Groundwater Compliance Monitoring Data Summary Report – February 2011

318 State Avenue NE Property
Olympia, Washington

for
City of Olympia

April 14, 2011

GeoEngineers

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318 State Avenue NE Property
Olympia, Washington

File No. 0415-049-06

April 14, 2011

Prepared for:

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INTRODUCTION

This data summary report presents the results of groundwater compliance monitoring performed by the City of Olympia (City) in February 2011 at the 318 State Avenue NE property in Olympia, Washington (Property) (Figure 1). Groundwater compliance monitoring at the Property is intended to monitor the natural attenuation of chlorinated organic solvents and associated degradation products identified as chemicals of concern (COCs) in groundwater after completion of the soil remedial action performed in September and October 2009. Remediation of soil and groundwater at the Property is being performed to support the goal of achieving a No Further Action (NFA) determination for the Property under the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP).

The chlorinated solvents being monitored for natural attenuation as part of groundwater compliance monitoring include tetrachloroethene (PCE) and trichloroethene (TCE) as well as associated degradation products. Monitoring also includes measurement of water quality parameters that are indicators of the natural attenuation. Monitoring of chlorinated solvents, degradation products and natural attenuation parameters is being performed in accordance with the Groundwater Compliance Monitoring Plan (CMP) for the Property (GeoEngineers, 2010a).

Groundwater monitoring performed in May 2010 also included analysis to assess potential impacts from the presence of an underground storage tank (UST) at the Property that was encountered during the remedial action for soil (GeoEngineers, 2010b). Monitoring to assess potential impacts from the UST was performed in May 2010 in accordance with requirements presented in an email between Iain Wingard, GeoEngineers and Eugene Radcliff, Ecology dated May 11, 2010. Benzene was the only compound detected as a result of the additional analysis performed to assess the potential impacts from the UST. The detected benzene concentrations were an order of magnitude below the Model Toxics Control Act (MTCA) Method A groundwater cleanup levels (CULs). However, continued analysis for benzene was performed during the August 2010, November 2010 and February 2011 groundwater compliance monitoring events at the request of Ecology.

Groundwater samples were collected on February 22 and 23, 2011 from eight monitoring wells that included MW-03, MW-04, MW-08, MW-09, MW-13 and MW-16 through MW-18 (Figure 2). These samples were submitted to TestAmerica Laboratories of Seattle, Washington, for analysis. Additionally, collection of data to estimate groundwater gradients at the Property was performed by measuring the water levels in all monitoring wells at the site. Groundwater samples were collected from selected monitoring wells and groundwater levels were measured in all wells at the site in accordance with the CMP for the Property (GeoEngineers, 2010a).

The following sections summarize the background for compliance monitoring, field sampling activities, groundwater gradients at the Property and results of groundwater sampling and analysis.

BACKGROUND

Remedial actions were performed in September and October 2009 to remove soil and fill material that likely contained volatile organic compounds (VOCs) including chlorinated solvents, metals and

carcinogenic polycyclic aromatic compounds (cPAHs) at concentrations greater than MTCA CULs. Soil samples were subsequently collected from the boundary of remedial action areas to assess if soil and fill with contaminant concentrations greater than cleanup levels were present at the limits of the remedial excavation. The results of the soil remedial action are presented in the Remedial Action Construction Report prepared for the Property (GeoEngineers, 2010b).

Compliance monitoring is being performed after completion of soil remedial actions to evaluate the concentrations and natural attenuation of chlorinated organic solvents in groundwater at the Property. The concentrations are compared to the MTCA groundwater CULs for unrestricted land use (ULU). The natural attenuation of chlorinated organic solvents is being monitored via quarterly monitoring that has included the following:

