98
28) 1,2-DICHLOROPROPANE	5.19	63	72511	47.11	ug/L	100
29) Methylcyclohexane	5.17	83	85821	47.99	ug/L	98
30) Bromodichloromethane	5.48	83	128746	49.28	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100521.D
Acq On : 5 Oct 2004 7:00 pm
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #548
MS Integration Params: rteint.p
Quant Time: Oct 5 23:20 2004

Vial: 21
Operator: MI
Inst : VOC#1
Multiplr: 1.00

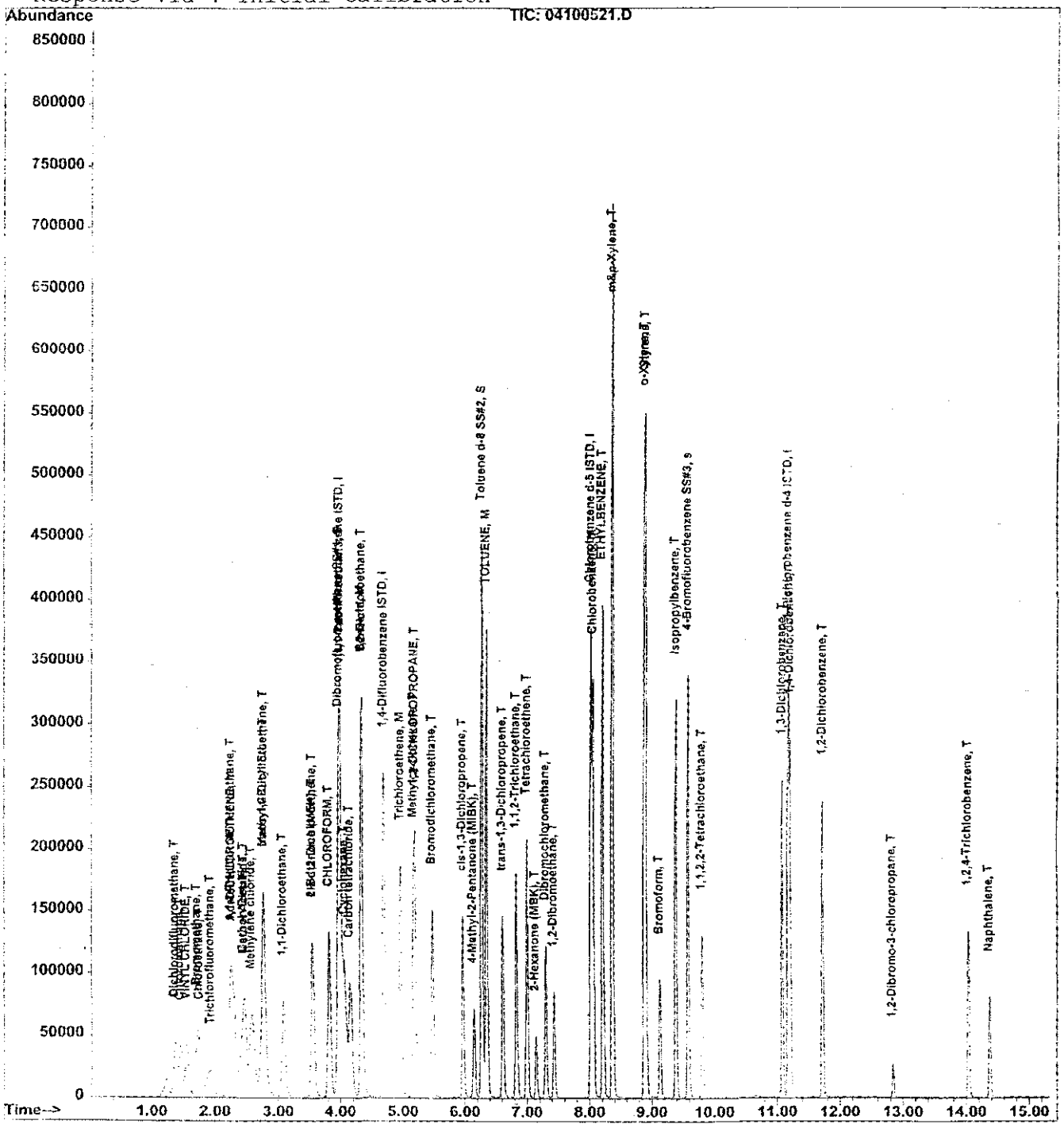
Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.98	75	136535	46.98 ug/L	98
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	76871	47.96 ug/L	99
34) TOLUENE	6.35	92	213365	47.85 ug/L	99
35) trans-1,3-Dichloropropene	6.62	75	126995	48.90 ug/L	98
36) 1,1,2-Trichloroethane	6.83	83	58931	48.24 ug/L	100
37) Tetrachloroethene	7.00	166	77718	48.46 ug/L	99
38) 2-Hexanone (MBK)	7.14	43	52096	49.08 ug/L	99
40) Dibromochloromethane	7.31	129	71543	49.87 ug/L	99
41) 1,2-Dibromoethane	7.44	107	69269	48.27 ug/L	99
42) Chlorobenzene	8.06	112	196612	48.68 ug/L	97
43) ETHYLBENZENE	8.21	91	373260	49.60 ug/L	100
44) m&p-Xylene	8.38	106	243492	97.86 ug/L	96
45) o-Xylene	8.89	106	123010	49.29 ug/L	98
46) Styrene	8.91	104	227360	50.52 ug/L	97
47) Bromoform	9.14	173	53787	49.28 ug/L	98
49) Isopropylbenzene	9.40	105	260456	50.73 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	80011	49.79 ug/L	100
52) 1,3-Dichlorobenzene	11.09	146	114121	49.10 ug/L	100
53) 1,4-Dichlorobenzene	11.22	146	119806	46.28 ug/L	99
54) 1,2-Dichlorobenzene	11.73	146	107447	48.72 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.85	75	10119	49.58 ug/L	92
56) 1,2,4-Trichlorobenzene	14.05	180	54781	44.31 ug/L	98
57) Naphthalene	14.38	128	73921	41.32 ug/L	100

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041005\04100521.D Vial: 21
Acq On : 5 Oct 2004 7:00 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 23:20 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041005\04100522.D
Acq On : 5 Oct 2004 7:25 pm
Sample : UNREG-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #549
MS Integration Params: rteint.p

Vial: 22
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentaflourobenzene	1.000	1.000	0.0	96	0.00
2	t	acrolein	0.049	0.050	-2.0	97	0.04
3	t	iodomethane	0.630	0.591	6.2	91	-0.01
4	t	acrylonitrile	0.103	0.108	-4.9	100	0.00
5	t	tert-butanol	0.045	0.053	-17.8	109	0.00
6	t	vinyl acetate	1.787	1.667	6.7	95	0.00
7	t	diisopropyl ether	1.638	1.529	6.7	93	0.00
8	t	tert-Butyl ethyl ether	1.147	1.071	6.6	92	0.00
9	T	2,2-Dichloropropane	0.610	0.604	1.0	105	0.00
10	T	Bromochloromethane	0.202	0.188	6.9	90	0.00
11	S	Dibromofluoromethane SS#1	0.507	0.506	0.2	95	0.00
12	I	1,4-Difluorobenzene	1.000	1.000	0.0	93	0.00
13	T	1,1-Dichloropropene	0.428	0.399	6.8	91	0.00
14	t	tert-amyl methyl ether	0.753	0.705	6.4	93	0.00
15	T	Dibromomethane	0.212	0.195	8.0	90	0.00
16	t	1,4-dioxane	0.001	0.000	100.0#	50	0.03
17	T	2-Chloroethylvinyl Ether	0.079	0.071	10.1	85	-0.01
18	S	Toluene d-8 SS#2	1.254	1.271	-1.4	94	0.00
19	I	Chlorobenzene d-5	1.000	1.000	0.0	91	0.00
20	T	1,3-Dichloropropane	0.526	0.503	4.4	93	0.00
21	T	1,1,1,2-Tetrachloroethane	0.289	0.270	6.6	89	-0.01
22	T	1,2,3-Trichloropropane	0.100	0.096	4.0	94	0.00
23	s	4-Bromofluorobenzene SS#3	0.597	0.601	-0.7	91	0.00
24	T	Bromobenzene	0.369	0.336	8.9	88	0.00
25	t	trans-1,4-dichloro-2-butene	0.324	0.364	-12.3	131	-0.01
26	T	n-Propylbenzene	1.535	1.472	4.1	91	-0.01
27	I	1,4-Dichlorobenzene d-4	1.000	1.000	0.0	92	-0.01
28	T	2-Chlorotoluene	2.429	2.275	6.3	91	0.00
29	T	4-Chlorotoluene	2.768	2.664	3.8	92	-0.01
30	T	1,3,5-Trimethylbenzene	2.222	2.111	5.0	91	-0.01
31	T	tert-Butylbenzene	1.574	1.497	4.9	91	0.00
32	T	1,2,4-Trimethylbenzene	2.328	2.222	4.6	89	-0.01
33	T	sec-Butylbenzene	2.595	2.480	4.4	90	-0.01
34	T	4-Isopropyltoluene	1.853	1.794	3.2	92	0.00
35	T	n-Butylbenzene	2.078	2.019	2.8	90	-0.01
36	T	1,2,3-Trichlorobenzene	0.396	0.366	7.6	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100522.D
Acq On : 5 Oct 2004 7:25 pm
Sample : UNREG-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #549
MS Integration Params: rteint.p
Quant Time: Oct 6 9:43 2004

Vial: 22
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentaflourobenzene	3.99	168	200116	50.00	ug/L	0.00
12) 1,4-Difluorobenzene	4.69	114	282681	50.00	ug/L	0.00
19) Chlorobenzene d-5	8.02	117	233593	50.00	ug/L	0.00
27) 1,4-Dichlorobenzene d-4	11.18	152	103370	50.00	ug/L	-0.01
System Monitoring Compounds						
11) Dibromofluoromethane SS#1	3.96	113	101319	49.98	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.96%			
18) Toluene d-8 SS#2	6.28	98	359226	50.68	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.36%			
23) 4-Bromofluorobenzene SS#3	9.59	95	140436	50.36	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.72%			
Target Compounds						Qvalue
2) acrolein	2.15	56	10099m	51.42	ug/L	
3) iodomethane	2.37	142	118212	46.90	ug/L	99
4) acrylonitrile	2.72	53	21628	52.37	ug/L	98
5) tert-butanol	2.66	59	10629	58.69	ug/L	100
6) vinyl acetate	3.09	43	333633	46.64	ug/L	100
7) diisopropyl ether	3.12	45	305990	46.68	ug/L	99
8) tert-Butyl ethyl ether	3.42	59	214227	46.67	ug/L	100
9) 2,2-Dichloropropane	3.56	77	120881	61.99	ug/L	99
10) Bromochloromethane	3.76	128	37620	46.63	ug/L	99
13) 1,1-Dichloropropene	4.14	75	112907	46.68	ug/L	99
14) tert-amyl methyl ether	4.45	73	199161	46.78	ug/L	100
15) Dibromomethane	5.31	93	55251	46.10	ug/L	97
16) 1,4-dioxane	5.36	58	61	15.76	ug/L #	1
17) 2-Chloroethylvinyl Ether	5.80	63	20142	44.96	ug/L	98
20) 1,3-Dichloropropane	7.03	76	117553	47.87	ug/L	99
21) 1,1,1,2-Tetrachloroethane	8.17	131	63084	46.75	ug/L	99
22) 1,2,3-Trichloropropane	9.86	110	22326	47.57	ug/L	100
24) Bromobenzene	9.77	156	78593	45.63	ug/L	96
25) trans-1,4-dichloro-2-buten	9.85	75	85132	69.33	ug/L #	100
26) n-Propylbenzene	9.96	91	343811	47.93	ug/L	99
28) 2-Chlorotoluene	10.05	91	235141	46.82	ug/L	99
29) 4-Chlorotoluene	10.20	91	275400	48.13	ug/L	99
30) 1,3,5-Trimethylbenzene	10.21	105	218258	47.52	ug/L	99
31) tert-Butylbenzene	10.65	119	154735	47.55	ug/L	98
32) 1,2,4-Trimethylbenzene	10.72	105	229724	47.73	ug/L	99
33) sec-Butylbenzene	10.96	105	256355	47.78	ug/L	100
34) 4-Isopropyltoluene	11.18	119	185402	48.40	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041005\04100522.D
Acq On : 5 Oct 2004 7:25 pm
Sample : UNREG-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #549
MS Integration Params: rteint.p
Quant Time: Oct 6 9:43 2004

Vial: 22
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) n-Butylbenzene	11.76	91	208722	48.57 ug/L	99
36) 1,2,3-Trichlorobenzene	14.74	180	37881	46.22 ug/L	100

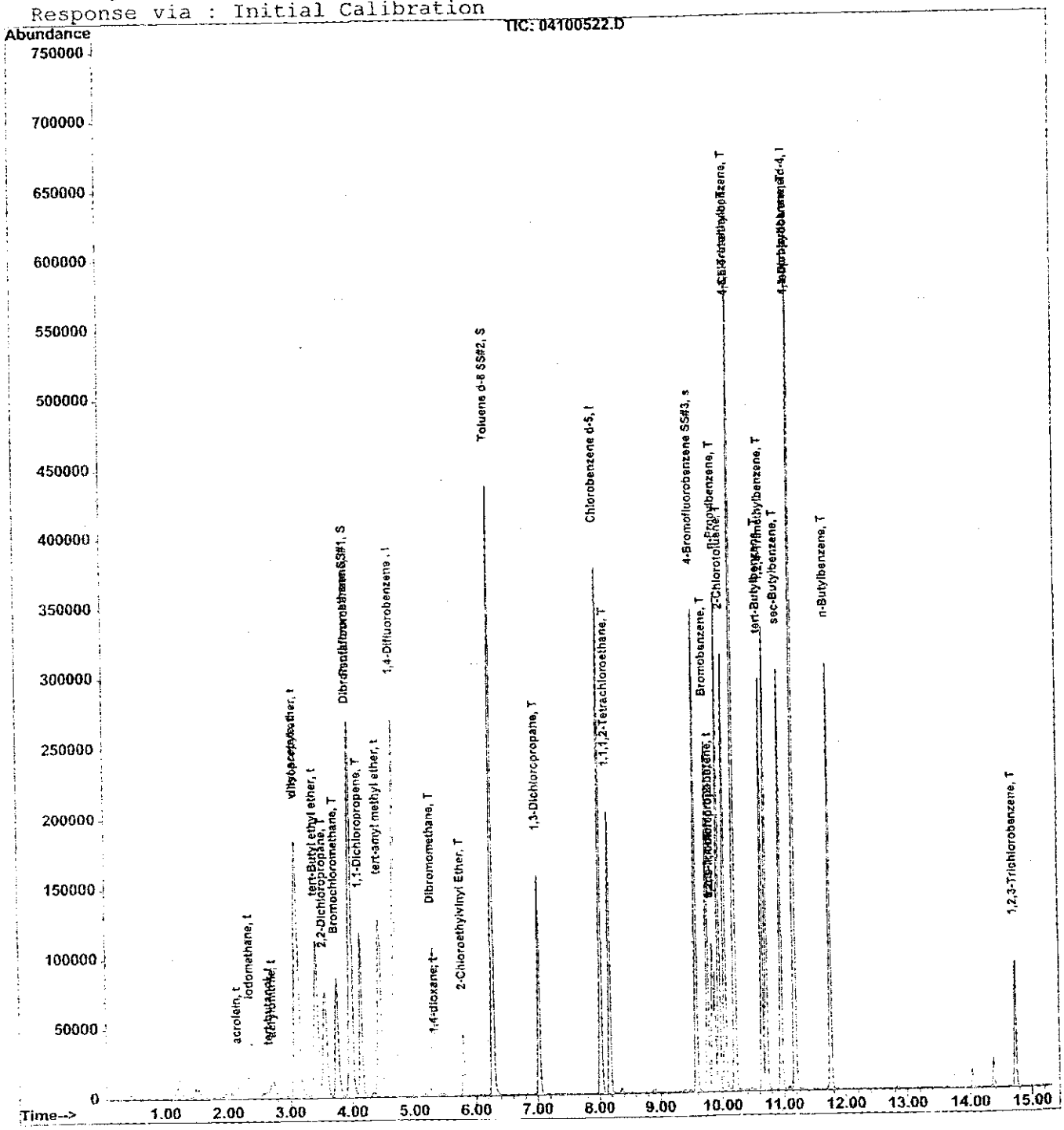
(#) = qualifier out of range (m) = manual integration
04100522.D UNREG-W.M Wed Oct 06 09:43:26 2004

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041005\04100522.D
Acq On : 5 Oct 2004 7:25 pm
Sample : UNREG-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #549
MS Integration Params: rteint.p
Quant Time: Oct 6 9:43 2004

Vial: 22
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041006\04100602.D
Acq On : 6 Oct 2004 9:52 am
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #548
MS Integration Params: rteint.p

Vial: 2
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene ISTD	1.000	1.000	0.0	98	0.00
2	T	Dichlorodifluoromethane	0.567	0.546	3.7	93	0.00
3	T	Chloromethane	0.494	0.404	18.2	93	-0.02
4	T	VINYL CHLORIDE	0.439	0.420	4.3	93	0.00
5	T	Bromomethane	0.439	0.396	9.8	94	-0.02
6	T	Chloroethane	0.222	0.214	3.6	91	0.00
7	T	Trichlorofluoromethane	0.306	0.378	-23.5	109	0.00
8	T	Acetone	0.162	0.131	19.1	105	0.00
9	M	1,1-DICHLOROETHENE	0.453	0.423	6.6	93	0.00
10	T	1,1,2-Trichlorotrifluoroeth	0.379	0.379	0.0	93	0.00
11	T	Carbon Disulfide	1.354	1.270	6.2	92	0.00
12	T	Methyl Acetate	0.047	0.046	2.1	91	0.00
13	T	Methylene chloride	0.571	0.448	21.5	88	0.00
14	T	trans-1,2-Dichloroethene	0.486	0.455	6.4	94	0.00
15	T	Methyl-t-Butyl Ether	0.898	0.856	4.7	95	0.00
16	T	1,1-Dichloroethane	0.721	0.676	6.2	92	0.00
17	T	cis-1,2-Dichloroethene	0.507	0.484	4.5	95	0.00
18	T	2-Butanone (MEK)	0.201	0.190	5.5	103	0.00
19	T	CHLOROFORM	0.925	0.863	6.7	94	0.00
20	S	Dibromofluoromethane SS#1	0.506	0.497	1.8	95	0.00
21	T	1,1,1-Trichloroethane	0.769	0.729	5.2	95	0.00
22	T	Cyclohexane	0.522	0.519	0.6	95	0.00
23	I	1,4-Difluorobenzene ISTD	1.000	1.000	0.0	96	0.00
24	T	Carbon tetrachloride	0.386	0.373	3.4	94	-0.02
25	M	Benzene	1.255	1.169	6.9	94	0.00
26	T	1,2-Dichloroethane	0.436	0.416	4.6	96	0.00
27	M	Trichloroethene	0.360	0.330	8.3	94	0.00
28	T	1,2-DICHLOROPROPANE	0.274	0.251	8.4	91	0.00
29	T	Methylcyclohexane	0.318	0.310	2.5	93	0.00
30	T	Bromodichloromethane	0.465	0.450	3.2	94	0.00
31	T	cis-1,3-Dichloropropene	0.517	0.493	4.6	95	0.00
32	T	4-Methyl-2-Pentanone (MIBK)	0.285	0.269	5.6	94	0.00
33	S	Toluene d-8 SS#2	1.251	1.267	-1.3	97	-0.02
34	M	TOLUENE	0.794	0.749	5.7	94	0.00
35	T	trans-1,3-Dichloropropene	0.462	0.443	4.1	93	-0.02
36	T	1,1,2-Trichloroethane	0.217	0.209	3.7	93	0.00
37	T	Tetrachloroethene	0.286	0.264	7.7	91	0.00
38	T	2-Hexanone (MBK)	0.189	0.181	4.2	95	0.00
39	I	Chlorobenzene d-5 ISTD	1.000	1.000	0.0	93	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041006\04100602.D Vial: 2
Acq On : 6 Oct 2004 9:52 am Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	T	Dibromochloromethane	0.305	0.305	0.0	93	-0.02
41	T	1,2-Dibromoethane	0.306	0.295	3.6	91	-0.02
42	M	Chlorobenzene	0.860	0.833	3.1	91	0.00
43	T	ETHYLBENZENE	1.602	1.612	-0.6	93	-0.02
44	T	m&p-Xylene	0.530	0.522	1.5	91	-0.02
45	T	o-Xylene	0.531	0.516	2.8	91	0.00
46	T	Styrene	0.958	0.958	0.0	91	-0.02
47	T	Bromoform	0.232	0.236	-1.7	92	-0.02
48	I	1,4-Dichlorobenzene d-4 IST	1.000	1.000	0.0	93	0.00
49	T	Isopropylbenzene	2.546	2.524	0.9	92	-0.02
50	s	4-Bromofluorobenzene SS#3	1.405	1.426	-1.5	92	0.00
51	T	1,1,2,2-Tetrachloroethane	0.797	0.807	-1.3	96	0.00
52	T	1,3-Dichlorobenzene	1.153	1.119	2.9	89	0.00
53	T	1,4-Dichlorobenzene	1.284	1.143	11.0	90	0.00
54	T	1,2-Dichlorobenzene	1.094	1.047	4.3	90	0.00
55	T	1,2-Dibromo-3-chloropropane	0.101	0.104	-3.0	98	-0.02
56	T	1,2,4-Trichlorobenzene	0.613	0.566	7.7	89	0.00
57	T	Naphthalene	0.887	0.801	9.7	84	0.00

Response Factor Report VOC#1

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration

Calibration Files
C1 =04100306.D C2 =04100115.D C3 =04100116.D
C4 =04100117.D C5 =04100118.D C6 =04100119.D

		Compound	C1	C2	C3	C4	C5	C6	Avg	%RSD
1)	I	Pentafluorobenzene IS	ISTD							
2)	T	Dichlorodifluoromet	0.507	0.586	0.581	0.596	0.576	0.556	0.567	5.69
3)	T	Chloromethane	0.573	0.530	0.498	0.520	0.428	0.414	0.494	12.47
4)	T	VINYL CHLORIDE	0.435	0.438	0.442	0.459	0.442	0.416	0.439	3.10
5)	T	Bromomethane	0.524	0.437	0.418	0.439	0.415	0.403	0.439	9.99
6)	T	Chloroethane	0.192	0.229	0.213	0.237	0.233	0.228	0.222	7.64
7)	T	Trichlorofluorometh		0.244	0.246	0.295	0.342	0.402	0.306	21.92
8)	T	Acetone	0.233	0.196	0.156	0.140	0.122	0.127	0.162	26.90
9)	M	1,1-DICHLOROETHENE	0.450	0.471	0.451	0.467	0.448	0.429	0.453	3.29
10)	T	1,1,2-Trichlorotrif	0.277	0.412	0.398	0.408	0.402	0.380	0.379	13.56
11)	T	Carbon Disulfide	1.334	1.377	1.339	1.404	1.356	1.310	1.354	2.47
12)	T	Methyl Acetate		0.048	0.035	0.051	0.050	0.049	0.047	14.74
13)	T	Methylene chloride	0.610	0.690	0.613	0.552	0.503	0.460	0.571	14.56
14)	T	trans-1,2-Dichloroe	0.488	0.509	0.488	0.488	0.478	0.464	0.486	3.01
15)	T	Methyl-t-Butyl Ethe	0.890	0.937	0.913	0.909	0.884	0.856	0.898	3.12
16)	T	1,1-Dichloroethane	0.725	0.736	0.729	0.734	0.718	0.685	0.721	2.63
17)	T	cis-1,2-Dichloroeth	0.458	0.548	0.521	0.529	0.502	0.483	0.507	6.45
18)	T	2-Butanone (MEK)	0.225	0.220	0.202	0.191	0.181	0.186	0.201	9.05
19)	T	CHLOROFORM	0.970	0.933	0.934	0.936	0.905	0.870	0.925	3.65
20)	S	Dibromofluoromethan	0.495	0.502	0.495	0.516	0.515	0.513	0.506	1.95
21)	T	1,1,1-Trichloroetha	0.783	0.796	0.777	0.775	0.753	0.728	0.769	3.15
22)	T	Cyclohexane	0.437	0.543	0.530	0.583	0.539	0.500	0.522	9.48
23)	I	1,4-Difluorobenzene I	ISTD							
24)	T	Carbon tetrachlorid	0.377	0.407	0.398	0.392	0.382	0.362	0.386	4.16
25)	M	Benzene	1.380	1.310	1.286	1.248	1.195	1.114	1.255	7.41
26)	T	1,2-Dichloroethane	0.448	0.468	0.453	0.437	0.416	0.396	0.436	6.06
27)	M	Trichloroethene	0.405	0.380	0.363	0.347	0.338	0.325	0.360	8.14
28)	T	1,2-DICHLOROPROPANE	0.286	0.285	0.284	0.276	0.265	0.248	0.274	5.53
29)	T	Methylcyclohexane	0.287	0.331	0.341	0.331	0.318	0.303	0.318	6.39
30)	T	Bromodichloromethan	0.450	0.483	0.490	0.465	0.462	0.441	0.465	3.99
31)	T	cis-1,3-Dichloropro	0.547	0.549	0.529	0.512	0.500	0.468	0.517	5.94
32)	T	4-Methyl-2-Pentanon	0.283	0.294	0.308	0.286	0.274	0.266	0.285	5.23
33)	S	Toluene d-8 SS#2	1.221	1.269	1.273	1.247	1.255	1.244	1.251	1.50
34)	M	TOLUENE	0.803	0.854	0.827	0.788	0.761	0.730	0.794	5.65
35)	T	trans-1,3-Dichlorop	0.463	0.477	0.482	0.459	0.455	0.438	0.462	3.45
36)	T	1,1,2-Trichloroetha	0.212	0.229	0.229	0.218	0.216	0.201	0.217	4.98
37)	T	Tetrachloroethene	0.283	0.311	0.298	0.281	0.277	0.263	0.286	5.88
38)	T	2-Hexanone (MBK)	0.187	0.192	0.200	0.188	0.183	0.184	0.189	3.34
39)	I	Chlorobenzene d-5 IST	ISTD							
40)	T	Dibromochloromethan	0.296	0.310	0.315	0.308	0.307	0.297	0.305	2.44
41)	T	1,2-Dibromoethane	0.305	0.307	0.323	0.305	0.303	0.290	0.306	3.44

(#) = Out of Range

Response Factor Report VOC#1

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration

Calibration Files
C1 =04100306.D C2 =04100115.D C3 =04100116.D
C4 =04100117.D C5 =04100118.D C6 =04100119.D

		Compound	C1	C2	C3	C4	C5	C6	Avg	%RSD
42)	M	Chlorobenzene	0.844	0.898	0.883	0.871	0.852	0.812	0.860	3.56
43)	T	ETHYLBENZENE	1.603	1.651	1.667	1.584	1.620	1.489	1.602	3.94
44)	T	m&p-Xylene	0.519	0.543	0.548	0.533	0.536	0.499	0.530	3.40
45)	T	o-Xylene	0.512	0.569	0.546	0.540	0.530	0.490	0.531	5.17
46)	T	Styrene	0.888	0.986	1.005	0.980	0.979	0.911	0.958	4.88
47)	T	Bromoform	0.208	0.231	0.238	0.240	0.239	0.237	0.232	5.38
48)	I	1,4-Dichlorobenzene d	----------	----------	ISTD	----------	----------	----------		
49)	T	Isopropylbenzene	2.546	2.536	2.643	2.567	2.531	2.452	2.546	2.43
50)	s	4-Bromofluorobenzen	1.448	1.396	1.384	1.406	1.426	1.372	1.405	2.00
51)	T	1,1,2,2-Tetrachloro	0.725	0.849	0.847	0.822	0.779	0.760	0.797	6.33
52)	T	1,3-Dichlorobenzene	1.158	1.151	1.209	1.164	1.159	1.075	1.153	3.75
53)	T	1,4-Dichlorobenzene	1.636	1.297	1.264	1.218	1.176	1.113	1.284	14.34
54)	T	1,2-Dichlorobenzene	1.087	1.156	1.131	1.088	1.076	1.024	1.094	4.20
55)	T	1,2-Dibromo-3-chlor	0.091	0.110	0.105	0.108	0.098	0.096	0.101	7.43
56)	T	1,2,4-Trichlorobenz	0.642	0.606	0.653	0.607	0.592	0.579	0.613	4.68
57)	T	Naphthalene	0.912	0.790	0.965	0.914	0.879	0.863	0.887	6.66

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100602.D
Acq On : 6 Oct 2004 9:52 am
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #548
MS Integration Params: rteint.p
Quant Time: Oct 6 11:25 2004

Vial: 2
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	203969	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.69	114	289258	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.02	117	237243	50.00	ug/L	-0.02
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	103463	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	101386	49.10	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.20%			
33) Toluene d-8 SS#2	6.27	98	366594	50.64	ug/L	-0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.28%			
50) 4-Bromofluorobenzene SS#3	9.58	95	147535	50.73	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.46%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.37	85	111400	48.15	ug/L	100
3) Chloromethane	1.46	50	82330	40.89	ug/L	99
4) VINYL CHLORIDE	1.55	62	85608	47.84	ug/L	100
5) Bromomethane	1.71	94	80677	45.00	ug/L	98
6) Chloroethane	1.78	64	43731	48.32	ug/L	99
7) Trichlorofluoromethane	1.94	101	77126	47.64	ug/L	100
8) Acetone	2.26	43	26707	51.64	ug/L	97
9) 1,1-DICHLOROETHENE	2.26	96	86198	46.68	ug/L	99
10) 1,1,2-Trichlorotrifluoroet	2.26	101	77357	49.98	ug/L	99
11) Carbon Disulfide	2.45	76	259003	46.91	ug/L	98
12) Methyl Acetate	2.46	74	9451	49.71	ug/L	97
13) Methylene chloride	2.57	84	91449	39.23	ug/L	99
14) trans-1,2-Dichloroethene	2.77	96	92840	46.84	ug/L	99
15) Methyl-t-Butyl Ether	2.76	73	174672	47.68	ug/L	100
16) 1,1-Dichloroethane	3.07	63	137863	46.86	ug/L	99
17) cis-1,2-Dichloroethene	3.55	96	98749	47.77	ug/L	98
18) 2-Butanone (MEK)	3.54	43	38742	47.31	ug/L	100
19) CHLOROFORM	3.82	83	176103	46.68	ug/L	100
21) 1,1,1-Trichloroethane	4.00	97	148728	47.43	ug/L #	51
22) Cyclohexane	4.06	56	105935	49.76	ug/L #	88
24) Carbon tetrachloride	4.15	117	107962	48.32	ug/L	99
25) Benzene	4.33	78	338257	46.58	ug/L	100
26) 1,2-Dichloroethane	4.34	62	120436	47.72	ug/L	100
27) Trichloroethene	4.96	95	95413	45.82	ug/L	99
28) 1,2-DICHLOROPROPANE	5.18	63	72608	45.80	ug/L	100
29) Methylcyclohexane	5.17	83	89563	48.63	ug/L	99
30) Bromodichloromethane	5.48	83	130262	48.41	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100602.D Vial: 2
Acq On : 6 Oct 2004 9:52 am Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:25 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	142546	47.62 ug/L	98
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	77917	47.20 ug/L	98
34) TOLUENE	6.35	92	216613	47.17 ug/L	99
35) trans-1,3-Dichloropropene	6.61	75	128061	47.87 ug/L	98
36) 1,1,2-Trichloroethane	6.83	83	60402	48.01 ug/L	98
37) Tetrachloroethene	7.00	166	76357	46.22 ug/L	99
38) 2-Hexanone (MBK)	7.14	43	52236	47.79 ug/L	99
40) Dibromochloromethane	7.30	129	72276	49.88 ug/L	99
41) 1,2-Dibromoethane	7.43	107	70085	48.34 ug/L	99
42) Chlorobenzene	8.06	112	197525	48.41 ug/L	97
43) ETHYLBENZENE	8.21	91	382420	50.30 ug/L	100
44) m&p-Xylene	8.37	106	247853	98.61 ug/L	97
45) o-Xylene	8.88	106	122345	48.53 ug/L	97
46) Styrene	8.90	104	227381	50.01 ug/L	98
47) Bromoform	9.13	173	55987	50.78 ug/L	99
49) Isopropylbenzene	9.38	105	261117	49.57 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.80	83	83445	50.61 ug/L	100
52) 1,3-Dichlorobenzene	11.09	146	115786	48.55 ug/L	99
53) 1,4-Dichlorobenzene	11.21	146	118225	44.50 ug/L	99
54) 1,2-Dichlorobenzene	11.73	146	108303	47.85 ug/L	100
55) 1,2-Dibromo-3-chloropropan	12.84	75	10742	51.29 ug/L	91
56) 1,2,4-Trichlorobenzene	14.04	180	58599	46.19 ug/L	99
57) Naphthalene	14.37	128	82883	45.15 ug/L	100

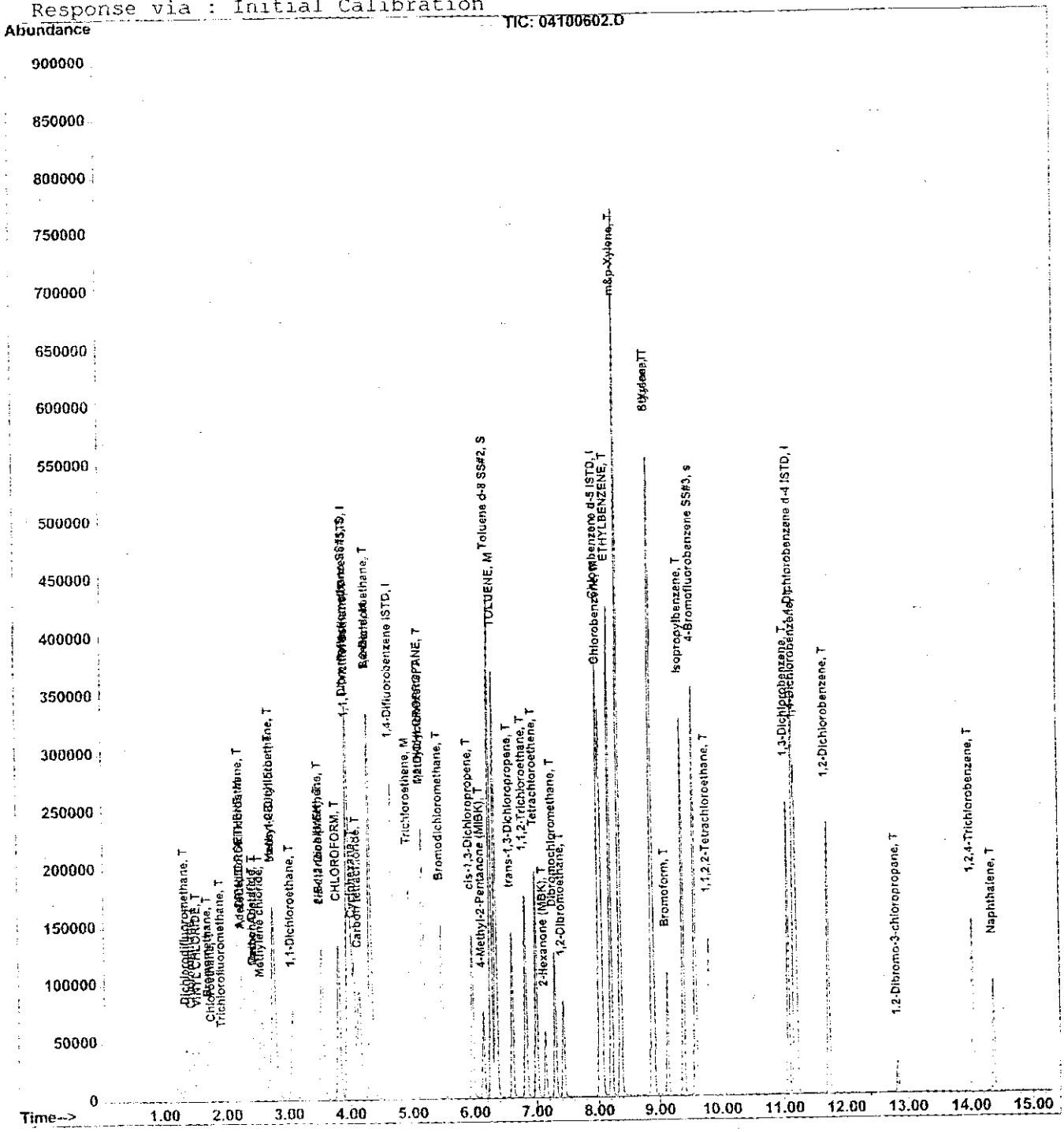
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041006\04100602.D
Acq On : 6 Oct 2004 9:52 am
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #548
MS Integration Params: rteint.p
Quant Time: Oct 6 11:25 2004

Vial: 2
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041006\04100603.D Vial: 3
Acq On : 6 Oct 2004 10:17 am Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentaflourobenzene	1.000	1.000	0.0	96	-0.01
2	t	acrolein	0.049	0.047	4.1	91	0.01
3	t	iodomethane	0.630	0.614	2.5	95	-0.01
4	t	acrylonitrile	0.103	0.105	-1.9	98	-0.01
5	t	tert-butanol	0.045	0.047	-4.4	96	0.00
6	t	vinyl acetate	1.787	1.677	6.2	96	-0.01
7	t	diisopropyl ether	1.638	1.562	4.6	95	-0.01
8	t	tert-Butyl ethyl ether	1.147	1.076	6.2	93	-0.01
9	T	2,2-Dichloropropane	0.610	0.610	0.0	107	0.00
10	T	Bromochloromethane	0.202	0.187	7.4	90	0.00
11	S	Dibromofluoromethane SS#1	0.507	0.505	0.4	95	-0.01
12	I	1,4-Difluorobenzene	1.000	1.000	0.0	95	-0.01
13	T	1,1-Dichloropropene	0.428	0.407	4.9	94	-0.01
14	t	tert-amyl methyl ether	0.753	0.701	6.9	94	-0.01
15	T	Dibromomethane	0.212	0.198	6.6	92	0.00
16	t	1,4-dioxane	0.001	0.000	100.0#	0#	-5.33#
17	T	2-Chloroethylvinyl Ether	0.079	0.074	6.3	90	-0.01
18	S	Toluene d-8 SS#2	1.254	1.265	-0.9	95	-0.01
19	I	Chlorobenzene d-5	1.000	1.000	0.0	92	-0.01
20	T	1,3-Dichloropropane	0.526	0.505	4.0	94	-0.01
21	T	1,1,1,2-Tetrachloroethane	0.289	0.281	2.8	94	-0.02
22	T	1,2,3-Trichloropropane	0.100	0.092	8.0	91	-0.02
23	s	4-Bromofluorobenzene SS#3	0.597	0.597	0.0	92	-0.01
24	T	Bromobenzene	0.369	0.348	5.7	92	-0.01
25	t	trans-1,4-dichloro-2-butene	0.324	0.358	-10.5	130	-0.02
26	T	n-Propylbenzene	1.535	1.530	0.3	96	-0.02
27	I	1,4-Dichlorobenzene d-4	1.000	1.000	0.0	92	-0.02
28	T	2-Chlorotoluene	2.429	2.366	2.6	94	-0.01
29	T	4-Chlorotoluene	2.768	2.781	-0.5	95	-0.02
30	T	1,3,5-Trimethylbenzene	2.222	2.244	-1.0	95	-0.02
31	T	tert-Butylbenzene	1.574	1.556	1.1	93	-0.01
32	T	1,2,4-Trimethylbenzene	2.328	2.292	1.5	91	-0.02
33	T	sec-Butylbenzene	2.595	2.622	-1.0	94	-0.02
34	T	4-Isopropyltoluene	1.853	1.888	-1.9	96	-0.01
35	T	n-Butylbenzene	2.078	2.148	-3.4	95	-0.02
36	T	1,2,3-Trichlorobenzene	0.396	0.358	9.6	84	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Response Factor Report VOC#1

Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration

Calibration Files
C1 =04100114.D C2 =04100121.D C3 =04100122.D
C4 =04100123.D C5 =04100124.D C6 =04100125.D

		Compound	C1	C2	C3	C4	C5	C6	Avg	%RSD
1)	I	Pentaflourobenzene	ISTD							
2)	t	acrolein		0.052	0.047	0.049	0.050	0.048	0.049	3.54
3)	t	iodomethane	0.644	0.666	0.646	0.623	0.623	0.577	0.630	4.81
4)	t	acrylonitrile	0.087	0.110	0.113	0.106	0.103	0.100	0.103	8.98
5)	t	tert-butanol		0.041	0.045	0.045	0.047	0.048	0.045	5.65
6)	t	vinyl acetate	2.113	1.852	1.799	1.707	1.689	1.564	1.787	10.51
7)	t	diisopropyl ether	1.815	1.724	1.674	1.611	1.576	1.429	1.638	8.10
8)	t	tert-Butyl ethyl et	1.223	1.202	1.207	1.143	1.116	0.990	1.147	7.62
9)	T	2,2-Dichloropropane	0.799	0.625	0.624	0.580	0.550	0.482	0.610	17.48
10)	T	Bromochloromethane	0.220	0.207	0.200	0.203	0.199	0.180	0.202	6.55
11)	S	Dibromofluoromethan	0.495	0.504	0.509	0.510	0.512	0.508	0.507	1.20
12)	I	1,4-Difluorobenzene	ISTD							
13)	T	1,1-Dichloropropene	0.475	0.447	0.436	0.417	0.409	0.382	0.428	7.55
14)	t	tert-amyl methyl et	0.917	0.762	0.753	0.726	0.704	0.656	0.753	11.84
15)	T	Dibromomethane	0.238	0.223	0.214	0.206	0.203	0.189	0.212	8.09
16)	t	1,4-dioxane					0.000	0.001	0.001	39.15
17)	T	2-Chloroethylvinyl	0.095	0.077	0.074	0.076	0.078	0.076	0.079	9.94
18)	S	Toluene d-8 SS#2	1.266	1.231	1.244	1.262	1.258	1.261	1.254	1.08
19)	I	Chlorobenzene d-5	ISTD							
20)	T	1,3-Dichloropropane	0.595	0.561	0.524	0.502	0.495	0.478	0.526	8.43
21)	T	1,1,1,2-Tetrachloro	0.317	0.302	0.292	0.280	0.276	0.266	0.289	6.44
22)	T	1,2,3-Trichloroprop	0.121	0.104	0.098	0.095	0.092	0.092	0.100	11.04
23)	s	4-Bromofluorobenzen	0.593	0.591	0.600	0.590	0.600	0.607	0.597	1.15
24)	T	Bromobenzene	0.434	0.381	0.368	0.348	0.349	0.331	0.369	9.90
25)	t	trans-1,4-dichloro-		0.382	0.374	0.350	0.254	0.262	0.324	19.05
26)	T	n-Propylbenzene	1.639	1.602	1.533	1.509	1.470	1.459	1.535	4.69
27)	I	1,4-Dichlorobenzene d	ISTD							
28)	T	2-Chlorotoluene	2.620	2.625	2.498	2.378	2.298	2.158	2.429	7.65
29)	T	4-Chlorotoluene	2.949	2.914	2.860	2.736	2.672	2.475	2.768	6.43
30)	T	1,3,5-Trimethylbenz	2.412	2.304	2.260	2.195	2.152	2.009	2.222	6.21
31)	T	tert-Butylbenzene	1.785	1.623	1.551	1.523	1.526	1.436	1.574	7.59
32)	T	1,2,4-Trimethylbenz	2.517	2.393	2.370	2.258	2.298	2.133	2.328	5.61
33)	T	sec-Butylbenzene	2.746	2.714	2.622	2.574	2.555	2.361	2.595	5.31
34)	T	4-Isopropyltoluene	2.015	1.901	1.866	1.846	1.799	1.690	1.853	5.81
35)	T	n-Butylbenzene	2.051	2.180	2.141	2.082	2.072	1.945	2.078	3.90
36)	T	1,2,3-Trichlorobenz	0.426	0.378	0.417	0.393	0.391	0.374	0.396	5.35

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100603.D Vial: 3
Acq On : 6 Oct 2004 10:17 am Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 14:07 2004

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentaflourobenzene	3.98	168	200936	50.00	ug/L	-0.01
12) 1,4-Difluorobenzene	4.69	114	287315	50.00	ug/L	-0.01
19) Chlorobenzene d-5	8.02	117	235749	50.00	ug/L	-0.01
27) 1,4-Dichlorobenzene d-4	11.17	152	102431	50.00	ug/L	-0.02
System Monitoring Compounds						
11) Dibromofluoromethane SS#1	3.96	113	101427	49.83	ug/L	-0.01
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.66%			
18) Toluene d-8 SS#2	6.27	98	363455	50.45	ug/L	-0.01
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.90%			
23) 4-Bromofluorobenzene SS#3	9.58	95	140859	50.05	ug/L	-0.01
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.10%			
Target Compounds						Qvalue
2) acrolein	2.12	56	9473	48.03	ug/L #	100
3) iodomethane	2.37	142	123338	48.73	ug/L	99
4) acrylonitrile	2.71	53	21067	50.80	ug/L	96
5) tert-butanol	2.66	59	9429	51.85	ug/L	100
6) vinyl acetate	3.08	43	336994	46.92	ug/L	99
7) diisopropyl ether	3.11	45	313855	47.68	ug/L	99
8) tert-Butyl ethyl ether	3.41	59	216218	46.92	ug/L	99
9) 2,2-Dichloropropane	3.56	77	122561	62.59	ug/L	98
10) Bromochloromethane	3.76	128	37499	46.29	ug/L	97
13) 1,1-Dichloropropene	4.14	75	117067	47.62	ug/L	99
14) tert-amyl methyl ether	4.44	73	201496	46.56	ug/L	99
15) Dibromomethane	5.31	93	56835	46.65	ug/L	98
16) 1,4-dioxane	0.00	58	0	Not Detected		
17) 2-Chloroethylvinyl Ether	5.81	63	21136	46.42	ug/L	98
20) 1,3-Dichloropropane	7.02	76	119029	48.03	ug/L	98
21) 1,1,1,2-Tetrachloroethane	8.16	131	66176	48.60	ug/L	99
22) 1,2,3-Trichloropropane	9.84	110	21625	45.65	ug/L	100
24) Bromobenzene	9.77	156	82129	47.25	ug/L	98
25) trans-1,4-dichloro-2-buten	9.84	75	84514	68.20	ug/L #	100
26) n-Propylbenzene	9.95	91	360804	49.84	ug/L	100
28) 2-Chlorotoluene	10.05	91	242346	48.69	ug/L	100
29) 4-Chlorotoluene	10.20	91	284854	50.24	ug/L	99
30) 1,3,5-Trimethylbenzene	10.20	105	229816	50.49	ug/L	100
31) tert-Butylbenzene	10.65	119	159340	49.42	ug/L	98
32) 1,2,4-Trimethylbenzene	10.71	105	234801	49.23	ug/L	100
33) sec-Butylbenzene	10.95	105	268523	50.50	ug/L	99
34) 4-Isopropyltoluene	11.17	119	193340	50.93	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100603.D
Acq On : 6 Oct 2004 10:17 am
Sample : UNREG-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #549
MS Integration Params: rteint.p
Quant Time: Oct 6 14:07 2004