- Installation of two new monitoring wells in May 2010 during the first compliance groundwater monitoring event. Monitoring well MW-17 was installed within Contaminated Soil Zone 1 (CSZ 1) where soil remediation was performed in September and October 2009, and MW-18 was installed north of the CSZ 1 (Figure 2).
- Groundwater sampling at eight monitoring wells including MW-03, MW-04, MW-08, MW-09, MW-13 and MW-16 through MW-18.
- Analysis for chlorinated organic solvents and associated degradation products including PCE, TCE, 1,1-dichloroethene (1,1-DCE), cis-dichloroethene (cis-DCE), trans-dichloroethene (trans-DCE) and vinyl chloride (VC).
- Monitoring for indicators of natural attenuation including ferrous iron, sulfate, dissolved oxygen (DO), pH, electrical conductivity and oxidation-reduction potential (ORP).
- Monitoring of groundwater gradients by measuring water levels at all existing wells at the site.

Additionally, analysis for arsenic is being performed as part of groundwater compliance monitoring to provide additional information concerning arsenic concentrations in the area.

Ecology also requested that groundwater be analyzed for constituents associated with a petroleum hydrocarbon release during the May 2010 groundwater compliance monitoring event to evaluate the potential impacts from a UST encountered at the Property during the remedial action for soil. The sampling and analysis requirements to assess potential impacts from the former UST were documented in an email from Iain Wingard, GeoEngineers to Eugene Radcliff, Ecology dated May 11, 2010. The additional analyses requested by Ecology were performed during the May 2010 compliance monitoring event (GeoEngineers, 2010c). Only benzene was detected in two samples at concentrations well below the MTCA Method A groundwater CUL. Based on the May 2010 sample results, no additional monitoring is necessary to assess potential impacts from the UST or petroleum hydrocarbons at the Property. However, Ecology requested in an email from Eugene Radcliff of Ecology to Iain Wingard of GeoEngineers dated July 19, 2010 that compliance groundwater monitoring continue to include benzene during future monitoring events. Therefore, groundwater compliance monitoring performed in February 2011 continued to include analysis for benzene.

FIELD ACTIVITIES

Groundwater compliance monitoring samples were collected on February 22 and 23, 2011 using low-flow/low-turbidity sampling techniques to minimize the suspension of particulates in the samples. Groundwater samples were obtained from the wells using dedicated submersible electric pumps (Whale Pump Brand) with dedicated flexible vinyl tubing. Groundwater was pumped at approximately 0.5 liters per minute from the approximate mid-point of the screened interval to collect the samples.

Water quality parameters were measured during purging using a Horiba U-22 with a flow-through-cell. The measured water quality parameters included electrical conductivity, DO, pH, turbidity, ORP, salinity, total dissolved solids (TDS) and temperature. Groundwater samples were collected once the water quality parameters varied by less than 10 percent on three consecutive measurements. All field measurements were documented on the field logs.

Following well purging, the flow-through-cell was disconnected and the groundwater samples were collected in appropriate laboratory-prepared and -provided containers. The samples were placed into a cooler with ice and delivered to TestAmerica Laboratory in Seattle, Washington, for analysis following appropriate chain-of-custody procedures. Purge water was stored in labeled 55-gallon drums for future off-site disposal. The groundwater samples were submitted for the following analyses to provide results for the groundwater compliance monitoring analytes specified in the CMP and benzene as requested by Ecology:

- VOCs by Environmental Protection Agency (EPA) Method 8260
- Total metals by EPA Method 6020
- Sulfate by EPA Method 300.0

Ferrous iron concentrations were evaluated in the field using a Hach field test kit and the results were recorded on the field logs prior to collection of samples for laboratory analysis.

GROUNDWATER GRADIENTS

Information necessary to estimate groundwater gradients at the Property were obtained during the February 2011 sampling event by collecting depth to water measurements at all existing monitoring wells. The depth to water measurements were collected from all existing monitoring wells within a close timeframe (i.e., within approximately 20 minutes) prior to performing any groundwater sampling. The groundwater gradients measured in February 2011 indicate a northerly groundwater flow direction (Figure 3), which is generally consistent with previous groundwater gradients measured at the Property.

ANALYTICAL RESULTS

The results from groundwater sample collection and analysis performed in February 2011 are summarized in the following sections. The results for the analyses specified in the CMP are presented followed by the results for benzene.