Vial: 3
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

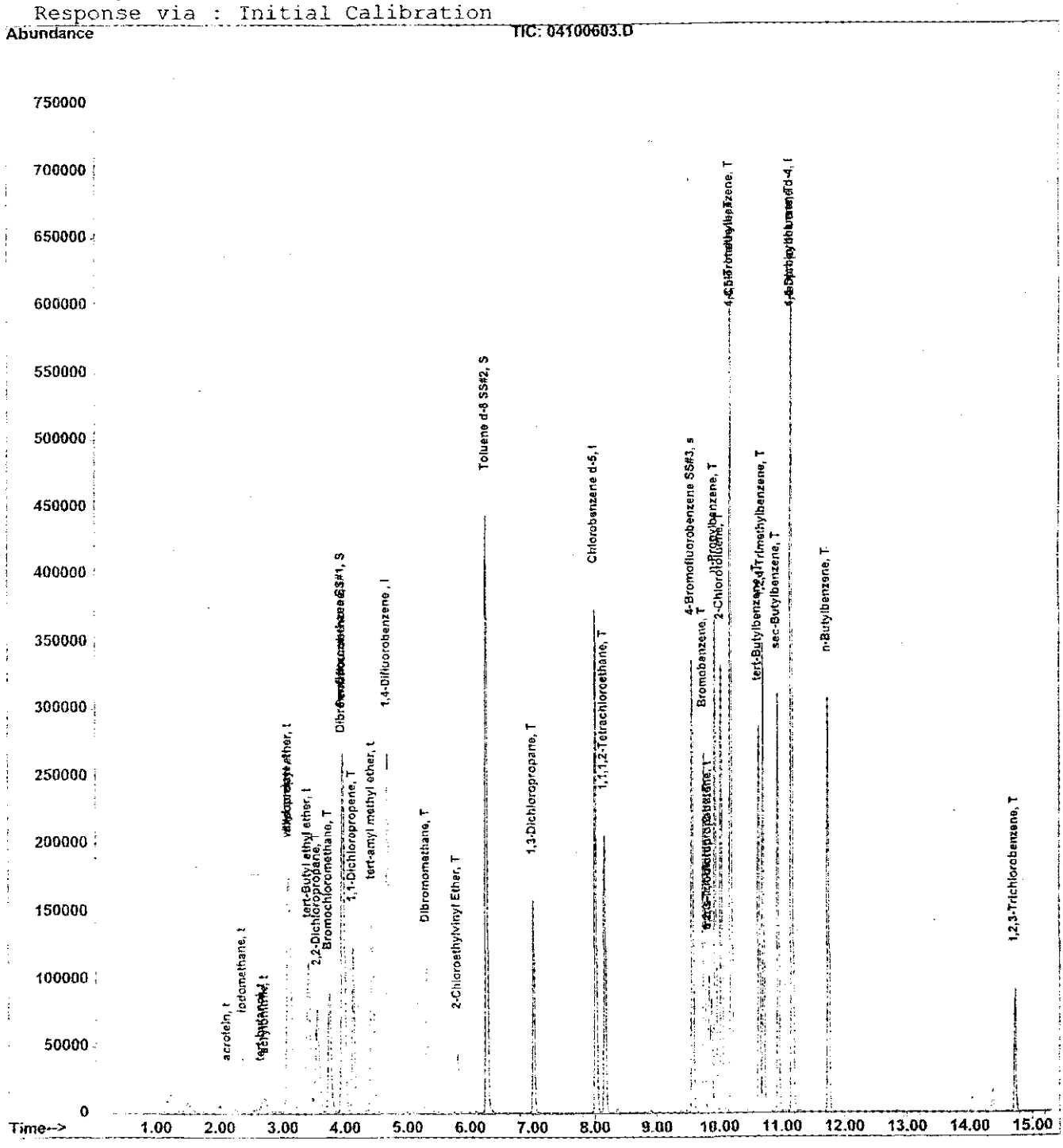
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) n-Butylbenzene	11.75	91	220017	51.67 ug/L	100
36) 1,2,3-Trichlorobenzene	14.73	180	36692	45.18 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041006\04100603.D Vial: 3
Acq On : 6 Oct 2004 10:17 am Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 14:07 2004

Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041006\04100625.D
Acq On : 6 Oct 2004 7:27 pm
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #548
MS Integration Params: rteint.p

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene ISTD	1.000	1.000	0.0	93	0.00
2	T	Dichlorodifluoromethane	0.567	0.540	4.8	87	0.00
3	T	Chloromethane	0.494	0.408	17.4	89	-0.02
4	T	VINYL CHLORIDE	0.439	0.425	3.2	90	0.00
5	T	Bromomethane	0.439	0.404	8.0	91	0.00
6	T	Chloroethane	0.222	0.223	-0.5	89	0.00
7	T	Trichlorofluoromethane	0.306	0.312	-2.0	85	-0.03
8	T	Acetone	0.162	0.128	21.0	97	0.00
9	M	1,1-DICHLOROETHENE	0.453	0.435	4.0	90	0.00
10	T	1,1,2-Trichlorotrifluoroeth	0.379	0.387	-2.1	90	0.00
11	T	Carbon Disulfide	1.354	1.290	4.7	89	0.00
12	T	Methyl Acetate	0.047	0.047	0.0	87	0.00
13	T	Methylene chloride	0.571	0.453	20.7	84	0.00
14	T	trans-1,2-Dichloroethene	0.486	0.464	4.5	90	0.00
15	T	Methyl-t-Butyl Ether	0.898	0.883	1.7	93	0.00
16	T	1,1-Dichloroethane	0.721	0.702	2.6	91	0.00
17	T	cis-1,2-Dichloroethene	0.507	0.494	2.6	92	0.00
18	T	2-Butanone (MEK)	0.201	0.193	4.0	100	0.00
19	T	CHLOROFORM	0.925	0.882	4.6	91	-0.01
20	S	Dibromofluoromethane SS#1	0.506	0.497	1.8	90	-0.01
21	T	1,1,1-Trichloroethane	0.769	0.750	2.5	93	-0.01
22	T	Cyclohexane	0.522	0.511	2.1	88	-0.01
23	I	1,4-Difluorobenzene ISTD	1.000	1.000	0.0	89	0.00
24	T	Carbon tetrachloride	0.386	0.391	-1.3	92	-0.01
25	M	Benzene	1.255	1.205	4.0	90	0.00
26	T	1,2-Dichloroethane	0.436	0.442	-1.4	95	0.00
27	M	Trichloroethene	0.360	0.350	2.8	92	0.00
28	T	1,2-DICHLOROPROPANE	0.274	0.266	2.9	90	0.00
29	T	Methylcyclohexane	0.318	0.315	0.9	89	0.00
30	T	Bromodichloromethane	0.465	0.469	-0.9	91	0.00
31	T	cis-1,3-Dichloropropene	0.517	0.501	3.1	90	0.00
32	T	4-Methyl-2-Pentanone (MIBK)	0.285	0.290	-1.8	95	0.00
33	S	Toluene d-8 SS#2	1.251	1.256	-0.4	90	-0.01
34	M	TOLUENE	0.794	0.785	1.1	92	0.00
35	T	trans-1,3-Dichloropropene	0.462	0.457	1.1	90	-0.01
36	T	1,1,2-Trichloroethane	0.217	0.217	0.0	90	0.00
37	T	Tetrachloroethene	0.286	0.279	2.4	90	0.00
38	T	2-Hexanone (MBK)	0.189	0.197	-4.2	97	0.00
39	I	Chlorobenzene d-5 ISTD	1.000	1.000	0.0	88	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041006\04100625.D Vial: 25
Acq On : 6 Oct 2004 7:27 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	T	Dibromochloromethane	0.305	0.315	-3.3	91	-0.01
41	T	1,2-Dibromoethane	0.306	0.313	-2.3	91	-0.01
42	M	Chlorobenzene	0.860	0.858	0.2	89	-0.01
43	T	ETHYLBENZENE	1.602	1.648	-2.9	90	-0.01
44	T	m&p-Xylene	0.530	0.537	-1.3	89	-0.01
45	T	o-Xylene	0.531	0.543	-2.3	91	0.00
46	T	Styrene	0.958	0.995	-3.9	90	-0.01
47	T	Bromoform	0.232	0.242	-4.3	89	-0.01
48	I	1,4-Dichlorobenzene d-4 IST	1.000	1.000	0.0	87	0.00
49	T	Isopropylbenzene	2.546	2.593	-1.8	89	-0.01
50	s	4-Bromofluorobenzene SS#3	1.405	1.421	-1.1	87	0.00
51	T	1,1,2,2-Tetrachloroethane	0.797	0.834	-4.6	94	0.00
52	T	1,3-Dichlorobenzene	1.153	1.151	0.2	87	-0.01
53	T	1,4-Dichlorobenzene	1.284	1.217	5.2	90	0.00
54	T	1,2-Dichlorobenzene	1.094	1.106	-1.1	90	0.00
55	T	1,2-Dibromo-3-chloropropane	0.101	0.111	-9.9	100	-0.01
56	T	1,2,4-Trichlorobenzene	0.613	0.597	2.6	88	0.00
57	T	Naphthalene	0.887	0.812	8.5	81	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100625.D Vial: 25
Acq On : 6 Oct 2004 7:27 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:17 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	193289	50.00	ug/L		0.00
23) 1,4-Difluorobenzene ISTD	4.69	114	269777	50.00	ug/L		0.00
39) Chlorobenzene d-5 ISTD	8.02	117	224878	50.00	ug/L		-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	97686	50.00	ug/L		0.00
System Monitoring Compounds							
20) Dibromofluoromethane SS#1	3.95	113	96017	49.07	ug/L		-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.14%				
33) Toluene d-8 SS#2	6.27	98	338853	50.19	ug/L		-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.38%				
50) 4-Bromofluorobenzene SS#3	9.59	95	138822	50.56	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.12%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.37	85	104394	47.61	ug/L		100
3) Chloromethane	1.46	50	78836	41.31	ug/L		100
4) VINYL CHLORIDE	1.55	62	82170	48.46	ug/L		100
5) Bromomethane	1.73	94	78105	45.98	ug/L		100
6) Chloroethane	1.77	64	43190	50.35	ug/L		99
7) Trichlorofluoromethane	1.92	101	60272	39.29	ug/L		100
8) Acetone	2.25	43	24761	50.52	ug/L		94
9) 1,1-DICHLOROETHENE	2.27	96	84006	48.01	ug/L		97
10) 1,1,2-Trichlorotrifluoroet	2.25	101	74717	50.95	ug/L		99
11) Carbon Disulfide	2.46	76	249417	47.67	ug/L		99
12) Methyl Acetate	2.46	74	9137	50.71	ug/L		88
13) Methylene chloride	2.57	84	87594	39.66	ug/L		97
14) trans-1,2-Dichloroethene	2.77	96	89732	47.77	ug/L		97
15) Methyl-t-Butyl Ether	2.75	73	170640	49.15	ug/L		100
16) 1,1-Dichloroethane	3.07	63	135625	48.64	ug/L		100
17) cis-1,2-Dichloroethene	3.55	96	95405	48.70	ug/L		98
18) 2-Butanone (MEK)	3.54	43	37351	48.13	ug/L		97
19) CHLOROFORM	3.81	83	170493	47.69	ug/L		99
21) 1,1,1-Trichloroethane	4.00	97	144937	48.78	ug/L	#	54
22) Cyclohexane	4.05	56	98768	48.95	ug/L		97
24) Carbon tetrachloride	4.15	117	105421	50.59	ug/L		100
25) Benzene	4.33	78	325187	48.01	ug/L		99
26) 1,2-Dichloroethane	4.34	62	119312	50.68	ug/L		98
27) Trichloroethene	4.97	95	94292	48.56	ug/L		98
28) 1,2-DICHLOROPROPANE	5.19	63	71791	48.56	ug/L		100
29) Methylcyclohexane	5.17	83	84999	49.48	ug/L		99
30) Bromodichloromethane	5.48	83	126464	50.39	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100625.D Vial: 25
Acq On : 6 Oct 2004 7:27 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:17 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31)	cis-1,3-Dichloropropene	5.97	75	135128	48.40 ug/L	99
32)	4-Methyl-2-Pentanone (MIBK	6.15	43	78170	50.77 ug/L	98
34)	TOLUENE	6.35	92	211672	49.42 ug/L	99
35)	trans-1,3-Dichloropropene	6.61	75	123378	49.45 ug/L	97
36)	1,1,2-Trichloroethane	6.83	83	58660	49.99 ug/L	99
37)	Tetrachloroethene	7.00	166	75222	48.83 ug/L	100
38)	2-Hexanone (MBK)	7.14	43	53199	52.18 ug/L	99
40)	Dibromochloromethane	7.30	129	70801	51.54 ug/L	100
41)	1,2-Dibromoethane	7.43	107	70483	51.29 ug/L	99
42)	Chlorobenzene	8.06	112	193054	49.91 ug/L	97
43)	ETHYLBENZENE	8.21	91	370566	51.42 ug/L	100
44)	m&p-Xylene	8.37	106	241484	101.36 ug/L	98
45)	o-Xylene	8.89	106	122043	51.07 ug/L	98
46)	Styrene	8.90	104	223783	51.92 ug/L	98
47)	Bromoform	9.13	173	54461	52.11 ug/L	100
49)	Isopropylbenzene	9.39	105	253273	50.92 ug/L	100
51)	1,1,2,2-Tetrachloroethane	9.81	83	81494	52.35 ug/L	98
52)	1,3-Dichlorobenzene	11.08	146	112450	49.94 ug/L	98
53)	1,4-Dichlorobenzene	11.21	146	118906	47.40 ug/L	99
54)	1,2-Dichlorobenzene	11.73	146	108022	50.55 ug/L	99
55)	1,2-Dibromo-3-chloropropan	12.84	75	10860	54.92 ug/L	93
56)	1,2,4-Trichlorobenzene	14.04	180	58270	48.65 ug/L	100
57)	Naphthalene	14.38	128	79364	45.79 ug/L	100

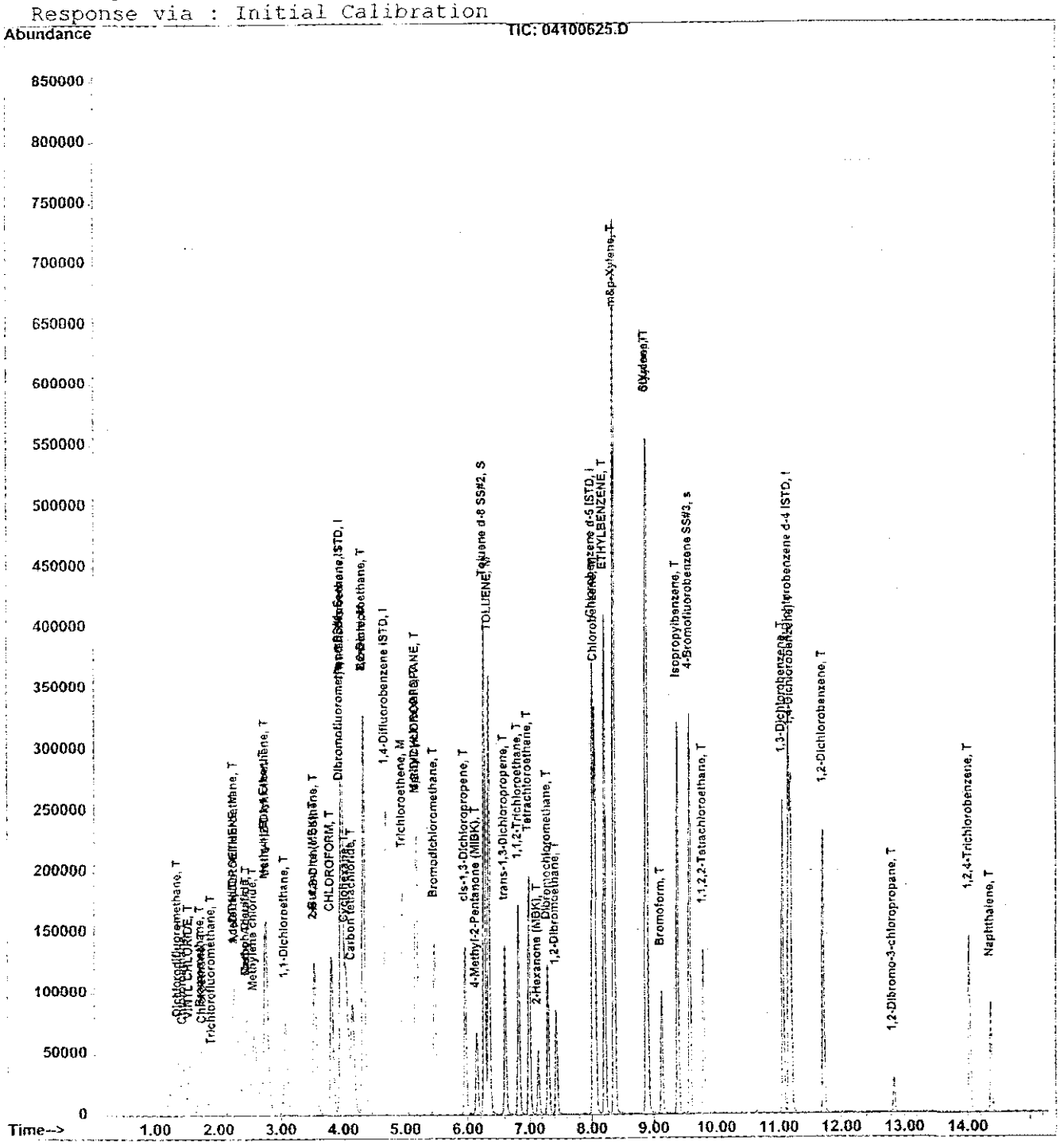
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041006\04100625.D
Acq On : 6 Oct 2004 7:27 pm
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #548
MS Integration Params: rteint.p
Quant Time: Oct 7 14:17 2004

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041006\04100626.D Vial: 26
Acq On : 6 Oct 2004 7:52 pm Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\UNREG-S.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Sep 13 16:06:53 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentaflourobenzene	1.000	1.000	0.0	120	0.00
2	t	acrolein	0.057	0.030	47.4#	58	0.04
3	t	iodomethne	0.884	0.377	57.4#	51	0.00
4	t	acrylonitrile	0.119	0.066	44.5#	65	-0.01
5	t	tert-butanol	0.075	0.032	57.3#	51	0.00
6	t	vinyl acetate	1.988	1.052	47.1#	64	0.00
7	t	diisopropyl ether	2.052	0.961	53.2#	56	0.00
8	t	Ethyl tert-butyl ether	1.405	0.650	53.7#	54	0.00
9	T	2,2-Dichloropropane	0.820	0.353	57.0#	52	0.00
10	T	Bromochloromethane	0.257	0.115	55.3#	53	0.00
11	S	Dibromofluoromethane SS#1	0.431	0.507	-17.6	140	0.00
12	I	1,4-Difluorobenzene	1.000	1.000	0.0	127	0.00
13	T	1,1-Dichloropropene	0.676	0.250	63.0#	47#	0.00
14	t	tert-amyl methyl ether	0.961	0.425	55.8#	56	-0.01
15	T	Dibromomethane	0.263	0.124	52.9#	59	-0.01
16	t	1,4-dioxane	0.002	0.000	100.0#	9#	0.00
17	T	2-Chloroethylvinyl Ether	0.126	0.044	65.1#	43#	-0.01
18	S	Toluene d-8 SS#2	1.254	1.260	-0.5	126	0.00
19	I	Chlorobenzene d-5	1.000	1.000	0.0	132	-0.01
20	T	1,3-Dichloropropane	0.716	0.311	56.6#	56	0.00
21	T	1,1,1,2-Tetrachloroethane	0.441	0.168	61.9#	49#	-0.01
22	T	1,2,3-Trichloropropane	0.134	0.059	56.0#	57	-0.01
23	s	4-Bromofluorobenzene SS#3	0.581	0.601	-3.4	133	0.00
24	T	Bromobenzene	0.597	0.211	64.7#	46#	0.00
25	t	trans-1,4-dichloro-2-butene	0.453	0.162	64.2#	55	-0.01
26	T	n-Propylbenzene	3.500	0.926	73.5#	35#	-0.01
27	I	1,4-Dichlorobenzene d-4	1.000	1.000	0.0	116	-0.01
28	T	2-Chlorotoluene	4.243	1.439	66.1#	40#	-0.02
29	T	4-Chlorotoluene	4.754	1.661	65.1#	41#	-0.01
30	T	1,3,5-Trimethylbenzene	4.461	1.320	70.4#	35#	-0.01
31	T	tert-Butylbenzene	3.560	0.937	73.7#	31#	-0.01
32	T	1,2,4-Trimethylbenzene	4.490	1.359	69.7#	36#	-0.01
33	T	sec-Butylbenzene	6.339	1.538	75.7#	28#	-0.01
34	T	4-Isopropyltoluene	4.408	1.110	74.8#	29#	-0.01
35	T	n-Butylbenzene	5.346	1.253	76.6#	28#	-0.01
36	T	1,2,3-Trichlorobenzene	1.560	0.219	86.0#	16#	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100626.D Vial: 26
Acq On : 6 Oct 2004 7:52 pm Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:18 2004

Quant Method : C:\HPCHEM\1\METHODS\UNREG-S.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Sep 13 16:06:53 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentaflourobenzene	3.99	168	190490	50.00	ug/L		0.00
12) 1,4-Difluorobenzene	4.69	114	273294	50.00	ug/L		0.00
19) Chlorobenzene d-5	8.02	117	226761	50.00	ug/L		-0.01
27) 1,4-Dichlorobenzene d-4	11.18	152	98507	50.00	ug/L		-0.01
System Monitoring Compounds							
11) Dibromofluoromethane SS#1	3.96	113	96531	58.78	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 117.56%				
18) Toluene d-8 SS#2	6.28	98	344418	50.24	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.48%				
23) 4-Bromofluorobenzene SS#3	9.58	95	136210	51.72	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.44%				
Target Compounds							Qvalue
2) acrolein	2.14	56	9279m	42.98	ug/L		
3) iodomethne	2.37	142	114812	34.09	ug/L		95
4) acrylonitrile	2.72	53	20141	44.55	ug/L		100
5) tert-butanol	2.65	59	9827	34.29	ug/L		100
6) vinyl acetate	3.09	43	320572	42.32	ug/L		99
7) diisopropyl ether	3.11	45	292854	37.46	ug/L		97
8) Ethyl tert-butyl ether	3.42	59	198108	37.02	ug/L		99
9) 2,2-Dichloropropane	3.57	77	107455	34.38	ug/L		97
10) Bromochloromethane	3.76	128	34967	35.78	ug/L		92
13) 1,1-Dichloropropene	4.13	75	109443	29.63	ug/L		97
14) tert-amyl methyl ether	4.44	73	185948	35.41	ug/L		99
15) Dibromomethane	5.31	93	54236	37.69	ug/L		93
16) 1,4-dioxane	5.33	58	58	5.51	ug/L	#	1
17) 2-Chloroethylvinyl Ether	5.80	63	19196	27.96	ug/L		98
20) 1,3-Dichloropropane	7.03	76	113017	34.82	ug/L		100
21) 1,1,1,2-Tetrachloroethane	8.17	131	60873	30.44	ug/L		99
22) 1,2,3-Trichloropropane	9.85	110	21339	35.04	ug/L		100
24) Bromobenzene	9.77	156	76620	28.32	ug/L		92
25) trans-1,4-dichloro-2-buten	9.85	75	58759	35.01	ug/L	#	100
26) n-Propylbenzene	9.95	91	335984	21.17	ug/L		97
28) 2-Chlorotoluene	10.04	91	226745	27.12	ug/L		97
29) 4-Chlorotoluene	10.20	91	261747	27.95	ug/L		97
30) 1,3,5-Trimethylbenzene	10.21	105	208061	23.67	ug/L		98
31) tert-Butylbenzene	10.65	119	147603	21.05	ug/L		91
32) 1,2,4-Trimethylbenzene	10.72	105	214246	24.22	ug/L		97
33) sec-Butylbenzene	10.96	105	242403	19.41	ug/L		99
34) 4-Isopropyltoluene	11.18	119	174916	20.14	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Repcrt (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041006\04100626.D Vial: 26
Acq On : 6 Oct 2004 7:52 pm Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:18 2004

Quant Method : C:\HPCHEM\1\METHODS\UNREG-S.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Sep 13 16:06:53 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

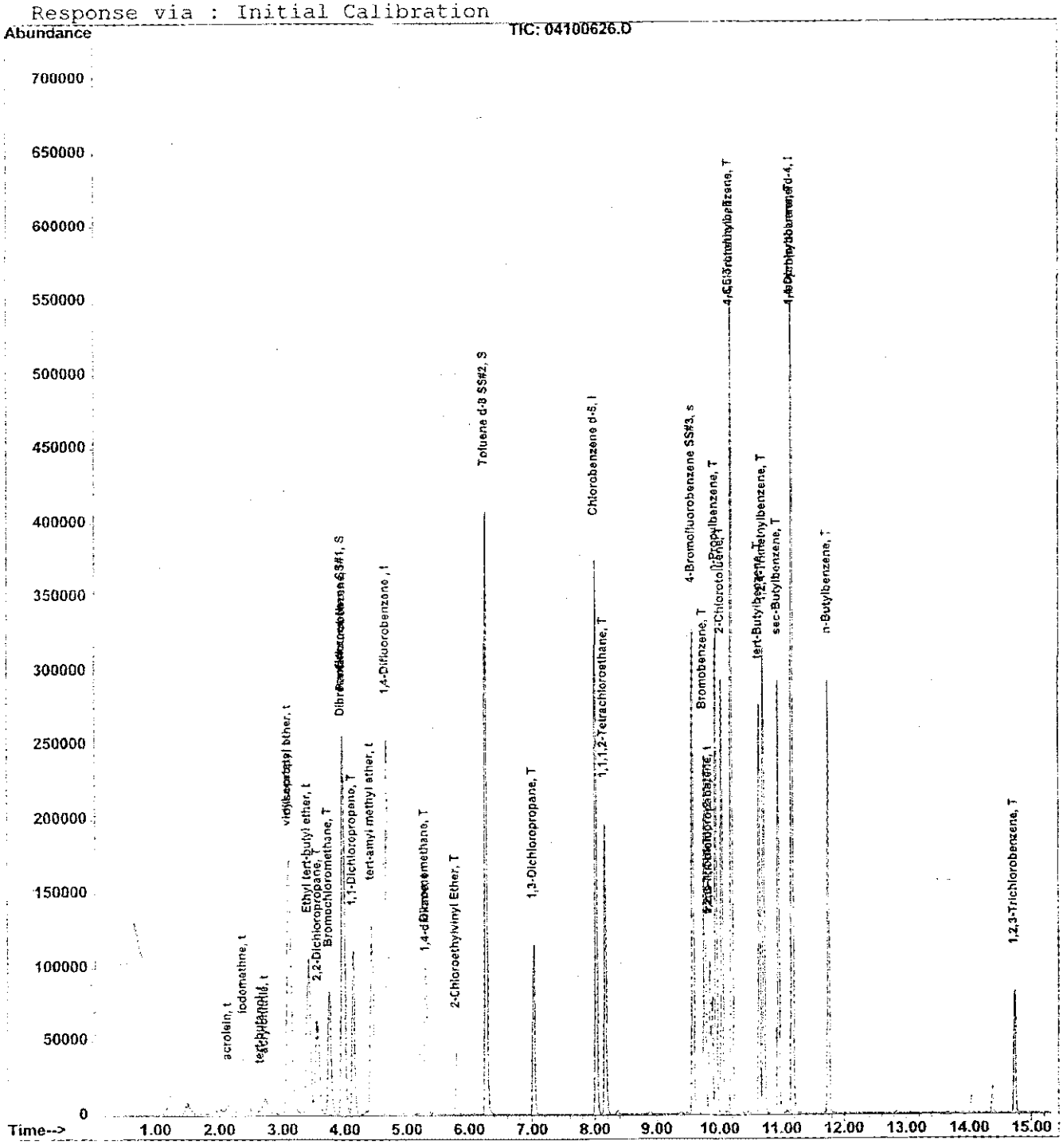
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) n-Butylbenzene	11.75	91	197471	18.75 ug/L	96
36) 1,2,3-Trichlorobenzene	14.74	180	34546	11.24 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041006\04100626.D Vial: 26
Acq On : 6 Oct 2004 7:52 pm Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 14:18 2004

Method : C:\HPCHEM\1\METHODS\UNREG-S.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Sep 13 16:06:53 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041007\04100702.D Vial: 2
Acq On : 7 Oct 2004 10:46 am Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene ISTD	1.000	1.000	0.0	99	0.00
2	T	Dichlorodifluoromethane	0.567	0.567	0.0	97	0.00
3	T	Chloromethane	0.494	0.429	13.2	99	-0.02
4	T	VINYL CHLORIDE	0.439	0.440	-0.2	98	0.00
5	T	Bromomethane	0.439	0.421	4.1	100	-0.01
6	T	Chloroethane	0.222	0.234	-5.4	99	0.00
7	T	Trichlorofluoromethane	0.306	0.400	-30.7#	116	0.00
8	T	Acetone	0.162	0.132	18.5	106	0.00
9	M	1,1-DICHLOROETHENE	0.453	0.430	5.1	95	0.00
10	T	1,1,2-Trichlorotrifluoroeth	0.379	0.368	2.9	90	0.00
11	T	Carbon Disulfide	1.354	1.367	-1.0	100	-0.01
12	T	Methyl Acetate	0.047	0.046	2.1	90	0.00
13	T	Methylene chloride	0.571	0.473	17.2	93	-0.01
14	T	trans-1,2-Dichloroethene	0.486	0.468	3.7	97	0.00
15	T	Methyl-t-Butyl Ether	0.898	0.853	5.0	95	0.00
16	T	1,1-Dichloroethane	0.721	0.700	2.9	96	0.00
17	T	cis-1,2-Dichloroethene	0.507	0.514	-1.4	101	-0.01
18	T	2-Butanone (MEK)	0.201	0.194	3.5	106	0.00
19	T	CHLOROFORM	0.925	0.894	3.4	98	0.00
20	S	Dibromofluoromethane SS#1	0.506	0.507	-0.2	97	-0.01
21	T	1,1,1-Trichloroethane	0.769	0.745	3.1	98	0.00
22	T	Cyclohexane	0.522	0.539	-3.3	99	-0.01
23	I	1,4-Difluorobenzene ISTD	1.000	1.000	0.0	97	0.00
24	T	Carbon tetrachloride	0.386	0.389	-0.8	99	-0.01
25	M	Benzene	1.255	1.176	6.3	96	0.00
26	T	1,2-Dichloroethane	0.436	0.422	3.2	99	0.00
27	M	Trichloroethene	0.360	0.347	3.6	100	-0.01
28	T	1,2-DICHLOROPROPANE	0.274	0.267	2.6	98	0.00
29	T	Methylcyclohexane	0.318	0.333	-4.7	102	0.00
30	T	Bromodichloromethane	0.465	0.480	-3.2	101	0.00
31	T	cis-1,3-Dichloropropene	0.517	0.511	1.2	99	0.00
32	T	4-Methyl-2-Pentanone (MIBK)	0.285	0.280	1.8	99	0.00
33	S	Toluene d-8 SS#2	1.251	1.227	1.9	95	-0.01
34	M	TOLUENE	0.794	0.764	3.8	98	0.00
35	T	trans-1,3-Dichloropropene	0.462	0.464	-0.4	99	-0.01
36	T	1,1,2-Trichloroethane	0.217	0.218	-0.5	98	0.00
37	T	Tetrachloroethene	0.286	0.273	4.5	96	0.00
38	T	2-Hexanone (MBK)	0.189	0.188	0.5	100	0.00
39	I	Chlorobenzene d-5 ISTD	1.000	1.000	0.0	91	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041007\04100702.D
Acq On : 7 Oct 2004 10:46 am
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #548
MS Integration Params: rteint.p

Vial: 2
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	T	Dibromochloromethane	0.305	0.330	-8.2	98	-0.01
41	T	1,2-Dibromoethane	0.306	0.319	-4.2	96	-0.01
42	M	Chlorobenzene	0.860	0.861	-0.1	92	-0.01
43	T	ETHYLBENZENE	1.602	1.683	-5.1	95	-0.01
44	T	m&p-Xylene	0.530	0.544	-2.6	93	-0.01
45	T	o-Xylene	0.531	0.552	-4.0	95	0.00
46	T	Styrene	0.958	1.019	-6.4	95	-0.01
47	T	Bromoform	0.232	0.251	-8.2	96	-0.01
48	I	1,4-Dichlorobenzene d-4 IST	1.000	1.000	0.0	94	0.00
49	T	Isopropylbenzene	2.546	2.573	-1.1	96	-0.01
50	s	4-Bromofluorobenzene SS#3	1.405	1.410	-0.4	93	0.00
51	T	1,1,2,2-Tetrachloroethane	0.797	0.820	-2.9	99	0.00
52	T	1,3-Dichlorobenzene	1.153	1.168	-1.3	95	-0.01
53	T	1,4-Dichlorobenzene	1.284	1.160	9.7	93	0.00
54	T	1,2-Dichlorobenzene	1.094	1.057	3.4	93	-0.01
55	T	1,2-Dibromo-3-chloropropane	0.101	0.107	-5.9	103	-0.01
56	T	1,2,4-Trichlorobenzene	0.613	0.609	0.7	97	0.00
57	T	Naphthalene	0.887	0.832	6.2	89	0.00

Response Factor Report VOC#1

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration

Calibration Files
C1 =04100306.D C2 =04100115.D C3 =04100116.D
C4 =04100117.D C5 =04100118.D C6 =04100119.D

		Compound	C1	C2	C3	C4	C5	C6	Avg	%RSD
1)	I	Pentafluorobenzene IS	----------ISTD----------							
2)	T	Dichlorodifluoromet	0.507	0.586	0.581	0.596	0.576	0.556	0.567	5.69
3)	T	Chloromethane	0.573	0.530	0.498	0.520	0.428	0.414	0.494	12.47
4)	T	VINYL CHLORIDE	0.435	0.438	0.442	0.459	0.442	0.416	0.439	3.10
5)	T	Bromomethane	0.524	0.437	0.418	0.439	0.415	0.403	0.439	9.99
6)	T	Chloroethane	0.192	0.229	0.213	0.237	0.233	0.228	0.222	7.64
7)	T	Trichlorofluorometh		0.244	0.246	0.295	0.342	0.402	0.306	21.92
8)	T	Acetone	0.233	0.196	0.156	0.140	0.122	0.127	0.162	26.90
9)	M	1,1-DICHLOROETHENE	0.450	0.471	0.451	0.467	0.448	0.429	0.453	3.29
10)	T	1,1,2-Trichlorotrif	0.277	0.412	0.398	0.408	0.402	0.380	0.379	13.56
11)	T	Carbon Disulfide	1.334	1.377	1.339	1.404	1.356	1.310	1.354	2.47
12)	T	Methyl Acetate		0.048	0.035	0.051	0.050	0.049	0.047	14.74
13)	T	Methylene chloride	0.610	0.690	0.613	0.552	0.503	0.460	0.571	14.56
14)	T	trans-1,2-Dichloroe	0.488	0.509	0.488	0.488	0.478	0.464	0.486	3.01
15)	T	Methyl-t-Butyl Ethe	0.890	0.937	0.913	0.909	0.884	0.856	0.898	3.12
16)	T	1,1-Dichloroethane	0.725	0.736	0.729	0.734	0.718	0.685	0.721	2.63
17)	T	cis-1,2-Dichloroeth	0.458	0.548	0.521	0.529	0.502	0.483	0.507	6.45
18)	T	2-Butanone (MEK)	0.225	0.220	0.202	0.191	0.181	0.186	0.201	9.05
19)	T	CHLOROFORM	0.970	0.933	0.934	0.936	0.905	0.870	0.925	3.65
20)	S	Dibromofluoromethan	0.495	0.502	0.495	0.516	0.515	0.513	0.506	1.95
21)	T	1,1,1-Trichloroetha	0.783	0.796	0.777	0.775	0.753	0.728	0.769	3.15
22)	T	Cyclohexane	0.437	0.543	0.530	0.583	0.539	0.500	0.522	9.48
23)	I	1,4-Difluorobenzene I	----------ISTD----------							
24)	T	Carbon tetrachlorid	0.377	0.407	0.398	0.392	0.382	0.362	0.386	4.16
25)	M	Benzene	1.380	1.310	1.286	1.248	1.195	1.114	1.255	7.41
26)	T	1,2-Dichloroethane	0.448	0.468	0.453	0.437	0.416	0.396	0.436	6.06
27)	M	Trichloroethene	0.405	0.380	0.363	0.347	0.338	0.325	0.360	8.14
28)	T	1,2-DICHLOROPROPANE	0.286	0.285	0.284	0.276	0.265	0.248	0.274	5.53
29)	T	Methylcyclohexane	0.287	0.331	0.341	0.331	0.318	0.303	0.318	6.39
30)	T	Bromodichloromethan	0.450	0.483	0.490	0.465	0.462	0.441	0.465	3.99
31)	T	cis-1,3-Dichloropro	0.547	0.549	0.529	0.512	0.500	0.468	0.517	5.94
32)	T	4-Methyl-2-Pentanon	0.283	0.294	0.308	0.286	0.274	0.266	0.285	5.23
33)	S	Toluene d-8 SS#2	1.221	1.269	1.273	1.247	1.255	1.244	1.251	1.50
34)	M	TOLUENE	0.803	0.854	0.827	0.788	0.761	0.730	0.794	5.65
35)	T	trans-1,3-Dichlorop	0.463	0.477	0.482	0.459	0.455	0.438	0.462	3.45
36)	T	1,1,2-Trichloroetha	0.212	0.229	0.229	0.218	0.216	0.201	0.217	4.98
37)	T	Tetrachloroethene	0.283	0.311	0.298	0.281	0.277	0.263	0.286	5.88
38)	T	2-Hexanone (MBK)	0.187	0.192	0.200	0.188	0.183	0.184	0.189	3.34
39)	I	Chlorobenzene d-5 IST	----------ISTD----------							
40)	T	Dibromochloromethan	0.296	0.310	0.315	0.308	0.307	0.297	0.305	2.44
41)	T	1,2-Dibromoethane	0.305	0.307	0.323	0.305	0.303	0.290	0.306	3.44

(#) = Out of Range

Response Factor Report VOC#1

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration

Calibration Files
C1 =04100306.D C2 =04100115.D C3 =04100116.D
C4 =04100117.D C5 =04100118.D C6 =04100119.D

		Compound	C1	C2	C3	C4	C5	C6	Avg	%RSD
42)	M	Chlorobenzene	0.844	0.898	0.883	0.871	0.852	0.812	0.860	3.56
43)	T	ETHYLBENZENE	1.603	1.651	1.667	1.584	1.620	1.489	1.602	3.94
44)	T	m&p-Xylene	0.519	0.543	0.548	0.533	0.536	0.499	0.530	3.40
45)	T	o-Xylene	0.512	0.569	0.546	0.540	0.530	0.490	0.531	5.17
46)	T	Styrene	0.888	0.986	1.005	0.980	0.979	0.911	0.958	4.88
47)	T	Bromoform	0.208	0.231	0.238	0.240	0.239	0.237	0.232	5.38
48)	I	1,4-Dichlorobenzene d	----------	----------	----------	ISTD	----------	----------	----------	
49)	T	Isopropylbenzene	2.546	2.536	2.643	2.567	2.531	2.452	2.546	2.43
50)	s	4-Bromofluorobenzen	1.448	1.396	1.384	1.406	1.426	1.372	1.405	2.00
51)	T	1,1,2,2-Tetrachloro	0.725	0.849	0.847	0.822	0.779	0.760	0.797	6.33
52)	T	1,3-Dichlorobenzene	1.158	1.151	1.209	1.164	1.159	1.075	1.153	3.75
53)	T	1,4-Dichlorobenzene	1.636	1.297	1.264	1.218	1.176	1.113	1.284	14.34
54)	T	1,2-Dichlorobenzene	1.087	1.156	1.131	1.088	1.076	1.024	1.094	4.20
55)	T	1,2-Dibromo-3-chlor	0.091	0.110	0.105	0.108	0.098	0.096	0.101	7.43
56)	T	1,2,4-Trichlorobenz	0.642	0.606	0.653	0.607	0.592	0.579	0.613	4.68
57)	T	Naphthalene	0.912	0.790	0.965	0.914	0.879	0.863	0.887	6.66

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100702.D Vial: 2
Acq On : 7 Oct 2004 10:46 am Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 11:04 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	205138	50.00	ug/L		0.00
23) 1,4-Difluorobenzene ISTD	4.69	114	293249	50.00	ug/L		0.00
39) Chlorobenzene d-5 ISTD	8.02	117	232210	50.00	ug/L		-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	105458	50.00	ug/L		0.00
System Monitoring Compounds							
20) Dibromofluoromethane SS#1	3.95	113	103991	50.07	ug/L		-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.14%				
33) Toluene d-8 SS#2	6.27	98	359895	49.04	ug/L		-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.08%				
50) 4-Bromofluorobenzene SS#3	9.59	95	148719	50.17	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.34%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.37	85	116239	49.95	ug/L		100
3) Chloromethane	1.45	50	88022	43.46	ug/L		100
4) VINYL CHLORIDE	1.55	62	90223	50.13	ug/L		100
5) Bromomethane	1.72	94	86380	47.91	ug/L		100
6) Chloroethane	1.77	64	47918	52.64	ug/L		99
7) Trichlorofluoromethane	1.94	101	82122	50.44	ug/L		100
8) Acetone	2.25	43	27034	51.97	ug/L		97
9) 1,1-DICHLOROETHENE	2.26	96	88134	47.46	ug/L		95
10) 1,1,2-Trichlorotrifluoroet	2.26	101	75436	48.47	ug/L	#	75
11) Carbon Disulfide	2.45	76	280510	50.51	ug/L		94
12) Methyl Acetate	2.47	74	9425m	49.29	ug/L		
13) Methylene chloride	2.56	84	97127	41.43	ug/L		98
14) trans-1,2-Dichloroethene	2.77	96	96102	48.21	ug/L		99
15) Methyl-t-Butyl Ether	2.75	73	175025	47.50	ug/L		100
16) 1,1-Dichloroethane	3.07	63	143661	48.55	ug/L		100
17) cis-1,2-Dichloroethene	3.54	96	105341	50.66	ug/L		98
18) 2-Butanone (MEK)	3.54	43	39865	48.41	ug/L		98
19) CHLOROFORM	3.82	83	183356	48.33	ug/L		98
21) 1,1,1-Trichloroethane	4.00	97	152857	48.47	ug/L	#	50
22) Cyclohexane	4.05	56	110537	51.62	ug/L	#	86
24) Carbon tetrachloride	4.15	117	114007	50.33	ug/L		100
25) Benzene	4.33	78	344950	46.85	ug/L		99
26) 1,2-Dichloroethane	4.34	62	123720	48.35	ug/L		100
27) Trichloroethene	4.96	95	101848	48.25	ug/L		99
28) 1,2-DICHLOROPROPANE	5.19	63	78182	48.65	ug/L		100
29) Methylcyclohexane	5.17	83	97514	52.22	ug/L		99
30) Bromodichloromethane	5.48	83	140656	51.56	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100702.D
Acq On : 7 Oct 2004 10:46 am
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #548
MS Integration Params: rteint.p
Quant Time: Oct 7 11:04 2004

Vial: 2
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

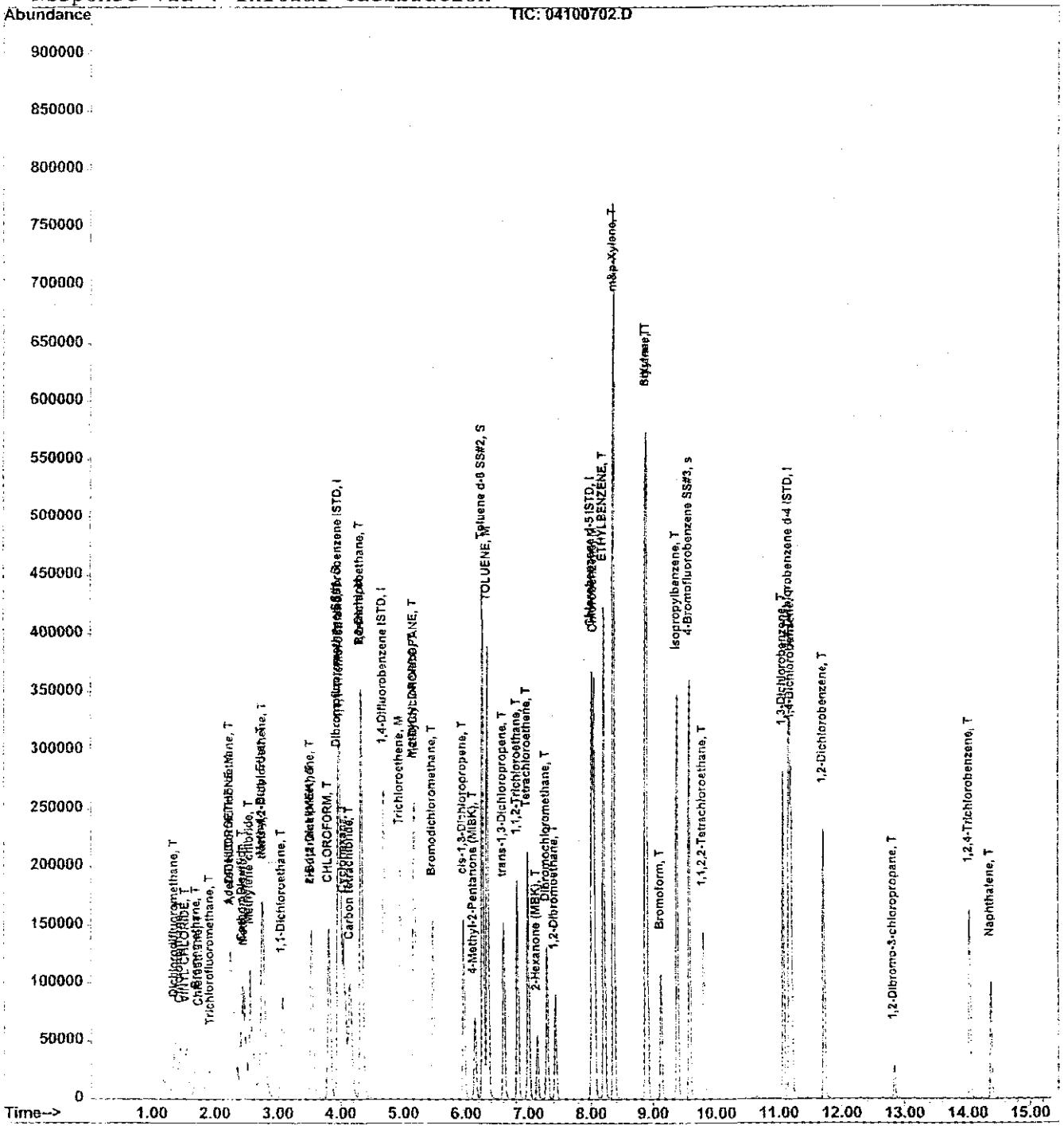
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	149729	49.34 ug/L	99
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	82080	49.04 ug/L	99
34) TOLUENE	6.35	92	224180	48.15 ug/L	100
35) trans-1,3-Dichloropropene	6.61	75	135987	50.14 ug/L	97
36) 1,1,2-Trichloroethane	6.83	83	63894	50.09 ug/L	98
37) Tetrachloroethene	7.00	166	80047	47.80 ug/L	99
38) 2-Hexanone (MBK)	7.14	43	55262	49.87 ug/L	100
40) Dibromochloromethane	7.30	129	76592	54.00 ug/L	99
41) 1,2-Dibromoethane	7.43	107	74156	52.26 ug/L	99
42) Chlorobenzene	8.06	112	200018	50.08 ug/L	95
43) ETHYLBENZENE	8.21	91	390846	52.52 ug/L	100
44) m&p-Xylene	8.37	106	252652	102.70 ug/L	97
45) o-Xylene	8.89	106	128069	51.90 ug/L	97
46) Styrene	8.90	104	236618	53.17 ug/L	97
47) Bromoform	9.13	173	58234	53.96 ug/L	99
49) Isopropylbenzene	9.39	105	271305	50.53 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	86485	51.46 ug/L	99
52) 1,3-Dichlorobenzene	11.08	146	123133	50.65 ug/L	100
53) 1,4-Dichlorobenzene	11.21	146	122349	45.18 ug/L	98
54) 1,2-Dichlorobenzene	11.72	146	111451	48.31 ug/L	100
55) 1,2-Dibromo-3-chloropropan	12.84	75	11282	52.85 ug/L	93
56) 1,2,4-Trichlorobenzene	14.04	180	64258	49.70 ug/L	99
57) Naphthalene	14.38	128	87696	46.87 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041007\04100702.D Vial: 2
Acq On : 7 Oct 2004 10:46 am Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 11:04 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041007\04100703.D
Acq On : 7 Oct 2004 11:11 am
Sample : UNREG-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #549
MS Integration Params: rteint.p

Vial: 3
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentaflourobenzene	1.000	1.000	0.0	97	0.00
2	t	acrolein	0.049	0.047	4.1	92	0.04
3	t	iodomethane	0.630	0.594	5.7	92	-0.01
4	t	acrylonitrile	0.103	0.100	2.9	94	-0.01
5	t	tert-butanol	0.045	0.041	8.9	85	0.00
6	t	vinyl acetate	1.787	1.634	8.6	93	0.00
7	t	diisopropyl ether	1.638	1.515	7.5	93	0.00
8	t	tert-Butyl ethyl ether	1.147	1.088	5.1	94	0.00
9	T	2,2-Dichloropropane	0.610	0.624	-2.3	109	0.00
10	T	Bromochloromethane	0.202	0.184	8.9	89	0.00
11	S	Dibromofluoromethane SS#1	0.507	0.499	1.6	94	0.00
12	I	1,4-Difluorobenzene	1.000	1.000	0.0	93	0.00
13	T	1,1-Dichloropropene	0.428	0.415	3.0	94	-0.01
14	t	tert-amyl methyl ether	0.753	0.729	3.2	96	0.00
15	T	Dibromomethane	0.212	0.201	5.2	92	0.00
16	t	1,4-dioxane	0.001	0.000	100.0#	45#	0.02
17	T	2-Chloroethylvinyl Ether	0.079	0.076	3.8	91	-0.01
18	S	Toluene d-8 SS#2	1.254	1.294	-3.2	95	0.00
19	I	Chlorobenzene d-5	1.000	1.000	0.0	93	0.00
20	T	1,3-Dichloropropane	0.526	0.491	6.7	93	0.00
21	T	1,1,1,2-Tetrachloroethane	0.289	0.270	6.6	91	-0.01
22	T	1,2,3-Trichloropropane	0.100	0.089	11.0	90	-0.01
23	s	4-Bromofluorobenzene SS#3	0.597	0.596	0.2	93	0.00
24	T	Bromobenzene	0.369	0.332	10.0	89	0.00
25	t	trans-1,4-dichloro-2-butene	0.324	0.254	21.6	94	-0.01
26	T	n-Propylbenzene	1.535	1.530	0.3	97	-0.01
27	I	1,4-Dichlorobenzene d-4	1.000	1.000	0.0	94	-0.01
28	T	2-Chlorotoluene	2.429	2.257	7.1	92	-0.01
29	T	4-Chlorotoluene	2.768	2.645	4.4	93	-0.01
30	T	1,3,5-Trimethylbenzene	2.222	2.141	3.6	94	-0.01
31	T	tert-Butylbenzene	1.574	1.520	3.4	94	0.00
32	T	1,2,4-Trimethylbenzene	2.328	2.208	5.2	90	-0.01
33	T	sec-Butylbenzene	2.595	2.523	2.8	93	-0.01
34	T	4-Isopropyltoluene	1.853	1.821	1.7	95	0.00
35	T	n-Butylbenzene	2.078	2.101	-1.1	95	-0.01
36	T	1,2,3-Trichlorobenzene	0.396	0.366	7.6	88	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Response Factor Report VOC#1

Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration

Calibration Files
C1 =04100114.D C2 =04100121.D C3 =04100122.D
C4 =04100123.D C5 =04100124.D C6 =04100125.D

		Compound	C1	C2	C3	C4	C5	C6	Avg	%RSD
1)	I	Pentaflourobenzene	----------	----------	ISTD	----------	----------	----------		
2)	t	acrolein		0.052	0.047	0.049	0.050	0.048	0.049	3.54
3)	t	iodomethane	0.644	0.666	0.646	0.623	0.623	0.577	0.630	4.81
4)	t	acrylonitrile	0.087	0.110	0.113	0.106	0.103	0.100	0.103	8.98
5)	t	tert-butanol		0.041	0.045	0.045	0.047	0.048	0.045	5.65
6)	t	vinyl acetate	2.113	1.852	1.799	1.707	1.689	1.564	1.787	10.51
7)	t	diisopropyl ether	1.815	1.724	1.674	1.611	1.576	1.429	1.638	8.10
8)	t	tert-Butyl ethyl et	1.223	1.202	1.207	1.143	1.116	0.990	1.147	7.62
9)	T	2,2-Dichloropropane	0.799	0.625	0.624	0.580	0.550	0.482	0.610	17.48
10)	T	Bromochloromethane	0.220	0.207	0.200	0.203	0.199	0.180	0.202	6.55
11)	S	Dibromofluoromethan	0.495	0.504	0.509	0.510	0.512	0.508	0.507	1.20
12)	I	1,4-Difluorobenzene	----------	----------	ISTD	----------	----------	----------		
13)	T	1,1-Dichloropropene	0.475	0.447	0.436	0.417	0.409	0.382	0.428	7.55
14)	t	tert-amyl methyl et	0.917	0.762	0.753	0.726	0.704	0.656	0.753	11.84
15)	T	Dibromomethane	0.238	0.223	0.214	0.206	0.203	0.189	0.212	8.09
16)	t	1,4-dioxane					0.000	0.001	0.001	39.15
17)	T	2-Chloroethylvinyl	0.095	0.077	0.074	0.076	0.078	0.076	0.079	9.94
18)	S	Toluene d-8 SS#2	1.266	1.231	1.244	1.262	1.258	1.261	1.254	1.08
19)	I	Chlorobenzene d-5	----------	----------	ISTD	----------	----------	----------		
20)	T	1,3-Dichloropropane	0.595	0.561	0.524	0.502	0.495	0.478	0.526	8.43
21)	T	1,1,1,2-Tetrachloro	0.317	0.302	0.292	0.280	0.276	0.266	0.289	6.44
22)	T	1,2,3-Trichloroprop	0.121	0.104	0.098	0.095	0.092	0.092	0.100	11.04
23)	s	4-Bromofluorobenzen	0.593	0.591	0.600	0.590	0.600	0.607	0.597	1.15
24)	T	Bromobenzene	0.434	0.381	0.368	0.348	0.349	0.331	0.369	9.90
25)	t	trans-1,4-dichloro-		0.382	0.374	0.350	0.254	0.262	0.324	19.05
26)	T	n-Propylbenzene	1.639	1.602	1.533	1.509	1.470	1.459	1.535	4.69
27)	I	1,4-Dichlorobenzene d	----------	----------	ISTD	----------	----------	----------		
28)	T	2-Chlorotoluene	2.620	2.625	2.498	2.378	2.298	2.158	2.429	7.65
29)	T	4-Chlorotoluene	2.949	2.914	2.860	2.736	2.672	2.475	2.768	6.43
30)	T	1,3,5-Trimethylbenz	2.412	2.304	2.260	2.195	2.152	2.009	2.222	6.21
31)	T	tert-Butylbenzene	1.785	1.623	1.551	1.523	1.526	1.436	1.574	7.59
32)	T	1,2,4-Trimethylbenz	2.517	2.393	2.370	2.258	2.298	2.133	2.328	5.61
33)	T	sec-Butylbenzene	2.746	2.714	2.622	2.574	2.555	2.361	2.595	5.31
34)	T	4-Isopropyltoluene	2.015	1.901	1.866	1.846	1.799	1.690	1.853	5.81
35)	T	n-Butylbenzene	2.051	2.180	2.141	2.082	2.072	1.945	2.078	3.90
36)	T	1,2,3-Trichlorobenz	0.426	0.378	0.417	0.393	0.391	0.374	0.396	5.35

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100703.D
Acq On : 7 Oct 2004 11:11 am
Sample : UNREG-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #549
MS Integration Params: rteint.p
Quant Time: Oct 7 15:43 2004

Vial: 3
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentaflourobenzene	3.99	168	201712	50.00	ug/L		0.00
12) 1,4-Difluorobenzene	4.69	114	281914	50.00	ug/L		0.00
19) Chlorobenzene d-5	8.02	117	239194	50.00	ug/L		0.00
27) 1,4-Dichlorobenzene d-4	11.18	152	105335	50.00	ug/L		-0.01
System Monitoring Compounds							
11) Dibromofluoromethane SS#1	3.96	113	100708	49.28	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.56%				
18) Toluene d-8 SS#2	6.28	98	364739	51.60	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.20%				
23) 4-Bromofluorobenzene SS#3	9.59	95	142647	49.95	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.90%				
Target Compounds							Qvalue
2) acrolein	2.15	56	9551m	48.24	ug/L		
3) iodomethane	2.37	142	119811	47.16	ug/L		99
4) acrylonitrile	2.71	53	20159	48.43	ug/L		100
5) tert-butanol	2.66	59	8326m	45.61	ug/L		
6) vinyl acetate	3.09	43	329535	45.70	ug/L		99
7) diisopropyl ether	3.12	45	305518	46.23	ug/L		99
8) tert-Butyl ethyl ether	3.42	59	219535	47.45	ug/L		99
9) 2,2-Dichloropropane	3.57	77	125851	64.02	ug/L		98
10) Bromochloromethane	3.76	128	37018	45.52	ug/L		97
13) 1,1-Dichloropropene	4.13	75	117035	48.52	ug/L		98
14) tert-amyl methyl ether	4.45	73	205549	48.41	ug/L		99
15) Dibromomethane	5.31	93	56589	47.34	ug/L		97
16) 1,4-dioxane	5.35	58	54	13.99	ug/L		94
17) 2-Chloroethylvinyl Ether	5.80	63	21480	48.08	ug/L		99
20) 1,3-Dichloropropane	7.03	76	117493	46.72	ug/L		100
21) 1,1,1,2-Tetrachloroethane	8.17	131	64630	46.78	ug/L		100
22) 1,2,3-Trichloropropane	9.85	110	21363	44.45	ug/L		100
24) Bromobenzene	9.77	156	79498	45.08	ug/L		97
25) trans-1,4-dichloro-2-buten	9.85	75	60849	48.40	ug/L	#	100
26) n-Propylbenzene	9.96	91	365902	49.82	ug/L		100
28) 2-Chlorotoluene	10.05	91	237756	46.46	ug/L		99
29) 4-Chlorotoluene	10.20	91	278580	47.78	ug/L		99
30) 1,3,5-Trimethylbenzene	10.21	105	225479	48.17	ug/L		99
31) tert-Butylbenzene	10.65	119	160102	48.28	ug/L		99
32) 1,2,4-Trimethylbenzene	10.72	105	232626	47.43	ug/L		100
33) sec-Butylbenzene	10.96	105	265790	48.61	ug/L		100
34) 4-Isopropyltoluene	11.18	119	191833	49.14	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041007\04100703.D Vial: 3
Acq On : 7 Oct 2004 11:11 am Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #493, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 7 15:43 2004

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) n-Butylbenzene	11.76	91	221330	50.55 ug/L	99
36) 1,2,3-Trichlorobenzene	14.74	180	38603	46.23 ug/L	98

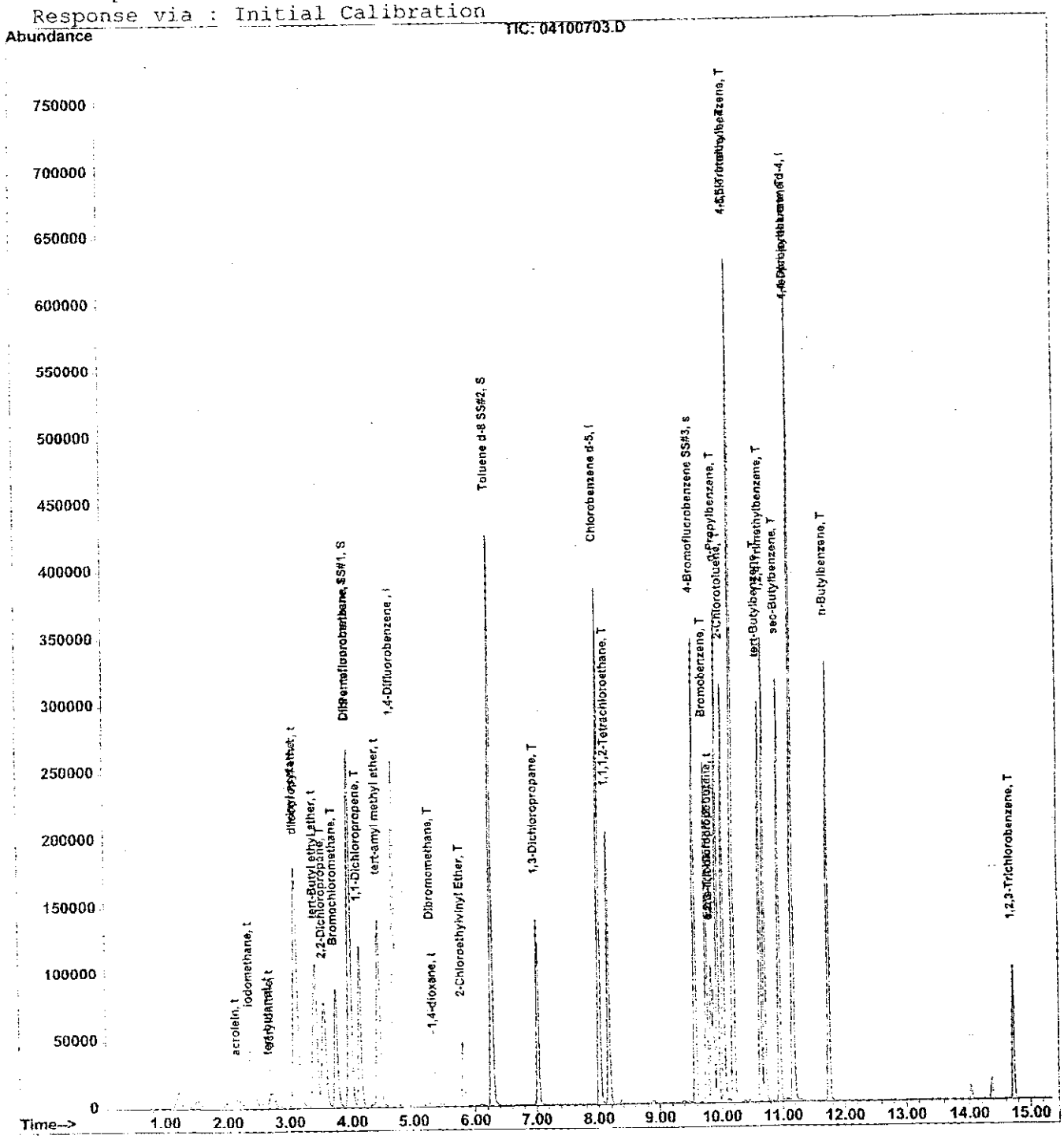
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041007\04100703.D
Acq On : 7 Oct 2004 11:11 am
Sample : UNREG-W, CCV 50ppb
Misc : IS/S 1uL #493, CCV 10uL #549
MS Integration Params: rteint.p
Quant Time: Oct 7 15:43 2004

Vial: 3
Operator: MI
Inst : VOC#1
Multiplr: 1.00

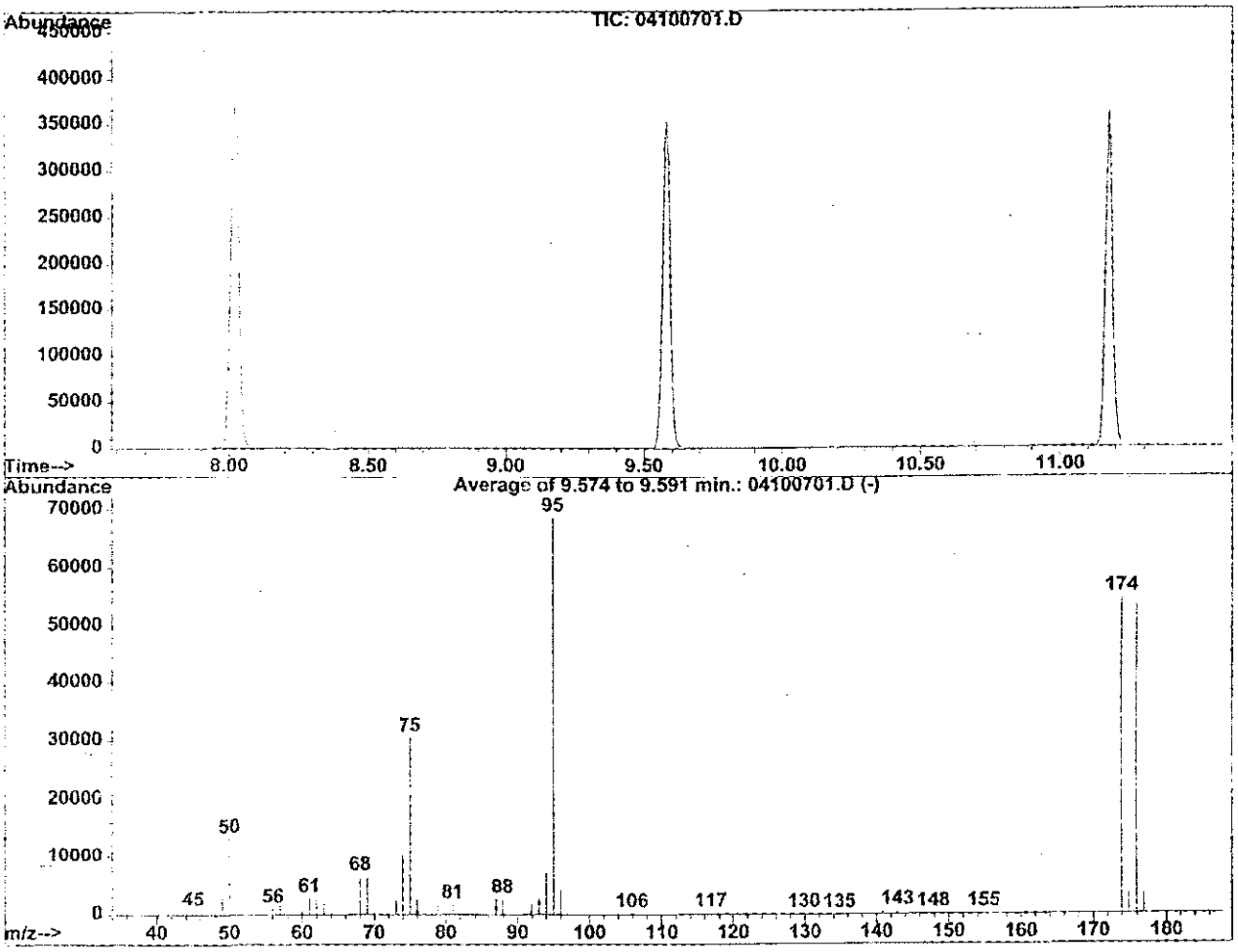
Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration



BFB

Data File : C:\HPCHEM\1\DATA\041007\04100701.D
Acq On : 7 Oct 2004 9:40 am
Sample : BFB TUNE Water 5mL
Misc : IS/S 1uL #475
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics

Vial: 1
Operator: MI
Inst : VOC#1
Multiplr: 1.00



AutoFind: Scans 1160, 1161, 1162; Background Corrected with Scan 1153

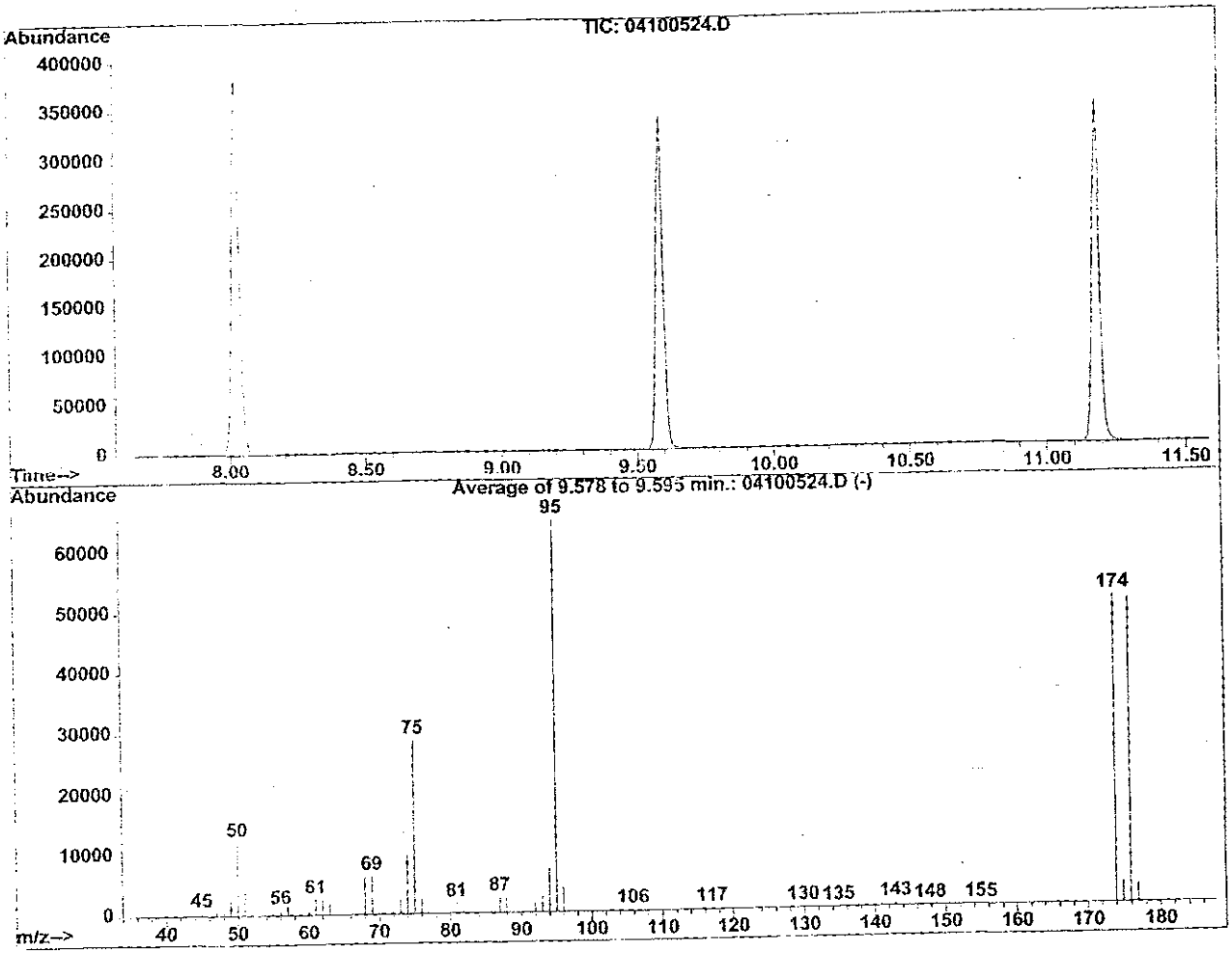
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.4	13300	PASS
75	95	30	60	44.5	30560	PASS
95	95	100	100	100.0	68640	PASS
96	95	5	9	6.4	4370	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	79.3	54461	PASS
175	174	5	9	7.1	3888	PASS
176	174	95	101	98.0	53355	PASS
177	176	5	9	6.6	3503	PASS

04100701.D TCL-W.M Thu Oct 07 11:03:41 2004

BFB

Data File : C:\HPCHEM\1\DATA\041005\04100524.D
Acq On : 5 Oct 2004 8:15 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #493
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics

Vial: 24
Operator: MI
Inst : VOC#1
Multiplr: 1.00



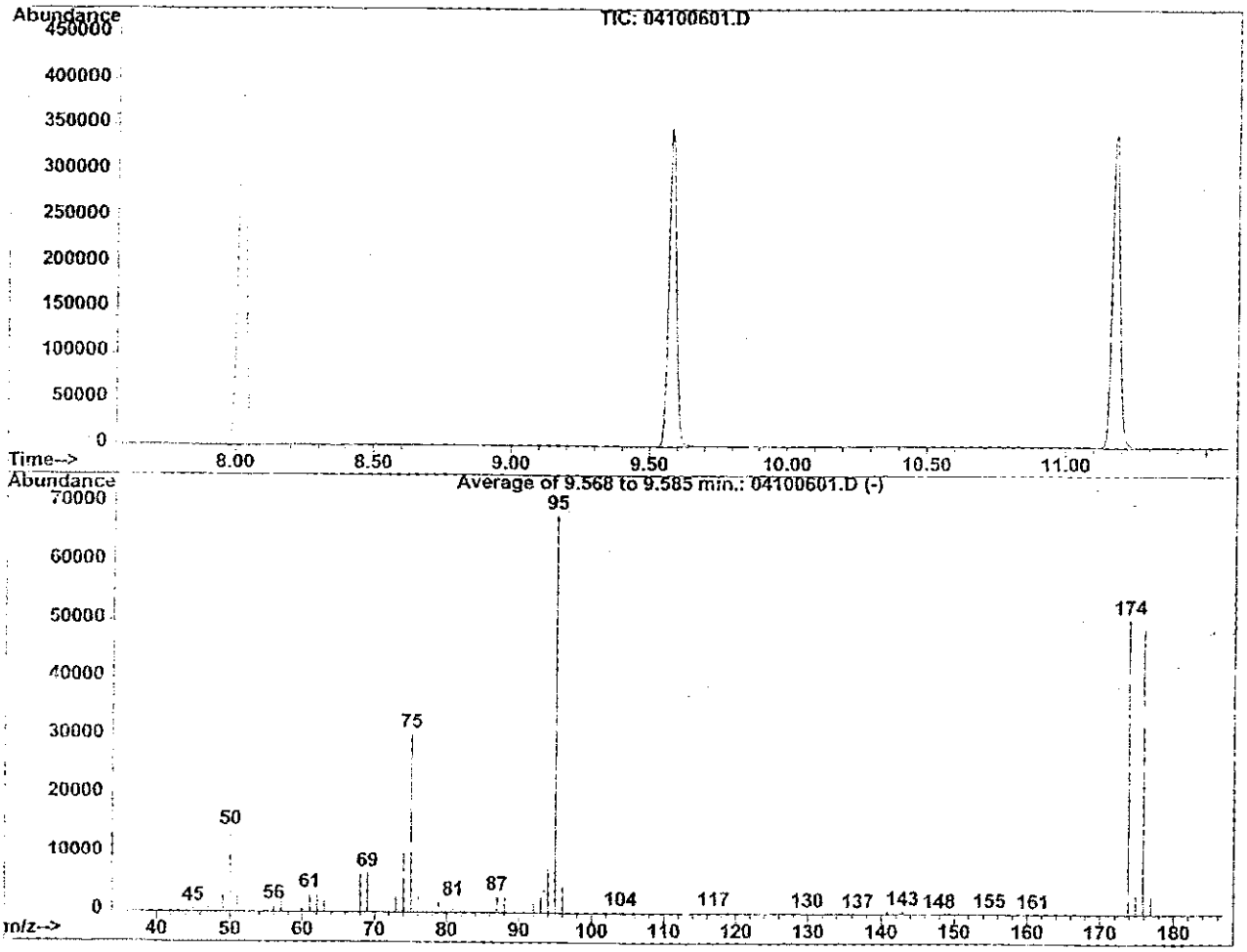
AutoFind: Scans 1160, 1161, 1162; Background Corrected with Scan 1153

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.1	12397	PASS
75	95	30	60	44.2	28688	PASS
95	95	100	100	100.0	64971	PASS
96	95	5	9	6.4	4156	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	78.5	51013	PASS
175	174	5	9	7.1	3644	PASS
176	174	95	101	99.1	50544	PASS
177	176	5	9	6.4	3244	PASS

04100524.D TCL-W.M Wed Oct 06 09:44:46 2004

BFB

Data File : C:\HPCHEM\1\DATA\041006\04100601.D Vial: 1
Acq On : 6 Oct 2004 9:27 am Operator: MI
Sample : BFB TUNE Water 5mL Inst : VOC#1
Misc : IS/S 1uL #475 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics



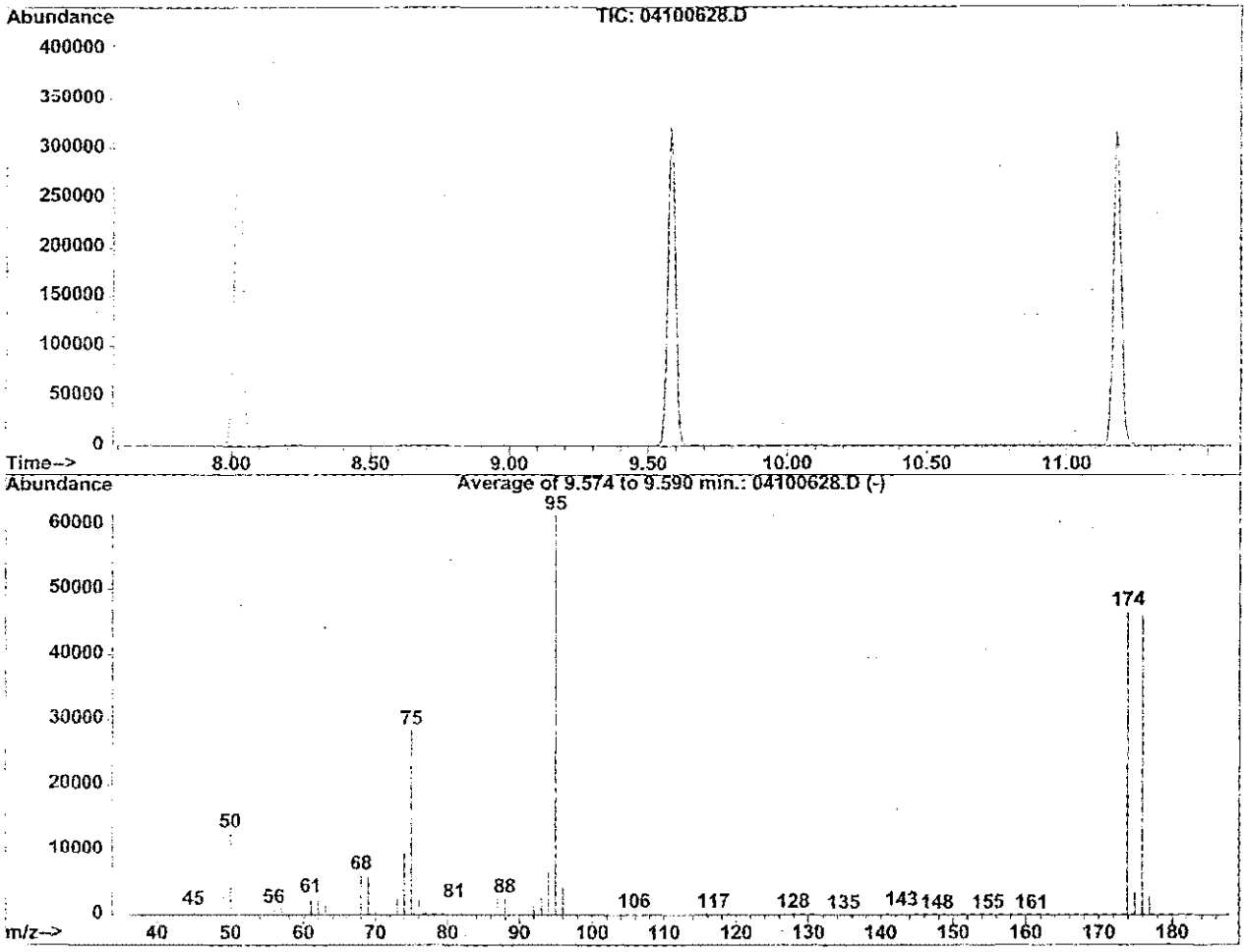
AutoFind: Scans 1159, 1160, 1161; Background Corrected with Scan 1152

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.4	13872	PASS
75	95	30	60	44.8	30437	PASS
95	95	100	100	100.0	67995	PASS
96	95	5	9	6.6	4506	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	74.3	50552	PASS
175	174	5	9	7.3	3676	PASS
176	174	95	101	97.0	49040	PASS
177	176	5	9	6.6	3247	PASS

04100601.D TCL-W.M Wed Oct 06 14:07:13 2004

BFB

Data File : C:\HPCHEM\1\DATA\041006\04100628.D Vial: 28
Acq On : 6 Oct 2004 8:41 pm Operator: MI
Sample : METHOD BLANK 5mL Inst : VOC#1
Misc : IS/S 1uL #493 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics



AutoFind: Scans 1160, 1161, 1162; Background Corrected with Scan 1153

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.6	12654	PASS
75	95	30	60	46.1	28293	PASS
95	95	100	100	100.0	61379	PASS
96	95	5	9	6.9	4248	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	75.8	46520	PASS
175	174	5	9	7.4	3455	PASS
176	174	95	101	98.9	46008	PASS
177	176	5	9	6.5	2985	PASS

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Total Metals

- *Initial Calibration Verification Summary*
- *Continuing Calibration Verification Summary*
- *Duplicate Summary*
- *Matrix Spike Summary*
- *Post Digestion Spike (PDS)*
- *Dilution Test*
- *Method Blank Summary (PB)*
- *LCS Summary (LFB)*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\040928C.B\006ICV1.D\006ICV1.D#
Date Acquired: Sep 28 2004 03:00 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: ICV-50 PPB ; 2 PPB HG
Misc Info: 0.25 ML #444; 0.1 ML #A098-50 ML
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.C
Last Cal. Update: Sep 28 2004 02:57 pm
Sample Type: ICV1
Dilution Factor: 1.00

QC Elements

Element	Raw Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	50.54	ppb	1.23	50.00	101	89.5 - 111	
52 Cr	48.87	ppb	1.46	50.00	98	89.5 - 111	
60 Ni	49.97	ppb	2.70	50.00	100	89.5 - 111	
63 Cu	50.01	ppb	2.71	50.00	100	89.5 - 111	
66 Zn	49.41	ppb	2.12	50.00	99	89.5 - 111	
75 As	49.42	ppb	1.73	50.00	99	89.5 - 111	
82 Se	49.57	ppb	1.57	50.00	99	89.5 - 111	
107 Ag	51.33	ppb	1.64	50.00	103	89.5 - 111	
111 Cd	49.39	ppb	1.43	50.00	99	89.5 - 111	
121 Sb	49.72	ppb	2.37	50.00	99	89.5 - 111	
202 Hg	1.97	ppb	0.28	2.00	98	89.5 - 111	
205 Tl	49.47	ppb	1.46	50.00	99	89.5 - 111	
208 Pb	49.04	ppb	1.30	50.00	98	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6477640	1.24	6592171	98.3	30 - 140	
45 Sc	5824558	2.09	5915875	98.5	30 - 140	
72 Ge	1061474	1.38	1083968	97.9	30 - 140	
115 In	4937338	1.46	4985344	99.0	30 - 140	
159 Tb	4929562	1.18	4911379	100.4	30 - 140	
209 Bi	2805593	1.13	2795979	100.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040928C.B\002CALB.D\002CALB.D#

Traceability:
0.05 ML # 115; 1.25 ML # A100; HG 0.1 ML # A097
HNO3 #82; HCL #X13037; Au #174; IS # 168

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\040928C.B\008_ICB.D\008_ICB.D#
Date Acquired: Sep 28 2004 03:10 pm
Operator:
Sample Name: icb
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.C
Last Cal Update: Sep 28 2004 02:57 pm
Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.07	ppb	11.71	2.50	
52 Cr	0.27	ppb	17.09	2.50	
60 Ni	0.24	ppb	79.63	2.50	
63 Cu	0.12	ppb	35.50	2.50	
66 Zn	3.66	ppb	3.35	25.00	
75 As	0.19	ppb	58.94	0.50	
82 Se	0.15	ppb	31.78	2.50	
107 Ag	0.09	ppb	6.13	2.50	
111 Cd	0.15	ppb	7.29	2.50	
121 Sb	0.25	ppb	8.87	2.50	
202 Hg	0.02	ppb	12.16	0.10	
205 Tl	0.35	ppb	4.85	2.50	
208 Pb	0.08	ppb	11.74	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6392318	1.05	6592171	97.0	30 - 140	
45 Sc	5860940	0.62	5915875	99.1	30 - 140	
72 Ge	1080922	1.30	1083968	99.7	30 - 140	
115 In	4974979	2.25	4985344	99.8	30 - 140	
159 Tb	4951159	1.39	4911379	100.8	30 - 140	
209 Bi	2845062	0.79	2795979	101.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040928C.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

PB QC Report

Data File: C:\ICPCHEM\1\DATA\040928C.B\020__PB.D\020__PB.D#
Date Acquired: Sep 28 2004 04:08 pm
Operator:
Sample Name: PB
Misc Info: BATCH 1878
Vial Number: 3101
Current Method: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.C
Last Cal Update: Sep 28 2004 02:57 pm
Sample Type: PB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.00	ppb	89.41	2.50	
52 Cr	-0.57	ppb	0.94	2.50	
60 Ni	0.57	ppb	28.74	2.50	
63 Cu	0.23	ppb	18.65	2.50	
66 Zn	0.57	ppb	11.75	25.00	
75 As	0.00	ppb	4101.60	0.50	
82 Se	0.00	ppb	606.20	2.50	
107 Ag	-0.01	ppb	30.53	2.50	
111 Cd	0.09	ppb	44.04	2.50	
121 Sb	-0.01	ppb	74.92	2.50	
202 Hg	0.00	ppb	60.56	0.10	
205 Tl	0.01	ppb	117.52	2.50	
208 Pb	0.01	ppb	33.00	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6736179	1.42	6592171	102.2	30 - 140	
45 Sc	5896559	1.34	5915875	99.7	30 - 140	
72 Ge	1082453	1.17	1083968	99.9	30 - 140	
115 In	5052246	0.67	4985344	101.3	30 - 140	
159 Tb	4989037	0.36	4911379	101.6	30 - 140	
209 Bi	2887514	0.62	2795979	103.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040928C.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040928C.B\022CCV1.D\022CCV1.D#
Date Acquired: Sep 28 2004 04:18 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.C
Last Cal Update: Sep 28 2004 02:57 pm
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	52.40	ppb	0.33	50.00	105	89.5 - 111	
52 Cr	48.21	ppb	1.55	50.00	96	89.5 - 111	
60 Ni	49.32	ppb	2.22	50.00	99	89.5 - 111	
63 Cu	48.98	ppb	2.92	50.00	98	89.5 - 111	
66 Zn	49.27	ppb	1.22	50.00	99	89.5 - 111	
75 As	49.24	ppb	1.93	50.00	98	89.5 - 111	
82 Se	49.27	ppb	0.92	50.00	99	89.5 - 111	
107 Ag	51.17	ppb	1.69	50.00	102	89.5 - 111	
111 Cd	49.60	ppb	0.50	50.00	99	89.5 - 111	
121 Sb	49.44	ppb	0.54	50.00	99	89.5 - 111	
202 Hg	1.99	ppb	0.77	2.00	99	89.5 - 111	
205 Tl	49.45	ppb	1.06	50.00	99	89.5 - 111	
208 Pb	49.49	ppb	0.93	50.00	99	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6589464	1.49	6592171	100.0	30 - 140	
45 Sc	5899265	1.18	5915875	99.7	30 - 140	
72 Ge	1081135	2.13	1083968	99.7	30 - 140	
115 In	4967546	0.96	4985344	99.6	30 - 140	
159 Tb	4924322	0.59	4911379	100.3	30 - 140	
209 Bi	2799382	1.16	2795979	100.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040928C.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040928C.B\024_CCB.D\024_CCB.D#
Date Acquired: Sep 28 2004 04:27 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.C
Last Cal Update: Sep 28 2004 02:57 pm
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.08	ppb	18.52	2.50	
52 Cr	-0.27	ppb	2.95	2.50	
60 Ni	0.25	ppb	57.27	2.50	
63 Cu	0.16	ppb	5.51	2.50	
66 Zn	3.82	ppb	1.18	25.00	
75 As	0.12	ppb	140.09	0.50	
82 Se	0.18	ppb	25.89	2.50	
107 Ag	0.09	ppb	19.10	2.50	
111 Cd	0.12	ppb	9.16	2.50	
121 Sb	0.15	ppb	9.65	2.50	
202 Hg	0.02	ppb	13.51	0.10	
205 Tl	0.37	ppb	8.47	2.50	
208 Pb	0.08	ppb	22.01	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6809717	2.63	6592171	103.3	30 - 140	
45 Sc	5943264	0.93	5915875	100.5	30 - 140	
72 Ge	1084053	1.61	1083968	100.0	30 - 140	
115 In	5063672	1.32	4985344	101.6	30 - 140	
159 Tb	4933397	1.25	4911379	100.4	30 - 140	
209 Bi	2895094	1.55	2795979	103.5	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040928C.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

LCS QC Report

Data File: C:\ICPCHEM\1\DATA\040928C.B\026_LCS.D\026_LCS.D#
Date Acquired: Sep 28 2004 04:37 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: LCS
Misc Info: BATCH 1878
Vial Number: 3102
Current Method: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.C
Last Cal. Update: Sep 28 2004 02:57 pm
Sample Type: LCS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Analyte Elements

Element	Raw Conc	Units	Rec(%)	Expected	QC Range(%)	Flag
9 Be	50.17	ppb	100.3	50.00	75 - 125	
52 Cr	47.36	ppb	94.7	50.00	75 - 125	
60 Ni	48.69	ppb	97.4	50.00	75 - 125	
63 Cu	49.25	ppb	98.5	50.00	75 - 125	
66 Zn	50.68	ppb	101.4	50.00	75 - 125	
75 As	48.66	ppb	97.3	50.00	75 - 125	
82 Se	50.40	ppb	100.8	50.00	75 - 125	
107 Ag	50.53	ppb	101.1	50.00	75 - 125	
111 Cd	49.22	ppb	98.4	50.00	75 - 125	
121 Sb	48.95	ppb	97.9	50.00	75 - 125	
202 Hg	1.99	ppb	99.7	2.00	75 - 125	
205 Tl	46.83	ppb	93.7	50.00	75 - 125	
208 Pb	48.08	ppb	96.2	50.00	75 - 125	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	6844062	0.63	6592171	103.8	30 - 140	
45 Sc	5997006	0.34	5915875	101.4	30 - 140	
72 Ge	1094553	0.96	1083968	101.0	30 - 140	
115 In	5012747	1.51	4985344	100.5	30 - 140	
159 Tb	5004280	0.99	4911379	101.9	30 - 140	
209 Bi	2871087	0.43	2795979	102.7	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040928C.B\002CALB.D\002CALB.D#

Traceability:
W: 0.1 ML #A098; 0.1 ML # A100; 0.05 ML #115
S: 1.0 ML # A098; 1.0 ML #A100; 0.5 ML #115
HCL #X13037; AU #174; IS #168;HNO3 # 82; H2O2 #X44A01

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040928C.B\035SMPL.D\035SMPL.D#
Date Acquired: Sep 28 2004 05:20 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092410-01
Misc Info: BATCH 1878
Vial Number: 3111
Current Method: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.C
Last Cal. Update: Sep 28 2004 02:57 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	4.94	4.94	ppb	2.00	8000.00	
52 Cr	17.01	17.01	ppb	2.23	40000.00	
60 Ni	113.50	113.50	ppb	6.00	8000.00	
63 Cu	101.00	101.00	ppb	1.92	8000.00	
66 Zn	215.80	215.80	ppb	1.04	8000.00	
75 As	-1.93	-1.93	ppb	19.53	8000.00	
82 Se	45.28	45.28	ppb	0.81	8000.00	
107 Ag	0.00	0.00	ppb	49.54	8000.00	
111 Cd	7.50	7.50	ppb	1.82	8000.00	
121 Sb	0.15	0.15	ppb	5.63	8000.00	
202 Hg	0.01	0.01	ppb	22.93	8.00	
205 Tl	0.20	0.20	ppb	9.99	8000.00	
208 Pb	5.82	5.82	ppb	0.08	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5519897.50	2.51	6592171.00	83.7	30 - 140	
45 Sc	5845594.50	0.35	5915874.50	98.8	30 - 140	
72 Ge	1012653.90	1.70	1083967.60	93.4	30 - 140	
115 In	4068020.30	0.70	4985343.50	81.6	30 - 140	
159 Tb	5227696.00	0.69	4911379.00	106.4	30 - 140	
209 Bi	2096925.00	0.14	2795978.50	75.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040928C.B\002CALB.D\002CALB.D#

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040928C.B\037CCV1.D\037CCV1.D#
Date Acquired: Sep 28 2004 05:30 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.C
Last Cal Update: Sep 28 2004 02:57 pm
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	50.01	ppb	3.42	50.00	100	89.5 - 111	
52 Cr	46.92	ppb	1.56	50.00	94	89.5 - 111	
60 Ni	50.27	ppb	1.28	50.00	101	89.5 - 111	
63 Cu	50.00	ppb	1.51	50.00	100	89.5 - 111	
66 Zn	48.16	ppb	0.79	50.00	96	89.5 - 111	
75 As	49.14	ppb	1.04	50.00	98	89.5 - 111	
82 Se	50.49	ppb	1.61	50.00	101	89.5 - 111	
107 Ag	50.77	ppb	0.26	50.00	102	89.5 - 111	
111 Cd	49.95	ppb	1.33	50.00	100	89.5 - 111	
121 Sb	49.07	ppb	1.06	50.00	98	89.5 - 111	
202 Hg	1.98	ppb	1.03	2.00	99	89.5 - 111	
205 Tl	45.38	ppb	1.57	50.00	91	89.5 - 111	
208 Pb	49.66	ppb	1.27	50.00	99	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	7337333	2.85	6592171	111.3	30 - 140	
45 Sc	6377628	0.51	5915875	107.8	30 - 140	
72 Ge	1118156	0.57	1083968	103.2	30 - 140	
115 In	5061506	1.25	4985344	101.5	30 - 140	
159 Tb	4952746	0.51	4911379	100.8	30 - 140	
209 Bi	2768755	0.87	2795979	99.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040928C.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040928C.B\038_CCB.D\038_CCB.D#
Date Acquired: Sep 28 2004 05:35 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040928C.B\NOSALTS.C
Last Cal Update: Sep 28 2004 02:57 pm
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.08	ppb	14.72	2.50	
52 Cr	0.05	ppb	49.31	2.50	
60 Ni	0.10	ppb	132.63	2.50	
63 Cu	0.42	ppb	6.42	2.50	
66 Zn	3.96	ppb	2.17	25.00	
75 As	0.13	ppb	122.98	0.50	
82 Se	0.17	ppb	16.83	2.50	
107 Ag	0.09	ppb	5.96	2.50	
111 Cd	0.16	ppb	25.02	2.50	
121 Sb	0.14	ppb	3.20	2.50	
202 Hg	0.00	ppb	59.57	0.10	
205 Tl	0.79	ppb	4.64	2.50	
208 Pb	0.09	ppb	13.68	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	7278956	3.44	6592171	110.4	30 - 140	
45 Sc	6271528	0.78	5915875	106.0	30 - 140	
72 Ge	1123051	0.70	1083968	103.6	30 - 140	
115 In	5046262	0.72	4985344	101.2	30 - 140	
159 Tb	4898411	1.85	4911379	99.7	30 - 140	
209 Bi	2818973	1.41	2795979	100.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040928C.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\006ICV1.D\006ICV1.D#
Date Acquired: Sep 29 2004 03:06 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: ICV-50 PPB ; 2 PPB HG
Misc Info: 0.25 ML #444; 0.1 ML #A098-50 ML
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal. Update: Oct 01 2004 10:17 am
Sample Type: ICV1
Dilution Factor: 1.00

QC Elements

Element	Raw Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	53.50	ppb	15.65	50.00	107	89.5 - 111	
52 Cr	47.40	ppb	0.29	50.00	95	89.5 - 111	
60 Ni	46.72	ppb	1.99	50.00	93	89.5 - 111	
63 Cu	46.74	ppb	1.56	50.00	93	89.5 - 111	
66 Zn	48.50	ppb	0.84	50.00	97	89.5 - 111	
75 As	47.58	ppb	0.56	50.00	95	89.5 - 111	
82 Se	49.13	ppb	0.84	50.00	98	89.5 - 111	
107 Ag	47.02	ppb	1.53	50.00	94	89.5 - 111	
111 Cd	48.49	ppb	0.69	50.00	97	89.5 - 111	
121 Sb	48.60	ppb	0.75	50.00	97	89.5 - 111	
202 Hg	1.90	ppb	3.30	2.00	95	89.5 - 111	
205 Tl	52.53	ppb	3.47	50.00	105	89.5 - 111	
208 Pb	47.16	ppb	1.19	50.00	94	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11019667	3.93	11053959	99.7	30 - 140	
45 Sc	7115057	0.64	7135508	99.7	30 - 140	
72 Ge	1096300	0.86	1080707	101.4	30 - 140	
115 In	6146190	0.69	6203217	99.1	30 - 140	
159 Tb	7342503	0.46	7210263	101.8	30 - 140	
209 Bi	4931344	1.78	4930246	100.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
0.05 ML # 115; 1.25 ML # A100; HG 0.1 ML # A097
HNO3 #82; HCL #X13037; Au #174; IS # 168

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\008_ICB.D\008_ICB.D#
Date Acquired: Sep 29 2004 03:15 pm
Operator:
Sample Name: icb
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.09	ppb	19.16	2.50	
52 Cr	0.37	ppb	3.49	2.50	
60 Ni	-0.11	ppb	95.22	2.50	
63 Cu	0.12	ppb	28.00	2.50	
66 Zn	3.27	ppb	3.20	25.00	
75 As	0.08	ppb	125.04	0.50	
82 Se	0.25	ppb	16.74	2.50	
107 Ag	0.12	ppb	1.26	2.50	
111 Cd	0.16	ppb	20.49	2.50	
121 Sb	0.17	ppb	2.23	2.50	
202 Hg	0.02	ppb	8.85	0.10	
205 Tl	1.64	ppb	3.66	2.50	
208 Pb	0.10	ppb	4.76	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11435378	2.56	11053959	103.5	30 - 140	
45 Sc	7267131	1.00	7135508	101.8	30 - 140	
72 Ge	1115850	1.11	1080707	103.3	30 - 140	
115 In	6324378	1.34	6203217	102.0	30 - 140	
159 Tb	7372438	0.97	7210263	102.2	30 - 140	
209 Bi	5061691	1.13	4930246	102.7	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

Sample QC Report

Data File:	C:\ICPCHEM\1\DATA\040929B.B\013SMPL.D\013SMPL.D#
Date Acquired:	Sep 29 2004 03:40 pm
Acq. Method:	NOSALTS.M
Operator:	Lisa Miller
Sample Name:	04092410-03
Misc Info:	BATCH 1878
Vial Number:	3112
Current Method:	C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File:	C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal. Update:	Sep 30 2004 08:34 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.02	0.02	ppb	24.82	8000.00	
52 Cr	0.35	0.35	ppb	23.09	40000.00	
60 Ni	1.49	1.49	ppb	14.67	8000.00	
63 Cu	3.61	3.61	ppb	1.20	8000.00	
66 Zn	68.67	68.67	ppb	2.68	8000.00	
75 As	9.70	9.70	ppb	0.18	8000.00	
82 Se	0.37	0.37	ppb	8.98	8000.00	
107 Ag	0.00	0.00	ppb	1089.10	8000.00	
111 Cd	0.12	0.12	ppb	17.66	8000.00	
121 Sb	0.06	0.06	ppb	16.25	8000.00	
202 Hg	0.00	0.00	ppb	40.50	8.00	
205 Tl	0.09	0.09	ppb	19.75	8000.00	
208 Pb	2.04	2.04	ppb	1.15	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11584246.00	1.86	###########	104.8	30 - 140	
45 Sc	6779510.50	3.41	7135508.00	95.0	30 - 140	
72 Ge	1136674.40	1.88	1080707.10	105.2	30 - 140	
115 In	6324060.00	1.87	6203217.00	101.9	30 - 140	
159 Tb	7579800.00	0.05	7210262.50	105.1	30 - 140	
209 Bi	5132702.00	0.84	4930246.00	104.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\014SMPL.D\014SMPL.D#
Date Acquired: Sep 29 2004 03:44 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092410-05
Misc Info: BATCH 1878
Vial Number: 3201
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal. Update: Sep 30 2004 08:34 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.15	0.15	ppb	2.54	8000.00	
52 Cr	38.58	38.58	ppb	1.84	40000.00	
60 Ni	28.45	28.45	ppb	2.84	8000.00	
63 Cu	28.00	28.00	ppb	3.08	8000.00	
66 Zn	161.80	161.80	ppb	1.91	8000.00	
75 As	19.72	19.72	ppb	1.56	8000.00	
82 Se	2.65	2.65	ppb	3.41	8000.00	
107 Ag	-0.03	-0.03	ppb	9.86	8000.00	
111 Cd	97.53	97.53	ppb	0.70	8000.00	
121 Sb	0.10	0.10	ppb	12.30	8000.00	
202 Hg	3.81	3.81	ppb	1.66	8.00	
205 Tl	0.20	0.20	ppb	11.87	8000.00	
208 Pb	3.50	3.50	ppb	1.36	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	10956392.00	1.16	##########	99.1	30 - 140	
45 Sc	6898004.00	2.34	7135508.00	96.7	30 - 140	
72 Ge	1093421.90	1.55	1080707.10	101.2	30 - 140	
115 In	5900628.00	0.72	6203217.00	95.1	30 - 140	
159 Tb	7201360.50	0.38	7210262.50	99.9	30 - 140	
209 Bi	4546218.00	0.51	4930246.00	92.2	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\015SMPL.D\015SMPL.D#
Date Acquired: Sep 29 2004 03:49 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092410-07
Misc Info: BATCH 1878
Vial Number: 3202
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal. Update: Sep 30 2004 08:34 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.73	0.73	ppb	2.47	8000.00	
52 Cr	424.80	424.80	ppb	1.90	40000.00	
60 Ni	111.90	111.90	ppb	1.51	8000.00	
63 Cu	21.79	21.79	ppb	2.22	8000.00	
66 Zn	393.80	393.80	ppb	2.94	8000.00	
75 As	6.42	6.42	ppb	1.47	8000.00	
82 Se	5.89	5.89	ppb	1.23	8000.00	
107 Ag	-0.01	-0.01	ppb	16.03	8000.00	
111 Cd	933.20	933.20	ppb	0.41	8000.00	
121 Sb	0.06	0.06	ppb	24.07	8000.00	
202 Hg	1.49	1.49	ppb	2.36	8.00	
205 Tl	0.27	0.27	ppb	6.78	8000.00	
208 Pb	0.88	0.88	ppb	2.54	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	10968180.00	3.37	###########	99.2	30 - 140	
45 Sc	6670640.50	0.57	7135508.00	93.5	30 - 140	
72 Ge	1070351.40	1.00	1080707.10	99.0	30 - 140	
115 In	6000995.00	0.82	6203217.00	96.7	30 - 140	
159 Tb	7328533.00	0.38	7210262.50	101.6	30 - 140	
209 Bi	4591656.00	0.75	4930246.00	93.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\022CCV1.D\022CCV1.D#
Date Acquired: Sep 29 2004 04:23 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	50.03	ppb	1.07	50.00	100	89.5 - 111	
52 Cr	47.31	ppb	1.18	50.00	95	89.5 - 111	
60 Ni	47.21	ppb	2.27	50.00	94	89.5 - 111	
63 Cu	46.85	ppb	0.60	50.00	94	89.5 - 111	
66 Zn	48.44	ppb	1.05	50.00	97	89.5 - 111	
75 As	47.58	ppb	2.18	50.00	95	89.5 - 111	
82 Se	48.85	ppb	0.86	50.00	98	89.5 - 111	
107 Ag	46.43	ppb	2.77	50.00	93	89.5 - 111	
111 Cd	48.33	ppb	0.37	50.00	97	89.5 - 111	
121 Sb	47.84	ppb	1.19	50.00	96	89.5 - 111	
202 Hg	1.88	ppb	0.87	2.00	94	89.5 - 111	
205 Tl	48.07	ppb	1.61	50.00	96	89.5 - 111	
208 Pb	46.98	ppb	1.21	50.00	94	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11684357	1.43	11053959	105.7	30 - 140	
45 Sc	7208785	0.62	7135508	101.0	30 - 140	
72 Ge	1117242	2.04	1080707	103.4	30 - 140	
115 In	6245341	0.40	6203217	100.7	30 - 140	
159 Tb	7212432	0.51	7210263	100.0	30 - 140	
209 Bi	4995989	0.44	4930246	101.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:

HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\040929B.B\024_CCB.D\024_CCB.D#
Date Acquired: Sep 29 2004 04:33 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\040929B.B\NOSALTS.C
Last Cal Update: Oct 01 2004 10:17 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.10	ppb	7.11	2.50	
52 Cr	-0.08	ppb	31.65	2.50	
60 Ni	0.02	ppb	641.67	2.50	
63 Cu	0.14	ppb	25.43	2.50	
66 Zn	3.50	ppb	5.05	25.00	
75 As	0.15	ppb	162.36	0.50	
82 Se	0.20	ppb	3.07	2.50	
107 Ag	0.12	ppb	10.14	2.50	
111 Cd	0.25	ppb	5.08	2.50	
121 Sb	0.15	ppb	18.44	2.50	
202 Hg	0.02	ppb	11.03	0.10	
205 Tl	1.75	ppb	3.49	2.50	
208 Pb	0.11	ppb	15.58	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11947954	2.06	11053959	108.1	30 - 140	
45 Sc	7157400	1.69	7135508	100.3	30 - 140	
72 Ge	1105238	1.12	1080707	102.3	30 - 140	
115 In	6408214	1.23	6203217	103.3	30 - 140	
159 Tb	7452809	0.83	7210263	103.4	30 - 140	
209 Bi	5076464	0.80	4930246	103.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\040929B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Dissolved Metals

- *Initial Calibration Verification Summary*
- *Continuing Calibration Verification Summary*
- *Duplicate Summary*
- *Matrix Spike Summary (LFM)*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\041011B.B\007ICV1.D\007ICV1.D#
Date Acquired: Oct 11 2004 02:42 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: ICV-50 PPB ; 2 PPB HG
Misc Info: 0.25 ML #444; 0.1 ML #A098-50 ML
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.C
Last Cal. Update: Oct 12 2004 08:13 am
Sample Type: ICV1
Dilution Factor: 1.00

QC Elements

Element	Raw Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	51.24	ppb	6.30	50.00	102	89.5 - 111	
52 Cr	50.66	ppb	2.09	50.00	101	89.5 - 111	
60 Ni	51.61	ppb	0.24	50.00	103	89.5 - 111	
63 Cu	50.19	ppb	1.30	50.00	100	89.5 - 111	
66 Zn	50.30	ppb	0.97	50.00	101	89.5 - 111	
75 As	50.40	ppb	1.60	50.00	101	89.5 - 111	
82 Se	50.66	ppb	2.76	50.00	101	89.5 - 111	
107 Ag	48.93	ppb	1.30	50.00	98	89.5 - 111	
111 Cd	50.64	ppb	1.19	50.00	101	89.5 - 111	
121 Sb	49.84	ppb	0.86	50.00	100	89.5 - 111	
202 Hg	2.00	ppb	1.25	2.00	100	89.5 - 111	
205 Tl	50.57	ppb	1.70	50.00	101	89.5 - 111	
208 Pb	50.53	ppb	0.74	50.00	101	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2282610	5.10	2543176	89.8	30 - 140	
45 Sc	5443468	0.25	5535432	98.3	30 - 140	
72 Ge	1489327	2.08	1498191	99.4	30 - 140	
115 In	14839306	1.24	14734281	100.7	30 - 140	
159 Tb	28310900	0.66	27894258	101.5	30 - 140	
209 Bi	19954180	0.47	20109110	99.2	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041011B.B\002CALB.D\002CALB.D#

Traceability:
0.05 ML # 115; 1.25 ML # A100; HG 0.1 ML # A097
HNO3 #82; HCL #X13037; Au #174; IS # 168

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\041011B.B\009_ICB.D\009_ICB.D#
Date Acquired: Oct 11 2004 02:52 pm
Operator:
Sample Name: icb
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.C
Last Cal Update: Oct 12 2004 08:13 am
Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.05	ppb	8.71	2.50	
52 Cr	0.08	ppb	78.70	2.50	
60 Ni	-0.06	ppb	240.82	2.50	
63 Cu	0.29	ppb	11.97	2.50	
66 Zn	-0.15	ppb	29.83	25.00	
75 As	0.06	ppb	53.43	0.50	
82 Se	0.10	ppb	0.29	2.50	
107 Ag	0.04	ppb	33.64	2.50	
111 Cd	0.06	ppb	20.64	2.50	
121 Sb	0.31	ppb	4.78	2.50	
202 Hg	0.03	ppb	19.04	0.10	
205 Tl	0.32	ppb	5.21	2.50	
208 Pb	0.07	ppb	23.14	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2386893	6.34	2543176	93.9	30 - 140	
45 Sc	5576125	1.71	5535432	100.7	30 - 140	
72 Ge	1579520	0.63	1498191	105.4	30 - 140	
115 In	15570568	0.28	14734281	105.7	30 - 140	
159 Tb	29387450	0.46	27894258	105.4	30 - 140	
209 Bi	20955086	0.46	20109110	104.2	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041011B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\041011B.B\010SMPL.D\010SMPL.D#
Date Acquired: Oct 11 2004 02:57 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 1 PPB CHECK
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.C
Last Cal. Update: Oct 12 2004 08:13 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	1.14	1.14	ppb	7.20	8000.00	
52 Cr	1.10	1.10	ppb	1.05	40000.00	
60 Ni	1.21	1.21	ppb	33.62	8000.00	
63 Cu	1.02	1.02	ppb	6.54	8000.00	
66 Zn	2.42	2.42	ppb	13.06	8000.00	
75 As	1.07	1.07	ppb	4.94	8000.00	
82 Se	1.11	1.11	ppb	5.07	8000.00	
107 Ag	1.66	1.66	ppb	1.00	8000.00	
111 Cd	1.05	1.05	ppb	1.57	8000.00	
121 Sb	1.15	1.15	ppb	1.02	8000.00	
202 Hg	0.01	0.01	ppb	17.47	8.00	
205 Tl	1.03	1.03	ppb	3.78	8000.00	
208 Pb	1.09	1.09	ppb	0.60	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2277373.50	4.72	2543175.50	89.5	30 - 140	
45 Sc	5505423.00	1.94	5535431.50	99.5	30 - 140	
72 Ge	1509054.60	3.09	1498190.50	100.7	30 - 140	
115 In	15277575.00	0.84	###########	103.7	30 - 140	
159 Tb	28797372.00	1.27	###########	103.2	30 - 140	
209 Bi	20747604.00	0.34	###########	103.2	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041011B.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

All Reference Sample QC Report

Data File:	C:\ICPCHEM\1\DATA\041011B.B\015AREF.D\015AREF.D#
Date Acquired:	Oct 11 2004 03:21 pm
Acq. Method:	NOSALTS.M
Operator:	Lisa Miller
Sample Name:	04092410-02
Misc Info:	BATCH 1948
Vial Number:	3101
Current Method:	C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.M
Calibration File:	C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.C
Last Cal. Update:	Oct 12 2004 08:13 am
Sample Type:	AllRef
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	5.26	5.26	ppb	3.09	8000.00	
52 Cr	14.89	14.89	ppb	1.39	40000.00	
60 Ni	117.00	117.00	ppb	0.95	8000.00	
63 Cu	99.09	99.09	ppb	2.03	8000.00	
66 Zn	243.70	243.70	ppb	0.81	8000.00	
75 As	-0.96	-0.96	ppb	14.68	8000.00	
82 Se	31.68	31.68	ppb	0.52	8000.00	
107 Ag	-0.17	-0.17	ppb	2.42	8000.00	
111 Cd	5.32	5.32	ppb	1.15	8000.00	
121 Sb	0.07	0.07	ppb	3.86	8000.00	
202 Hg	0.01	0.01	ppb	2.98	8.00	
205 Tl	0.20	0.20	ppb	1.53	8000.00	
208 Pb	4.64	4.64	ppb	1.30	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1226777	5.20	2543176	48.2	30 - 140	
45 Sc	4971616	1.89	5535432	89.8	30 - 140	
72 Ge	1400172	1.14	1498191	93.5	30 - 140	
115 In	13352121	0.43	14734281	90.6	30 - 140	
159 Tb	31558596	0.33	27894258	113.1	30 - 140	
209 Bi	15502960	0.78	20109110	77.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041011B.B\002CALB.D\002CALB.D#

Duplicate QC Report

Data File: C:\ICPCHEM\1\DATA\041011B.B\016DUP1.D\016DUP1.D#
Date Acquired: Oct 11 2004 03:26 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092410-02
Misc Info: BATCH 1948
Vial Number: 3102
Current Method: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.C
Last Cal. Update: Oct 12 2004 08:13 am
Sample Type: Dup1
Dilution Factor: 1.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\041011B.B\015AREF.D\015AREF.D#

QC Elements

Element	Raw Conc	Units	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	5.29	ppb	5.01	5.26	0.40	60	
52 Cr	15.45	ppb	0.97	14.89	3.69	60	
60 Ni	117.80	ppb	1.58	117.00	0.68	60	
63 Cu	100.10	ppb	1.78	99.09	1.01	60	
66 Zn	241.60	ppb	1.70	243.70	0.87	60	
75 As	-0.74	ppb	23.92	-0.96	-26.13	60	<PQL
82 Se	32.18	ppb	2.54	31.68	1.57	60	
107 Ag	-0.19	ppb	2.21	-0.17	-9.38	60	<PQL
111 Cd	5.35	ppb	1.01	5.32	0.64	60	
121 Sb	0.03	ppb	18.26	0.07	85.39	60	<PQL
202 Hg	0.02	ppb	2.76	0.01	62.07	60	<PQL
205 Tl	0.20	ppb	2.03	0.20	2.32	60	<PQL
208 Pb	4.66	ppb	0.93	4.64	0.43	60	<PQL

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1204937	6.66	2543176	47.4	30 - 140	
45 Sc	4887754	0.99	5535432	88.3	30 - 140	
72 Ge	1353148	1.95	1498191	90.3	30 - 140	
115 In	12783192	0.86	14734281	86.8	30 - 140	
159 Tb	30696076	0.77	27894258	110.0	30 - 140	
209 Bi	14992711	1.00	20109110	74.6	30 - 140	

ISTD Ref. File : C:\ICPCHEM\1\DATA\041011B.B\002CALB.D\002CALB.D#

LFM Sample QC Report

Data File: C:\ICPCHEM\1\DATA\041011B.B\017LFM1.D\017LFM1.D#
Date Acquired: Oct 11 2004 03:31 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092410-02
Misc Info: BATCH 1948
Vial Number: 3103
Current Method: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.C
Last Cal. Update: Oct 12 2004 08:13 am
Sample Type: LFM1
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: C:\ICPCHEM\1\DATA\041011B.B\015AREF.D\015AREF.D#

QC Elements

Element	Raw Conc	Units	Ref Conc	RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	55.16	ppb	5.26	2.93	50.00	99.8	75 - 125	
52 Cr	60.61	ppb	14.89	2.52	50.00	91.4	75 - 125	
60 Ni	158.20	ppb	117.00	0.74	50.00	82.4	75 - 125	
63 Cu	141.80	ppb	99.09	1.34	50.00	85.4	75 - 125	
66 Zn	284.60	ppb	243.70	0.51	50.00	81.8	75 - 125	
75 As	51.77	ppb	-0.96	1.57	50.00	105.5	75 - 125	
82 Se	91.24	ppb	31.68	1.10	50.00	119.1	75 - 125	
107 Ag	27.51	ppb	-0.17	5.43	50.00	55.4	75 - 125	Fail
111 Cd	48.15	ppb	5.32	1.50	50.00	85.7	75 - 125	
121 Sb	49.23	ppb	0.07	1.25	50.00	98.3	75 - 125	
202 Hg	0.55	ppb	0.01	1.98	1.00	53.3	75 - 125	Fail
205 Tl	54.56	ppb	0.20	1.81	50.00	108.7	75 - 125	
208 Pb	57.07	ppb	4.64	2.26	50.00	104.9	75 - 125	

ISTD Elements

Element	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1289145	1.87	2543176	50.7	30 - 140	
45 Sc	5024748	0.78	5535432	90.8	30 - 140	
72 Ge	1370792	1.14	1498191	91.5	30 - 140	
115 In	12703441	1.23	14734281	86.2	30 - 140	
159 Tb	29983570	0.44	27894258	107.5	30 - 140	
209 Bi	14710746	1.51	20109110	73.2	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041011B.B\002CALB.D\002CALB.D#

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\041011B.B\022CCV1.D\022CCV1.D#
Date Acquired: Oct 11 2004 03:55 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.C
Last Cal Update: Oct 12 2004 08:13 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	47.39	ppb	2.46	50.00	95	89.5 - 111	
52 Cr	49.81	ppb	1.32	50.00	100	89.5 - 111	
60 Ni	51.15	ppb	1.83	50.00	102	89.5 - 111	
63 Cu	51.58	ppb	0.19	50.00	103	89.5 - 111	
66 Zn	50.72	ppb	0.51	50.00	101	89.5 - 111	
75 As	50.52	ppb	1.42	50.00	101	89.5 - 111	
82 Se	50.95	ppb	2.78	50.00	102	89.5 - 111	
107 Ag	49.44	ppb	0.70	50.00	99	89.5 - 111	
111 Cd	50.71	ppb	1.05	50.00	101	89.5 - 111	
121 Sb	49.31	ppb	0.59	50.00	99	89.5 - 111	
202 Hg	2.07	ppb	0.50	2.00	104	89.5 - 111	
205 Tl	49.78	ppb	1.63	50.00	100	89.5 - 111	
208 Pb	50.24	ppb	0.89	50.00	100	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2981237	4.08	2543176	117.2	30 - 140	
45 Sc	6144696	2.37	5535432	111.0	30 - 140	
72 Ge	1618904	0.71	1498191	108.1	30 - 140	
115 In	14165013	1.00	14734281	96.1	30 - 140	
159 Tb	27365924	0.70	27894258	98.1	30 - 140	
209 Bi	18527700	0.22	20109110	92.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041011B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\041011B.B\024_CCB.D\024_CCB.D#
Date Acquired: Oct 11 2004 04:04 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.C
Last Cal Update: Oct 12 2004 08:13 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.05	ppb	19.05	2.50	
52 Cr	0.24	ppb	3.83	2.50	
60 Ni	0.12	ppb	48.17	2.50	
63 Cu	0.75	ppb	4.27	2.50	
66 Zn	-0.07	ppb	37.72	25.00	
75 As	-0.06	ppb	173.34	0.50	
82 Se	0.10	ppb	54.43	2.50	
107 Ag	0.17	ppb	19.06	2.50	
111 Cd	0.06	ppb	21.19	2.50	
121 Sb	0.24	ppb	0.56	2.50	
202 Hg	0.06	ppb	7.09	0.10	
205 Tl	0.32	ppb	5.05	2.50	
208 Pb	0.07	ppb	15.98	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2878334	3.89	2543176	113.2	30 - 140	
45 Sc	6378553	1.03	5535432	115.2	30 - 140	
72 Ge	1696430	0.27	1498191	113.2	30 - 140	
115 In	14998511	1.09	14734281	101.8	30 - 140	
159 Tb	28454012	0.97	27894258	102.0	30 - 140	
209 Bi	19268324	0.86	20109110	95.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041011B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

Sample QC Report

Data File:	C:\ICPCHEM\1\DATA\041011B.B\027SMPL.D\027SMPL.D#
Date Acquired:	Oct 11 2004 04:19 pm
Acq. Method:	NOSALTS.M
Operator:	Lisa Miller
Sample Name:	04092410-04
Misc Info:	BATCH 1948
Vial Number:	3108
Current Method:	C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.M
Calibration File:	C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.C
Last Cal. Update:	Oct 12 2004 08:13 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.03	0.03	ppb	13.46	8000.00	
52 Cr	1.03	1.03	ppb	1.71	40000.00	
60 Ni	0.60	0.60	ppb	26.45	8000.00	
63 Cu	1.22	1.22	ppb	2.25	8000.00	
66 Zn	44.96	44.96	ppb	1.75	8000.00	
75 As	8.97	8.97	ppb	0.99	8000.00	
82 Se	0.15	0.15	ppb	8.59	8000.00	
107 Ag	-0.19	-0.19	ppb	1.72	8000.00	
111 Cd	0.02	0.02	ppb	72.95	8000.00	
121 Sb	-0.05	-0.05	ppb	9.07	8000.00	
202 Hg	0.04	0.04	ppb	5.95	8.00	
205 Tl	0.07	0.07	ppb	4.82	8000.00	
208 Pb	1.39	1.39	ppb	5.76	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2559179.30	5.94	2543175.50	100.6	30 - 140	
45 Sc	6057428.00	1.24	5535431.50	109.4	30 - 140	
72 Ge	1677923.10	0.72	1498190.50	112.0	30 - 140	
115 In	15092715.00	0.81	##########	102.4	30 - 140	
159 Tb	29487502.00	0.64	##########	105.7	30 - 140	
209 Bi	18337414.00	4.71	##########	91.2	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041011B.B\002CALB.D\002CALB.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\041011B.B\028SMPL.D\028SMPL.D#
Date Acquired: Oct 11 2004 04:24 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092410-06
Misc Info: BATCH 1948
Vial Number: 3109
Current Method: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.C
Last Cal. Update: Oct 12 2004 08:13 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.11	0.11	ppb	19.67	8000.00	
52 Cr	15.08	15.08	ppb	1.20	40000.00	
60 Ni	24.98	24.98	ppb	1.23	8000.00	
63 Cu	21.48	21.48	ppb	0.80	8000.00	
66 Zn	162.10	162.10	ppb	0.60	8000.00	
75 As	18.11	18.11	ppb	0.73	8000.00	
82 Se	1.65	1.65	ppb	3.55	8000.00	
107 Ag	-0.19	-0.19	ppb	0.56	8000.00	
111 Cd	88.25	88.25	ppb	0.96	8000.00	
121 Sb	-0.06	-0.06	ppb	9.84	8000.00	
202 Hg	0.07	0.07	ppb	3.71	8.00	
205 Tl	0.13	0.13	ppb	2.87	8000.00	
208 Pb	3.49	3.49	ppb	2.36	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2383099.80	1.49	2543175.50	93.7	30 - 140	
45 Sc	5770779.00	1.43	5535431.50	104.3	30 - 140	
72 Ge	1550079.40	0.35	1498190.50	103.5	30 - 140	
115 In	14178651.00	1.01	###########	96.2	30 - 140	
159 Tb	28229792.00	0.52	###########	101.2	30 - 140	
209 Bi	17719206.00	1.46	###########	88.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041011B.B\002CALB.D\002CALB.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\041011B.B\029SMPL.D\029SMPL.D#
Date Acquired: Oct 11 2004 04:29 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092410-08
Misc Info: BATCH 1948
Vial Number: 3110
Current Method: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.C
Last Cal. Update: Oct 12 2004 08:13 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.74	0.74	ppb	7.72	8000.00	
52 Cr	352.60	352.60	ppb	1.37	40000.00	
60 Ni	113.90	113.90	ppb	2.07	8000.00	
63 Cu	19.01	19.01	ppb	1.10	8000.00	
66 Zn	395.00	395.00	ppb	2.30	8000.00	
75 As	5.68	5.68	ppb	1.12	8000.00	
82 Se	4.16	4.16	ppb	1.39	8000.00	
107 Ag	-0.19	-0.19	ppb	0.69	8000.00	
111 Cd	996.90	996.90	ppb	0.51	8000.00	
121 Sb	-0.07	-0.07	ppb	2.22	8000.00	
202 Hg	0.13	0.13	ppb	1.53	8.00	
205 Tl	0.24	0.24	ppb	1.39	8000.00	
208 Pb	0.81	0.81	ppb	3.03	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2404492.00	3.68	2543175.50	94.5	30 - 140	
45 Sc	5923224.00	1.12	5535431.50	107.0	30 - 140	
72 Ge	1596983.40	0.66	1498190.50	106.6	30 - 140	
115 In	13998675.00	0.81	###########	95.0	30 - 140	
159 Tb	28439152.00	0.57	###########	102.0	30 - 140	
209 Bi	17091834.00	2.05	###########	85.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041011B.B\002CALB.D\002CALB.D#

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\041011B.B\037CCV1.D\037CCV1.D#
Date Acquired: Oct 11 2004 05:07 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.C
Last Cal Update: Oct 12 2004 08:13 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	47.31	ppb	1.74	50.00	95	89.5 - 111	
52 Cr	49.90	ppb	1.50	50.00	100	89.5 - 111	
60 Ni	51.47	ppb	1.91	50.00	103	89.5 - 111	
63 Cu	50.58	ppb	0.57	50.00	101	89.5 - 111	
66 Zn	49.92	ppb	1.31	50.00	100	89.5 - 111	
75 As	50.25	ppb	1.03	50.00	101	89.5 - 111	
82 Se	50.24	ppb	0.83	50.00	100	89.5 - 111	
107 Ag	48.95	ppb	2.39	50.00	98	89.5 - 111	
111 Cd	50.52	ppb	1.20	50.00	101	89.5 - 111	
121 Sb	49.16	ppb	1.16	50.00	98	89.5 - 111	
202 Hg	2.02	ppb	1.45	2.00	101	89.5 - 111	
205 Tl	49.48	ppb	1.60	50.00	99	89.5 - 111	
208 Pb	49.99	ppb	1.25	50.00	100	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	3175332	2.28	2543176	124.9	30 - 140	
45 Sc	6044390	1.41	5535432	109.2	30 - 140	
72 Ge	1565071	0.32	1498191	104.5	30 - 140	
115 In	13469705	1.36	14734281	91.4	30 - 140	
159 Tb	26386084	0.84	27894258	94.6	30 - 140	
209 Bi	17851908	1.18	20109110	88.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041011B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\041011B.B\038_CCB.D\038_CCB.D#
Date Acquired: Oct 11 2004 05:12 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041011B.B\NOSALTS.C
Last Cal Update: Oct 12 2004 08:13 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.04	ppb	30.24	2.50	
52 Cr	0.23	ppb	9.43	2.50	
60 Ni	-0.02	ppb	577.29	2.50	
63 Cu	0.85	ppb	1.68	2.50	
66 Zn	-0.05	ppb	65.92	25.00	
75 As	-0.03	ppb	138.34	0.50	
82 Se	0.08	ppb	28.53	2.50	
107 Ag	0.07	ppb	30.47	2.50	
111 Cd	0.07	ppb	25.72	2.50	
121 Sb	0.16	ppb	1.89	2.50	
202 Hg	0.03	ppb	13.93	0.10	
205 Tl	0.27	ppb	11.36	2.50	
208 Pb	0.07	ppb	9.34	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2987449	3.61	2543176	117.5	30 - 140	
45 Sc	6044102	0.98	5535432	109.2	30 - 140	
72 Ge	1606495	0.57	1498191	107.2	30 - 140	
115 In	14058600	1.30	14734281	95.4	30 - 140	
159 Tb	27056942	1.31	27894258	97.0	30 - 140	
209 Bi	18563332	0.49	20109110	92.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041011B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Nitrate / Sulfate Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ENVIRO-CHEM
LABORATORIES, INC.

100 Lakefront Drive, Hunt Valley, Maryland 21030 (410) 785-9739

FINAL REPORT OF ANALYSES

Phase Separation Science, Inc.
6630 Baltimore Nat. Pike
Baltimore, MD 21228-
Attn: Mr. John Richardson

PROJECT NAME: 04092410
REPORT DATE: 10/05/2004

SAMPLE NUMBER- 33502 SAMPLE ID- 04092410-01 SAMPLE MATRIX- WA
DATE SAMPLED- 09/24/04
DATE RECEIVED- 09/27/04 SAMPLER- NOT SPECIFIED RECEIVED BY- SES
TIME RECEIVED- 1435 DELIVERED BY- Courier

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	DET. LIMIT
NITRATE	EPA 300.0	09/28/04	SES	49.6	mg/L as N	0.2
SULFATE	EPA 300.0	09/29/04	SES	2600	mg/L	1.0

LABORATORY DIRECTOR Stephen E. Kelly

ENVIRO-CHEM
LABORATORIES, INC.

100 Lakefront Drive, Hunt Valley, Maryland 21030 (410) 785-9739

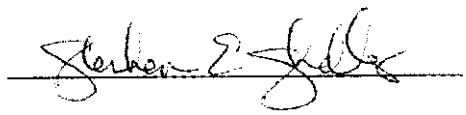
FINAL REPORT OF ANALYSES

Phase Separation Science, Inc.
6630 Baltimore Nat. Pike
Baltimore, MD 21228-
Attn: Mr. John Richardson

PROJECT NAME: 04092410
REPORT DATE: 10/05/2004

SAMPLE NUMBER- 33503 SAMPLE ID- 04092410-03 SAMPLE MATRIX- WA
DATE SAMPLED- 09/24/04
DATE RECEIVED- 09/27/04 SAMPLER- NOT SPECIFIED RECEIVED BY- SES
TIME RECEIVED- 1435 DELIVERED BY- Courier

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	DET. LIMIT
NITRATE	EPA 300.0	09/27/04	SES	<0.2	mg/L as N	0.2
SULFATE	EPA 300.0	09/27/04	SES	69.1	mg/L	1.0

LABORATORY DIRECTOR 

ENVIRO-CHEM
LABORATORIES, INC.

100 Lakefront Drive, Hunt Valley, Maryland 21030 (410) 785-9739

FINAL REPORT OF ANALYSES

Phase Separation Science, Inc.
6630 Baltimore Nat. Pike
Baltimore, MD 21228-
Attn: Mr. John Richardson

PROJECT NAME: 04092410
REPORT DATE: 10/05/2004

SAMPLE NUMBER- 33504 SAMPLE ID- 04092410-05 SAMPLE MATRIX- WA
DATE SAMPLED- 09/24/04
DATE RECEIVED- 09/27/04 SAMPLER- NOT SPECIFIED RECEIVED BY- SES
TIME RECEIVED- 1435 DELIVERED BY- Courier

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	DET. LIMIT
NITRATE	EPA 300.0	09/27/04	SES	<0.2	mg/L as N	0.2
SULFATE	EPA 300.0	09/27/04	SES	69.3	mg/L	1.0

LABORATORY DIRECTOR

ENVIRO-CHEM
LABORATORIES, INC.

100 Lakefront Drive, Hunt Valley, Maryland 21030 (410) 785-9739

FINAL REPORT OF ANALYSES

Phase Separation Science, Inc.
6630 Baltimore Nat. Pike
Baltimore, MD 21228-
Attn: Mr. John Richardson

PROJECT NAME: 04092410
REPORT DATE: 10/05/2004

SAMPLE NUMBER- 33505 SAMPLE ID- 04092410-07 SAMPLE MATRIX- WA
DATE SAMPLED- 09/24/04
DATE RECEIVED- 09/27/04 SAMPLER- NOT SPECIFIED RECEIVED BY- SES
TIME RECEIVED- 1435 DELIVERED BY- Courier

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	DET. LIMIT
NITRATE	EPA 300.0	09/27/04	SES	0.6	mg/L as N	0.2
SULFATE	EPA 300.0	09/27/04	SES	79.2	mg/L	1.0

LABORATORY DIRECTOR

9334

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

Chain of Custody

RUSH TURNAROUND!!!!

COC- ID	3670	**Phone Number**	410-785-9739
Date Shipped	09/24/04	**Fax Number**	410-785-9410
Organization	SS	**Shipped Via**	Dial Courier
Address	Enviro-Chem Laboratories, Inc. 100 Lakefront Drive Hunt Valley, Maryland 21030	**Airbill Number**	
		Due Date	10/08/04 5:00:00 PM

Lab Number: 04092410
Project: Martin State Airport- Data Gap

	Sample Number	Description	Analysis	Method	No. of Cont.	Date Sampled
33502	04092410-01	MW5 092404	Nitrate	EPA 300.0	1	09/24/04 8:40:00 AM
			Sulfate	EPA 300.0	1	09/24/04 8:40:00 AM
33503	04092410-03	MW3 092404	Nitrate	EPA 300.0	1	09/24/04 10:15:00 AM
			Sulfate	EPA 300.0	1	09/24/04 10:15:00 AM
33504	04092410-05	DMW1D 092404	Nitrate	EPA 300.0	1	09/24/04 11:40:00 AM
			Sulfate	EPA 300.0	1	09/24/04 11:40:00 AM
33505	04092410-07	DMW1I 092404	Nitrate	EPA 300.0	1	09/24/04 12:50:00 PM
			Sulfate	EPA 300.0	1	09/24/04 12:50:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
			9/27/04 0935

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Ferric Iron Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

MICROSEEPS

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P

Baltimore, MD 21228

Page: Page 1 of 5
Lab Proj #: P0409463
Report Date: 09/28/04
Client Proj Name: Martin State Airport
Client Proj #: 04092410

Laboratory Results

Total pages in data package: 6

Lab Sample #	Client Sample ID
P0409463-01	04092410-01
P0409463-02	04092410-03
P0409463-03	04092410-05
P0409463-04	04092410-07

Microseeps test results meet all the requirements of the NELAC standards.

Approved By: Deborah J. Evans

The analytical results reported here are reliable and usable to the precision expressed in this report. As required by some regulating authorities, a full discussion of the uncertainty in our analytical results can be obtained at our web site or through customer service. Unless otherwise specified, all results

As a valued client we would appreciate your comments on our service.
Please call customer servce at (412)826-5245 or email bhans@microseeps.com

Case Narrative:

Lab Proj #: P0409463
Report Date: 09/28/04
Client Proj Name: Martin State Airport
Client Proj #: 04092410

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P
Baltimore, MD 21228

Lab Sample #: P0409463-01

Sample Description	Matrix	Sampled Date/Time	Received
04092410-01	Water	24 Sep. 04 8:40	27 Sep. 04

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
WetChem						
Ferric Iron	4.5	1.0	mg/L	Mod.7199	md	9/25/04 15:36

N - NELAC certified analysis

Lab Proj #: P0409463
Report Date: 09/28/04
Client Proj Name: Martin State Airport
Client Proj #: 04092410

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P
Baltimore, MD 21228

Lab Sample #: P0409463-02

Sample Description	Matrix	Sampled Date/Time	Received
04092410-03	Water	24 Sep. 04 10:15	27 Sep. 04

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date	
WetChem							
Ferric Iron	<1.0	1.0	mg/L	Mod.7199	md	9/25/04	15:53

N - NELAC certified analysis

Lab Proj #: P0409463
Report Date: 09/28/04
Client Proj Name: Martin State Airport
Client Proj #: 04092410

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P
Baltimore, MD 21228

Lab Sample #: P0409463-03

Sample Description	Matrix	Sampled Date/Time	Received
04092410-05	Water	24 Sep. 04 11:40	27 Sep. 04

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date	
WetChem							
Ferric Iron	<1.0	1.0	mg/L	Mod.7199	md	9/25/04	16:09

N - NELAC certified analysis

Lab Proj #: P0409463
Report Date: 09/28/04
Client Proj Name: Martin State Airport
Client Proj #: 04092410

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P
Baltimore, MD 21228

Lab Sample #: P0409463-04

Sample Description	Matrix	Sampled Date/Time	Received
04092410-07	Water	24 Sep. 04 12:50	27 Sep. 04

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
WetChem						
Ferric Iron	3.7	1.0	mg/L	Mod.7199	md	9/25/04 17:16

N - NELAC certified analysis

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

P0409463

PHASE SEPARATION SCIENCE, INC.

ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE •

Chain of Custody

RUSH TURNAROUND!!!!

COC- ID	3671	**Phone Number**	412-826-5245
Date Shipped	09/24/04	**Fax Number**	412-826-3433
Organization	Microseeps, Inc.	**Shipped Via**	UPS ON
Address	220 William Pitt Way Pittsburgh, PA 15238	**Airbill Number**	
		Due Date	10/08/04 5:00:00 PM

Lab Number: 04092410
Project: Martin State Airport- Data Gap

	Sample Number	Description	Analysis	Method	No. of Cont.	Date Sampled
01	04092410-01	MW5 092404	Iron (Fe3+)	Mod_7199	1	09/24/04 8:40:00 AM
02	04092410-03	MW3 092404	Iron (Fe3+)	Mod_7199	1	09/24/04 10:15:00 AM
03	04092410-05	DMW1D 092404	Iron (Fe3+)	Mod_7199	1	09/24/04 11:40:00 AM
04	04092410-07	DMW1I 092404	Iron (Fe3+)	Mod_7199	1	09/24/04 12:50:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
[signature]	9/24 2:55pm	[signature]	9/25/04 0930

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Dissolved Gasses Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

070727-2

MARYLAND SPECTRAL SERVICES, INC.

1500 CATON CENTER DRIVE. BALTIMORE. MD 21227

(410) 247-7600

LABORATORY RESULTS

RESULTS OF ANALYSIS OF

MARTIN STATE AIRPORT WATER SAMPLES

COLLECTED 24 SEPTEMBER 2004

Prepared For

PHASE SEPARATION SCIENCE, INC.

BALTIMORE. MD

13 October 2004

SAMPLE DATA SUMMARY PACKAGE

Table of Contents

1. Narrative

2. Chain-of-Custody Records

3. Results of Analyses

4. Chromatograms of Samples and Method Blanks

1. Narrative

NARRATIVE

Laboratory Name: Maryland Spectral Services, Inc. (MSS)

Date Samples Delivered to MSS Laboratory: 27 September 2004

Client: Phase Separation Science, Inc.

Project: Martin State Airport-Data Gap; 04092410

Results for the following samples are included in this data package:

Client ID	MSS ID	Matrix	Analysis
04092410-01 MW 5 092404	040927-18	Water	Ethane, Ethene
04092410-03 MW 3 092404	040927-19	Water	Ethane, Ethene
04092410-05 DMW 1D 092404	040927-20	Water	Ethane, Ethene
04092410-07 DMW 1I 092404	040927-21	Water	Ethane, Ethene

The samples were analyzed for ethane (C_2H_6) and ethene (C_2H_4) using Method 6211B of *Standard Methods* (1989) for the sample preparation and calculation steps and replacing the combustible-gas indicator with capillary gas chromatography and a flame ionization detector (FID) as in U.S. EPA Method 8015.

The samples were received in nominal 40-mL septum-sealed vials with no headspace. Prior to analysis, the vials were allowed to reach room temperature. Approximately half of the liquid was removed from each vial. The vials were shaken for 15 min and then allowed to stand for one hour.

An aliquot of the headspace vapor was removed from each vial with a gas-tight syringe. Fifty microliters of the headspace vapor, or of a dilution thereof, was injected directly into a Hewlett Packard 5890 gas chromatograph equipped with an FID. A RTx-200 capillary column (60 m x 0.53 mm i.d., 5.0-um film thickness) was used for the separation. The GC oven temperature was maintained at 45 C.

The GC detector response was calibrated by analysis of three levels of methane, ethane, and ethene prepared from a certified mixture in nitrogen obtained from Scott Specialty Gases.

Samples with high concentrations were diluted to keep the analyte response within the calibration range.

See the appendix to this narrative for a discussion of the values for the Henry's law constants used in the conversion of the headspace concentrations to aqueous concentrations.

The results of the analyses are presented in Section 3 and are reported as milligrams per liter (parts per million).

Prior to the analysis of the samples, a method blank consisting of laboratory helium was analyzed. The method blank results are present on the sample data tables in Section 3.

Chromatograms of sample and method blank analyses are provided in Section 4 and are labeled for the target compounds.

NARRATIVE (continued)

RELEASE OF THE DATA CONTAINED IN THIS HARDCOPY DATA PACKAGE HAS BEEN AUTHORIZED BY THE LABORATORY MANAGER OR HIS DESIGNEE, AS VERIFIED BY THE FOLLOWING SIGNATURE:

Michael M. Robison DATE: 13 Oct 2004

Michael M. Robison 13 October 2004

APPENDIX - Henry's Law Constants

The calculation of the original aqueous phase concentration from the headspace concentration require Henry's law constant, but Method 6211B only provides the constant for methane. The Henry's law constants for ethane and ethene were derived from values given by Lide & Frederikse (1995) and Wilhelm et al. (1997) as collected in Sander (1999). The values for 25 C were converted to 20 C using the temperature dependence constants given with the values. (A value for methane at 20 C calculated by the same process differed from the value in Method 6211B by less than 4%.) The following values were used in the calculations:

Analyte	Henry's Law Constant (kPa)	Reference
Ethane	2.59×10^6	Lide & Frederikse (1995)
Ethene	1.08×10^6	Wilhelm et al. (1997)

For T = 20 C and P = 100 kPa, the concentration in the original aqueous sample is given by:

$$C_o = C_v \cdot MW \cdot [0.4103 \times 10^{-4} (V_v/V_a) + 5.541/H] \cdot D$$

where

C_o = analyte concentration in original aqueous sample (mg/L)
C_v = analyte concentration in headspace vapor phase (uL/L)
MW = molecular weight of analyte
V_v = volume of headspace vapor phase (mL)
V_a = volume of headspace aqueous phase (mL)
H = Henry's law constant (kPa)
D = dilution factor

References

American Public Health Association, American Water Works Association, Water Pollution Control Federation. 1989. Method 6211B: Methane/Combustible-gas indicator method. In *Standard Methods for the Examination of Water and Wastewater*, 17th ed. APHA, Washington, D.C.

Lide, D.R. and H.P.R. Frederikse, Eds. 1995. *CRC Handbook of Chemistry and Physics*, 76th ed. CRC Press, Inc., Boca Raton, Florida.

Sander, R. 1999. Compilation of Henry's Law Constants for Inorganic and Organic Species of Potential Importance in Environmental Chemistry, ver. 3. http://www.mpch-mainz.mpg.de/~sander/res/henry.html (accessed June 2000).

Wilhelm, E., R. Battino, and R.J. Wilcock. 1977. Low-pressure solubility of gases in liquid water. *Chem. Rev.* 77:219-262.

2. Chain-of-Custody Records

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

Chain of Custody

RUSH TURNAROUND!!!!

COC- ID	3669	**Phone Number**	410-247-7600
Date Shipped	09/24/04	**Fax Number**	410-247-7602
Organization	MSS	**Shipped Via**	Dial Courier
Address	1500 Caton Center Drive Baltimore, MD 21227	**Airbill Number**	
		Due Date	10/08/04 5:00:00 PM

Lab Number: 04092410
Project: Martin State Airport- Data Gap

Sample Number	Description	Analysis		Method	No. of Cont.	Date Sampled
04092410-01	MW5 092404	Ethane	04-0927-18	SM6211B/EPA8	1	09/24/04 8:40:00 AM
		Ethene		SM6211B/EPA8	1	09/24/04 8:40:00 AM
04092410-03	MW3 092404	Ethane	04-0927-19	SM6211B/EPA8	1	09/24/04 10:15:00 AM
		Ethene		SM6211B/EPA8	1	09/24/04 10:15:00 AM
04092410-05	DMW1D 092404	Ethane	04-0927-20	SM6211B/EPA8	1	09/24/04 11:40:00 AM
		Ethene		SM6211B/EPA8	1	09/24/04 11:40:00 AM
04092410-07	DMW1I 092404	Ethane	04-0927-21	SM6211B/EPA8	1	09/24/04 12:50:00 PM
		Ethene		SM6211B/EPA8	1	09/24/04 12:50:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
		Maren Horner MSS, Inc.	9/27/04 4:15PM

3. Results of Analyses

MARYLAND SPECTRAL SERVICES, INC.

1500 Caton Center Drive, Baltimore, MD 21227

HYDROCARBONS BY METHODS SM 6211B/EPA 8015 (HEADSPACE/GC/FID)

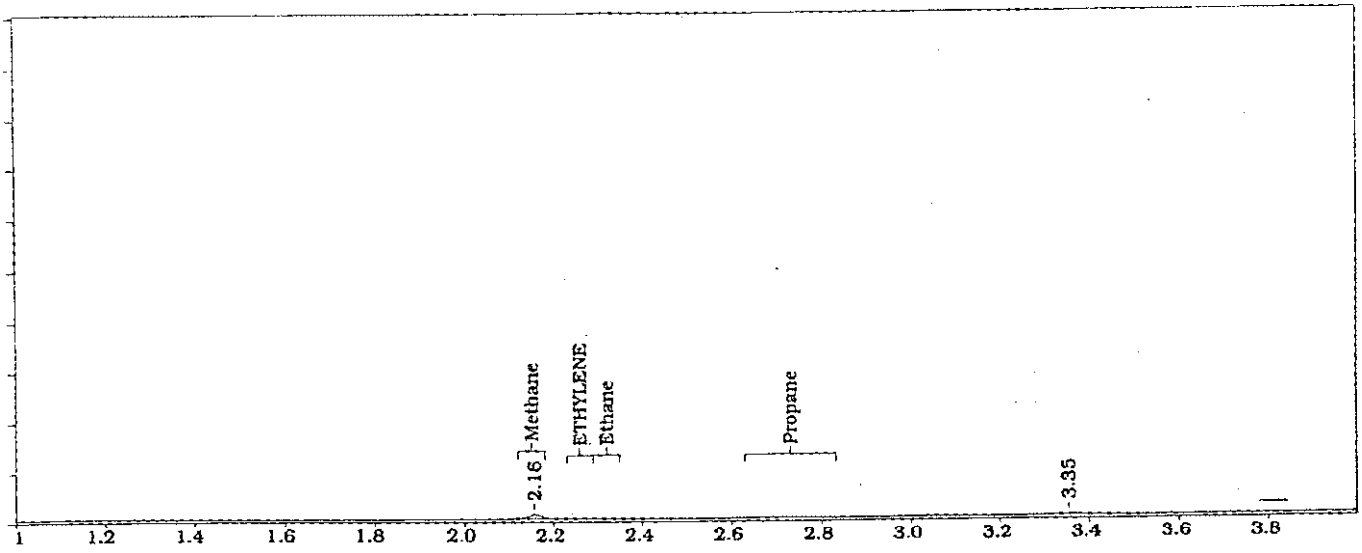
CLIENT SAMPLE ID:	MW5 MARTIN STATE	MW3 MARTIN STATE	DMW1D MARTIN STATE	DMW1I MARTIN STATE	WBLK0928
LAB SAMPLE ID:	04092718	04092719	04092720	04092721	METHOD BLANK
SAMPLE DATE:	09/24/04	09/24/04	09/24/04	09/24/04	
RECEIVED DATE:	09/27/04	09/27/04	09/27/04	09/27/04	
ANALYSIS DATE:	09/28/04	09/28/04	09/28/04	09/28/04	09/28/04
INSTRUMENT ID:	GC-G	GC-G	GC-G	GC-G	GC-G
MATRIX:	WATER	WATER	WATER	WATER	WATER
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L
DILUTION FACTOR:	1.0	1.0	1.0	1.0	1.0
ANALYTE					
Ethane	0.015 U	0.010 U	0.092	0.022	0.012 U
Ethene	0.018	0.010 U	0.611	0.244	0.012 U

mg/L - Milligrams per liter (parts per million)

U - Less than reported quantitation limit

4. Chromatograms of Samples and Method Blanks

File=C:\DIRECT\DATAG1\0928G.05R Date printed=09-28-2004 Time= 12:50:53
Sample Name=METHOD BLANK
1.0 to 4.0 min. Low Y=3.422 High Y=63.422 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- METHOD BLANK-----
ANALYSIS DATE: Sep 28, 2004 12:12:19
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 36
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0928G.05R
RUN TIME 5

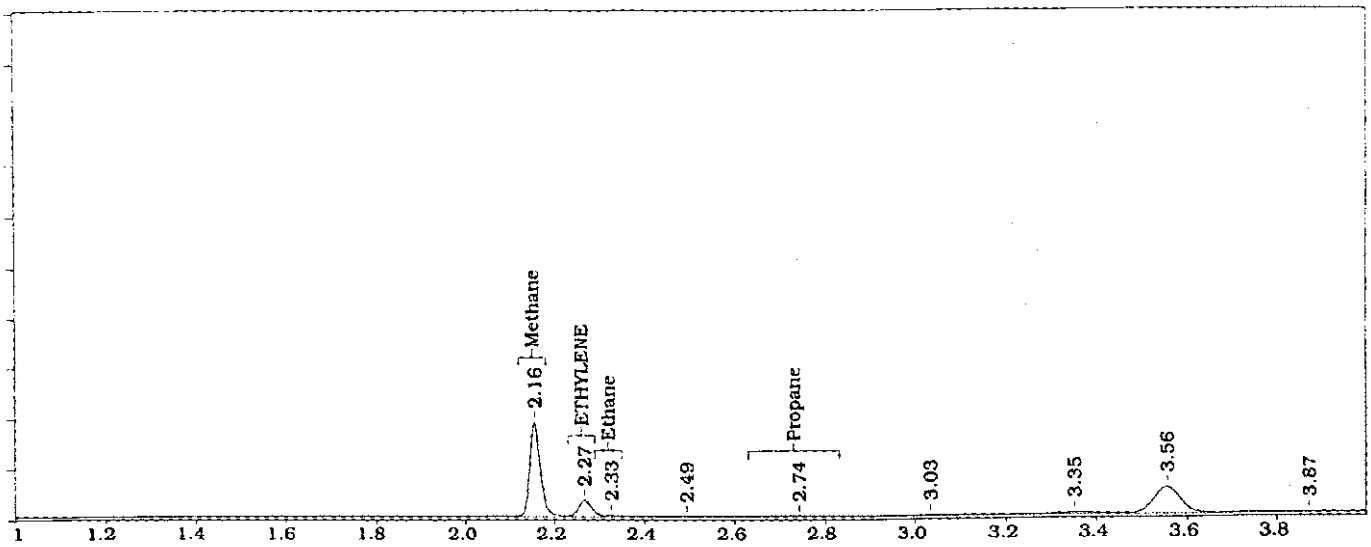
DILUTION FACTOR 1 RTX-1 60M X .53MMID X 5.0 UM FILM
AMOUNT INJECTED 1 HYDROCARBONS BY METHOD EPA 8015M SM6211B

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
3	2.158	Methane	7.5365	1291	583
23	3.354		0.0000	568	176

File name: C:\DIRECT\DATAG1\0928G.05R
Total area for this analysis = 1858.972

File=C:\DIRECT\DATAG1\0928G.06R Date printed=09-28-2004 Time= 12:50:55
Sample Name=040927-18
1.0 to 4.0 min. Low Y=3.431 High Y=63.431 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- 040927-18-----
ANALYSIS DATE: Sep 28, 2004 12:33:21
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 36
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0928G.06R
RUN TIME 5

DILUTION FACTOR 1
AMOUNT INJECTED 1

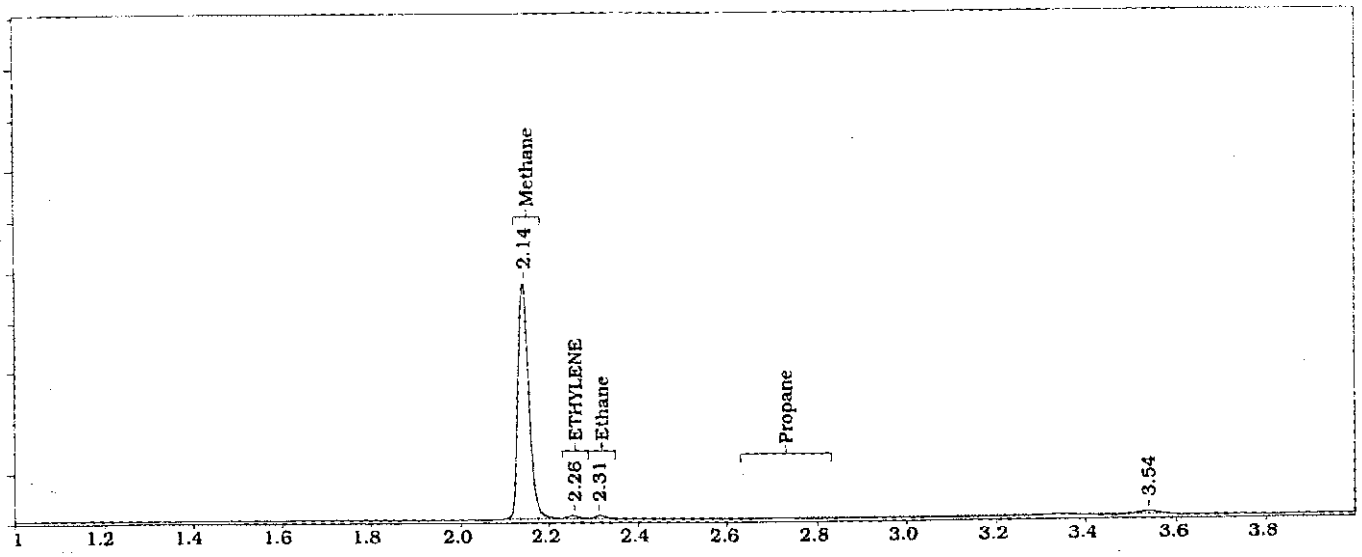
RTX-1 60M X .53MMID X 5.0 UM FILM
HYDROCARBONS BY METHOD EPA 8015M SM6211B

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
3	2.156	Methane	106.8876	18306	11240
4	2.267	ETHYLENE	12.5309	4079	1911
5	2.326	Ethane	1.9818	637	187
6	2.493		0.0000	573	78
9	2.743	Propane	1.1432	545	126
15	3.033		0.0000	527	95
21	3.350		0.0000	1032	237
23	3.557		0.0000	13530	3149
24	3.870		0.0000	713	105

File name: C:\DIRECT\DATAG1\0928G.06R
Total area for this analysis = 39941.32

File=C:\DIRECT\DATAG1\0928G.07R Date printed=09-28-2004 Time= 12:50:58
Sample Name=040927-19
1.0 to 4.0 min. Low Y=3.441 High Y=63.441 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- 040927-19-----
ANALYSIS DATE: Sep 28, 2004 12:46:10
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 36
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0928G.07R
RUN TIME 5

DILUTION FACTOR 1
AMOUNT INJECTED 1

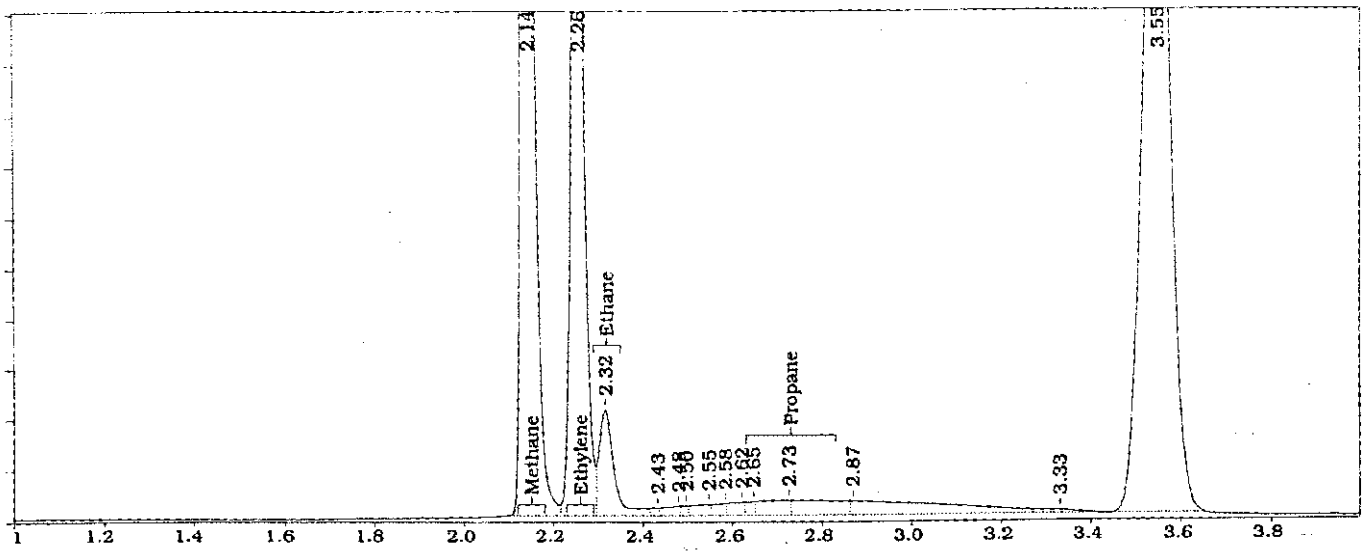
RTX-1 60M X .53MMID X 5.0 UM FILM
HYDROCARBONS BY METHOD EPA 8015M SM6211B

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
3	2.142	Methane	274.0121	46927	28281
4	2.256	ETHYLENE	1.9583	637	393
5	2.315	Ethane	1.7564	565	364
7	3.537		0.0000	911	338

File name: C:\DIRECT\DATAG1\0928G.07R
Total area for this analysis = 49040.94

File=C:\DIRECT\DATAG1\0928G.08R Date printed=09-28-2004 Time= 12:58:25
Sample Name=040927-20
1.0 to 4.0 min. Low Y=3.468 High Y=63.468 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- 040927-20-----
ANALYSIS DATE: Sep 28, 2004 12:58:23
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 37
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0928G.08R
RUN TIME 5

DILUTION FACTOR 1
AMOUNT INJECTED 1

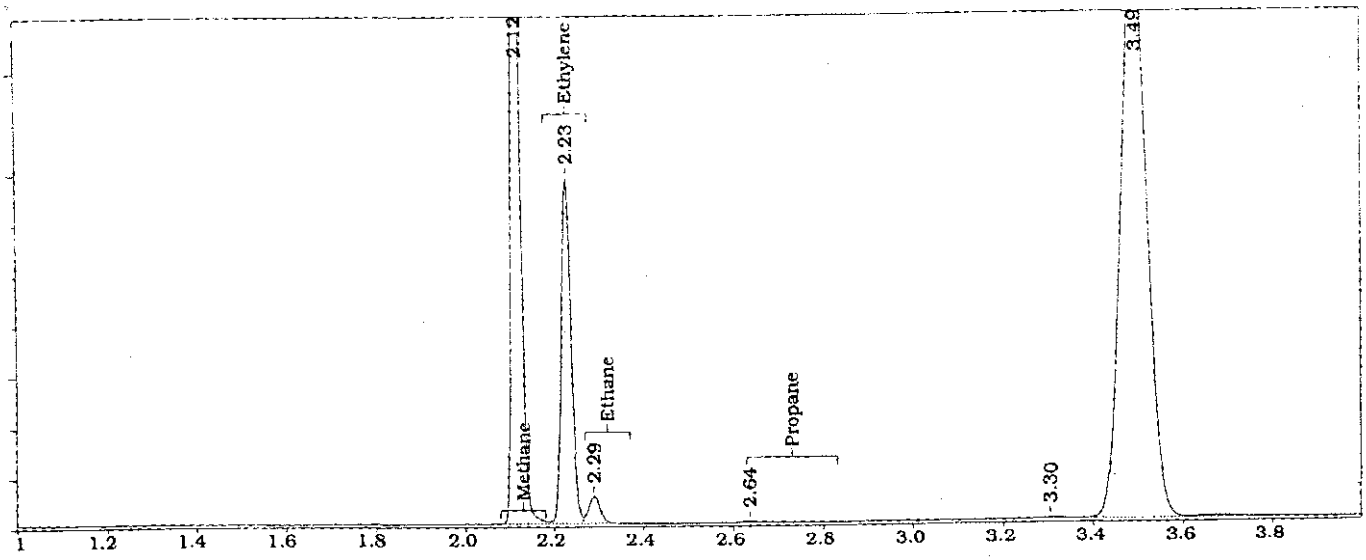
RTX-1 60M X .53MMID X 5.0 UM FILM
HYDROCARBONS BY METHOD EPA 8015M SM6211B

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
2	2.143	Methane	1831.0612	313589	193658
3	2.255	Ethylene	559.4923	182103	94809
4	2.317	Ethane	86.9622	27963	12374
5	2.433		0.0000	1034	896
6	2.481		0.0000	2708	1063
7	2.496		0.0000	1306	1121
8	2.547		0.0000	3333	1254
9	2.583		0.0000	2906	1376
10	2.621		0.0000	3470	1492
11	2.647		0.0000	2153	1567
12	2.726	Propane	16.8254	8024	1711
13	2.870		0.0000	26337	1580
14	3.329		0.0000	1248	363
15	3.545		0.0000	384402	95308

File name: C:\DIRECT\DATAG1\0928G.08R
Total area for this analysis = 960575.9

'ile=C:\DIRECT\DATAG1\0928G.09R Date printed=09-28-2004 Time= 13:56:30
Sample Name=040927 21
'.0 to 4.0 min. Low Y=3.526 High Y=63.526 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- 040927-21-----
ANALYSIS DATE: Sep 28, 2004 13:12:45
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 38
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0928G.09R
RUN TIME 5

DILUTION FACTOR 1
AMOUNT INJECTED 1

RTX-1 60M X .53MMID X 5.0 UM FILM
HYDROCARBONS BY METHOD EPA 8015M SM6211B

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
2	2.118	Methane	794.6693	136096	109183
3	2.230	Ethylene	195.6207	63670	40707
4	2.291	Ethane	18.0644	5809	3288
7	2.637	Propane	1.1222	535	212
17	3.303		0.0000	781	149
18	3.493		0.0000	274057	69530

File name: C:\DIRECT\DATAG1\0928G.09R
Total area for this analysis = 480948.1

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Perchlorate Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ANALYTICAL LABORATORY SERVICES, INC.

www.analyticallab.com
NELAP Accredited
PA 22-293
NJ PA010 NY 11759

ACCREDITED IN ACCORDANCE WITH nelac

34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
6630 Baltimore National Pike
Route 40 West
Catonsville, MD 21228

Lab ID #: 279508001
Received: 09/29/04 14:00
Discard: 10/21/04

Page: 1 Of 1

Project Name: **Routine Sample Submission-RUSH**

PO#:

Sample ID: **04092410-01**
Date Collected: 09/24/04 08:40

Matrix: Water
Collected by: Collected by Customer

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Perchlorate [1]	ND	ug/L	80	EPA 314.0	10/06/04 05:59	10/06/04	KLB

1 - Due to sample matrix interferences, this analyte was analyzed at a dilution and the detection levels adjusted accordingly.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

Raymond J. Martrano
Laboratory Manager

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NJ PA010 NY 11759

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34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
6630 Baltimore National Pike
Route 40 West
Catonsville, MD 21228

Lab ID #: **279508002**
Received: 09/29/04 14:00
Discard: 10/21/04

Project Name: **Routine Sample Submission-RUSH**

PO#:

Sample ID: **04092410-03**
Date Collected: 09/24/04 10:15

Matrix: Water
Collected by: Collected by Customer

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Perchlorate	ND	ug/L	4	EPA 314.0	10/05/04 17:23	10/05/04	JWB

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

Raymond J. Martrano
Laboratory Manager

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Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
6630 Baltimore National Pike
Route 40 West
Catonsville, MD 21228

Lab ID #: 279508003
Received: 09/29/04 14:00
Discard: 10/21/04

Page: 1 Of 1

Project Name: **Routine Sample Submission-RUSH**

PO#:

Sample ID: **04092410-05**
Date Collected: 09/24/04 11:40

Matrix: Water
Collected by: Collected by Customer

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Perchlorate [1]	ND	ug/L	20	EPA 314.0	10/06/04 06:12	10/06/04	KLB

1 - Due to sample matrix interferences, this analyte was analyzed at a dilution and the detection levels adjusted accordingly.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

Raymond J. Martrano
Laboratory Manager

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Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
6630 Baltimore National Pike
Route 40 West
Catonsville, MD 21228

Lab ID #: **279508004**
Received: 09/29/04 14:00
Discard: 10/21/04

Page: 1 Of 1

Project Name: **Routine Sample Submission-RUSH**

PO#:

Sample ID: **04092410-07**
Date Collected: 09/24/04 12:50

Matrix: Water
Collected by: Collected by Customer

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Perchlorate [1]	ND	ug/L	20	EPA 314.0	10/06/04 06:25	10/06/04	KLB

1 - Due to sample matrix interferences, this analyte was analyzed at a dilution and the detection levels adjusted accordingly.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

Raymond J. Martrano
Laboratory Manager

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

279500

PHASE SEPARATION SCIENCE, INC.

Chain of Custody

RUSH TURNAROUND!!!!

COC- ID	**3672**	**Phone Number**	717-944-5541
Date Shipped	09/24/04	**Fax Number**	717-944-1430
Organization	ALS	**Shipped Via**	UPS O/N
Address	Analytical Laboratory Services, Inc. 34 Dogwood Lane Middletown, PA 17057	**Airbill Number**	
		Due Date	10/08/04 5:00:00 PM

Lab Number: 04092410
Project: Martin State Airport- Data Gap

Sample Number	Description	Analysis	Method	No. of Cont.	Date Sampled
04092410-01	MW5 092404	Perchlorate	314.0	1	09/24/04 8:40:00 AM
04092410-03	MW3 092404	Perchlorate	314.0	1	09/24/04 10:15:00 AM
04092410-05	DMW1D 092404	Perchlorate	314.0	1	09/24/04 11:40:00 AM
04092410-07	DMW1I 092404	Perchlorate	314.0	1	09/24/04 12:50:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
[signature]	9/28	MRH [signature]	9-29-04 1400

ENTERED 10/25/04 GW

9-29-2004

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34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
6630 Baltimore National Pike
Route 40 West
Catonsville, MD 21228

Lab ID#: 279508

Project Name: **Routine Sample Submission-RUSH**

PO#:

This report relates only to the sample(s) as received by the laboratory. Laboratory reports may not be reproduced, except in full, without the written approval of the laboratory.

Qualifier Flags - These flags may follow individual results for a specific analyte

- U - Indicates that the analyte was not detected
- J - Indicates an estimated value between method detection limit and the practical quantitation limit for the analyte
- E - Indicates an estimated value outside of the calibration range of the analysis
- B - Indicates that the analyte was found in the method blank associated with the sample

A result of ND indicates that the analyte was Not Detected at the Reporting Detection Limit (RDL).

ALSI is a NELAC accredited laboratory. ALSI certifies that all applicable test results meet the requirements of NELAC. For an inventory of our NELAC accreditations and Scope of Work please visit our website at www.analyticallab.com or contact your Project Manager at (717)944-5541 for a complete listing.

If you have any questions in reference to this laboratory report, please contact your ALSI project coordinator or the laboratory manager listed at the bottom of this report at 717-944-5541.

Note: This document is included as part of the Analytical Report and must be retained as a permanent record thereof.

Raymond J. Martrano
Laboratory Manager

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

LABORATORY RESULTS

DATE RECEIVED: September 24, 2004

PROJECT: Martin State Airport- Quarterly Sampling

Project #: N5784-0000

CERTIFICATE OF ANALYSIS #: *04092410*
04092328
04092217

PREPARED FOR:

Tetra Tech, Inc.
10670 White Rock Rd., Ste. 100
Rancho Cordova, CA 95670

November 4, 2004

6630 Baltimore National Pike Baltimore, Maryland 21228 (410) 747-8770 (800) 932-9047 fax (410) 788-8723

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
www.phaseonline.com

PHASE SEPARATION SCIENCE, INC.

ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE

CERTIFICATE OF ANALYSIS
No. 04092410 Page 1 of 1

Tetra Tech, Inc.
November 4, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000

Date Sampled: 09/24/04
Date Received: 09/24/04

	Result	Unit	Method	PQL	Prepared	Analyzed	Init.
Sample ID: MW5 092404 / 04092410-01 / Water							
Perchlorate							
Perchlorate	ND	ug/L	EPA 8321A	0.5	10/18/04	10/19/04	STL
Sample ID: DMW1B 092404 / 04092410-05 / Water							
Perchlorate							
Perchlorate	ND	ug/L	EPA 8321A	0.5	10/18/04	10/19/04	STL
Sample ID: DMW1A 092404 / 04092410-07 / Water							
Perchlorate							
Perchlorate	ND	ug/L	EPA 8321A	0.5	10/18/04	10/19/04	STL

Footnotes:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

Reviewed By: _____
Quality Assurance Chemist

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
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ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE •

CERTIFICATE OF ANALYSIS
No. 04092328 Page 1 of 1
Tetra Tech, Inc.
November 4, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000

Date Sampled: 09/23/04
Date Received: 09/23/04

	Result	Unit	Method	PQL	Prepared	Analyzed	Init.
Sample ID: DMW 4D-092304 / 04092328-01 / Water							
Perchlorate							
Perchlorate	**6.1**	ug/L	EPA 8321A	0.5	10/18/04	10/19/04	STL
Sample ID: DMW 4I-092304 / 04092328-03 / Water							
Perchlorate							
Perchlorate	**4.3**	ug/L	EPA 8321A	0.5	10/18/04	10/19/04	STL
Sample ID: DMW 2A-092304 / 04092328-07 / Water							
Perchlorate							
Perchlorate	ND	ug/L	EPA 8321A	0.5	10/18/04	10/19/04	STL

Footnotes:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL

Reviewed By: _____
Quality Assurance Chemist

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
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CERTIFICATE OF ANALYSIS
No. 04092217 Page 1 of 1

Tetra Tech, Inc.
November 4, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000

Date Sampled: 09/22/04
Date Received: 09/22/04

	Result	Unit	Method	PQL	Prepared	Analyzed	Init.
Sample ID: DMW 9S-092204 / 04092217-05 / Water							
Perchlorate							
Perchlorate	ND	ug/L	EPA 8321A	0.5	10/18/04	10/19/04	STL
Sample ID: DMW 5S-092204 / 04092217-07 / Water							
Perchlorate							
Perchlorate	**0.95**	ug/L	EPA 8321A	0.5	10/18/04	10/19/04	STL

Footnotes:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL

Reviewed By: _____
Quality Assurance Chemist

SEVERN TRENT STL

STL Sacramento
880 Riverside Parkway
West Sacramento, CA 95605

Tel: 916 373 5600 Fax: 916 372 1059
www.stl-inc.com

October 27, 2004

STL SACRAMENTO PROJECT NUMBER: G4J160238
PO/CONTRACT:

Bryan Ridgell
Phase Separation Sciences
6630 Baltimore National Pike
Route 40 West
Baltimore, MD 21228

Dear Mr. Ridgell,

This report contains the analytical results for the samples received under chain of custody by STL Sacramento on October 16, 2004. These samples are associated with your 04101501-BR/Martin State Airport project.

The test results in this report meet all NELAC requirements for parameters that accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4433.

Sincerely,

Nilo Ligi
for

Robert Hrabak
Project Manager

TABLE OF CONTENTS

STL SACRAMENTO PROJECT NUMBER G4J160238

Case Narrative

STL Sacramento Quality Assurance Program

Sample Description Information

Chain of Custody Documentation

WATER, 8321A, Perchlorate by LC/MS
Samples: 1, 2, 3, 4, 5, 6, 7, 8
Sample Data Sheets
Method Blank Reports
Laboratory QC Reports

CASE NARRATIVE

STL SACRAMENTO PROJECT NUMBER G4J160238

There were no anomalies associated with this project.

SEVERN TRENT STL

ACCREDITED IN ACCORDANCE WITH nelac

STL Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
Alaska	UST-055	Oregon	CA 200005
Arizona	AZ0616	Pennsylvania	68-1272
Arkansas	NA	South Carolina	87014001
California	01129CA	Utah	QUANT
Connecticut	PH-0691	Virginia	00178
Florida*	E87570	Washington	C087
Georgia	960	West Virginia	9930C, 334
Hawaii	NA	Wisconsin	998204680
Louisiana*	01944	NFESC	NA
Michigan	9947	USACE	NA
Nevada	CA 044	USACE	NA
New Jersey	CA005	USDA Foreign Plant	37-32605
New York*	11666	USDA Foreign Soil	S-46613

*NELAP accredited. A more detailed parameter list is available upon request.

QC Parameter Definitions

QC Batch: The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

Method Blank: An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD): An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also used to evaluate the precision of the process.

Duplicate Sample (DU): Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

Surrogates: Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

Isotope Dilution: For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

Control Limits: The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

Sample Summary
G4J160238

WO#	Sample #	Client Sample ID	Sampling Date	Received Date
GTVE0	1	04092217-05	9/22/2004 12:05 PM	10/16/2004 09:20 AM
GTVE1	2	04092217-07	9/22/2004 02:50 PM	10/16/2004 09:20 AM
GTVE2	3	04092328-01	9/23/2004 08:45 AM	10/16/2004 09:20 AM
GTVE3	4	04092328-03	9/23/2004 10:15 AM	10/16/2004 09:20 AM
GTVE4	5	04092328-07	9/23/2004 01:45 PM	10/16/2004 09:20 AM
GTVE5	6	04092410-01	9/24/2004 08:40 AM	10/16/2004 09:20 AM
GTVE6	7	04092410-05	9/24/2004 11:40 AM	10/16/2004 09:20 AM
GTVE7	8	04092410-07	9/24/2004 12:50 PM	10/16/2004 09:20 AM

Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight

G4J160238

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1)
CLIENT: PHASE SEPARATION PHONE NO.: (410) 747-8770
PROJECT MGR: BRYAN RIDGELL FAX NO.: (410) 788-8723
EMAIL: bryanr@phaseonline.com
PROJECT NAME: MARTIN STATE AIRPORT
SITE LOCATION: MARYLAND
PROJECT NO.: P.O. NO.:

PSS Project #: 04101501-BR

PAGE 1 OF 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	(3) Preservatives Used / Analysis Required: PERCHLORATE (Lc/ms/ms)	REMARKS
	04092217-05	9/22/04	12:05	WATER	1	G	X	
	04092217-07	9/22/04	14:50	WATER	1	G	X	
	04092328-01	9/23/04	8:45	WATER	1	G	X	
	04092328-03	9/23/04	10:15	WATER	1	G	X	
	04092328-07	9/23/04	13:45	WATER	1	G	X	
	04092410-01	9/24/04	8:40	WATER	1	G	X	
	04092410-05	9/24/04	11:40	WATER	1	G	X	
	04092410-07	9/24/04	12:50	WATER	1	G	X	

RECEIVED IN GOOD CONDITION UNDER COC
OCT 16 2004
IN: [signature]

(5)

Collected / Relinquished By: (1)	Date	Time	Received By:
Bryan Ridgell	10/15/04	3:00PM	TO FED EX
Relinquished By: (2)	Date	Time	Received By:
	10-16-04	1530	[signature]
Relinquished By: (3)	Date	Time	Received By:
Collected / Relinquished By: (4)	Date	Time	Received By:

(4) Requested Turnaround Time
☐ 5-Day (Std.) ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☒ Other

Data Deliverables Required:

Sample Condition Upon Receipt:
Custody Seal:
Shipping Carrier:
Shipping Ticket No.:

Special Instructions: STANDARD TAT. PLEASE BE AWARE THAT HOLDING TIMES BEGIN TO EXPIRE 10/20/04. QC SUMMARY DATA PACKAGE REQUIRED

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if colleciton becomes necessary.

STL Sacramento (916) 373 - 5600

SEVERN TRENT STL

LOT RECEIPT CHECKLIST
STL Sacramento

CLIENT Phase Separation PM RH LOG # 29179

LOT# (QUANTIMS ID) G4J160234 QUOTE# 41275 LOCATION W21D

	Initials	Date
DATE RECEIVED 10-16-04 TIME RECEIVED 920	CH	10-16-04

DELIVERED BY ☒ FEDEX ☐ CA OVERNIGHT ☐ CLIENT
☐ AIRBORNE ☐ GOLDENSTATE ☐ DHL
☐ UPS ☐ BAX GLOBAL ☐ GO-GETTERS
☐ STL COURIER ☐ COURIERS ON DEMAND
☐ OTHER

CUSTODY SEAL STATUS ☐ INTACT ☐ BROKEN ☒ N/A

CUSTODY SEAL #(S) _____

SHIPPPING CONTAINER(S) ☐ STL ☒ CLIENT ☐ N/A

TEMPERTURE RECORD (IN °C) IR 1☐ 3☒ ☐ OTHER _____

COC #(S) _____

TEMPERATURE BLANK N/A

SAMPLE TEMPERATURE 6°

COLLECTOR'S NAME: ☒ Verified from COC ☐ Not on COC

pH MEASURED ☐ YES ☐ ANOMALY ☒ N/A

LABELED BY.....

LABELS CHECKED BY.....

PEER REVIEW _____ ☒ NA

SHORT HOLD TEST NOTIFICATION

SAMPLE RECEIVING
WETCHEM ☒ N/A
VOA-ENCORES ☒ N/A

☒ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL ☒ N/A

☐ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES ☐ N/A

☐ Clouseau ☐ TEMPERATURE EXCEEDED (2 °C – 6 °C)*1 ☒ N/A

☐ WET ICE ☐ BLUE ICE ☐ GEL PACK ☐ NO COOLING AGENTS USED ☐ PM NOTIFIED

Notes: _____

*1 Acceptable temperature range for State of Wisconsin samples is ≤ 4°C.

WATER, 8321A, Perchlorate by LC/MS

PHASE SEPARATION SCIENCES

Client Sample ID: 04092217-05 ✓

Dissolved HPLC

Lot-Sample #...: G4J160238-001	Work Order #...: GTVE01AA	Matrix.....: WATER	
Date Sampled...: 09/22/04	Date Received..: 10/16/04		
Prep Date.....: 10/18/04 ✓	Analysis Date..: 10/19/04 ✓		
Prep Batch #...: 4292230			
Dilution Factor: 1	Method.....: SW846 8321A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	0.50	ug/L

MARTIN STATE DMW-95-092204

✓

PHASE SEPARATION SCIENCES

Client Sample ID: 04092217-07 ✓

Dissolved HPLC

Lot-Sample #...: G4J160238-002 Work Order #...: GTVE11AA Matrix.....: WATER
Date Sampled...: 09/22/04 Date Received..: 10/16/04
Prep Date.....: 10/18/04 ✓ Analysis Date..: 10/19/04 ✓
Prep Batch #...: 4292230
Dilution Factor: 1 Method.....: SW846 8321A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	0.95	0.50	ug/L

✓

MARTIN STATE DMW-55-092204

PHASE SEPARATION SCIENCES

Client Sample ID: 04092328-01 ✓

Dissolved HPLC

Lot-Sample #...: G4J160238-003 Work Order #...: GTVE21AA Matrix.....: WATER
Date Sampled...: 09/23/04 Date Received..: 10/16/04
Prep Date.....: 10/18/04 ✓ Analysis Date..: 10/19/04 ✓
Prep Batch #...: 4292230
Dilution Factor: 1 Method.....: SW846 8321A ✓

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	6.1	0.50	ug/L

✓

MARTIN STATE DMW-4D-092304

PHASE SEPARATION SCIENCES

Client Sample ID: 04092328-03

Dissolved HPLC

Lot-Sample #...:	G4J160238-004	Work Order #...:	GTVE31AA	Matrix.....:	WATER
Date Sampled...:	09/23/04	Date Received..:	10/16/04		
Prep Date.....:	10/18/04	Analysis Date..:	10/19/04		
Prep Batch #...:	4292230				
Dilution Factor:	1	Method.....:	SW846 8321A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	4.3	0.50	ug/L

MARTIN STATE DMW-4I-092304

PHASE SEPARATION SCIENCES

Client Sample ID: 04092328-07

Dissolved HPLC

Lot-Sample #...:	G4J160238-005	Work Order #...:	GTVE41AA	Matrix.....:	WATER
Date Sampled...:	09/23/04	Date Received..:	10/16/04		
Prep Date.....:	10/18/04	Analysis Date..:	10/19/04		
Prep Batch #...:	4292230				
Dilution Factor:	1	Method.....:	SW846 8321A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	0.50	ug/L

MARTIN STATE DMW-2A-092304

PHASE SEPARATION SCIENCES

Client Sample ID: 04092410-01

Dissolved HPLC

Lot-Sample #...:	G4J160238-006	Work Order #...:	GTVES1AA	Matrix.....:	WATER
Date Sampled...:	09/24/04	Date Received..:	10/16/04		
Prep Date.....:	10/18/04	Analysis Date..:	10/19/04		
Prep Batch #...:	4292230				
Dilution Factor:	1	Method.....:	SW846 8321A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	0.50	ug/L

MARTIN STATE MW-5-092404

PHASE SEPARATION SCIENCES

Client Sample ID: 04092410-05

Dissolved HPLC

Lot-Sample #...: G4J160238-007	Work Order #...: GTVE61AA		Matrix.....: WATER
Date Sampled...: 09/24/04	Date Received..: 10/16/04		
Prep Date.....: 10/18/04 ✓	Analysis Date..: 10/19/04 ✓		
Prep Batch #...: 4292230			
Dilution Factor: 1	Method.....: SW846 8321A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND ✓	0.50	ug/L

MARTIN STATE DMW-1B-092404

PHASE SEPARATION SCIENCES

Client Sample ID: 04092410-07

Dissolved HPLC

Lot-Sample #...:	G4J160238-008	Work Order #...:	GTVE71AA	Matrix.....:	WATER
Date Sampled...:	09/24/04	Date Received..:	10/16/04		
Prep Date.....:	10/18/04	Analysis Date..:	10/19/04		
Prep Batch #...:	4292230				
Dilution Factor:	1	Method.....:	SW846 8321A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	0.50	ug/L

MARTIN STATE DMW-1A-092404

QC DATA ASSOCIATION SUMMARY

G4J160238

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	SW846 8321A		4292230	4292169
002	WATER	SW846 8321A		4292230	4292169
003	WATER	SW846 8321A		4292230	4292169
004	WATER	SW846 8321A		4292230	4292169
005	WATER	SW846 8321A		4292230	4292169
006	WATER	SW846 8321A		4292230	4292169
007	WATER	SW846 8321A		4292230	4292169
008	WATER	SW846 8321A		4292230	4292169

METHOD BLANK REPORT

HPLC

Client Lot #...: G4J160238 Work Order #...: GTWCW1AA Matrix.....: WATER
MB Lot-Sample #: G4J180000-230

Prep Date.....: 10/18/04
Analysis Date..: 10/19/04 Prep Batch #...: 4292230
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Perchlorate	ND	0.50	ug/L	SW846 8321A

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

HPLC

Client Lot #...: G4J160238 Work Order #...: GTWCW1AC Matrix.....: WATER
LCS Lot-Sample#: G4J180000-230
Prep Date.....: 10/18/04 Analysis Date..: 10/19/04
Prep Batch #...: 4292230
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Perchlorate	112	(76 - 114)	SW846 8321A

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

HPLC

Client Lot #...: G4J160238 Work Order #...: GTWCW1AC Matrix.....: WATER
LCS Lot-Sample#: G4J180000-230
Prep Date.....: 10/18/04 Analysis Date..: 10/19/04
Prep Batch #...: 4292230
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Perchlorate	**5.00**	**5.59**	**ug/L**	**112**	**SW846 8321A**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

HPLC

Client Lot #...: G4J160238 Work Order #...: GTVE01AC-MS Matrix.....: WATER
MS Lot-Sample #: G4J160238-001 GTVE01AD-MSD
Date Sampled...: 09/22/04 Date Received..: 10/16/04
Prep Date.....: 10/18/04 Analysis Date..: 10/19/04
Prep Batch #...: 4292230
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Perchlorate	104	(76 - 114)			SW846 8321A
	97	(76 - 114)	7.1	(0-50)	SW846 8321A

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

HPLC

Client Lot #...: G4J160238 Work Order #...: GTVE01AC-MS Matrix.....: WATER
MS Lot-Sample #: G4J160238-001 GTVE01AD-MSD
Date Sampled...: 09/22/04 Date Received..: 10/16/04
Prep Date.....: 10/18/04 Analysis Date..: 10/19/04
Prep Batch #...: 4292230
Dilution Factor: 1

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Perchlorate	ND	5.00	5.19	ug/L	104		SW846 8321A
	ND	5.00	4.83	ug/L	97	7.1	SW846 8321A

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

LABORATORY RESULTS

DATE RECEIVED: September 27, 2004

PROJECT: Martin State Airport- Quarterly Sampling

Project #: N5784-0000

CERTIFICATE OF ANALYSIS #: *04092725*

PREPARED FOR:

Tetra Tech, Inc.
10670 White Rock Rd., Ste. 100
Rancho Cordova, CA 95670

October 20, 2004

6630 Baltimore National Pike Baltimore, Maryland 21228 (410) 747-8770 (800) 932-9047 fax (410) 788-8723

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
www.phaseonline.com

PHASE SEPARATION SCIENCE, INC.

ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE

CERTIFICATE OF ANALYSIS
No. 04092725 Page 1 of 4
Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/27/04
Date Received: 09/27/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 2S-092704 / 04092725-01						
Dissolved Gases in Water						
Ethane	ND	mg/L	SM6211B/EPA8015	0.01		09/28/04
Ethene	0.026	mg/L	SM6211B/EPA8015	0.012		09/28/04
Ferric Iron						
Iron (Fe3+)	ND	mg/L	Mod_7199	1		09/28/04
Nitrate Nitrogen						
Nitrate	3.7	mg/L	EPA 300.0	0.2		09/28/04
Perchlorate						
Perchlorate	ND	ug/L	EPA 314.0	4	10/05/04	10/05/04
Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	09/30/04	10/01/04
Arsenic	ND	ug/L	EPA 6020	5	09/30/04	10/01/04
Beryllium	4.1	ug/L	EPA 6020	4	09/30/04	10/01/04
Cadmium	200	ug/L	EPA 6020	5	09/30/04	10/01/04
Chromium	ND	ug/L	EPA 6020	5	09/30/04	10/01/04
Copper	54	ug/L	EPA 6020	5	09/30/04	10/01/04
Lead	ND	ug/L	EPA 6020	5	09/30/04	10/01/04
Mercury	ND	ug/L	EPA 6020	1	09/30/04	10/01/04
Nickel	93	ug/L	EPA 6020	5	09/30/04	10/01/04
Selenium	19	ug/L	EPA 6020	5	09/30/04	10/01/04
Silver	ND	ug/L	EPA 6020	5	09/30/04	10/01/04
Thallium	ND	ug/L	EPA 6020	2	09/30/04	10/04/04
Zinc	250	ug/L	EPA 6020	50	09/30/04	10/01/04
Total Sulfate						
Sulfate	84	mg/L	EPA 300.0	1		09/28/04
Volatile Organic Compounds						
Benzene	5	ug/L	EPA 8260B	1		10/04/04
Bromobenzene	ND	ug/L	EPA 8260B	1		10/04/04
Bromochloromethane	ND	ug/L	EPA 8260B	1		10/04/04
Bromodichloromethane	ND	ug/L	EPA 8260B	1		10/04/04
Bromoform	ND	ug/L	EPA 8260B	1		10/04/04
Bromomethane	ND	ug/L	EPA 8260B	1		10/04/04
n-Butylbenzene	ND	ug/L	EPA 8260B	1		10/04/04
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1		10/04/04
sec-Butylbenzene	ND	ug/L	EPA 8260B	1		10/04/04

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6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
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PHASE SEPARATION SCIENCE, INC.

ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE

CERTIFICATE OF ANALYSIS
No. 04092725 Page 2 of 4
Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/27/04
Date Received: 09/27/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 2S-092704 / 04092725-01						
Volatile Organic Compounds						
tert-Butylbenzene	ND	ug/L	EPA 8260B	1		10/04/04
Carbon tetrachloride	2	ug/L	EPA 8260B	1		10/04/04
Chlorobenzene	ND	ug/L	EPA 8260B	1		10/04/04
Chloroethane	ND	ug/L	EPA 8260B	1		10/04/04
Chloroform	7	ug/L	EPA 8260B	1		10/04/04
Chloromethane	ND	ug/L	EPA 8260B	1		10/04/04
2-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/04/04
4-Chlorotoluene	ND	ug/L	EPA 8260B	1		10/04/04
Dibromochloromethane	ND	ug/L	EPA 8260B	1		10/04/04
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1		10/04/04
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1		10/04/04
Dibromomethane	ND	ug/L	EPA 8260B	1		10/04/04
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/04/04
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/04/04
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1		10/04/04
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1		10/04/04
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1		10/04/04
1,2-Dichloroethane	17	ug/L	EPA 8260B	1		10/04/04
1,1-Dichloroethene	ND	ug/L	EPA 8260B	1		10/04/04
cis-1,2-Dichloroethene	540	ug/L	EPA 8260B	20		10/04/04
trans-1,2-Dichloroethene	5	ug/L	EPA 8260B	1		10/04/04
1,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/04/04
1,3-Dichloropropane	ND	ug/L	EPA 8260B	1		10/04/04
2,2-Dichloropropane	ND	ug/L	EPA 8260B	1		10/04/04
1,1-Dichloropropene	ND	ug/L	EPA 8260B	1		10/04/04
Ethylbenzene	ND	ug/L	EPA 8260B	1		10/04/04
Isopropylbenzene	ND	ug/L	EPA 8260B	1		10/04/04
p-Isopropyltoluene	ND	ug/L	EPA 8260B	1		10/04/04
Methylene chloride	b 12	ug/L	EPA 8260B	1		10/04/04
Naphthalene	ND	ug/L	EPA 8260B	1		10/04/04
n-Propylbenzene	ND	ug/L	EPA 8260B	1		10/04/04
Styrene	ND	ug/L	EPA 8260B	1		10/04/04
1,1,1,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/04/04

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6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
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CERTIFICATE OF ANALYSIS
No. 04092725 Page 3 of 4
Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water

Date Sampled: 09/27/04
Date Received: 09/27/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 2S-092704 / 04092725-01						
Volatile Organic Compounds						
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1		10/04/04
Tetrachloroethene	3	ug/L	EPA 8260B	1		10/04/04
Toluene	ND	ug/L	EPA 8260B	1		10/04/04
1,2,3-Trichlorobenzene	ND	ug/L	EPA 8260B	1		10/04/04
1,2,4-Trichlorobenzene	2	ug/L	EPA 8260B	1		10/04/04
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1		10/04/04
1,1,2-Trichloroethane	ND	ug/L	EPA 8260B	1		10/04/04
Trichloroethene	2,100	ug/L	EPA 8260B	20		10/04/04
1,2,3-Trichloropropane	ND	ug/L	EPA 8260B	1		10/04/04
1,2,4-Trimethylbenzene	ND	ug/L	EPA 8260B	1		10/04/04
1,3,5-Trimethylbenzene	ND	ug/L	EPA 8260B	1		10/04/04
Vinyl chloride	160	ug/L	EPA 8260B	1		10/04/04
m&p-Xylene	j 2	ug/L	EPA 8260B	3		10/04/04
o-Xylene	j 2	ug/L	EPA 8260B	3		10/04/04
Methyl-t-butyl ether	ND	ug/L	EPA 8260B	1		10/04/04
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10		10/04/04
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10		10/04/04
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10		10/04/04
Acetone	ND	ug/L	EPA 8260B	10		10/04/04
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5		10/04/04
Carbon disulfide	ND	ug/L	EPA 8260B	1		10/04/04
Vinyl acetate	ND	ug/L	EPA 8260B	1		10/04/04
2-Chloroethylvinyl ether	ND	ug/L	EPA 8260B	1		10/04/04
Cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/04/04
Trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1		10/04/04

Reviewed By:
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.
b - found in blank / suspected lab artifact.
j - estimated value, less than quantitation limit.

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
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CERTIFICATE OF ANALYSIS
No. 04092725 Page 4 of 4
Tetra Tech, Inc.
October 20, 2004

Project: Martin State Airport- Quarterly Sampling
Site Location: Martin State Airport
Project Number: N5784-0000
Matrix: Water
Date Sampled: 09/27/04
Date Received: 09/27/04

	Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: DMW 2S-092704 (Dissolved) / 04092725-02						
Dissolved Priority Pollutant Metals						
Antimony	ND	ug/L	EPA 6020	5	10/04/04	10/06/04
Arsenic	ND	ug/L	EPA 6020	5	10/04/04	10/06/04
Beryllium	4.5	ug/L	EPA 6020	4	10/04/04	10/06/04
Cadmium	150	ug/L	EPA 6020	5	10/04/04	10/06/04
Chromium	ND	ug/L	EPA 6020	5	10/04/04	10/06/04
Copper	11	ug/L	EPA 6020	5	10/04/04	10/06/04
Lead	ND	ug/L	EPA 6020	5	10/04/04	10/06/04
Mercury	ND	ug/L	EPA 6020	1	10/04/04	10/06/04
Nickel	88	ug/L	EPA 6020	5	10/04/04	10/06/04
Selenium	19	ug/L	EPA 6020	5	10/04/04	10/06/04
Silver	ND	ug/L	EPA 6020	5	10/04/04	10/06/04
Thallium	ND	ug/L	EPA 6020	2	10/04/04	10/06/04
Zinc	270	ug/L	EPA 6020	50	10/04/04	10/06/04

Reviewed By: Matt Cohen
Quality Assurance Chemist

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL.

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1)
CLIENT: Tetra Tech NUS PHONE NO.: (916) 276-7846
PROJECT MGR: Nisha Bansal FAX NO.: ( )
EMAIL:
PROJECT NAME: Martin State Airport Data - Gap
SITE LOCATION: Martin State Airport
PROJECT NO.: NS784.0000 P.O. NO.:

PSS Project #: 04692725

PAGE 1 OF 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Volatiles organic compounds	Total Phenols, Pollutant metals	Dissolved Phenols, Pollutant metals	Ethane, Ethane	Nitrate, Sulfate	Ferric Iron	Perchlorate			REMARKS
							Preservatives Used: HCl	HNO3	HNO3	HCl	ICE	HCl	ICE			
	DMW 2S - 092704	9-27-04	1355	Water	10	G	X	X	X	X	X	X	X			

(3) Analysis Required

(5)

Collected / Relinquished By: (1)	Date	Time	Received By:
[signature]	9-27-04	1600	
Relinquished By: (2)	Date 9/27	Time 3:47	Received By: [signature]
Relinquished By: (3)	Date	Time	Received By:
Collected / Relinquished By: (4)	Date	Time	Received By:

(4)
Requested Turnaround Time
☐ 5-Day (Std.) ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required:

Sample Condition Upon Receipt: Cold on ice
Custody Seal:
Shipping Carrier: Hand
Shipping Ticket No.:

Special Instructions:

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

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Analytical Chemistry Environmental Science

TENTATIVELY IDENTIFIED COMPOUNDS

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Tentatively Identified Compounds

LID #: **04092725**
Client: Tetra Tech, Inc.
Project: Martin State Airport- Quarterly Sampling

	Estimated Concentration	Units	CAS #	Matrix	Collected	Analyzed

Sample ID: 04092725-01 / DMW 2S-092704

No tentatively identified compounds were detected in this sample.

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Volatile Organic Compounds

- *Surrogate Summary*
- *Method Blank Summary*
- *LCS Summary*
- *Continuing Calibration Verification Summary*
- *BFB Tune Summary*

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PHASE SEPARATION SCIENCE, INC.

VOLATILES

SYSTEM MONITORING COMPOUND RECOVERY (SURROGATES)

METHOD: EPA 8260 **LAB CODE:** SURR

MATRIX: WATER **BATCH NUMBER:** 2041

Sample ID	Date/Time Analyzed	4-Bromofluorobenzene	Dibromofluoromethane	Toluene d-8
DMW 2S-092704 / 04092725-01	10/04/04 04:23 PM	103	100	102
Upper Limit		113	113	110
Lower Limit		67	84	83

* - Indicates values outside of QC control limits.

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PHASE SEPARATION SCIENCE, INC.

ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE

VOLATILES

METHOD BLANK SUMMARY

ANALYSIS:	**VOLATILES**	**BATCH ID:**	**2041**
METHOD NO.:	**EPA 8260**	**LAB SAMPLE ID:**	**MB - Water**
LAB FILE ID:	**04100425.D**	**DATE/TIME ANALYZED:**	**10/04/04 09:59 PM**

This Method Blank applies to the following samples:

Field Sample ID	Lab Sample ID	Lab File ID	Date/Time Analyzed
DMW 2S-092704	04092725-01	04100415.D	10/04/04 05:17 PM

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PHASE SEPARATION SCIENCE, INC.

METHOD BLANK RESULTS

Analysis: Volatiles
Matrix: Water

Batch ID: 2041
Batch Date: 10/04/04

	Result	Unit	Method	PQL	Analyzed
Benzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Bromodichloromethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Bromoform	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Bromomethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1,2-Trichlorotrifluoroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Carbon tetrachloride	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Chlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Chloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
CHLOROFORM	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Chloromethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Dibromochloromethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-Dibromo-3-chloropropane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-Dibromoethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,3-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,4-Dichlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Dichlorodifluoromethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1-Dichloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-Dichloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1-DICHLOROETHENE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
cis-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
trans-1,2-Dichloroethene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2-DICHLOROPROPANE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
ETHYLBENZENE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Isopropylbenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Methylene chloride	1.4	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Naphthalene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Styrene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1,2,2-Tetrachloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Tetrachloroethene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
TOLUENE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,2,4-Trichlorobenzene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1,1-Trichloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
1,1,2-Trichloroethane	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
Trichloroethene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
VINYL CHLORIDE	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
m&p-Xylene	ND	ug/L	EPA 8260B	3	10/04/04 09:59 PM

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PHASE SEPARATION SCIENCE, INC.

METHOD BLANK RESULTS

Analysis: Volatiles
Matrix: Water
Batch ID: 2041
Batch Date: 10/04/04

	Result	Unit	Method	PQL	Analyzed
o-Xylene	ND	ug/L	EPA 8260B	3	10/04/04 09:59 PM
Methyl-t-Butyl Ether	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
2-Butanone (MEK)	ND	ug/L	EPA 8260B	10	10/04/04 09:59 PM
2-Hexanone (MBK)	ND	ug/L	EPA 8260B	10	10/04/04 09:59 PM
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	EPA 8260B	10	10/04/04 09:59 PM
Acetone	ND	ug/L	EPA 8260B	10	10/04/04 09:59 PM
Trichlorofluoromethane	ND	ug/L	EPA 8260B	5	10/04/04 09:59 PM
Carbon Disulfide	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
cis-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM
trans-1,3-Dichloropropene	ND	ug/L	EPA 8260B	1	10/04/04 09:59 PM

Notes/Comments:
PQL - Practical Quantitation Limit
ND - Not Detected at a concentration greater than or equal to the PQL

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100425.D
Acq On : 4 Oct 2004 9:59 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #475
MS Integration Params: rteint.p
Quant Time: Oct 5 12:22 2004

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	197889	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.71	114	282678	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.04	117	241852	50.00	ug/L	0.00
48) 1,4-Dichlorobenzene d-4 IS	11.20	152	105688	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.98	113	100131	49.98	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.96%			
33) Toluene d-8 SS#2	6.29	98	351008	49.62	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.24%			
50) 4-Bromofluorobenzene SS#3	9.60	95	147816	49.75	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.50%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	Not Detected		
3) Chloromethane	0.00	50	0	Not Detected		
4) VINYL CHLORIDE	0.00	62	0	Not Detected		
5) Bromomethane	0.00	94	0	Not Detected		
6) Chloroethane	0.00	64	0	Not Detected		
7) Trichlorofluoromethane	0.00	101	0	Not Detected		
8) Acetone	2.25	43	125	Not Detected		
9) 1,1-DICHLOROETHENE	0.00	96	0	Not Detected		
10) 1,1,2-Trichlorotrifluoroet	0.00	101	0	Not Detected		
11) Carbon Disulfide	0.00	76	0	Not Detected		
12) Methyl Acetate	0.00	74	0	Not Detected		
13) Methylene chloride	2.59	84	3261	1.44	ug/L	95
14) trans-1,2-Dichloroethene	0.00	96	0	Not Detected		
15) Methyl-t-Butyl Ether	0.00	73	0	Not Detected		
16) 1,1-Dichloroethane	0.00	63	0	Not Detected		
17) cis-1,2-Dichloroethene	0.00	96	0	Not Detected		
18) 2-Butanone (MEK)	0.00	43	0	Not Detected		
19) CHLOROFORM	0.00	83	0	Not Detected		
21) 1,1,1-Trichloroethane	0.00	97	0	Not Detected		
22) Cyclohexane	0.00	56	0	Not Detected		d
24) Carbon tetrachloride	0.00	117	0	Not Detected		
25) Benzene	4.36	78	254	Not Detected		
26) 1,2-Dichloroethane	0.00	62	0	Not Detected		
27) Trichloroethene	0.00	95	0	Not Detected		
28) 1,2-DICHLOROPROPANE	0.00	63	0	Not Detected		
29) Methylcyclohexane	0.00	83	0	Not Detected		
30) Bromodichloromethane	0.00	83	0	Not Detected		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100425.D Vial: 25
Acq On : 4 Oct 2004 9:59 pm Operator: MI
Sample : METHOD BLANK 5mL Inst : VOC#1
Misc : IS/S 1uL #475 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:22 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	0.00	75	0	Not Detected	
32) 4-Methyl-2-Pentanone (MIBK	0.00	43	0	Not Detected	d
34) TOLUENE	0.00	92	0	Not Detected	
35) trans-1,3-Dichloropropene	0.00	75	0	Not Detected	
36) 1,1,2-Trichloroethane	0.00	83	0	Not Detected	
37) Tetrachloroethene	0.00	166	0	Not Detected	
38) 2-Hexanone (MBK)	0.00	43	0	Not Detected	
40) Dibromochloromethane	0.00	129	0	Not Detected	
41) 1,2-Dibromoethane	0.00	107	0	Not Detected	
42) Chlorobenzene	0.00	112	0	Not Detected	
43) ETHYLBENZENE	8.38	91	226	Not Detected	
44) m&p-Xylene	0.00	106	0	Not Detected	
45) o-Xylene	0.00	106	0	Not Detected	
46) Styrene	0.00	104	0	Not Detected	
47) Bromoform	0.00	173	0	Not Detected	
49) Isopropylbenzene	9.60	105	110	Not Detected	
51) 1,1,2,2-Tetrachloroethane	0.00	83	0	Not Detected	
52) 1,3-Dichlorobenzene	0.00	146	0	Not Detected	d
53) 1,4-Dichlorobenzene	0.00	146	0	Not Detected	d
54) 1,2-Dichlorobenzene	0.00	146	0	Not Detected	
55) 1,2-Dibromo-3-chloropropan	0.00	75	0	Not Detected	
56) 1,2,4-Trichlorobenzene	14.07	180	185	Not Detected	
57) Naphthalene	14.39	128	559	Not Detected	

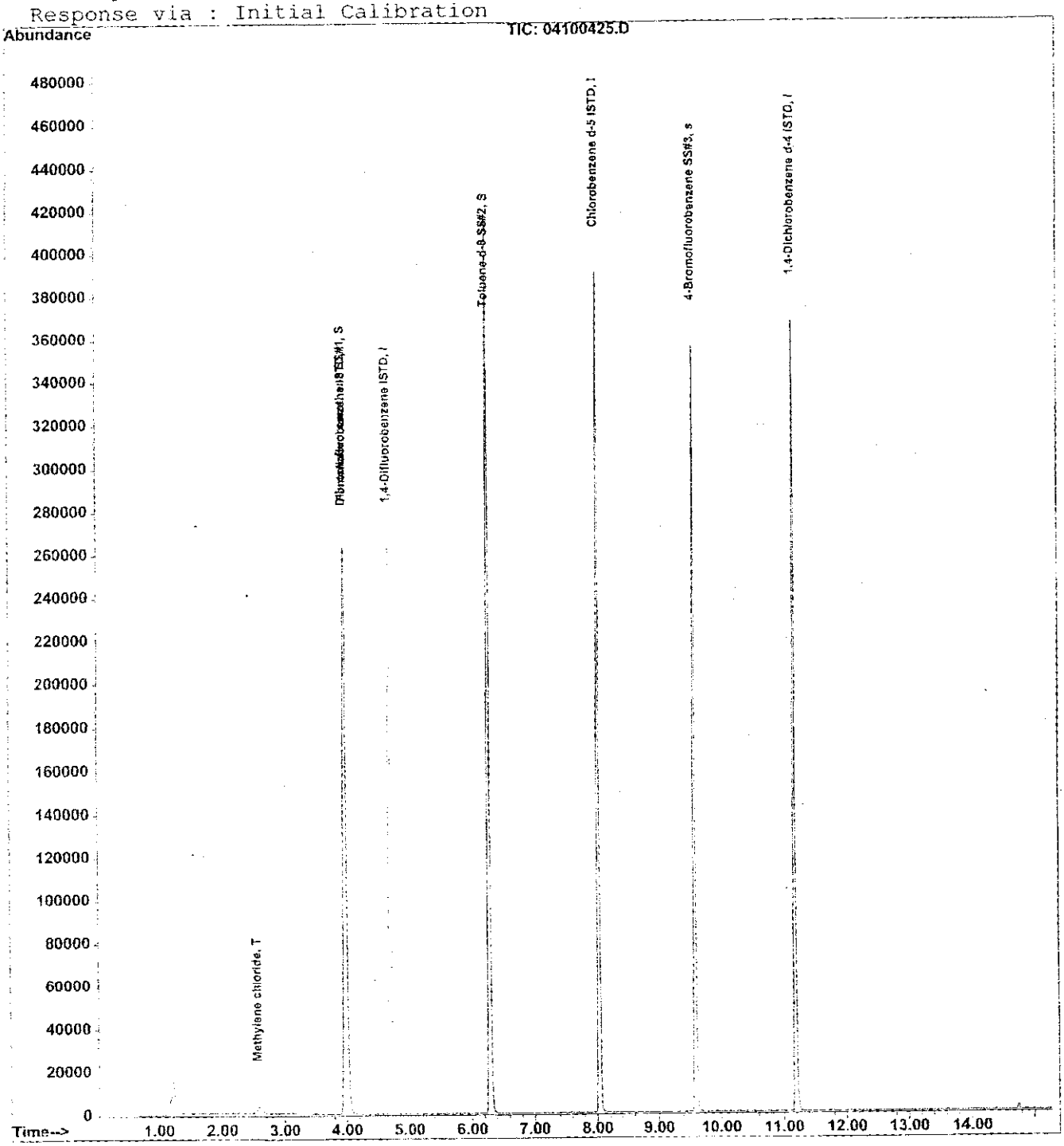
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100425.D
Acq On : 4 Oct 2004 9:59 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #475
MS Integration Params: rteint.p
Quant Time: Oct 5 12:22 2004

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



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VOLATILES
LABORATORY CONTROL SAMPLE SUMMARY

METHOD: EPA 8260 **BATCH NUMBER:** 2041

MATRIX: WATER

SAMPLE ID: LCS
DATE ANALYZED: 10/05/04 07:30:00
LAB FILE IDs: 04100447.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	NA	23	94	61 - 145
BENZENE	25	NA	24	94	76 - 127
CHLOROBENZENE	25	NA	24	97	75 - 130
TOLUENE	25	NA	24	97	76 - 125
TRICHLOROETHENE	25	NA	30	121 *	71 - 120

SAMPLE ID: LCSD
DATE ANALYZED: 10/05/04 07:55:00
LAB FILE IDs: 04100448.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	NA	24	95	1.5	30	61 - 145
BENZENE	25	NA	23	93	1.7	30	76 - 127
CHLOROBENZENE	25	NA	23	93	4.8	30	75 - 130
TOLUENE	25	NA	24	95	1.6	30	76 - 125
TRICHLOROETHENE	25	NA	25	102	17.0	30	71 - 120

* - Indicates values outside of QC control limits.

Calculations:

$$\%\text{Recovery} = \left[\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right] * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\left(\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}\right)}\right| * 100$$

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100447.D Vial: 47
Acq On : 5 Oct 2004 7:30 am Operator: MI
Sample : LCS 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	191370	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	273352	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.03	117	231058	50.00	ug/L	-0.01
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	105222	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	97675	50.41	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.82%			
33) Toluene d-8 SS#2	6.27	98	348338	50.92	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.84%			
50) 4-Bromofluorobenzene SS#3	9.59	95	146989	49.70	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.37	85	46822	21.57	ug/L	100
3) Chloromethane	1.45	50	47337	25.06	ug/L	93
4) VINYL CHLORIDE	1.54	62	37579	22.38	ug/L	100
5) Bromomethane	1.71	94	40083	23.83	ug/L	98
6) Chloroethane	1.77	64	22605	26.62	ug/L	97
7) Trichlorofluoromethane	1.92	101	28996	19.09	ug/L	99
8) Acetone	2.24	43	14638	30.17	ug/L	92
9) 1,1-DICHLOROETHENE	2.27	96	40523	23.39	ug/L	97
10) 1,1,2-Trichlorotrifluoroet	2.26	101	37210	25.63	ug/L	97
11) Carbon Disulfide	2.45	76	129951	25.08	ug/L	100
12) Methyl Acetate	2.46	74	5471	30.67	ug/L	97
13) Methylene chloride	2.58	84	47199	21.58	ug/L	98
14) trans-1,2-Dichloroethene	2.76	96	44541	23.95	ug/L	97
15) Methyl-t-Butyl Ether	2.76	73	90534	26.34	ug/L	100
16) 1,1-Dichloroethane	3.08	63	69327	25.12	ug/L	99
17) cis-1,2-Dichloroethene	3.55	96	47607	24.54	ug/L	98
18) 2-Butanone (MEK)	3.54	43	20890	27.19	ug/L	98
19) CHLOROFORM	3.82	83	83737	23.66	ug/L	99
21) 1,1,1-Trichloroethane	4.00	97	70017	23.80	ug/L #	1
22) Cyclohexane	4.06	56	51556	25.81	ug/L #	16
24) Carbon tetrachloride	4.15	117	51871	24.57	ug/L	100
25) Benzene	4.33	78	161960	23.60	ug/L	99
26) 1,2-Dichloroethane	4.34	62	59911	25.12	ug/L	99
27) Trichloroethene	4.96	95	59416	30.20	ug/L	99
28) 1,2-DICHLOROPROPANE	5.19	63	36823	24.58	ug/L	100
29) Methylcyclohexane	5.17	83	41597	23.90	ug/L	99
30) Bromodichloromethane	5.49	83	63866	25.12	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100447.D Vial: 47
Acq On : 5 Oct 2004 7:30 am Operator: MI
Sample : LCS 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

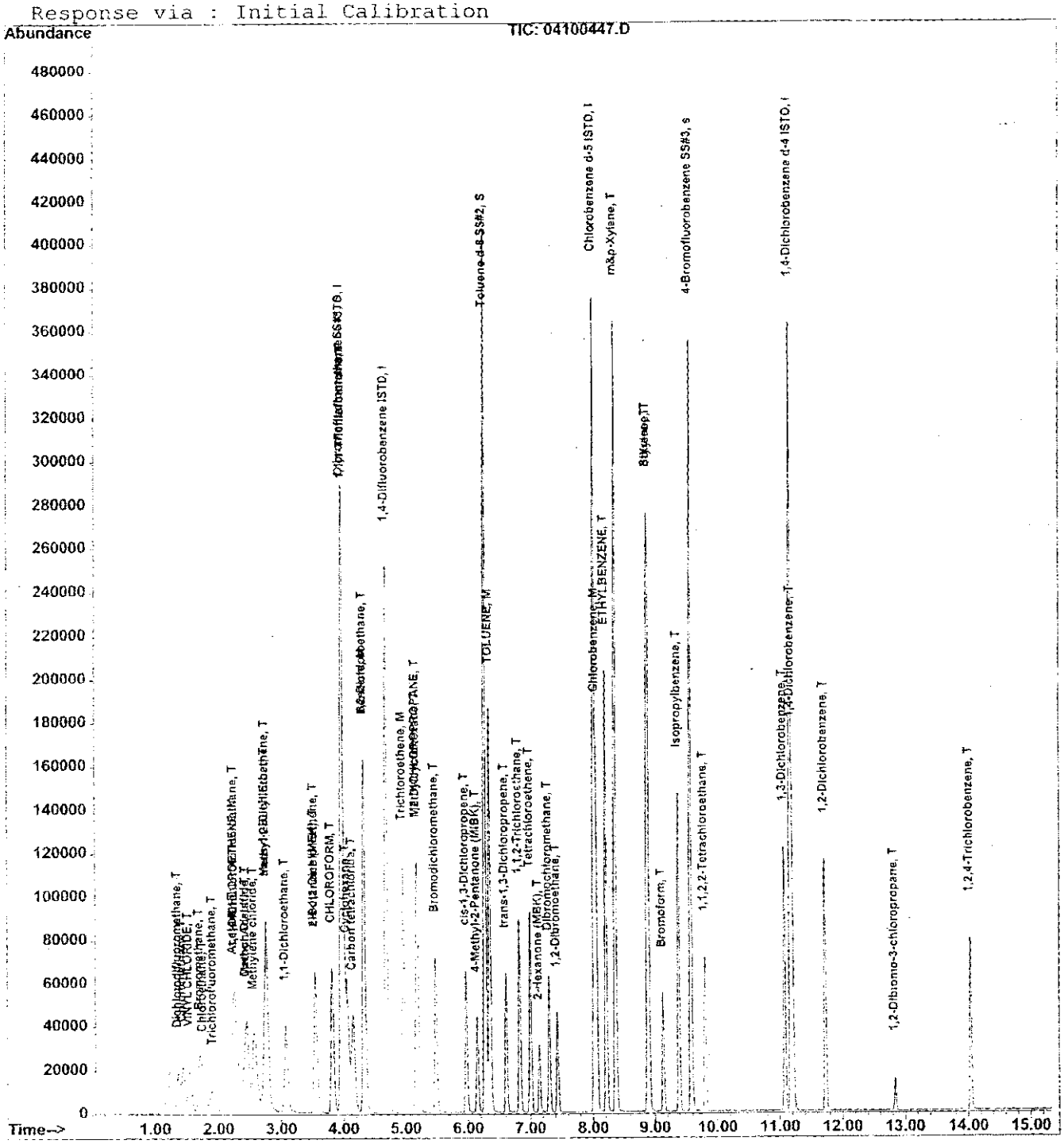
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	63132	22.32 ug/L	100
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	45571	29.21 ug/L	99
34) TOLUENE	6.36	92	104736	24.13 ug/L	97
35) trans-1,3-Dichloropropene	6.61	75	58197	23.02 ug/L	97
36) 1,1,2-Trichloroethane	6.83	83	30285	25.47 ug/L	98
37) Tetrachloroethene	7.01	166	36444	23.35 ug/L	99
38) 2-Hexanone (MBK)	7.15	43	31176	30.18 ug/L	98
40) Dibromochloromethane	7.30	129	35488	25.14 ug/L	100
41) 1,2-Dibromoethane	7.43	107	36786	26.05 ug/L	98
42) Chlorobenzene	8.06	112	96548	24.29 ug/L	97
43) ETHYLBENZENE	8.21	91	182887	24.70 ug/L	99
44) m&p-Xylene	8.37	106	120668	49.29 ug/L	99
45) o-Xylene	8.89	106	61904	25.21 ug/L	98
46) Styrene	8.91	104	112451	25.39 ug/L	97
47) Bromoform	9.14	173	28617	26.65 ug/L	99
49) Isopropylbenzene	9.39	105	121316	22.64 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	42924	25.60 ug/L	98
52) 1,3-Dichlorobenzene	11.09	146	55470	22.87 ug/L	99
53) 1,4-Dichlorobenzene	11.22	146	61402	22.73 ug/L	97
54) 1,2-Dichlorobenzene	11.73	146	54886	23.85 ug/L	98
55) 1,2-Dibromo-3-chloropropan	12.84	75	6245	29.32 ug/L	93
56) 1,2,4-Trichlorobenzene	14.04	180	31627	24.51 ug/L	98
57) Naphthalene	14.39	128	167	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100447.D Vial: 47
Acq On : 5 Oct 2004 7:30 am Operator: MI
Sample : LCS 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100448.D Vial: 48
Acq On : 5 Oct 2004 7:55 am Operator: MI
Sample : LCS-DUP 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.98	168	187301	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	270396	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.03	117	234524	50.00	ug/L	0.00
48) 1,4-Dichlorobenzene d-4 IS	11.18	152	105146	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.96	113	96098	50.68	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.36%			
33) Toluene d-8 SS#2	6.28	98	345861	51.11	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 102.22%			
50) 4-Bromofluorobenzene SS#3	9.58	95	141872	48.00	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 96.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.37	85	45377	21.36	ug/L	100
3) Chloromethane	1.44	50	45032	24.35	ug/L	93
4) VINYL CHLORIDE	1.54	62	36106	21.97	ug/L	97
5) Bromomethane	1.70	94	38083	23.13	ug/L	99
6) Chloroethane	1.76	64	22115	26.61	ug/L	98
7) Trichlorofluoromethane	1.90	101	29673	19.96	ug/L	99
8) Acetone	2.25	43	13424	28.27	ug/L	85
9) 1,1-DICHLOROETHENE	2.26	96	40271	23.75	ug/L	98
10) 1,1,2-Trichlorotrifluoroet	2.26	101	34934	24.58	ug/L	99
11) Carbon Disulfide	2.45	76	121442	23.95	ug/L	97
12) Methyl Acetate	2.46	74	4948	28.34	ug/L	100
13) Methylene chloride	2.57	84	45346	21.19	ug/L	97
14) trans-1,2-Dichloroethene	2.78	96	44213	24.29	ug/L	99
15) Methyl-t-Butyl Ether	2.76	73	86299	25.65	ug/L	100
16) 1,1-Dichloroethane	3.08	63	65629	24.29	ug/L	99
17) cis-1,2-Dichloroethene	3.55	96	47115	24.82	ug/L	98
18) 2-Butanone (MEK)	3.54	43	20742	27.58	ug/L	97
19) CHLOROFORM	3.82	83	83054	23.98	ug/L	99
21) 1,1,1-Trichloroethane	4.00	97	68488	23.78	ug/L #	1
22) Cyclohexane	4.07	56	49892	25.52	ug/L	84
24) Carbon tetrachloride	4.16	117	49229	23.57	ug/L	100
25) Benzene	4.34	78	157594	23.21	ug/L	99
26) 1,2-Dichloroethane	4.35	62	59474	25.21	ug/L	99
27) Trichloroethene	4.96	95	49581	25.47	ug/L	100
28) 1,2-DICHLOROPROPANE	5.19	63	35525	23.97	ug/L	100
29) Methylcyclohexane	5.18	83	39747	23.08	ug/L	99
30) Bromodichloromethane	5.48	83	61669	24.52	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100448.D Vial: 48
Acq On : 5 Oct 2004 7:55 am Operator: MI
Sample : LCS-DUP 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, LCS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	60602	21.66 ug/L	100
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	42888	27.79 ug/L	99
34) TOLUENE	6.35	92	101948	23.75 ug/L	97
35) trans-1,3-Dichloropropene	6.61	75	57738	23.09 ug/L	98
36) 1,1,2-Trichloroethane	6.83	83	29655	25.21 ug/L	98
37) Tetrachloroethene	7.00	166	35800	23.18 ug/L	99
38) 2-Hexanone (MBK)	7.15	43	29924	29.28 ug/L	99
40) Dibromochloromethane	7.30	129	34906	24.37 ug/L	99
41) 1,2-Dibromoethane	7.44	107	36418	25.41 ug/L	99
42) Chlorobenzene	8.06	112	93392	23.15 ug/L	97
43) ETHYLBENZENE	8.22	91	181117	24.10 ug/L	99
44) m&p-Xylene	8.37	106	118585	47.73 ug/L	100
45) o-Xylene	8.88	106	58175	23.34 ug/L	99
46) Styrene	8.91	104	105722	23.52 ug/L	96
47) Bromoform	9.14	173	27429	25.16 ug/L	99
49) Isopropylbenzene	9.39	105	120203	22.45 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.81	83	42182	25.17 ug/L	99
52) 1,3-Dichlorobenzene	11.09	146	54653	22.55 ug/L	99
53) 1,4-Dichlorobenzene	11.22	146	59527	22.05 ug/L	97
54) 1,2-Dichlorobenzene	11.73	146	52494	22.82 ug/L	98
55) 1,2-Dibromo-3-chloropropan	12.85	75	6368	29.92 ug/L	88
56) 1,2,4-Trichlorobenzene	14.05	180	30748	23.85 ug/L	97
57) Naphthalene	14.37	128	57	Not Detected	

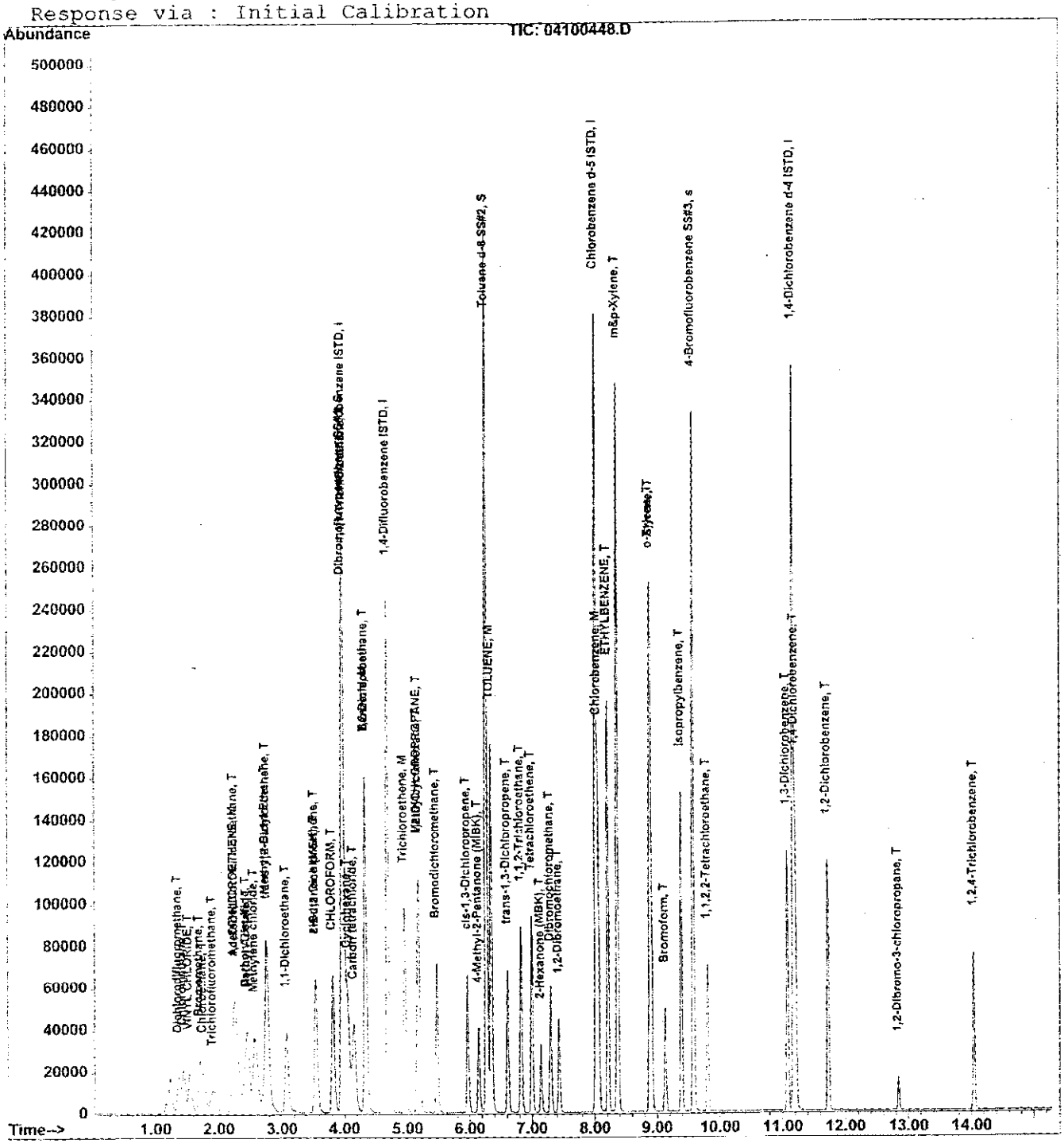
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100448.D
Acq On : 5 Oct 2004 7:55 am
Sample : LCS-DUP 25ppb
Misc : IS/S 1uL #475, LCS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 48
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
www.phaseonline.com

PHASE SEPARATION SCIENCE, INC.

VOLATILES

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

METHOD: EPA 8260 **BATCH NUMBER:** 2041

MATRIX: WATER

SAMPLE ID: 04092328-01 MS
DATE ANALYZED: 10/05/04 06:40:00
LAB FILE IDs: 04100445.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPIKE CONC (ug/L)	SPIKE REC (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	14.07	39	98	61 - 145
BENZENE	25	1.71	26	96	76 - 127
TRICHLOROETHENE	25	3661.57	3653	-36 *	71 - 120
TOLUENE	25	0	25	99	76 - 125
CHLOROBENZENE	25	0	25	101	75 - 130

SAMPLE ID: 04092328-01 MSD
DATE ANALYZED: 10/05/04 07:05:00
LAB FILE IDs: 04100446.D

SAMPLE SPIKE COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	SPK DUP CONC (ug/L)	SPK DUP REC (%)	RPD (%)	QC RPD (%)	QC LIMITS (%)
1,1-DICHLOROETHENE	25	14.07	38	96	1.5	30	61 - 145
BENZENE	25	1.71	26	96	0.0	30	76 - 127
TRICHLOROETHENE	25	3661.57	3620	-165 *	0.9	30	71 - 120
TOLUENE	25	0	24	95	4.5	30	76 - 125
CHLOROBENZENE	25	0	25	98	2.9	30	75 - 130

* - Indicates values outside of QC control limits.

Trichloroethene result in reference sample exceeds the calibration range.

Calculations:

$$\%\text{Recovery} = \left[\frac{(\text{Spike Conc.} - \text{Sample Conc.})}{\text{Spike Added}}\right] * 100$$

$$\text{Relative Percent Difference (RPD)} = \left|\frac{(\text{Spike Dup Conc.} - \text{Spike Conc.})}{\left(\frac{(\text{Spike Dup Conc.} + \text{Spike Conc.})}{2}\right)}\right| * 100$$

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100445.D Vial: 45
Acq On : 5 Oct 2004 6:40 am Operator: MI
Sample : 04092328-01 MS 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	189340	50.00	ug/L		0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	268782	50.00	ug/L		0.00
39) Chlorobenzene d-5 ISTD	8.03	117	233566	50.00	ug/L		0.00
48) 1,4-Dichlorobenzene d-4 IS	11.19	152	106108	50.00	ug/L		0.00
System Monitoring Compounds							
20) Dibromofluoromethane SS#1	3.97	113	96904	50.55	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.10%				
33) Toluene d-8 SS#2	6.28	98	344302	51.19	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 102.38%				
50) 4-Bromofluorobenzene SS#3	9.58	95	146264	49.04	ug/L		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.08%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.36	85	45128	21.01	ug/L		100
3) Chloromethane	1.45	50	42214	22.58	ug/L		99
4) VINYL CHLORIDE	1.55	62	71703	43.17	ug/L		100
5) Bromomethane	1.71	94	39209	23.56	ug/L		99
6) Chloroethane	1.76	64	22892	27.25	ug/L		100
7) Trichlorofluoromethane	1.91	101	27071	18.01	ug/L		98
8) Acetone	2.24	43	14011	29.18	ug/L		100
9) 1,1-DICHLOROETHENE	2.27	96	66216	38.63	ug/L		98
10) 1,1,2-Trichlorotrifluoroet	2.27	101	35683	24.84	ug/L	#	80
11) Carbon Disulfide	2.46	76	126900	24.76	ug/L		98
12) Methyl Acetate	2.46	74	4793	27.16	ug/L		97
13) Methylene chloride	2.58	84	66575	30.77	ug/L		99
14) trans-1,2-Dichloroethene	2.78	96	58378	31.73	ug/L		98
15) Methyl-t-Butyl Ether	2.76	73	88662	26.07	ug/L		100
16) 1,1-Dichloroethane	3.08	63	84407	30.91	ug/L		100
17) cis-1,2-Dichloroethene	3.56	96	528990	275.64	ug/L		99
18) 2-Butanone (MEK)	3.54	43	21254	27.96	ug/L		70
19) CHLOROFORM	3.82	83	90405	25.82	ug/L		99
21) 1,1,1-Trichloroethane	4.00	97	101717	34.94	ug/L	#	27
22) Cyclohexane	4.06	56	50440	25.52	ug/L		90
24) Carbon tetrachloride	4.16	117	53559	25.80	ug/L		98
25) Benzene	4.34	78	172744	25.60	ug/L		99
26) 1,2-Dichloroethane	4.35	62	80399	34.28	ug/L		100
27) Trichloroethene	4.97	95	7066752	3652.54	ug/L		92
28) 1,2-DICHLOROPROPANE	5.19	63	36686	24.91	ug/L		100
29) Methylcyclohexane	5.18	83	42648	24.92	ug/L		98
30) Bromodichloromethane	5.48	83	63046	25.22	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100445.D
Acq On : 5 Oct 2004 6:40 am
Sample : 04092328-01 MS 25ppb
Misc : IS/S 1uL #475, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 45
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

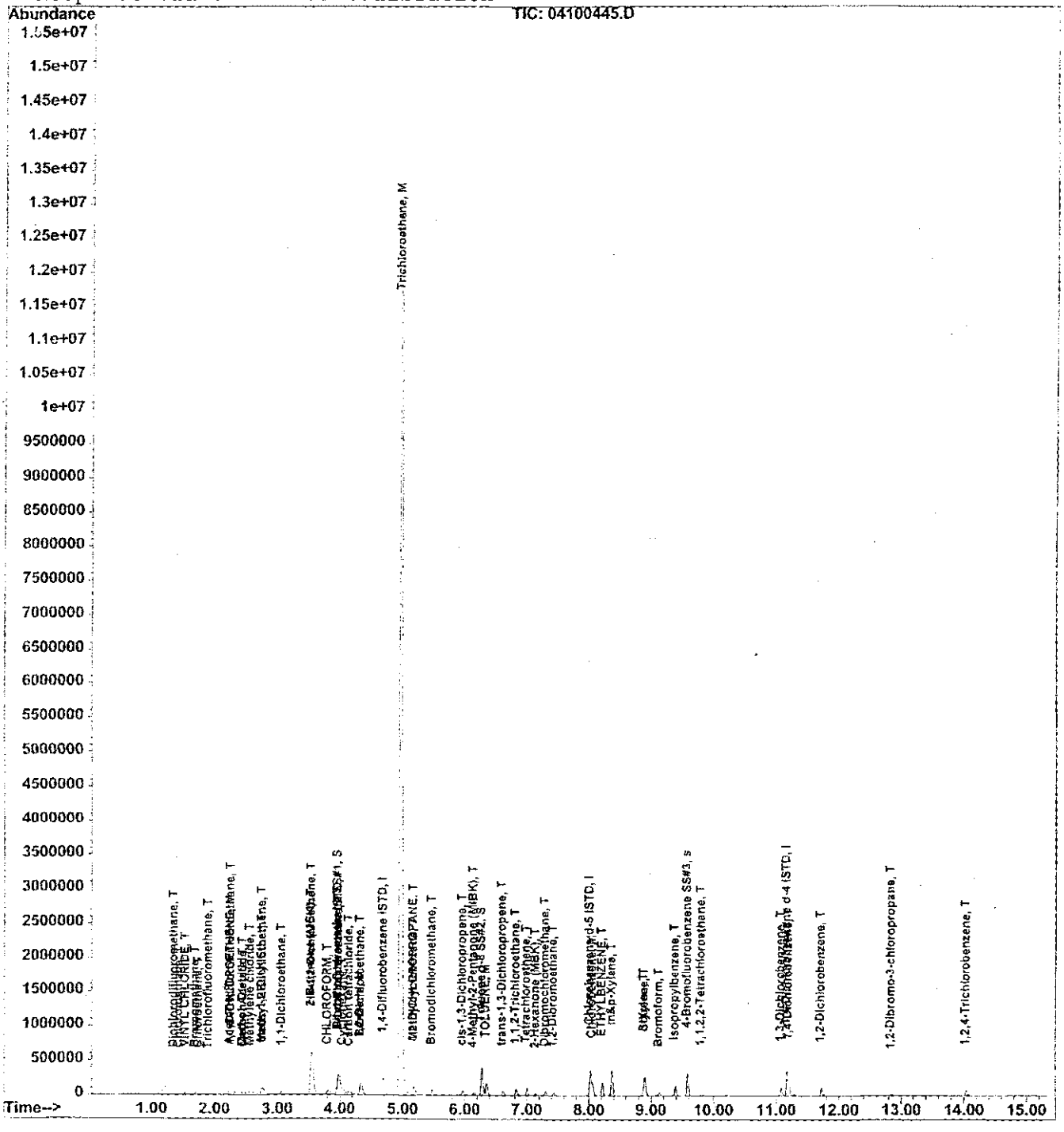
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	64160	23.07 ug/L	99
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	44988	29.33 ug/L	98
34) TOLUENE	6.35	92	105512	24.73 ug/L	99
35) trans-1,3-Dichloropropene	6.61	75	59774	24.05 ug/L	97
36) 1,1,2-Trichloroethane	6.83	83	31140	26.64 ug/L	100
37) Tetrachloroethene	7.00	166	40157	26.16 ug/L	99
38) 2-Hexanone (MBK)	7.15	43	30817	30.34 ug/L	99
40) Dibromochloromethane	7.31	129	35626	24.97 ug/L	99
41) 1,2-Dibromoethane	7.44	107	36447	25.54 ug/L	99
42) Chlorobenzene	8.06	112	101382	25.24 ug/L	98
43) ETHYLBENZENE	8.22	91	184715	24.68 ug/L	100
44) m&p-Xylene	8.37	106	122945	49.68 ug/L	100
45) o-Xylene	8.89	106	63585	25.62 ug/L	98
46) Styrene	8.91	104	109285	24.41 ug/L	95
47) Bromoform	9.14	173	28324	26.09 ug/L	98
49) Isopropylbenzene	9.39	105	122040	22.59 ug/L	99
51) 1,1,2,2-Tetrachloroethane	9.81	83	43728	25.86 ug/L	100
52) 1,3-Dichlorobenzene	11.09	146	56623	23.15 ug/L	99
53) 1,4-Dichlorobenzene	11.22	146	59757	21.93 ug/L	98
54) 1,2-Dichlorobenzene	11.73	146	55165	23.77 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.85	75	6134	28.56 ug/L	94
56) 1,2,4-Trichlorobenzene	14.05	180	32108	24.68 ug/L	98
57) Naphthalene	14.38	128	1262	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100445.D Vial: 45
Acq On : 5 Oct 2004 6:40 am Operator: MI
Sample : 04092328-01 MS 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100446.D
Acq On : 5 Oct 2004 7:05 am
Sample : 04092328-01 MSD 25ppb
Misc : IS/S 1uL #475, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 46
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	3.99	168	190300	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	272134	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.03	117	238766	50.00	ug/L	0.00
48) 1,4-Dichlorobenzene d-4 IS	11.19	152	104900	50.00	ug/L	0.00
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.97	113	96925	50.31	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.62%			
33) Toluene d-8 SS#2	6.28	98	344182	50.54	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.08%			
50) 4-Bromofluorobenzene SS#3	9.58	95	147476	50.01	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.02%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.37	85	45668	21.15	ug/L	100
3) Chloromethane	1.45	50	46522	24.76	ug/L	92
4) VINYL CHLORIDE	1.55	62	73073	43.77	ug/L	100
5) Bromomethane	1.72	94	39198	23.44	ug/L	100
6) Chloroethane	1.76	64	22340	26.45	ug/L	97
7) Trichlorofluoromethane	1.92	101	27343	18.10	ug/L	99
8) Acetone	2.25	43	14422	29.89	ug/L	98
9) 1,1-DICHLOROETHENE	2.27	96	65562	38.06	ug/L	96
10) 1,1,2-Trichlorotrifluoroet	2.27	101	35911	24.87	ug/L	96
11) Carbon Disulfide	2.45	76	127167	24.68	ug/L	99
12) Methyl Acetate	2.46	74	4715	26.58	ug/L	94
13) Methylene chloride	2.58	84	67143	30.88	ug/L	99
14) trans-1,2-Dichloroethene	2.77	96	58412	31.59	ug/L	98
15) Methyl-t-Butyl Ether	2.76	73	90012	26.33	ug/L	100
16) 1,1-Dichloroethane	3.08	63	84473	30.77	ug/L	98
17) cis-1,2-Dichloroethene	3.56	96	525844	272.62	ug/L	99
18) 2-Butanone (MEK)	3.55	43	21116	27.64	ug/L	67
19) CHLOROFORM	3.82	83	89733	25.50	ug/L	99
21) 1,1,1-Trichloroethane	4.01	97	104145	35.60	ug/L #	31
22) Cyclohexane	4.06	56	52405	26.38	ug/L #	88
24) Carbon tetrachloride	4.16	117	53313	25.36	ug/L	99
25) Benzene	4.34	78	174815	25.59	ug/L	100
26) 1,2-Dichloroethane	4.35	62	80758	34.01	ug/L	99
27) Trichloroethene	4.97	95	7091903	3620.38	ug/L	92
28) 1,2-DICHLOROPROPANE	5.19	63	36163	24.25	ug/L	99
29) Methylcyclohexane	5.18	83	42149	24.32	ug/L	99
30) Bromodichloromethane	5.48	83	63625	25.13	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100446.D Vial: 46
Acq On : 5 Oct 2004 7:05 am Operator: MI
Sample : 04092328-01 MSD 25ppb Inst : VOC#1
Misc : IS/S 1uL #475, MS 5uL #350 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.97	75	64867	23.03 ug/L	98
32) 4-Methyl-2-Pentanone (MIBK	6.15	43	45807	29.49 ug/L	99
34) TOLUENE	6.36	92	102074	23.63 ug/L	98
35) trans-1,3-Dichloropropene	6.61	75	60228	23.93 ug/L	97
36) 1,1,2-Trichloroethane	6.83	83	31129	26.30 ug/L	99
37) Tetrachloroethene	7.00	166	40737	26.21 ug/L	99
38) 2-Hexanone (MBK)	7.15	43	32062	31.18 ug/L	99
40) Dibromochloromethane	7.31	129	35676	24.46 ug/L	98
41) 1,2-Dibromoethane	7.44	107	37197	25.49 ug/L	99
42) Chlorobenzene	8.06	112	100641	24.51 ug/L	97
43) ETHYLBENZENE	8.22	91	183154	23.94 ug/L	100
44) m&p-Xylene	8.37	106	121832	48.16 ug/L	99
45) o-Xylene	8.89	106	63990	25.22 ug/L	98
46) Styrene	8.91	104	109306	23.89 ug/L	95
47) Bromoform	9.14	173	28507	25.69 ug/L	100
49) Isopropylbenzene	9.39	105	120708	22.60 ug/L	99
51) 1,1,2,2-Tetrachloroethane	9.81	83	43789	26.19 ug/L	100
52) 1,3-Dichlorobenzene	11.09	146	54967	22.73 ug/L	99
53) 1,4-Dichlorobenzene	11.22	146	58369	21.67 ug/L	98
54) 1,2-Dichlorobenzene	11.73	146	55600	24.23 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.85	75	6435	30.30 ug/L	90
56) 1,2,4-Trichlorobenzene	14.05	180	33130	25.76 ug/L	98
57) Naphthalene	14.38	128	1420	Not Detected	

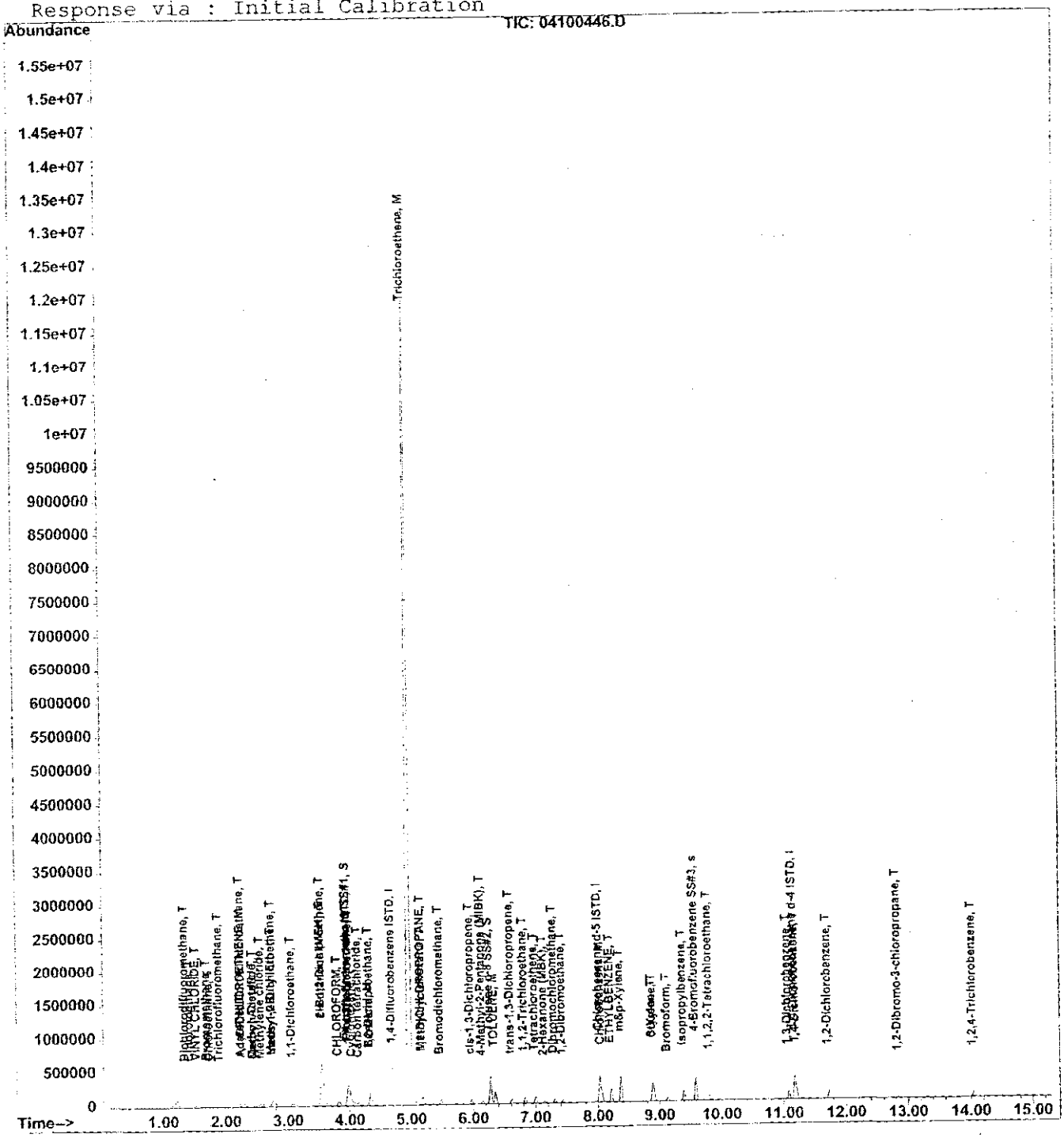
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100446.D
Acq On : 5 Oct 2004 7:05 am
Sample : 04092328-01 MSD 25ppb
Misc : IS/S 1uL #475, MS 5uL #350
MS Integration Params: rteint.p
Quant Time: Oct 5 12:25 2004

Vial: 46
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041004\04100422.D Vial: 22
Acq On : 4 Oct 2004 8:44 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #475, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene ISTD	1.000	1.000	0.0	95	0.00
2	T	Dichlorodifluoromethane	0.567	0.568	-0.2	94	0.00
3	T	Chloromethane	0.494	0.492	0.4	109	-0.01
4	T	VINYL CHLORIDE	0.439	0.440	-0.2	95	0.00
5	T	Bromomethane	0.439	0.409	6.8	94	-0.01
6	T	Chloroethane	0.222	0.226	-1.8	92	0.00
7	T	Trichlorofluoromethane	0.306	0.335	-9.5	93	0.00
8	T	Acetone	0.162	0.121	25.3#	94	0.00
9	M	1,1-DICHLOROETHENE	0.453	0.438	3.3	93	0.00
10	T	1,1,2-Trichlorotrifluoroeth	0.379	0.397	-4.7	94	0.01
11	T	Carbon Disulfide	1.354	1.328	1.9	93	0.00
12	T	Methyl Acetate	0.047	0.052	-10.6	99	0.01
13	T	Methylene chloride	0.571	0.487	14.7	92	0.00
14	T	trans-1,2-Dichloroethene	0.486	0.473	2.7	94	0.00
15	T	Methyl-t-Butyl Ether	0.898	0.891	0.8	96	0.01
16	T	1,1-Dichloroethane	0.721	0.714	1.0	94	0.01
17	T	cis-1,2-Dichloroethene	0.507	0.500	1.4	95	0.00
18	T	2-Butanone (MEK)	0.201	0.188	6.5	99	0.01
19	T	CHLOROFORM	0.925	0.891	3.7	93	0.00
20	S	Dibromofluoromethane SS#1	0.506	0.510	-0.8	94	0.00
21	T	1,1,1-Trichloroethane	0.769	0.758	1.4	96	0.00
22	T	Cyclohexane	0.522	0.532	-1.9	94	0.01
23	I	1,4-Difluorobenzene ISTD	1.000	1.000	0.0	93	0.00
24	T	Carbon tetrachloride	0.386	0.385	0.3	94	0.00
25	M	Benzene	1.255	1.217	3.0	95	0.00
26	T	1,2-Dichloroethane	0.436	0.440	-0.9	99	0.00
27	M	Trichloroethene	0.360	0.351	2.5	97	0.00
28	T	1,2-DICHLOROPROPANE	0.274	0.268	2.2	95	0.01
29	T	Methylcyclohexane	0.318	0.323	-1.6	95	0.01
30	T	Bromodichloromethane	0.465	0.471	-1.3	95	0.00
31	T	cis-1,3-Dichloropropene	0.517	0.512	1.0	96	0.01
32	T	4-Methyl-2-Pentanone (MIBK)	0.285	0.296	-3.9	101	0.01
33	S	Toluene d-8 SS#2	1.251	1.276	-2.0	95	0.00
34	M	TOLUENE	0.794	0.766	3.5	94	0.00
35	T	trans-1,3-Dichloropropene	0.462	0.477	-3.2	98	0.00
36	T	1,1,2-Trichloroethane	0.217	0.223	-2.8	97	0.00
37	T	Tetrachloroethene	0.286	0.282	1.4	95	0.00
38	T	2-Hexanone (MBK)	0.189	0.198	-4.8	101	0.00
39	I	Chlorobenzene d-5 ISTD	1.000	1.000	0.0	96	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041004\04100422.D
Acq On : 4 Oct 2004 8:44 pm
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #475, CCV 10uL #548
MS Integration Params: rteint.p

Vial: 22
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	T	Dibromochloromethane	0.305	0.309	-1.3	97	0.00
41	T	1,2-Dibromoethane	0.306	0.298	2.6	94	0.00
42	M	Chlorobenzene	0.860	0.834	3.0	94	0.00
43	T	ETHYLBENZENE	1.602	1.535	4.2	91	0.00
44	T	m&p-Xylene	0.530	0.517	2.5	93	0.00
45	T	o-Xylene	0.531	0.505	4.9	92	0.00
46	T	Styrene	0.958	0.940	1.9	92	0.00
47	T	Bromoform	0.232	0.234	-0.9	94	0.00
48	I	1,4-Dichlorobenzene d-4 IST	1.000	1.000	0.0	97	0.01
49	T	Isopropylbenzene	2.546	2.412	5.3	93	0.00
50	S	4-Bromofluorobenzene SS#3	1.405	1.364	2.9	93	0.00
51	T	1,1,2,2-Tetrachloroethane	0.797	0.803	-0.8	100	0.01
52	T	1,3-Dichlorobenzene	1.153	1.082	6.2	91	0.00
53	T	1,4-Dichlorobenzene	1.284	1.143	11.0	95	0.01
54	T	1,2-Dichlorobenzene	1.094	1.007	8.0	91	0.00
55	T	1,2-Dibromo-3-chloropropane	0.101	0.102	-1.0	102	0.00
56	T	1,2,4-Trichlorobenzene	0.613	0.550	10.3	90	0.00
57	T	Naphthalene	0.887	0.812	8.5	90	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100422.D Vial: 22
Acq On : 4 Oct 2004 8:44 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #475, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 4 23:03 2004

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene ISTD	4.00	168	197265	50.00	ug/L	0.00
23) 1,4-Difluorobenzene ISTD	4.70	114	281712	50.00	ug/L	0.00
39) Chlorobenzene d-5 ISTD	8.04	117	244159	50.00	ug/L	0.00
48) 1,4-Dichlorobenzene d-4 IS	11.20	152	108833	50.00	ug/L	0.01
System Monitoring Compounds						
20) Dibromofluoromethane SS#1	3.97	113	100520	50.33	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.66%			
33) Toluene d-8 SS#2	6.29	98	359338	50.97	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.94%			
50) 4-Bromofluorobenzene SS#3	9.60	95	148436	48.52	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.38	85	112071	50.08	ug/L	100
3) Chloromethane	1.47	50	97051m	49.84	ug/L	
4) VINYL CHLORIDE	1.56	62	86769	50.14	ug/L	99
5) Bromomethane	1.72	94	80732	46.57	ug/L	100
6) Chloroethane	1.77	64	44619	50.97	ug/L	100
7) Trichlorofluoromethane	1.94	101	66077	42.20	ug/L	99
8) Acetone	2.25	43	23925	47.83	ug/L	98
9) 1,1-DICHLOROETHENE	2.27	96	86446	48.41	ug/L	98
10) 1,1,2-Trichlorotrifluoroet	2.27	101	78379	52.37	ug/L	98
11) Carbon Disulfide	2.47	76	262009	49.06	ug/L	100
12) Methyl Acetate	2.48	74	10315	56.09	ug/L	100
13) Methylene chloride	2.58	84	96120	42.64	ug/L	99
14) trans-1,2-Dichloroethene	2.78	96	93397	48.72	ug/L	98
15) Methyl-t-Butyl Ether	2.77	73	175843	49.63	ug/L	100
16) 1,1-Dichloroethane	3.09	63	140831	49.49	ug/L	99
17) cis-1,2-Dichloroethene	3.56	96	98711	49.37	ug/L	99
18) 2-Butanone (MEK)	3.55	43	37139	46.90	ug/L	99
19) CHLOROFORM	3.83	83	175717	48.16	ug/L	99
21) 1,1,1-Trichloroethane	4.01	97	149581	49.32	ug/L #	54
22) Cyclohexane	4.08	56	105016	51.00	ug/L	93
24) Carbon tetrachloride	4.17	117	108502	49.86	ug/L	100
25) Benzene	4.34	78	342715	48.46	ug/L	100
26) 1,2-Dichloroethane	4.35	62	124078	50.48	ug/L	100
27) Trichloroethene	4.98	95	98798	48.72	ug/L	100
28) 1,2-DICHLOROPROPANE	5.21	63	75628	48.99	ug/L	100
29) Methylcyclohexane	5.19	83	91071	50.77	ug/L	99
30) Bromodichloromethane	5.49	83	132549	50.58	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100422.D
Acq On : 4 Oct 2004 8:44 pm
Sample : TCL-W, CCV 50ppb
Misc : IS/S 1uL #475, CCV 10uL #548
MS Integration Params: rteint.p
Quant Time: Oct 4 23:03 2004

Vial: 22
Operator: MI
Inst : VOC#1
MultiplIr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

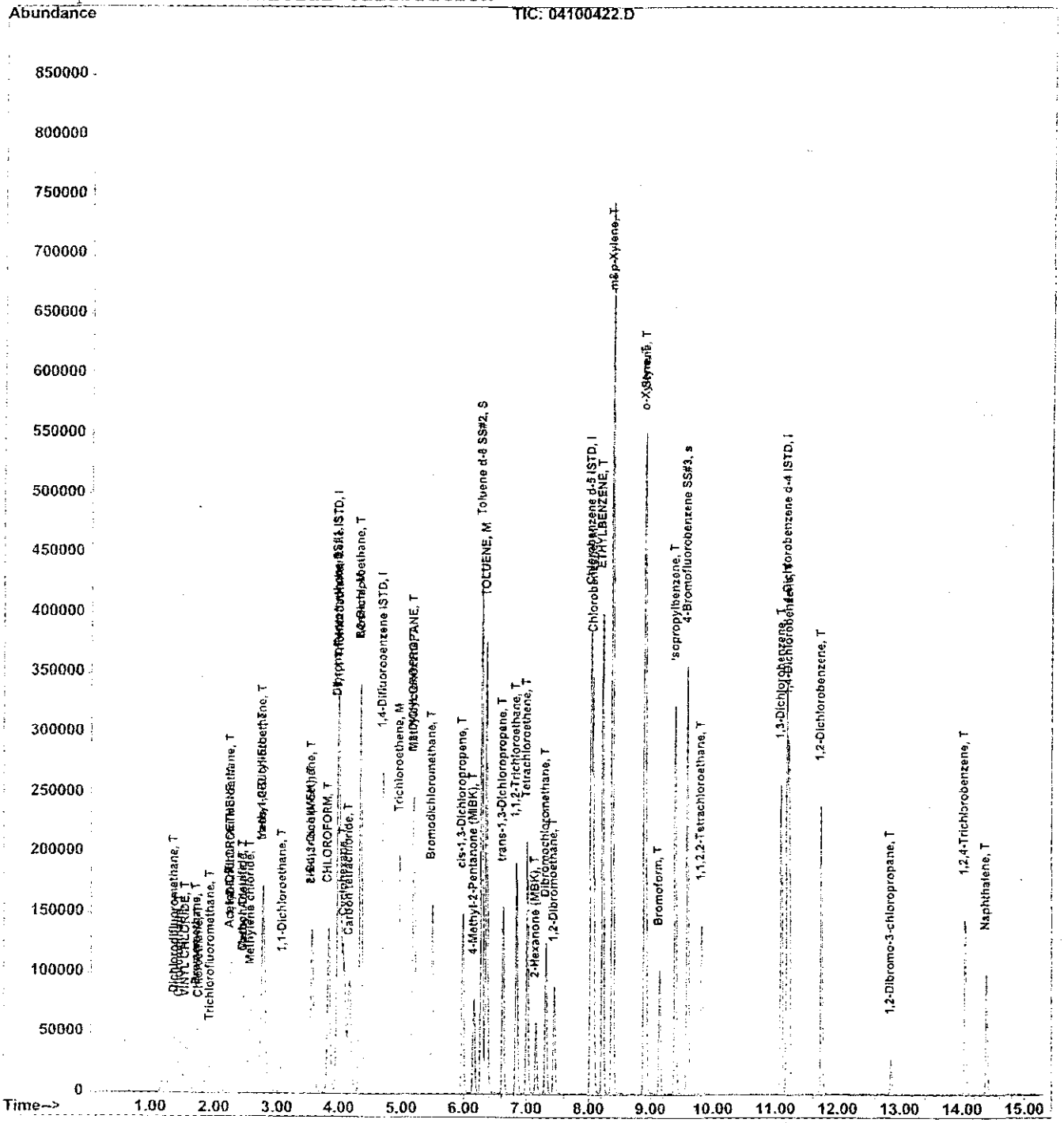
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) cis-1,3-Dichloropropene	5.99	75	144131	49.44 ug/L	99
32) 4-Methyl-2-Pentanone (MIBK	6.17	43	83384	51.86 ug/L	99
34) TOLUENE	6.37	92	215794	48.25 ug/L	98
35) trans-1,3-Dichloropropene	6.63	75	134481	51.62 ug/L	98
36) 1,1,2-Trichloroethane	6.84	83	62873	51.31 ug/L	99
37) Tetrachloroethene	7.01	166	79393	49.35 ug/L	100
38) 2-Hexanone (MBK)	7.15	43	55778	52.39 ug/L	100
40) Dibromochloromethane	7.32	129	75510	50.63 ug/L	99
41) 1,2-Dibromoethane	7.45	107	72748	48.76 ug/L	98
42) Chlorobenzene	8.08	112	203595	48.48 ug/L	98
43) ETHYLBENZENE	8.22	91	374687	47.89 ug/L	100
44) m&p-Xylene	8.39	106	252632	97.66 ug/L	98
45) o-Xylene	8.90	106	123342	47.54 ug/L	97
46) Styrene	8.92	104	229401	49.02 ug/L	98
47) Bromoform	9.15	173	57172	50.38 ug/L	98
49) Isopropylbenzene	9.41	105	262517	47.37 ug/L	100
51) 1,1,2,2-Tetrachloroethane	9.83	83	87361	50.37 ug/L	100
52) 1,3-Dichlorobenzene	11.10	146	117708	46.92 ug/L	100
53) 1,4-Dichlorobenzene	11.23	146	124422	44.52 ug/L	98
54) 1,2-Dichlorobenzene	11.74	146	109597	46.04 ug/L	99
55) 1,2-Dibromo-3-chloropropan	12.86	75	11154	50.63 ug/L	94
56) 1,2,4-Trichlorobenzene	14.05	180	59813	44.82 ug/L	99
57) Naphthalene	14.39	128	88324	45.74 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100422.D Vial: 22
Acq On : 4 Oct 2004 8:44 pm Operator: MI
Sample : TCL-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #475, CCV 10uL #548 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 4 23:03 2004

Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 10:55:46 2004
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\041004\04100423.D
Acq On : 4 Oct 2004 9:09 pm
Sample : UNREG-W, CCV 50ppb
Misc : IS/S 1uL #475, CCV 10uL #549
MS Integration Params: rteint.p

Vial: 23
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentaflourobenzene	1.000	1.000	0.0	95	0.00
2	t	acrolein	0.049	0.052	-6.1	99	0.05
3	t	iodomethane	0.630	0.622	1.3	95	0.00
4	t	acrylonitrile	0.103	0.113	-9.7	104	0.00
5	t	tert-butanol	0.045	0.050	-11.1	101	0.00
6	t	vinyl acetate	1.787	1.761	1.5	99	0.00
7	t	diisopropyl ether	1.638	1.596	2.6	96	0.00
8	t	tert-Butyl ethyl ether	1.147	1.108	3.4	94	0.00
9	T	2,2-Dichloropropane	0.610	0.598	2.0	103	0.00
10	T	Bromochloromethane	0.202	0.198	2.0	95	0.00
11	S	Dibromofluoromethane SS#1	0.507	0.507	0.0	94	0.00
12	I	1,4-Difluorobenzene	1.000	1.000	0.0	94	0.00
13	T	1,1-Dichloropropene	0.428	0.419	2.1	96	0.00
14	t	tert-amyl methyl ether	0.753	0.714	5.2	95	0.00
15	T	Dibromomethane	0.212	0.209	1.4	97	0.00
16	t	1,4-dioxane	0.001	0.000	100.0#	52	0.04
17	T	2-Chloroethylvinyl Ether	0.079	0.077	2.5	93	0.00
18	S	Toluene d-8 SS#2	1.254	1.248	0.5	93	0.00
19	I	Chlorobenzene d-5	1.000	1.000	0.0	93	0.00
20	T	1,3-Dichloropropane	0.526	0.514	2.3	97	0.00
21	T	1,1,1,2-Tetrachloroethane	0.289	0.276	4.5	93	0.00
22	T	1,2,3-Trichloropropane	0.100	0.100	0.0	101	0.00
23	s	4-Bromofluorobenzene SS#3	0.597	0.610	-2.2	95	0.00
24	T	Bromobenzene	0.369	0.348	5.7	93	0.00
25	t	trans-1,4-dichloro-2-butene	0.324	0.393	-21.3	145	0.00
26	T	n-Propylbenzene	1.535	1.506	1.9	96	0.00
27	I	1,4-Dichlorobenzene d-4	1.000	1.000	0.0	98	0.00
28	T	2-Chlorotoluene	2.429	2.203	9.3	94	0.00
29	T	4-Chlorotoluene	2.768	2.575	7.0	94	0.00
30	T	1,3,5-Trimethylbenzene	2.222	2.066	7.0	94	0.00
31	T	tert-Butylbenzene	1.574	1.431	9.1	91	0.00
32	T	1,2,4-Trimethylbenzene	2.328	2.152	7.6	91	0.00
33	T	sec-Butylbenzene	2.595	2.396	7.7	91	0.00
34	T	4-Isopropyltoluene	1.853	1.747	5.7	95	0.00
35	T	n-Butylbenzene	2.078	1.992	4.1	94	0.00
36	T	1,2,3-Trichlorobenzene	0.396	0.372	6.1	93	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100423.D Vial: 23
Acq On : 4 Oct 2004 9:09 pm Operator: MI
Sample : UNREG-W, CCV 50ppb Inst : VOC#1
Misc : IS/S 1uL #475, CCV 10uL #549 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 5 12:20 2004

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentaflourobenzene	4.00	168	198568	50.00	ug/L		0.00
12) 1,4-Difluorobenzene	4.71	114	285247	50.00	ug/L		0.00
19) Chlorobenzene d-5	8.04	117	238862	50.00	ug/L		0.00
27) 1,4-Dichlorobenzene d-4	11.19	152	109179	50.00	ug/L		0.00
System Monitoring Compounds							
11) Dibromofluoromethane SS#1	3.97	113	100596	50.01	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.02%				
18) Toluene d-8 SS#2	6.29	98	355861	49.75	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.50%				
23) 4-Bromofluorobenzene SS#3	9.60	95	145706	51.10	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.20%				
Target Compounds							Qvalue
2) acrolein	2.16	56	10340	53.05	ug/L	#	100
3) iodomethane	2.39	142	123417	49.35	ug/L		99
4) acrylonitrile	2.73	53	22515	54.94	ug/L		99
5) tert-butanol	2.67	59	9881	54.98	ug/L		100
6) vinyl acetate	3.10	43	349583	49.25	ug/L		100
7) diisopropyl ether	3.12	45	316844	48.71	ug/L		100
8) tert-Butyl ethyl ether	3.43	59	219988	48.30	ug/L		99
9) 2,2-Dichloropropane	3.57	77	118703	61.34	ug/L		100
10) Bromochloromethane	3.77	128	39394	49.21	ug/L		99
13) 1,1-Dichloropropene	4.15	75	119583	49.00	ug/L		99
14) tert-amyl methyl ether	4.45	73	203594	47.39	ug/L		100
15) Dibromomethane	5.32	93	59614	49.29	ug/L		98
16) 1,4-dioxane	5.37	58	63	16.13	ug/L	#	1
17) 2-Chloroethylvinyl Ether	5.82	63	21999	48.66	ug/L		96
20) 1,3-Dichloropropane	7.04	76	122834	48.92	ug/L		100
21) 1,1,1,2-Tetrachloroethane	8.18	131	65940	47.79	ug/L		99
22) 1,2,3-Trichloropropane	9.86	110	23888	49.77	ug/L		100
24) Bromobenzene	9.79	156	83085	47.18	ug/L		99
25) trans-1,4-dichloro-2-buten	9.86	75	93964	74.84	ug/L	#	100
26) n-Propylbenzene	9.97	91	359820	49.06	ug/L		100
28) 2-Chlorotoluene	10.07	91	240517	45.34	ug/L		99
29) 4-Chlorotoluene	10.21	91	281120	46.51	ug/L		100
30) 1,3,5-Trimethylbenzene	10.22	105	225529	46.49	ug/L		100
31) tert-Butylbenzene	10.67	119	156236	45.46	ug/L		100
32) 1,2,4-Trimethylbenzene	10.73	105	234911	46.21	ug/L		100
33) sec-Butylbenzene	10.97	105	261597	46.16	ug/L		100
34) 4-Isopropyltoluene	11.19	119	190772	47.15	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\041004\04100423.D
Acq On : 4 Oct 2004 9:09 pm
Sample : UNREG-W, CCV 50ppb
Misc : TS/S 1uL #475, CCV 10uL #549
MS Integration Params: rteint.p
Quant Time: Oct 5 12:20 2004

Vial: 23
Operator: MI
Inst : VOC#1
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration
DataAcq Meth : RTX2VOA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) n-Butylbenzene	11.77	91	217494	47.92 ug/L	100
36) 1,2,3-Trichlorobenzene	14.75	180	40627	46.94 ug/L	99

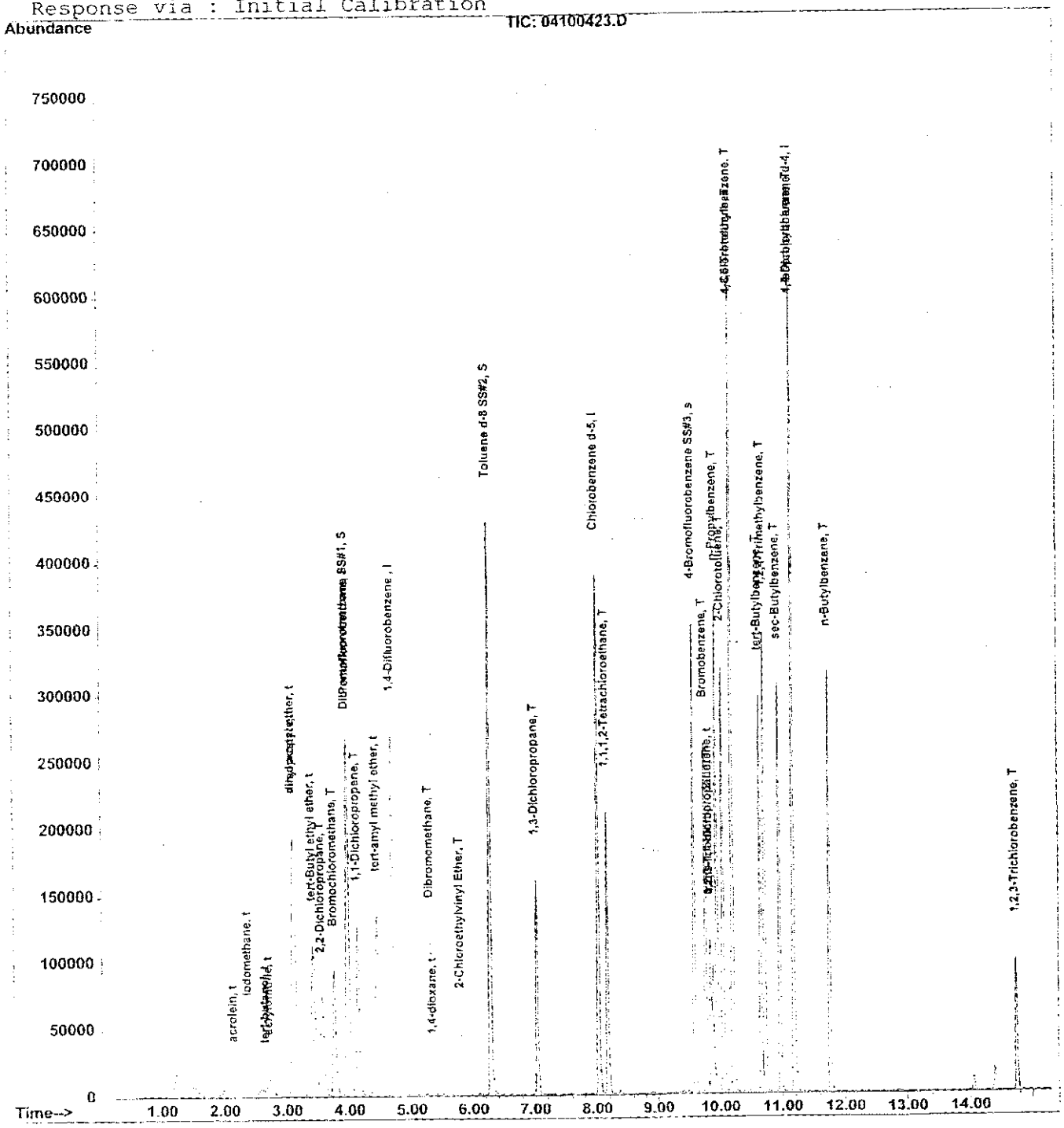
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041004\04100423.D
Acq On : 4 Oct 2004 9:09 pm
Sample : UNREG-W, CCV 50ppb
Misc : IS/S 1uL #475, CCV 10uL #549
MS Integration Params: rteint.p
Quant Time: Oct 5 12:20 2004

Vial: 23
Operator: MI
Inst : VOC#1
Multiplr: 1.00

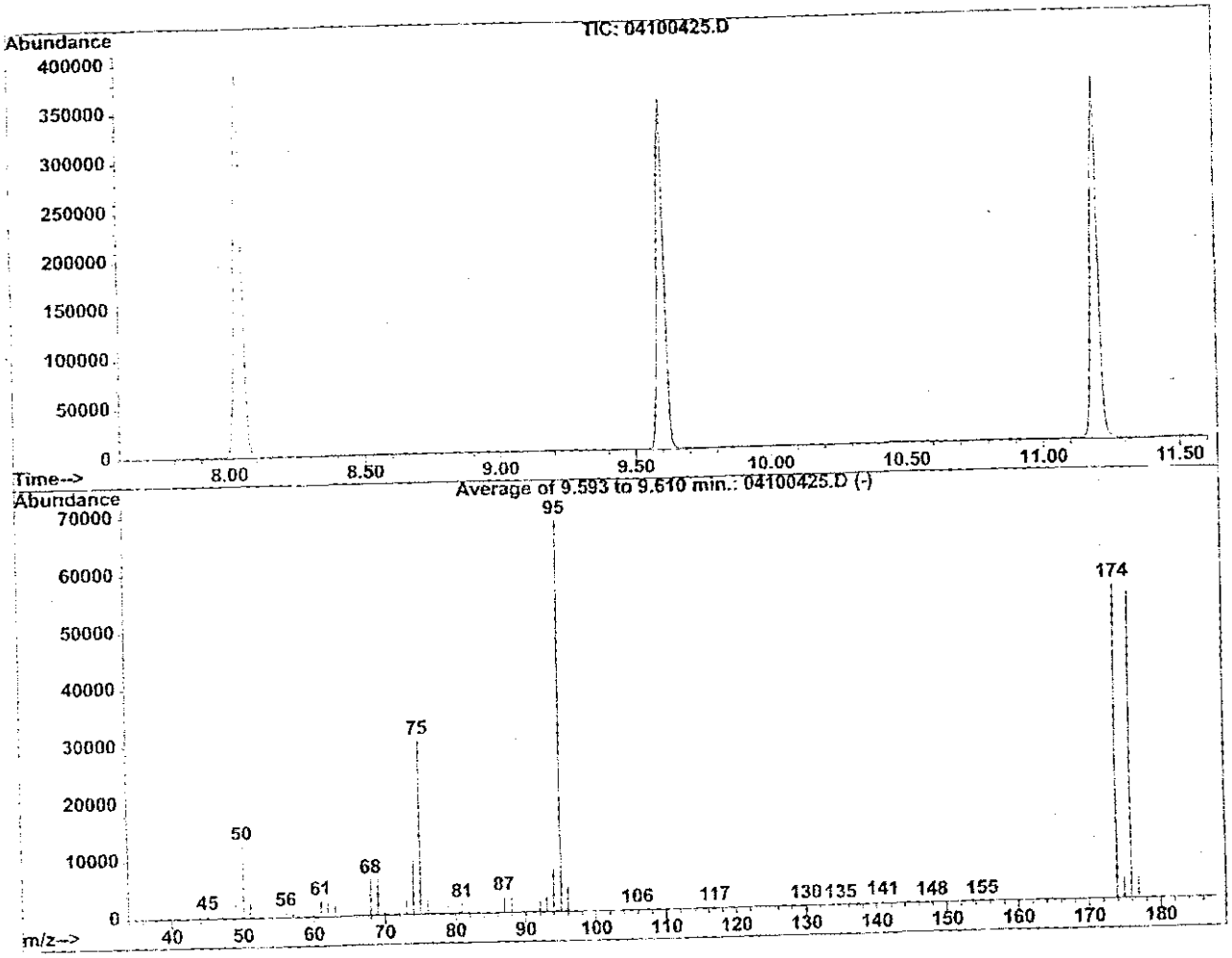
Method : C:\HPCHEM\1\METHODS\UNREG-W.M (RTE Integrator)
Title : 524.2 Purgable Organics
Last Update : Mon Oct 04 11:17:11 2004
Response via : Initial Calibration



BFB

Data File : C:\HPCHEM\1\DATA\041004\04100425.D
Acq On : 4 Oct 2004 9:59 pm
Sample : METHOD BLANK 5mL
Misc : IS/S 1uL #475
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\TCL-W.M (RTE Integrator)
Title : 524.2 Purgable Organics

Vial: 25
Operator: MI
Inst : VOC#1
Multiplr: 1.00



AutoFind: Scans 1162, 1163, 1164; Background Corrected with Scan 1155

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.6	12741	PASS
75	95	30	60	44.4	30376	PASS
95	95	100	100	100.0	68429	PASS
96	95	5	9	6.4	4349	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	80.7	55208	PASS
175	174	5	9	6.9	3824	PASS
176	174	95	101	97.6	53891	PASS
177	176	5	9	6.9	3718	PASS

04100425.D TCL-W.M Tue Oct 05 12:22:51 2004

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Total Metals

- *Initial Calibration Verification Summary*
- *Continuing Calibration Verification Summary*
- *Duplicate Summary*
- *Matrix Spike Summary*
- *Post Digestion Spike (PDS)*
- *Dilution Test*
- *Method Blank Summary (PB)*
- *LCS Summary (LFB)*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\007ICV1.D\007ICV1.D#
Date Acquired: Oct 1 2004 08:13 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: ICV-50 PPB ; 2 PPB HG
Misc Info: 0.25 ML #444; 0.1 ML #A098-50 ML
Vial Number: 1301
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal. Update: Oct 04 2004 09:09 am
Sample Type: ICV1
Dilution Factor: 1.00

QC Elements

Element	Raw Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	50.68	ppb	2.33	50.00	101	89.5 - 111	
52 Cr	49.91	ppb	0.68	50.00	100	89.5 - 111	
60 Ni	49.47	ppb	0.43	50.00	99	89.5 - 111	
63 Cu	48.47	ppb	5.20	50.00	97	89.5 - 111	
66 Zn	50.03	ppb	1.61	50.00	100	89.5 - 111	
75 As	51.35	ppb	3.41	50.00	103	89.5 - 111	
82 Se	50.36	ppb	3.60	50.00	101	89.5 - 111	
107 Ag	49.11	ppb	6.26	50.00	98	89.5 - 111	
111 Cd	50.53	ppb	1.36	50.00	101	89.5 - 111	
121 Sb	50.29	ppb	1.72	50.00	101	89.5 - 111	
202 Hg	0.99	ppb	2.35	1.00	99	89.5 - 111	
205 Tl	47.96	ppb	1.21	50.00	96	89.5 - 111	
208 Pb	50.56	ppb	0.95	50.00	101	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	9695543	3.80	9681590	100.1	30 - 140	
45 Sc	5576258	1.39	5403941	103.2	30 - 140	
72 Ge	890153	4.14	904548	98.4	30 - 140	
115 In	5032745	3.72	5069644	99.3	30 - 140	
209 Bi	3751190	2.06	3857403	97.2	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
0.05 ML # 115; 1.25 ML # A100; HG 0.1 ML # A097
HNO3 #82; HCL #X13037; Au #174; IS # 168

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\009_ICB.D\009_ICB.D#
Date Acquired: Oct 1 2004 08:22 pm
Operator:
Sample Name: icb
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal Update: Oct 04 2004 09:09 am
Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.03	ppb	53.62	2.50	
52 Cr	-0.13	ppb	47.91	2.50	
60 Ni	-0.09	ppb	258.96	2.50	
63 Cu	-0.51	ppb	11.84	2.50	
66 Zn	-1.30	ppb	4.10	25.00	
75 As	0.08	ppb	44.54	0.50	
82 Se	0.08	ppb	36.55	2.50	
107 Ag	-2.42	ppb	10.95	2.50	
111 Cd	0.01	ppb	416.68	2.50	
121 Sb	0.20	ppb	19.00	2.50	
202 Hg	0.01	ppb	33.37	0.10	
205 Tl	0.70	ppb	5.10	2.50	
208 Pb	-0.01	ppb	170.68	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	9926518	1.90	9681590	102.5	30 - 140	
45 Sc	5445237	2.85	5403941	100.8	30 - 140	
72 Ge	888665	2.26	904548	98.2	30 - 140	
115 In	5097097	2.15	5069644	100.5	30 - 140	
209 Bi	3843374	0.89	3857403	99.6	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\010SMPL.D\010SMPL.D#
Date Acquired: Oct 1 2004 08:27 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 1.0 PPB CHECK
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal. Update: Oct 04 2004 09:09 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.98	0.98	ppb	4.99	8000.00	
52 Cr	0.77	0.77	ppb	8.63	40000.00	
60 Ni	0.75	0.75	ppb	27.27	8000.00	
63 Cu	0.46	0.46	ppb	4.07	8000.00	
66 Zn	-0.02	-0.02	ppb	55.52	8000.00	
75 As	0.95	0.95	ppb	10.32	8000.00	
82 Se	0.98	0.98	ppb	3.61	8000.00	
107 Ag	-1.48	-1.48	ppb	20.72	8000.00	
111 Cd	0.97	0.97	ppb	3.58	8000.00	
121 Sb	1.04	1.04	ppb	3.35	8000.00	
202 Hg	0.01	0.01	ppb	42.18	8.00	
205 Tl	1.05	1.05	ppb	6.33	8000.00	
208 Pb	0.95	0.95	ppb	1.80	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	9607120.00	1.35	9681590.00	99.2	30 - 140	
45 Sc	5559977.00	0.44	5403941.00	102.9	30 - 140	
72 Ge	916391.25	0.59	904547.69	101.3	30 - 140	
115 In	4985146.00	1.14	5069643.50	98.3	30 - 140	
209 Bi	3795767.00	0.37	3857402.80	98.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\022CCV1.D\022CCV1.D#
Date Acquired: Oct 1 2004 09:25 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal Update: Oct 04 2004 09:09 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	49.94	ppb	3.19	50.00	100	89.5 - 111	
52 Cr	52.84	ppb	0.84	50.00	106	89.5 - 111	
60 Ni	52.97	ppb	0.87	50.00	106	89.5 - 111	
63 Cu	50.70	ppb	1.87	50.00	101	89.5 - 111	
66 Zn	55.01	ppb	0.16	50.00	110	89.5 - 111	
75 As	53.24	ppb	4.05	50.00	106	89.5 - 111	
82 Se	51.28	ppb	1.72	50.00	103	89.5 - 111	
107 Ag	53.69	ppb	4.61	50.00	107	89.5 - 111	
111 Cd	51.15	ppb	2.33	50.00	102	89.5 - 111	
121 Sb	52.44	ppb	2.04	50.00	105	89.5 - 111	
202 Hg	1.94	ppb	1.28	2.00	97	89.5 - 111	
205 Tl	48.98	ppb	1.44	50.00	98	89.5 - 111	
208 Pb	51.62	ppb	0.37	50.00	103	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	10549335	2.20	9681590	109.0	30 - 140	
45 Sc	5159814	1.00	5403941	95.5	30 - 140	
72 Ge	841370	2.91	904548	93.0	30 - 140	
115 In	4787070	1.51	5069644	94.4	30 - 140	
209 Bi	3687959	0.21	3857403	95.6	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\024_CCB.D\024_CCB.D#
Date Acquired: Oct 1 2004 09:35 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal Update: Oct 04 2004 09:09 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.02	ppb	55.12	2.50	
52 Cr	-0.13	ppb	29.97	2.50	
60 Ni	-0.07	ppb	187.28	2.50	
63 Cu	-0.46	ppb	17.88	2.50	
66 Zn	-1.11	ppb	3.76	25.00	
75 As	0.10	ppb	87.26	0.50	
82 Se	0.06	ppb	78.53	2.50	
107 Ag	-4.05	ppb	2.82	2.50	
111 Cd	0.01	ppb	260.82	2.50	
121 Sb	0.01	ppb	27.94	2.50	
202 Hg	0.02	ppb	9.76	0.10	
205 Tl	0.91	ppb	11.54	2.50	
208 Pb	0.14	ppb	20.45	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	10909141	1.02	9681590	112.7	30 - 140	
45 Sc	5315705	1.23	5403941	98.4	30 - 140	
72 Ge	869421	0.41	904548	96.1	30 - 140	
115 In	4758849	0.99	5069644	93.9	30 - 140	
209 Bi	3727793	1.30	3857403	96.6	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\036CCV1.D\036CCV1.D#
Date Acquired: Oct 1 2004 10:33 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal Update: Oct 04 2004 09:09 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	46.56	ppb	1.84	50.00	93	89.5 - 111	
52 Cr	52.06	ppb	0.57	50.00	104	89.5 - 111	
60 Ni	52.44	ppb	0.39	50.00	105	89.5 - 111	
63 Cu	51.50	ppb	3.02	50.00	103	89.5 - 111	
66 Zn	54.61	ppb	0.69	50.00	109	89.5 - 111	
75 As	52.23	ppb	2.41	50.00	104	89.5 - 111	
82 Se	51.06	ppb	1.61	50.00	102	89.5 - 111	
107 Ag	51.44	ppb	3.59	50.00	103	89.5 - 111	
111 Cd	51.09	ppb	1.42	50.00	102	89.5 - 111	
121 Sb	53.09	ppb	1.33	50.00	106	89.5 - 111	
202 Hg	1.98	ppb	2.65	2.00	99	89.5 - 111	
205 Tl	48.08	ppb	2.01	50.00	96	89.5 - 111	
208 Pb	53.43	ppb	0.08	50.00	107	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	12008867	1.55	9681590	124.0	30 - 140	
45 Sc	4949427	0.73	5403941	91.6	30 - 140	
72 Ge	778986	3.29	904548	86.1	30 - 140	
115 In	4314215	0.52	5069644	85.1	30 - 140	
209 Bi	3387808	0.57	3857403	87.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\037_CCB.D\037_CCB.D#
Date Acquired: Oct 1 2004 10:38 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal Update: Oct 04 2004 09:09 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.01	ppb	155.94	2.50	
52 Cr	-0.11	ppb	82.11	2.50	
60 Ni	-0.05	ppb	504.60	2.50	
63 Cu	-0.23	ppb	19.47	2.50	
66 Zn	0.14	ppb	89.14	25.00	
75 As	0.16	ppb	8.00	0.50	
82 Se	0.07	ppb	47.40	2.50	
107 Ag	-4.47	ppb	0.88	2.50	
111 Cd	-0.01	ppb	583.65	2.50	
121 Sb	0.01	ppb	163.06	2.50	
202 Hg	0.08	ppb	7.09	0.10	
205 Tl	0.49	ppb	7.08	2.50	
208 Pb	1.01	ppb	11.80	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11729811	0.89	9681590	121.2	30 - 140	
45 Sc	4859759	2.16	5403941	89.9	30 - 140	
72 Ge	761873	0.46	904548	84.2	30 - 140	
115 In	4309404	0.80	5069644	85.0	30 - 140	
209 Bi	3396890	0.34	3857403	88.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

PB QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\042__PB.D\042__PB.D#
Date Acquired: Oct 1 2004 11:03 pm
Operator:
Sample Name: PB
Misc Info: BATCH 1910
Vial Number: 2209
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal Update: Oct 04 2004 09:09 am
Sample Type: PB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	-0.06	ppb	9.21	2.50	
52 Cr	-0.03	ppb	129.62	2.50	
60 Ni	0.85	ppb	20.07	2.50	
63 Cu	0.01	ppb	246.39	2.50	
66 Zn	0.75	ppb	8.68	25.00	
75 As	-0.02	ppb	805.72	0.50	
82 Se	-0.16	ppb	8.09	2.50	
107 Ag	-4.67	ppb	0.66	2.50	
111 Cd	-0.05	ppb	13.59	2.50	
121 Sb	-0.11	ppb	9.43	2.50	
202 Hg	0.04	ppb	26.29	0.10	
205 Tl	-0.15	ppb	13.72	2.50	
208 Pb	0.45	ppb	15.11	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11903081	1.51	9681590	122.9	30 - 140	
45 Sc	4681106	1.85	5403941	86.6	30 - 140	
72 Ge	752404	1.19	904548	83.2	30 - 140	
115 In	4249140	1.86	5069644	83.8	30 - 140	
209 Bi	3388949	1.91	3857403	87.9	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

LCS QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\043_LCS.D\043_LCS.D#
Date Acquired: Oct 1 2004 11:08 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: LCS
Misc Info: BATCH 1910
Vial Number: 2210
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal. Update: Oct 04 2004 09:09 am
Sample Type: LCS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Analyte Elements

Element	Raw Conc	Units	Rec(%)	Expected	QC Range(%)	Flag
9 Be	47.28	ppb	94.6	50.00	75 - 125	
52 Cr	50.73	ppb	101.5	50.00	75 - 125	
60 Ni	53.52	ppb	107.0	50.00	75 - 125	
63 Cu	51.14	ppb	102.3	50.00	75 - 125	
66 Zn	55.46	ppb	110.9	50.00	75 - 125	
75 As	54.17	ppb	108.3	50.00	75 - 125	
82 Se	52.61	ppb	105.2	50.00	75 - 125	
107 Ag	52.17	ppb	104.3	50.00	75 - 125	
111 Cd	50.83	ppb	101.7	50.00	75 - 125	
121 Sb	51.66	ppb	103.3	50.00	75 - 125	
202 Hg	1.90	ppb	95.1	2.00	75 - 125	
205 Tl	46.77	ppb	93.5	50.00	75 - 125	
208 Pb	50.26	ppb	100.5	50.00	75 - 125	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11410989	3.32	9681590	117.9	30 - 140	
45 Sc	4756801	1.81	5403941	88.0	30 - 140	
72 Ge	755605	0.70	904548	83.5	30 - 140	
115 In	4332994	0.51	5069644	85.5	30 - 140	
209 Bi	3419204	1.09	3857403	88.6	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
W: 0.1 ML #A098; 0.1 ML # A100; 0.05 ML #115
S: 1.0 ML # A098; 1.0 ML #A100; 0.5 ML #115
HCL #X13037; AU #174; IS #168;HNO3 # 82; H2O2 #X44A01

All Reference Sample QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\045AREF.D\045AREF.D#
Date Acquired: Oct 1 2004 11:18 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092725-01
Misc Info: BATCH 1910
Vial Number: 2212
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal. Update: Oct 04 2004 09:09 am
Sample Type: AllRef
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	4.07	4.07	ppb	3.36	8000.00	
52 Cr	3.90	3.90	ppb	1.92	40000.00	
60 Ni	92.70	92.70	ppb	1.44	8000.00	
63 Cu	54.12	54.12	ppb	0.72	8000.00	
66 Zn	247.80	247.80	ppb	0.85	8000.00	
75 As	-0.12	-0.12	ppb	303.65	8000.00	
82 Se	19.34	19.34	ppb	0.43	8000.00	
107 Ag	-4.73	-4.73	ppb	0.77	8000.00	
111 Cd	201.10	201.10	ppb	0.81	8000.00	
121 Sb	-0.06	-0.06	ppb	15.19	8000.00	
202 Hg	0.03	0.03	ppb	11.80	8.00	
205 Tl	0.25	0.25	ppb	9.91	8000.00	
208 Pb	1.16	1.16	ppb	3.14	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11158328	2.49	9681590	115.3	30 - 140	
45 Sc	4923369	1.54	5403941	91.1	30 - 140	
72 Ge	748328	0.19	904548	82.7	30 - 140	
115 In	4116443	1.49	5069644	81.2	30 - 140	
209 Bi	3058961	0.70	3857403	79.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
H202 # X44A01; HNO3 # 82; HCL# X13037; Au #174; IS #168

Duplicate QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\046DUP1.D\046DUP1.D#
Date Acquired: Oct 1 2004 11:23 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092725-01
Misc Info: BATCH 1910
Vial Number: 2301
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal. Update: Oct 04 2004 09:09 am
Sample Type: Dup1
Dilution Factor: 1.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\041001cB.b\045AREF.D\045AREF.D#

QC Elements

Element	Raw Conc	Units	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	4.02	ppb	0.12	4.07	1.26	60	<PQL
52 Cr	3.92	ppb	3.57	3.90	0.36	60	<PQL
60 Ni	92.62	ppb	1.57	92.70	0.09	60	
63 Cu	54.41	ppb	1.16	54.12	0.53	60	
66 Zn	249.50	ppb	2.53	247.80	0.68	60	
75 As	-0.25	ppb	38.48	-0.12	-68.37	60	<PQL
82 Se	19.10	ppb	0.38	19.34	1.25	60	
107 Ag	-4.73	ppb	0.58	-4.73	-0.04	60	<PQL
111 Cd	197.70	ppb	0.98	201.10	1.71	60	
121 Sb	-0.07	ppb	21.59	-0.06	-17.40	60	<PQL
202 Hg	0.04	ppb	21.85	0.03	6.64	60	<PQL
205 Tl	0.19	ppb	8.51	0.25	26.58	60	<PQL
208 Pb	1.09	ppb	4.85	1.16	5.69	60	<PQL

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11044405	0.79	9681590	114.1	30 - 140	
45 Sc	4891372	1.23	5403941	90.5	30 - 140	
72 Ge	745378	0.89	904548	82.4	30 - 140	
115 In	4089994	0.71	5069644	80.7	30 - 140	
209 Bi	3017597	1.66	3857403	78.2	30 - 140	

ISTD Ref. File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
H202 # X44A01; HNO3 # 82; IS # 168; AU # 174; HCL # X13037

LFM Sample QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\047LFM1.D\047LFM1.D#
Date Acquired: Oct 1 2004 11:28 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092725-01
Misc Info: BATCH 1910
Vial Number: 2302
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal. Update: Oct 04 2004 09:09 am
Sample Type: LFM1
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: C:\ICPCHEM\1\DATA\041001cB.b\045AREF.D\045AREF.D#

QC Elements

Element	Raw Conc	Units	Ref Conc	RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	41.54	ppb	4.07	1.92	50.00	74.9	75 - 125	Fail
52 Cr	44.24	ppb	3.90	1.91	50.00	80.7	75 - 125	
60 Ni	129.20	ppb	92.70	2.58	50.00	73.0	75 - 125	Fail
63 Cu	95.25	ppb	54.12	0.88	50.00	82.3	75 - 125	
66 Zn	284.60	ppb	247.80	2.76	50.00	73.6	75 - 125	Fail
75 As	43.14	ppb	-0.12	0.53	50.00	86.5	75 - 125	
82 Se	62.47	ppb	19.34	0.49	50.00	86.3	75 - 125	
107 Ag	37.53	ppb	-4.73	0.41	50.00	84.5	75 - 125	
111 Cd	240.80	ppb	201.10	1.17	50.00	79.4	75 - 125	
121 Sb	43.71	ppb	-0.06	0.80	50.00	87.5	75 - 125	
202 Hg	1.90	ppb	0.03	1.02	2.00	93.5	75 - 125	
205 Tl	43.29	ppb	0.25	1.24	50.00	86.1	75 - 125	
208 Pb	44.41	ppb	1.16	0.83	50.00	86.5	75 - 125	

ISTD Elements

Element	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	11371591	1.29	9681590	117.5	30 - 140	
45 Sc	4928401	2.50	5403941	91.2	30 - 140	
72 Ge	741023	0.30	904548	81.9	30 - 140	
115 In	4052824	0.65	5069644	79.9	30 - 140	
209 Bi	3014793	1.13	3857403	78.2	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
W 0.1 ML #A098; 0.1 ML #A100; 0.05 ML #115; HNO3 # 82
S 1.0 ML #A098; 1.0ML #A100; 0.5 ML # 115; H2O2 # X44A01
HCL # X13037; Au IN RINSE #174

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\049CCV1.D\049CCV1.D#
Date Acquired: Oct 1 2004 11:38 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal Update: Oct 04 2004 09:09 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	48.46	ppb	1.21	50.00	97	89.5 - 111	
52 Cr	52.79	ppb	4.08	50.00	106	89.5 - 111	
60 Ni	54.33	ppb	2.06	50.00	109	89.5 - 111	
63 Cu	52.37	ppb	0.76	50.00	105	89.5 - 111	
66 Zn	54.92	ppb	1.55	50.00	110	89.5 - 111	
75 As	53.83	ppb	0.98	50.00	108	89.5 - 111	
82 Se	51.87	ppb	1.74	50.00	104	89.5 - 111	
107 Ag	52.29	ppb	2.48	50.00	105	89.5 - 111	
111 Cd	52.12	ppb	0.70	50.00	104	89.5 - 111	
121 Sb	52.28	ppb	1.92	50.00	105	89.5 - 111	
202 Hg	1.92	ppb	1.14	2.00	96	89.5 - 111	
205 Tl	47.03	ppb	2.05	50.00	94	89.5 - 111	
208 Pb	51.15	ppb	0.50	50.00	102	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11948357	0.41	9681590	123.4	30 - 140	
45 Sc	4878709	2.10	5403941	90.3	30 - 140	
72 Ge	781720	1.18	904548	86.4	30 - 140	
115 In	4388834	1.69	5069644	86.6	30 - 140	
209 Bi	3429868	0.22	3857403	88.9	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\050_CCB.D\050_CCB.D#
Date Acquired: Oct 1 2004 11:43 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal Update: Oct 04 2004 09:09 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.02	ppb	55.63	2.50	
52 Cr	-0.20	ppb	10.98	2.50	
60 Ni	0.00	ppb	4647.70	2.50	
63 Cu	-0.31	ppb	12.82	2.50	
66 Zn	-0.85	ppb	6.06	25.00	
75 As	0.23	ppb	35.53	0.50	
82 Se	0.07	ppb	48.31	2.50	
107 Ag	-4.69	ppb	0.22	2.50	
111 Cd	0.09	ppb	21.64	2.50	
121 Sb	0.01	ppb	16.33	2.50	
202 Hg	0.03	ppb	3.35	0.10	
205 Tl	0.55	ppb	7.45	2.50	
208 Pb	0.23	ppb	13.98	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	12590982	0.65	9681590	130.1	30 - 140	
45 Sc	4940270	1.00	5403941	91.4	30 - 140	
72 Ge	788067	0.83	904548	87.1	30 - 140	
115 In	4478707	0.35	5069644	88.3	30 - 140	
209 Bi	3443317	0.43	3857403	89.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

PDS Sample QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\051PDS1.D\051PDS1.D#
Date Acquired: Oct 1 2004 11:48 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092725-01
Misc Info: BATCH 1910
Vial Number: 2303
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal. Update: Oct 04 2004 09:09 am
Sample Type: PDS1
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: C:\ICPCHEM\1\DATA\041001cB.b\045AREF.D\045AREF.D#

QC Elements

Element	Raw Conc	Units	Ref Conc	RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	45.23	ppb	4.07	1.97	50.00	82.3	75 - 126	
52 Cr	47.31	ppb	3.90	2.52	50.00	86.8	75 - 126	
60 Ni	133.10	ppb	92.70	1.88	50.00	80.8	75 - 126	
63 Cu	100.70	ppb	54.12	2.87	50.00	93.2	75 - 126	
66 Zn	291.00	ppb	247.80	1.59	50.00	86.4	75 - 126	
75 As	47.61	ppb	-0.12	1.65	50.00	95.5	75 - 126	
82 Se	65.92	ppb	19.34	4.63	50.00	93.2	75 - 126	
107 Ag	35.19	ppb	-4.73	5.04	50.00	79.8	75 - 126	
111 Cd	237.30	ppb	201.10	1.34	50.00	72.4	75 - 126	Fail
121 Sb	47.23	ppb	-0.06	0.66	50.00	94.6	75 - 126	
202 Hg	2.06	ppb	0.03	0.82	2.00	101.1	75 - 126	
205 Tl	45.63	ppb	0.25	1.08	50.00	90.8	75 - 126	
208 Pb	47.79	ppb	1.16	1.07	50.00	93.3	75 - 126	

ISTD Elements

Element	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	11080345	5.37	9681590	114.4	30 - 140	
45 Sc	4857512	4.10	5403941	89.9	30 - 140	
72 Ge	739376	1.46	904548	81.7	30 - 140	
115 In	3939678	0.29	5069644	77.7	30 - 140	
209 Bi	3000308	2.04	3857403	77.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
W 0.1 ML #A098; 0.1 ML #A100; 0.05 ML #115; HNO3 # 82
S 1.0 ML #A098; 1.0ML #A100; 0.5 ML # 115; H2O2 # X44A01
HCL # X13037; Au IN RINSE #174

Dilution QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\052DIL1.D\052DIL1.D#
Date Acquired: Oct 1 2004 11:52 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092725-01
Misc Info: BATCH 1910
Vial Number: 2304
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal. Update: Oct 04 2004 09:09 am
Sample Type: Dil1
Dilution Factor: 5.00

Dilution Ref File: C:\ICPCHEM\1\DATA\041001cB.b\045AREF.D\045AREF.D#

QC elements

Element	Raw Conc	Units	RSD(%)	*Ref conc*	Actual(%)	QC Range(%)	Flag
9 Be	0.75	ppb	1.35	4.07	91.66	90 - 110	<100 PB
52 Cr	0.65	ppb	16.38	3.90	82.94	90 - 110	<100 PB
60 Ni	18.95	ppb	1.88	92.70	102.21	90 - 110	
63 Cu	11.24	ppb	0.73	54.12	103.84	90 - 110	
66 Zn	54.36	ppb	2.65	247.80	109.69	90 - 110	<100 PB
75 As	0.29	ppb	20.68	-0.12	-1179.50	90 - 110	<100 PB
82 Se	3.92	ppb	3.14	19.34	101.37	90 - 110	<100 PB
107 Ag	-4.75	ppb	0.11	-4.73	502.33	90 - 110	<100 PB
111 Cd	40.59	ppb	0.51	201.10	100.92	90 - 110	
121 Sb	0.27	ppb	19.17	-0.06	-2267.34	90 - 110	<100 PB
202 Hg	0.03	ppb	8.88	0.03	519.28	90 - 110	<100 PB
205 Tl	0.35	ppb	6.07	0.25	691.84	90 - 110	<100 PB
208 Pb	0.52	ppb	2.92	1.16	226.23	90 - 110	<100 PB

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\062CCV1.D\062CCV1.D#
Date Acquired: Oct 2 2004 12:42 am
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal Update: Oct 04 2004 09:09 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	45.74	ppb	1.12	50.00	91	89.5 - 111	
52 Cr	53.42	ppb	1.75	50.00	107	89.5 - 111	
60 Ni	53.10	ppb	3.33	50.00	106	89.5 - 111	
63 Cu	52.08	ppb	2.75	50.00	104	89.5 - 111	
66 Zn	53.36	ppb	0.79	50.00	107	89.5 - 111	
75 As	53.49	ppb	1.43	50.00	107	89.5 - 111	
82 Se	51.10	ppb	4.39	50.00	102	89.5 - 111	
107 Ag	51.82	ppb	1.03	50.00	104	89.5 - 111	
111 Cd	50.94	ppb	0.41	50.00	102	89.5 - 111	
121 Sb	51.68	ppb	0.14	50.00	103	89.5 - 111	
202 Hg	1.90	ppb	2.45	2.00	95	89.5 - 111	
205 Tl	42.20	ppb	1.57	50.00	84	89.5 - 111	Fail
208 Pb	51.09	ppb	1.13	50.00	102	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	12453375	1.87	9681590	128.6	30 - 140	
45 Sc	4943239	1.20	5403941	91.5	30 - 140	
72 Ge	772937	0.43	904548	85.5	30 - 140	
115 In	4433049	2.80	5069644	87.4	30 - 140	
209 Bi	3406017	0.95	3657403	88.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\041001cB.b\063_CCB.D\063_CCB.D#
Date Acquired: Oct 2 2004 12:47 am
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041001cB.b\NOSALTS.C
Last Cal Update: Oct 04 2004 09:09 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.02	ppb	103.28	2.50	
52 Cr	0.30	ppb	27.58	2.50	
60 Ni	0.13	ppb	104.25	2.50	
63 Cu	-0.36	ppb	14.46	2.50	
66 Zn	-0.93	ppb	10.05	25.00	
75 As	0.15	ppb	29.55	0.50	
82 Se	0.06	ppb	39.72	2.50	
107 Ag	-4.72	ppb	0.08	2.50	
111 Cd	0.06	ppb	42.12	2.50	
121 Sb	0.01	ppb	171.91	2.50	
202 Hg	0.03	ppb	25.37	0.10	
205 Tl	1.02	ppb	0.99	2.50	
208 Pb	0.15	ppb	20.62	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	12305228	0.31	9681590	127.1	30 - 140	
45 Sc	4924768	2.09	5403941	91.1	30 - 140	
72 Ge	792780	3.75	904548	87.6	30 - 140	
115 In	4442736	2.70	5069644	87.6	30 - 140	
209 Bi	3435456	0.84	3857403	89.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041001cB.b\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Dissolved Metals

- *Initial Calibration Verification Summary*
- *Continuing Calibration Verification Summary*
- *Duplicate Summary*
- *Matrix Spike Summary (LFM)*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\041006B.B\007ICV1.D\007ICV1.D#
Date Acquired: Oct 6 2004 11:17 am
Acq. Method: NOSALTS.M
Operator:
Sample Name: ICV-50 PPB ; 2 PPB HG
Misc Info: 0.25 ML #444; 0.1 ML #A098-50 ML
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal. Update: Oct 11 2004 10:21 am
Sample Type: ICV1
Dilution Factor: 1.00

QC Elements

Element	Raw Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	48.97	ppb	0.15	50.00	98	89.5 - 111	
52 Cr	50.79	ppb	1.02	50.00	102	89.5 - 111	
60 Ni	50.66	ppb	3.32	50.00	101	89.5 - 111	
63 Cu	48.34	ppb	2.88	50.00	97	89.5 - 111	
66 Zn	51.41	ppb	2.03	50.00	103	89.5 - 111	
75 As	50.43	ppb	0.43	50.00	101	89.5 - 111	
82 Se	50.67	ppb	1.71	50.00	101	89.5 - 111	
107 Ag	50.49	ppb	1.78	50.00	101	89.5 - 111	
111 Cd	50.02	ppb	1.28	50.00	100	89.5 - 111	
121 Sb	50.10	ppb	1.80	50.00	100	89.5 - 111	
202 Hg	1.99	ppb	0.35	2.00	100	89.5 - 111	
205 Tl	47.44	ppb	1.00	50.00	95	89.5 - 111	
208 Pb	50.61	ppb	0.81	50.00	101	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	12961131	3.00	12483899	103.8	30 - 140	
45 Sc	5209342	1.78	4894786	106.4	30 - 140	
72 Ge	764537	1.00	712484	107.3	30 - 140	
115 In	4050653	1.23	3888978	104.2	30 - 140	
209 Bi	2633146	0.64	2610995	100.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:
0.05 ML # 115; 1.25 ML # A100; HG 0.1 ML # A097
HNO3 #82; HCL #X13037; Au #174; IS # 168

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\041006B.B\008_ICB.D\008_ICB.D#
Date Acquired: Oct 6 2004 11:22 am
Operator:
Sample Name: icb
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal Update: Oct 06 2004 11:17 am
Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.06	ppb	12.36	2.50	
52 Cr	0.12	ppb	57.12	2.50	
60 Ni	0.03	ppb	462.96	2.50	
63 Cu	0.03	ppb	107.00	2.50	
66 Zn	0.10	ppb	15.01	25.00	
75 As	0.17	ppb	53.16	0.50	
82 Se	0.07	ppb	14.54	2.50	
107 Ag	0.16	ppb	12.08	2.50	
111 Cd	0.00	ppb	786.33	2.50	
121 Sb	0.47	ppb	6.29	2.50	
202 Hg	0.02	ppb	33.96	0.10	
205 Tl	0.09	ppb	8.82	2.50	
208 Pb	0.07	ppb	12.12	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	12879961	1.22	12483899	103.2	30 - 140	
45 Sc	5108333	2.51	4894786	104.4	30 - 140	
72 Ge	771552	1.13	712484	108.3	30 - 140	
115 In	4171758	0.32	3888978	107.3	30 - 140	
209 Bi	2743315	0.15	2610995	105.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\041006B.B\009SMPL.D\009SMPL.D#
Date Acquired: Oct 6 2004 11:27 am
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 1 PPB CHECK
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal. Update: Oct 06 2004 11:17 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	1.04	1.04	ppb	1.65	8000.00	
52 Cr	1.10	1.10	ppb	3.66	40000.00	
60 Ni	0.90	0.90	ppb	19.37	8000.00	
63 Cu	0.98	0.98	ppb	4.59	8000.00	
66 Zn	1.41	1.41	ppb	0.92	8000.00	
75 As	0.95	0.95	ppb	19.44	8000.00	
82 Se	1.09	1.09	ppb	2.61	8000.00	
107 Ag	1.64	1.64	ppb	2.74	8000.00	
111 Cd	1.04	1.04	ppb	7.85	8000.00	
121 Sb	1.29	1.29	ppb	3.71	8000.00	
202 Hg	0.01	0.01	ppb	7.26	8.00	
205 Tl	0.99	0.99	ppb	1.73	8000.00	
208 Pb	1.07	1.07	ppb	1.88	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	12607437.00	2.77	###########	101.0	30 - 140	
45 Sc	5046068.50	1.94	4894786.00	103.1	30 - 140	
72 Ge	767857.19	0.96	712483.94	107.8	30 - 140	
115 In	4103600.30	0.30	3888977.80	105.5	30 - 140	
209 Bi	2722460.50	1.71	2610994.50	104.3	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\041006B.B\021CCV1.D\021CCV1.D#
Date Acquired: Oct 6 2004 12:27 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal Update: Oct 11 2004 10:21 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	48.89	ppb	1.05	50.00	98	89.5 - 111	
52 Cr	50.55	ppb	0.07	50.00	101	89.5 - 111	
60 Ni	50.47	ppb	0.42	50.00	101	89.5 - 111	
63 Cu	47.97	ppb	1.44	50.00	96	89.5 - 111	
66 Zn	50.90	ppb	0.41	50.00	102	89.5 - 111	
75 As	50.06	ppb	0.68	50.00	100	89.5 - 111	
82 Se	50.29	ppb	1.79	50.00	101	89.5 - 111	
107 Ag	51.28	ppb	2.76	50.00	103	89.5 - 111	
111 Cd	49.47	ppb	2.89	50.00	99	89.5 - 111	
121 Sb	49.62	ppb	0.89	50.00	99	89.5 - 111	
202 Hg	1.97	ppb	2.55	2.00	98	89.5 - 111	
205 Tl	46.73	ppb	1.40	50.00	93	89.5 - 111	
208 Pb	49.99	ppb	0.95	50.00	100	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11756052	1.48	12483899	94.2	30 - 140	
45 Sc	5167605	0.73	4894786	105.6	30 - 140	
72 Ge	748418	1.87	712484	105.0	30 - 140	
115 In	4084358	1.28	3888978	105.0	30 - 140	
209 Bi	2558117	0.12	2610995	98.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\041006B.B\023_CCB.D\023_CCB.D#
Date Acquired: Oct 6 2004 12:36 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal Update: Oct 06 2004 11:17 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.06	ppb	10.97	2.50	
52 Cr	0.16	ppb	31.90	2.50	
60 Ni	0.11	ppb	119.44	2.50	
63 Cu	0.13	ppb	11.23	2.50	
66 Zn	0.27	ppb	14.88	25.00	
75 As	0.00	ppb	10357.00	0.50	
82 Se	0.14	ppb	18.38	2.50	
107 Ag	0.25	ppb	6.57	2.50	
111 Cd	0.09	ppb	72.70	2.50	
121 Sb	0.48	ppb	3.82	2.50	
202 Hg	0.01	ppb	23.48	0.10	
205 Tl	0.11	ppb	4.53	2.50	
208 Pb	0.08	ppb	9.74	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11930841	0.64	12483899	95.6	30 - 140	
45 Sc	5192662	1.85	4894786	106.1	30 - 140	
72 Ge	771475	1.02	712484	108.3	30 - 140	
115 In	4167974	1.27	3888978	107.2	30 - 140	
209 Bi	2679729	1.47	2610995	102.6	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\041006B.B\027SMPL.D\027SMPL.D#
Date Acquired: Oct 6 2004 12:56 pm
Acq. Method: NOSALTS.M
Operator: Lisa Miller
Sample Name: 04092725-02
Misc Info: BATCH 1948
Vial Number: 2312
Current Method: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal. Update: Oct 06 2004 11:17 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	4.48	4.48	ppb	3.23	8000.00	
52 Cr	4.63	4.63	ppb	1.54	40000.00	
60 Ni	88.23	88.23	ppb	0.85	8000.00	
63 Cu	10.67	10.67	ppb	2.18	8000.00	
66 Zn	268.10	268.10	ppb	3.17	8000.00	
75 As	-0.63	-0.63	ppb	19.69	8000.00	
82 Se	18.53	18.53	ppb	1.61	8000.00	
107 Ag	-0.05	-0.05	ppb	6.96	8000.00	
111 Cd	150.50	150.50	ppb	2.75	8000.00	
121 Sb	0.06	0.06	ppb	12.89	8000.00	
202 Hg	0.02	0.02	ppb	0.63	8.00	
205 Tl	0.21	0.21	ppb	2.27	8000.00	
208 Pb	0.43	0.43	ppb	3.38	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	10462338.00	2.56	##########	83.8	30 - 140	
45 Sc	4908317.00	3.22	4894786.00	100.3	30 - 140	
72 Ge	732348.94	0.26	712483.94	102.8	30 - 140	
115 In	3738879.50	1.52	3888977.80	96.1	30 - 140	
209 Bi	2271608.80	0.61	2610994.50	87.0	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:
IS #168 ON-LINE
Au IN RINSE #174
HCL LOT #X13037
HNO3 #82

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\041006B.B\036CCV1.D\036CCV1.D#
Date Acquired: Oct 6 2004 01:41 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal Update: Oct 11 2004 10:21 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	51.50	ppb	1.45	50.00	103	89.5 - 111	
52 Cr	51.06	ppb	1.21	50.00	102	89.5 - 111	
60 Ni	49.67	ppb	1.20	50.00	99	89.5 - 111	
63 Cu	47.91	ppb	0.34	50.00	96	89.5 - 111	
66 Zn	51.95	ppb	0.91	50.00	104	89.5 - 111	
75 As	49.86	ppb	1.96	50.00	100	89.5 - 111	
82 Se	49.70	ppb	0.51	50.00	99	89.5 - 111	
107 Ag	52.28	ppb	2.12	50.00	105	89.5 - 111	
111 Cd	50.03	ppb	1.94	50.00	100	89.5 - 111	
121 Sb	48.64	ppb	2.30	50.00	97	89.5 - 111	
202 Hg	1.96	ppb	0.87	2.00	98	89.5 - 111	
205 Tl	46.42	ppb	0.20	50.00	93	89.5 - 111	
208 Pb	49.84	ppb	0.92	50.00	100	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	10845576	0.78	12483899	86.9	30 - 140	
45 Sc	4927185	1.62	4894786	100.7	30 - 140	
72 Ge	733407	1.63	712484	102.9	30 - 140	
115 In	3997461	2.02	3888978	102.8	30 - 140	
209 Bi	2505012	1.30	2610995	95.9	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\041006B.B\037_CCB.D\037_CCB.D#
Date Acquired: Oct 6 2004 01:46 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal Update: Oct 11 2004 10:21 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.06	ppb	27.44	2.50	
52 Cr	0.18	ppb	33.23	2.50	
60 Ni	0.19	ppb	111.11	2.50	
63 Cu	0.13	ppb	17.71	2.50	
66 Zn	0.31	ppb	4.70	25.00	
75 As	-0.02	ppb	377.74	0.50	
82 Se	0.16	ppb	11.45	2.50	
107 Ag	0.34	ppb	6.05	2.50	
111 Cd	0.04	ppb	55.05	2.50	
121 Sb	0.35	ppb	1.84	2.50	
202 Hg	0.01	ppb	35.78	0.10	
205 Tl	0.19	ppb	2.61	2.50	
208 Pb	0.08	ppb	17.47	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	11154112	3.13	12483899	89.3	30 - 140	
45 Sc	4875109	0.36	4894786	99.6	30 - 140	
72 Ge	755831	0.84	712484	106.1	30 - 140	
115 In	4005239	0.25	3888978	103.0	30 - 140	
209 Bi	2582533	1.24	2610995	98.9	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\041006B.B\049CCV1.D\049CCV1.D#
Date Acquired: Oct 6 2004 02:45 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal Update: Oct 11 2004 10:21 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	52.61	ppb	2.58	50.00	105	89.5 - 111	
52 Cr	51.42	ppb	1.22	50.00	103	89.5 - 111	
60 Ni	48.96	ppb	0.39	50.00	98	89.5 - 111	
63 Cu	46.57	ppb	0.25	50.00	93	89.5 - 111	
66 Zn	51.21	ppb	0.60	50.00	102	89.5 - 111	
75 As	49.76	ppb	0.19	50.00	100	89.5 - 111	
82 Se	50.63	ppb	1.35	50.00	101	89.5 - 111	
107 Ag	51.48	ppb	0.74	50.00	103	89.5 - 111	
111 Cd	50.23	ppb	2.10	50.00	100	89.5 - 111	
121 Sb	49.49	ppb	2.58	50.00	99	89.5 - 111	
202 Hg	2.00	ppb	0.76	2.00	100	89.5 - 111	
205 Tl	46.28	ppb	0.81	50.00	93	89.5 - 111	
208 Pb	50.14	ppb	0.81	50.00	100	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	8811974	1.50	12483899	70.6	30 - 140	
45 Sc	4525756	1.22	4894786	92.5	30 - 140	
72 Ge	676449	0.42	712484	94.9	30 - 140	
115 In	3594587	1.55	3888978	92.4	30 - 140	
209 Bi	2266145	1.97	2610995	86.8	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\041006B.B\050_CCB.D\050_CCB.D#
Date Acquired: Oct 6 2004 02:50 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal Update: Oct 11 2004 10:21 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.06	ppb	12.80	2.50	
52 Cr	0.09	ppb	39.26	2.50	
60 Ni	-0.16	ppb	90.13	2.50	
63 Cu	0.18	ppb	29.21	2.50	
66 Zn	0.46	ppb	5.91	25.00	
75 As	0.06	ppb	141.36	0.50	
82 Se	0.07	ppb	48.42	2.50	
107 Ag	0.22	ppb	7.79	2.50	
111 Cd	0.05	ppb	69.78	2.50	
121 Sb	0.27	ppb	5.82	2.50	
202 Hg	0.02	ppb	25.39	0.10	
205 Tl	0.23	ppb	2.52	2.50	
208 Pb	0.08	ppb	18.04	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	9241598	2.43	12483899	74.0	30 - 140	
45 Sc	4550883	1.28	4894786	93.0	30 - 140	
72 Ge	687980	0.86	712484	96.6	30 - 140	
115 In	3707337	1.57	3888978	95.3	30 - 140	
209 Bi	2353808	1.37	2610995	90.1	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

All Reference Sample QC Report

Data File:	C:\ICPCHEM\1\DATA\041006B.B\057AREF.D\057AREF.D#
Date Acquired:	Oct 6 2004 03:25 pm
Acq. Method:	NOSALTS.M
Operator:	Lisa Miller
Sample Name:	04092410-02
Misc Info:	BATCH 1948
Vial Number:	2302
Current Method:	C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File:	C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal. Update:	Oct 11 2004 10:21 am
Sample Type:	AllRef
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	5.12	5.12	ppb	2.68	8000.00	
52 Cr	11.35	11.35	ppb	0.43	40000.00	
60 Ni	103.60	103.60	ppb	0.18	8000.00	
63 Cu	108.20	108.20	ppb	2.45	8000.00	
66 Zn	249.00	249.00	ppb	2.03	8000.00	
75 As	-1.76	-1.76	ppb	4.59	8000.00	
82 Se	52.42	52.42	ppb	0.63	8000.00	
107 Ag	-0.05	-0.05	ppb	17.26	8000.00	
111 Cd	8.47	8.47	ppb	1.00	8000.00	
121 Sb	0.07	0.07	ppb	5.80	8000.00	
202 Hg	0.03	0.03	ppb	12.59	8.00	
205 Tl	0.23	0.23	ppb	2.66	8000.00	
208 Pb	4.85	4.85	ppb	2.13	40000.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5936859	1.45	12483899	47.6	30 - 140	
45 Sc	3911447	2.46	4894786	79.9	30 - 140	
72 Ge	630560	2.41	712484	88.5	30 - 140	
115 In	2826246	1.05	3888978	72.7	30 - 140	
209 Bi	1628371	1.07	2610995	62.4	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:

H202 # X44A01; HNO3 # 82; HCL# X13037; Au #174; IS #168

Duplicate QC Report

Data File: C:\ICPCHEM\1\DATA\041006B.B\058DUP1.D\058DUP1.D#
Date Acquired: Oct 6 2004 03:30 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092410-02
Misc Info: BATCH 1948
Vial Number: 2303
Current Method: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal. Update: Oct 11 2004 10:21 am
Sample Type: Dup1
Dilution Factor: 1.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\041006B.B\057AREF.D\057AREF.D#

QC Elements

Element	Raw Conc	Units	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	4.90	ppb	2.56	5.12	4.31	60	
52 Cr	10.91	ppb	0.80	11.35	3.95	60	
60 Ni	103.80	ppb	0.38	103.60	0.19	60	
63 Cu	103.50	ppb	2.27	108.20	4.44	60	
66 Zn	238.70	ppb	1.76	249.00	4.22	60	
75 As	-1.74	ppb	3.51	-1.76	-0.97	60	<PQL
82 Se	52.55	ppb	1.12	52.42	0.25	60	
107 Ag	-0.05	ppb	9.08	-0.05	-15.08	60	<PQL
111 Cd	8.56	ppb	1.42	8.47	1.07	60	
121 Sb	0.07	ppb	19.83	0.07	12.56	60	<PQL
202 Hg	0.03	ppb	15.02	0.03	11.08	60	<PQL
205 Tl	0.21	ppb	5.26	0.23	7.09	60	<PQL
208 Pb	4.76	ppb	2.41	4.85	1.96	60	<PQL

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	5574119	1.10	12483899	44.7	30 - 140	
45 Sc	3586420	1.62	4894786	73.3	30 - 140	
72 Ge	567429	2.75	712484	79.6	30 - 140	
115 In	2526926	1.37	3888978	65.0	30 - 140	
209 Bi	1482001	1.19	2610995	56.8	30 - 140	

ISTD Ref. File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:
H202 # X44A01; HNO3 # 82; IS # 168; AU # 174; HCL # X13037

LFM Sample QC Report

Data File: C:\ICPCHEM\1\DATA\041006B.B\059LFM1.D\059LFM1.D#
Date Acquired: Oct 6 2004 03:35 pm
Acq. Method: NOSALTS.M
Operator:
Sample Name: 04092410-02
Misc Info: BATCH 1948
Vial Number: 2304
Current Method: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal. Update: Oct 11 2004 10:21 am
Sample Type: LFM1
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: C:\ICPCHEM\1\DATA\041006B.B\057AREF.D\057AREF.D#

QC Elements

Element	Raw Conc	Units	Ref Conc	RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	47.24	ppb	5.12	3.51	50.00	84.2	75 - 125	
52 Cr	48.91	ppb	11.35	1.36	50.00	75.1	75 - 125	
60 Ni	135.10	ppb	103.60	1.49	50.00	63.0	75 - 125	Fail
63 Cu	136.70	ppb	108.20	2.02	50.00	57.0	75 - 125	Fail
66 Zn	270.10	ppb	249.00	1.47	50.00	42.2	75 - 125	Fail
75 As	35.10	ppb	-1.76	0.89	50.00	73.7	75 - 125	Fail
82 Se	100.20	ppb	52.42	3.22	50.00	95.6	75 - 125	
107 Ag	26.14	ppb	-0.05	3.44	50.00	52.4	75 - 125	Fail
111 Cd	47.95	ppb	8.47	1.82	50.00	79.0	75 - 125	
121 Sb	45.43	ppb	0.07	2.58	50.00	90.7	75 - 125	
202 Hg	0.56	ppb	0.03	3.22	2.00	26.8	75 - 125	Fail
205 Tl	47.69	ppb	0.23	1.39	50.00	94.9	75 - 125	
208 Pb	54.81	ppb	4.85	0.99	50.00	99.9	75 - 125	

ISTD Elements

Element	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	5198686	1.14	12483899	41.6	30 - 140	
45 Sc	3281979	2.33	4894786	67.1	30 - 140	
72 Ge	525447	2.73	712484	73.7	30 - 140	
115 In	2321234	0.47	3888978	59.7	30 - 140	
209 Bi	1402991	1.12	2610995	53.7	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:
W 0.1 ML #A098; 0.1 ML #A100; 0.05 ML #115; HNO3 # 82
S 1.0 ML #A098; 1.0ML #A100; 0.5 ML # 115; H2O2 # X44A01
HCL # X13037; Au IN RINSE #174

CCV QC Report

Data File: C:\ICPCHEM\1\DATA\041006B.B\062CCV1.D\062CCV1.D#
Date Acquired: Oct 6 2004 03:50 pm
Operator:
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal Update: Oct 11 2004 10:21 am
Sample Type: CCV1
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	Expected	% REC	QC Range(%)	Flag
9 Be	50.16	ppb	1.82	50.00	100	89.5 - 111	
52 Cr	48.86	ppb	3.94	50.00	98	89.5 - 111	
60 Ni	51.38	ppb	1.44	50.00	103	89.5 - 111	
63 Cu	48.56	ppb	1.02	50.00	97	89.5 - 111	
66 Zn	51.18	ppb	1.93	50.00	102	89.5 - 111	
75 As	50.34	ppb	0.58	50.00	101	89.5 - 111	
82 Se	51.09	ppb	1.44	50.00	102	89.5 - 111	
107 Ag	50.59	ppb	1.35	50.00	101	89.5 - 111	
111 Cd	49.90	ppb	1.36	50.00	100	89.5 - 111	
121 Sb	48.60	ppb	1.57	50.00	97	89.5 - 111	
202 Hg	2.05	ppb	0.70	2.00	102	89.5 - 111	
205 Tl	45.33	ppb	0.14	50.00	91	89.5 - 111	
208 Pb	49.59	ppb	0.56	50.00	99	89.5 - 111	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	7341895	1.32	12483899	58.8	30 - 140	
45 Sc	3695935	0.60	4894786	75.5	30 - 140	
72 Ge	535568	0.98	712484	75.2	30 - 140	
115 In	2843163	0.49	3888978	73.1	30 - 140	
209 Bi	1870135	1.17	2610995	71.6	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au # 174; IS # 168
0.05 ML # 115; 1.25 ML # A100; HG 0.1ML#A098

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\041006B.B\064_CCB.D\064_CCB.D#
Date Acquired: Oct 6 2004 04:00 pm
Operator:
Sample Name: CCB
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.M
Calibration File: C:\ICPCHEM\1\DATA\041006B.B\NOSALTS.C
Last Cal Update: Oct 11 2004 10:21 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc	Units	RSD(%)	High Limit	Flag
9 Be	0.07	ppb	23.62	2.50	
52 Cr	0.09	ppb	38.31	2.50	
60 Ni	0.19	ppb	44.95	2.50	
63 Cu	0.26	ppb	14.15	2.50	
66 Zn	0.68	ppb	4.51	25.00	
75 As	0.11	ppb	76.89	0.50	
82 Se	0.17	ppb	39.09	2.50	
107 Ag	0.20	ppb	12.31	2.50	
111 Cd	0.21	ppb	24.74	2.50	
121 Sb	0.26	ppb	12.20	2.50	
202 Hg	0.03	ppb	20.77	0.10	
205 Tl	0.21	ppb	3.04	2.50	
208 Pb	0.09	ppb	17.02	2.50	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	7698907	1.07	12483899	61.7	30 - 140	
45 Sc	3809224	0.26	4094786	77.8	30 - 140	
72 Ge	561871	0.19	712484	78.9	30 - 140	
115 In	2979286	0.77	3888978	76.6	30 - 140	
209 Bi	1974961	1.40	2610995	75.6	30 - 140	

ISTD Ref File : C:\ICPCHEM\1\DATA\041006B.B\002CALB.D\002CALB.D#

Traceability:
HNO3 #82; HCL #X13037; Au #174; IS #168

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Nitrate / Sulfate Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ENVIRO-CHEM LABORATORIES, INC.

100 Lakefront Drive, Hunt Valley, Maryland 21030 (410) 785-9739

FINAL REPORT OF ANALYSES

Phase Separation Science, Inc.
6630 Baltimore Nat. Pike
Baltimore, MD 21228-
Attn: Mr. John Richardson

PROJECT NAME: 04092725
REPORT DATE: 10/05/2004

SAMPLE NUMBER- 33530 SAMPLE ID- 04092725-01 SAMPLE MATRIX- WA
DATE SAMPLED- 09/27/04
DATE RECEIVED- 09/28/04 SAMPLER- NOT SPECIFIED RECEIVED BY- SES
TIME RECEIVED- 1027 DELIVERED BY- Courier

PRELIMINARY RESULTS

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	DET. LIMIT
NITRATE	EPA 300.0	09/28/04	SES	3.7	mg/L as N	0.2
SULFATE	EPA 300.0	09/28/04	SES	84.1	mg/L	1.0

LABORATORY DIRECTOR

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

Chain of Custody

COC- ID	3684	**Phone Number**	410-785-9739
Date Shipped	09/27/04	**Fax Number**	410-785-9410
Organization	SS	**Shipped Via**	Dial Courier
Address	Enviro-Chem Laboratories, Inc. 100 Lakefront Drive Hunt Valley, Maryland 21030	**Airbill Number**	
		Due Date	10/11/04 5:00:00 PM

Lab Number: 04092725
Project: Martin State Airport Data Gap

Sample Number	Description	Analysis	Method	No. of Cont.	Date Sampled
04092725-01	DMW 25-092704	Nitrate	EPA 300.0	1	09/27/04 1:55:00 PM
		Sulfate	EPA 300.0	1	09/27/04 1:55:00 PM

33530

Relinquished By	Date/Time	Accepted By	Date/Time
			9/28/04 1027

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Ferric Iron Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

Lab Proj #: P0409485
Report Date: 09/30/04
Client Proj Name: Martin State Airport
Client Proj #: 04092725

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P
Baltimore, MD 21228

Lab Sample #: P0409485-01

Sample Description	Matrix	Sampled Date/Time	Received
04092725-01	Water	27 Sep. 04 13:55	28 Sep. 04

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date	
WetChem							
Ferric Iron	<1.0	1.0	mg/L	Mod.7199	md	9/28/04	17:39

✓ ✓ ✓

N - NELAC certified analysis

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

P0409485

Chain of Custody

COC- ID	**3687**	**Phone Number**	412-826-5245
Date Shipped	09/27/04	**Fax Number**	412-826-3433
Organization	Microseeps, Inc.	**Shipped Via**	Fed Ex
Address	220 William Pitt Way Pittsburgh, PA 15238	**Airbill Number**	
		Due Date	10/04/04 5:00:00 PM

Lab Number: 04092725
Project: Martin State Airport Data Gap

Sample Number	Description	Analysis	Method	No. of Cont.	Date Sampled
01 04092725-01	DMW 25-092704	Iron (Fe3+)	Mod_7199	1	09/27/04 1:55:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
			9/28/04 1050

MICROSEEPS

Client Name: Phase Separation Science
Contact: Bryan Ridgell
Address: 6630 Baltimore National P

Baltimore, MD 21228

Page: Page 1 of 2
Lab Proj #: P0409485
Report Date: 09/30/04
Client Proj Name: Martin State Airport
Client Proj #: 04092725

Laboratory Results

Total pages in data package: 5

Lab Sample #	Client Sample ID
P0409485-01	04092725-01

Microseeps test results meet all the requirements of the NELAC standards.

Approved By: Keith Hall

The analytical results reported here are reliable and usable to the precision expressed in this report. As required by some regulating authorities, a full discussion of the uncertainty in our analytical results can be obtained at our web site or through customer service. Unless otherwise specified, all results

As a valued client we would appreciate your comments on our service.
Please call customer servce at (412)826-5245 or email bhans@microseeps.com

Case Narrative:

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Dissolved Gasses Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

040921D

MARYLAND SPECTRAL SERVICES, INC.

1500 CATON CENTER DRIVE, BALTIMORE, MD 21227

(410) 247-7600

LABORATORY RESULTS

RESULTS OF ANALYSIS OF

MARTIN STATE AIRPORT WATER SAMPLE

COLLECTED 27 SEPTEMBER 2004

Prepared For

PHASE SEPARATION SCIENCE, INC.

BALTIMORE, MD

13 October 2004

SAMPLE DATA SUMMARY PACKAGE

Table of Contents

1. Narrative

2. Chain-of-Custody Records

3. Results of Analyses

4. Chromatograms of Samples and Method Blanks

1. Narrative

NARRATIVE

Laboratory Name: Maryland Spectral Services, Inc. (MSS)

Date Sample Delivered to MSS Laboratory: 28 September 2004

Client: Phase Separation Science, Inc.

Project: Martin State Airport-Data Gap; 04092725

Results for the following sample are included in this data package:

Client ID	MSS ID	Matrix	Analysis
04092725-01 DMW 25-092704	040928-05	Water	Ethane, Ethene

The sample was analyzed for ethane (C_2H_6) and ethene (C_2H_4) using Method 6211B of *Standard Methods* (1989) for the sample preparation and calculation steps and replacing the combustible-gas indicator with capillary gas chromatography and a flame ionization detector (FID) as in U.S. EPA Method 8015.

The sample was received in nominal a 40-mL septum-sealed vial with no headspace. Prior to analysis, the vial was allowed to reach room temperature. Approximately half of the liquid was removed from the vial. The vial was shaken for 15 min and then allowed to stand for one hour.

An aliquot of the headspace vapor was removed from the vial with a gas-tight syringe. Fifty microliters of the headspace vapor, or of a dilution thereof, was injected directly into a Hewlett Packard 5890 gas chromatograph equipped with an FID. A RTx-200 capillary column (60 m x 0.53 mm i.d., 5.0-um film thickness) was used for the separation. The GC oven temperature was maintained at 45 C.

The GC detector response was calibrated by analysis of three levels of methane, ethane, and ethene prepared from a certified mixture in nitrogen obtained from Scott Specialty Gases.

Samples with high concentrations were diluted to keep the analyte response within the calibration range.

See the appendix to this narrative for a discussion of the values for the Henry's law constants used in the conversion of the headspace concentrations to aqueous concentrations.

The results of the analyses are presented in Section 3 and are reported as milligrams per liter (parts per million).

Prior to the analysis of the samples, a method blank consisting of laboratory helium was analyzed. The method blank results are present on the sample data tables in Section 3.

Chromatograms of sample and method blank analyses are provided in Section 4 and are labeled for the target compounds.

NARRATIVE (continued)

RELEASE OF THE DATA CONTAINED IN THIS HARDCOPY DATA PACKAGE HAS BEEN AUTHORIZED BY THE LABORATORY MANAGER OR HIS DESIGNEE, AS VERIFIED BY THE FOLLOWING SIGNATURE:

Michael M. Robison DATE: 13 Oct 2004

Michael M. Robison 13 October 2004

APPENDIX - Henry's Law Constants

The calculation of the original aqueous phase concentration from the headspace concentration require Henry's law constant, but Method 6211B only provides the constant for methane. The Henry's law constants for ethane and ethene were derived from values given by Lide & Frederikse (1995) and Wilhelm et al. (1997) as collected in Sander (1999). The values for 25 C were converted to 20 C using the temperature dependence constants given with the values. (A value for methane at 20 C calculated by the same process differed from the value in Method 6211B by less than 4%.) The following values were used in the calculations:

Analyte	Henry's Law Constant (kPa)	Reference
Ethane	2.59×10^6	Lide & Frederikse (1995)
Ethene	1.08×10^6	Wilhelm et al. (1997)

For T = 20 C and P = 100 kPa, the concentration in the original aqueous sample is given by:

$$C_o = C_v \cdot MW \cdot [0.4103 \times 10^{-4} (V_v/V_a) + 5.541/H] \cdot D$$

where

C_o = analyte concentration in original aqueous sample (mg/L)
C_v = analyte concentration in headspace vapor phase (uL/L)
MW = molecular weight of analyte
V_v = volume of headspace vapor phase (mL)
V_a = volume of headspace aqueous phase (mL)
H = Henry's law constant (kPa)
D = dilution factor

References

American Public Health Association, American Water Works Association, Water Pollution Control Federation. 1989. Method 6211B: Methane/Combustible-gas indicator method. In *Standard Methods for the Examination of Water and Wastewater*, 17th ed. APHA, Washington, D.C.

Lide, D.R. and H.P.R. Frederikse, Eds. 1995. *CRC Handbook of Chemistry and Physics*, 76th ed. CRC Press, Inc., Boca Raton, Florida.

Sander, R. 1999. Compilation of Henry's Law Constants for Inorganic and Organic Species of Potential Importance in Environmental Chemistry, ver. 3. http://www.mpch-mainz.mpg.de/~sander/res/henry.html (accessed June 2000).

Wilhelm, E., R. Battino, and R.J. Wilcock. 1977. Low-pressure solubility of gases in liquid water. *Chem. Rev.* 77:219-262.

2. Chain-of-Custody Records

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

Chain of Custody

COC- ID	**3685**	**Phone Number**	410-247-7600
Date Shipped	09/27/04	**Fax Number**	410-247-7602
Organization	MSS	**Shipped Via**	Dial Courier
Address	1500 Caton Center Drive Baltimore, MD 21227	**Airbill Number**	
		Due Date	10/11/04 5:00:00 PM

Lab Number: 04092725
Project: Martin State Airport Data Gap

Sample Number	Description	Analysis		Method	No. of Cont.	Date Sampled
04092725-01	DMW 25-092704	Ethane	04-0928-05	SM6211B/EPA8	1	09/27/04 1:55:00 PM
		Ethene		SM6211B/EPA8	1	09/27/04 1:55:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
Dial a Courier	11:30	Cory Koors	

3. Results of Analyses

MARYLAND SPECTRAL SERVICES, INC.
1500 Caton Center Drive, Baltimore, MD 21227

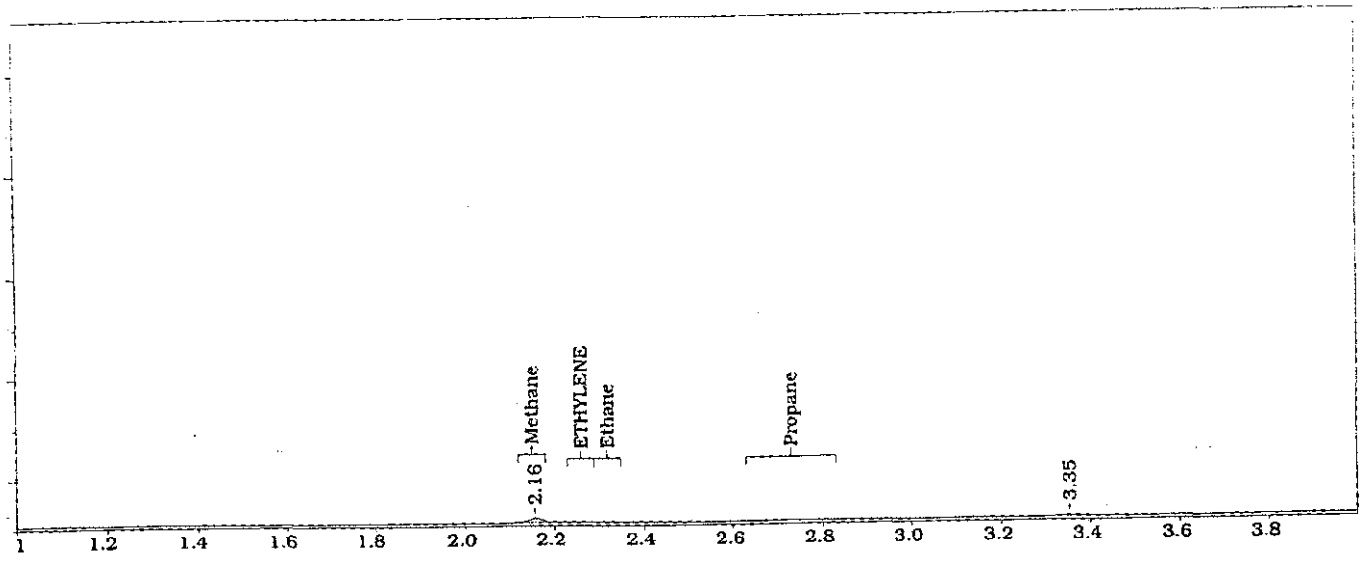
HYDROCARBONS BY METHODS SM 6211B/EPA 8015 (HEADSPACE/GC/FID)

CLIENT SAMPLE ID:	DMW 25 MARTIN STATE	WBLK0928
LAB SAMPLE ID:	04092718	METHOD BLANK
SAMPLE DATE:	09/27/04	
RECEIVED DATE:	09/28/04	
ANALYSIS DATE:	09/28/04	09/28/04
INSTRUMENT ID:	GC-G	GC-G
MATRIX:	WATER	WATER
UNITS:	mg/L	mg/L
DILUTION FACTOR:	1.0	1.0
ANALYTE		
Ethane	0.010 U	0.012 U
Ethene	0.026	0.012 U

mg/L - Milligrams per liter (parts per million)
U - Less than reported quantitation limit

4. Chromatograms of Samples and Method Blanks

ile=C:\DIRECT\DATAG1\0928G.05R Date printed=09-28-2004 Time= 12:50:53
Sample Name=METHOD BLANK
.0 to 4.0 min. Low Y=3.422 High Y=63.422 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- METHOD BLANK-----
ANALYSIS DATE: Sep 28, 2004 12:12:19
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 36
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0928G.05R
RUN TIME 5

DILUTION FACTOR 1
AMOUNT INJECTED 1

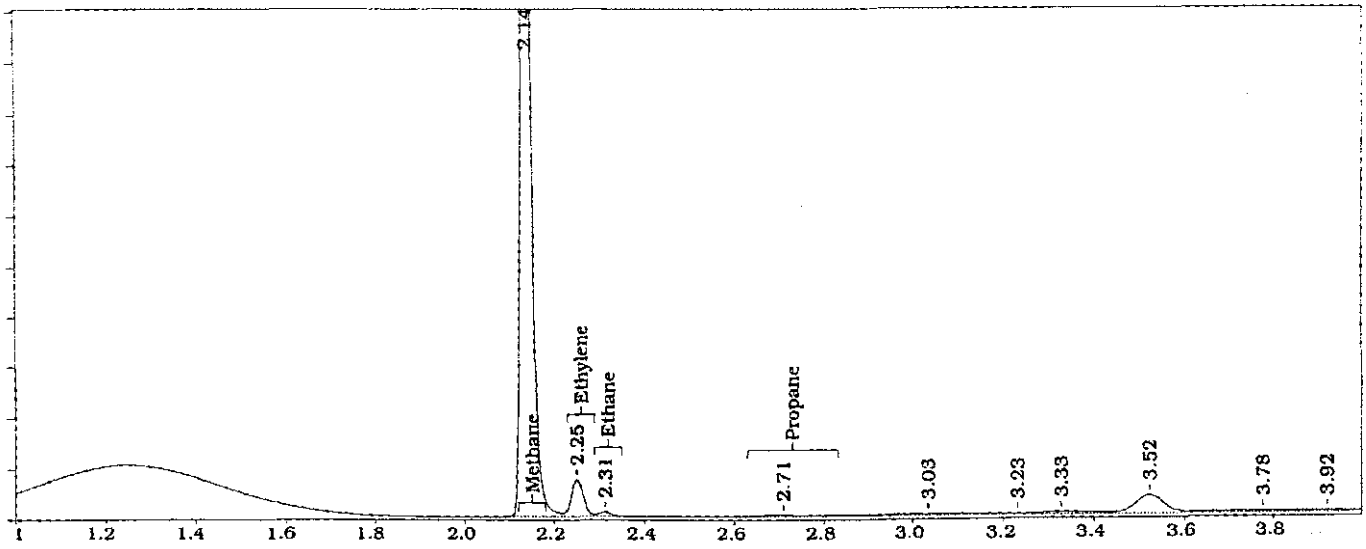
RTX-1 60M X .53MMID X 5.0 UM FILM
HYDROCARBONS BY METHOD EPA 8015M SM6211B

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
3	2.158	Methane	7.5365	1291	583
23	3.354		0.0000	568	176

File name: C:\DIRECT\DATAG1\0928G.05R
Total area for this analysis = 1858.972

File=C:\DIRECT\DATAG1\0928G.10R Date printed=09-28-2004 Time= 13:31:45
Sample Name=040928-05
1.0 to 4.0 min. Low Y=3.544 High Y=63.544 mv Span=60.0



********** MARYLAND SPECTRAL SERVICES, INC. **********

SAMPLE NAME:---- 040928-05-----
ANALYSIS DATE: Sep 28, 2004 13:31:44
OPERATOR: CMK
INSTRUMENT ID: GC-G--FID

METHOD FILE: C:\DIRECT\DATAG1\C1C2.MET
CALIBRATION FILE: C:\DIRECT\DATAG1\C1-C2.CAL 37
RAW DATA FILE NAME:C:\DIRECT\DATAG1\0928G.10R
RUN TIME 5

DILUTION FACTOR 1
AMOUNT INJECTED 1

RTX-1 60M X .53MMID X 5.0 UM FILM
HYDROCARBONS BY METHOD EPA 8015M SM6211B

********* PEAKS DETECTED IN THIS CHROMATOGRAM **********

Peak #	Ret Time (min)	Peak Name	Amount PPM V/V	Peak Area	Peak Height
3	2.138	Methane	862.6658	147741	96449
4	2.251	Ethylene	24.8602	8091	4363
5	2.312	Ethane	2.6507	852	504
12	2.709	Propane	1.2811	611	126
16	3.034		0.0000	844	128
18	3.232		0.0000	609	137
21	3.327		0.0000	539	241
22	3.523		0.0000	10697	2140
24	3.776		0.0000	543	174
27	3.921		0.0000	539	197

File name: C:\DIRECT\DATAG1\0928G.10R
Total area for this analysis = 171065.7

PHASE SEPARATION SCIENCE, INC.

Analytical Chemistry Environmental Science

QA/QC SUMMARY DATA

Subcontractor Data

- *Perchlorate Data*

6630 Baltimore National Pike Baltimore, MD 21228 (800) 932-9047 (410) 747-8770 FAX (410) 788-8723

ANALYTICAL LABORATORY SERVICES, INC.

www.analyticallab.com
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NJ PA010 NY 11759

ACCREDITED IN ACCORDANCE WITH nelac

34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
6630 Baltimore National Pike
Route 40 West
Catonsville, MD 21228

Lab ID#: 279509

Project Name: **Routine Sample Submission-RUSH**

PO#:

This report relates only to the sample(s) as received by the laboratory. Laboratory reports may not be reproduced, except in full, without the written approval of the laboratory.

Qualifier Flags - These flags may follow individual results for a specific analyte

- U - Indicates that the analyte was not detected
- J - Indicates an estimated value between method detection limit and the practical quantitation limit for the analyte
- E - Indicates an estimated value outside of the calibration range of the analysis
- B - Indicates that the analyte was found in the method blank associated with the sample

A result of ND indicates that the analyte was Not Detected at the Reporting Detection Limit (RDL).

ALSI is a NELAC accredited laboratory. ALSI certifies that all applicable test results meet the requirements of NELAC. For an inventory of our NELAC accreditations and Scope of Work please visit our website at www.analyticallab.com or contact your Project Manager at (717)944-5541 for a complete listing.

If you have any questions in reference to this laboratory report, please contact your ALSI project coordinator or the laboratory manager listed at the bottom of this report at 717-944-5541.

Note: This document is included as part of the Analytical Report and must be retained as a permanent record thereof.

Raymond J. Martrano
Laboratory Manager

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Certificate of Analysis

October 7, 2004

Project Manager
Phase Separation Sciences
6630 Baltimore National Pike
Route 40 West
Catonsville, MD 21228

Lab ID #: **279509001**
Received: 09/29/04 14:00
Discard: 10/21/04

Project Name: **Routine Sample Submission-RUSH**

PO#:

Sample ID: **04092725-01**
Date Collected: 09/27/04 13:55

Matrix: Water
Collected by: Collected by Customer

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Perchlorate	ND	ug/L	4	EPA 314.0	10/05/04 18:03	10/05/04	JWB

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

Raymond J. Martrano
Laboratory Manager

OFFICES:
6630 BALTIMORE NAT'L PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

Chain of Custody

4°C

COC- ID	**3686**	**Phone Number**	717-944-5541
Date Shipped	09/27/04	**Fax Number**	717-944-1430
Organization	ALS	**Shipped Via**	Dial Courier
Address	Analytical Laboratory Services, Inc. 34 Dogwood Lane Middletown, PA 17057	**Airbill Number**	
		Due Date	10/11/04 5:00:00 PM

Lab Number: 04092725
Project: Martin State Airport Data Gap

Sample Number	Description	Analysis	Method	No. of Cont.	Date Sampled
04092725-01	DMW 25-092704	Perchlorate	314.0	1	09/27/04 1:55:00 PM

Relinquished By	Date/Time	Accepted By	Date/Time
	9/28	MRH	9-29-04 1400

ENTERED 10/25/04 BB

SA 9/29/04 2017