Table 1 summarizes the results for the chemical analyses performed as part of groundwater compliance monitoring in February 2011. Table 1 also includes the results from groundwater compliance monitoring performed in May 2010, August 2010 and November 2010 for comparison purposes. Table 2 summarizes water quality and natural attenuation parameter measurements collected in February 2011 and also includes the results from May 2010, August 2010 and November 2010 for comparison. Finally, Appendix A contains the laboratory analytical reports and Appendix B contains the Data Quality Assessment Report presenting the results of data validation of the chemical analyses performed in February 2011.

Groundwater Compliance Monitoring Analyses

Natural Attenuation Parameters

The geochemical indicators of natural attenuation measured in February 2011 generally indicate that continued oxidative conditions were present in groundwater within and downgradient of soil remediation area CSZ 1 during the February 2011 monitoring event (Table 2). The continued oxidative conditions are indicated by sustained higher sulfate and lower ferrous iron concentrations in groundwater collected from monitoring wells MW-03, MW-08, MW-16, MW-17 and MW-18. The continued oxidative conditions measured within and downgradient of the soil remediation area CSZ 1 are likely related to the current seasonal groundwater conditions resulting from ongoing precipitation and associated surface water infiltration on and around the Property. Approximately 21 inches of precipitation occurred between December 2010 and February 2011 in Olympia. Precipitation generally contains higher oxygen concentrations than groundwater and infiltrating precipitation will tend to increase groundwater oxygen concentrations. Oxidative groundwater conditions are more favorable for degradation of VC, which is the remaining chlorinated compound present at the Property at concentrations greater than the CUL.

Chlorinated Organic Solvents and Associated Degradation Products

TCE, cis-DCE, trans-DCE and/or VC were detected in groundwater samples collected from monitoring wells MW-04, MW-17, MW-03, MW-16 and MW-18 in February 2011 (Table 1). The detected concentrations of TCE, cis-DCE and trans-DCE at the Property continue to be well below the MTCA groundwater CULs.

VC was not detected in groundwater collected from monitoring wells MW-08, MW-09, MW-13 and MW-17. The detected concentrations of VC in groundwater from monitoring well MW-04 were less than the MTCA Method A CUL. VC was detected in the groundwater samples collected from monitoring wells MW-03, MW-16 and MW-18 during the February 2011 sampling event at concentrations greater than the MTCA Method A CUL (Table 1 and Figure 4).

Arsenic

Arsenic was detected at concentrations less than MTCA Method A CUL during the February 2011 monitoring event.

Additional Analysis Requested by Ecology

Benzene

Benzene was not detected in all groundwater samples collected in February 2011.

DISCUSSION

Natural Attenuation of Chlorinated Solvents and Associated Degradation Products in Groundwater

Soil remedial actions were performed at CSZ 1 in September and October 2009 to remove material with chemical concentrations greater than soil cleanup levels that was a source of chlorinated compounds in groundwater. Prior to remedial actions for soil, TCE and VC were detected at concentrations greater than CULs in groundwater. As previously stated, VC is the remaining chlorinated compound present in groundwater at the Property at a concentration greater than CULs. The results of groundwater compliance monitoring indicate a continued reduction in VC concentrations and the presence of conditions that are conducive to natural attenuation of VC.

Continued temporal analysis of the detected concentrations of chlorinated compounds present in groundwater at the Property was performed to assess trends in chlorinated compound concentrations. The detected chlorinated compound concentrations plotted through time are presented in Figures 5 through 11. The data presented for monitoring wells MW-13, MW-04, MW-03, MW-08 and MW-16 include the results of the groundwater monitoring event performed prior to remedial actions for soil (i.e., March 2009) as well as the four groundwater monitoring events that have been performed after the completion of soil remedial actions (i.e., May 2010, August 2010, November 2010 and February 2011). The data presented for monitoring wells MW-17 and MW-18 include the four groundwater monitoring events performed after the soil remedial actions (i.e., May 2010, August 2010, November 2010 and February 2011) as these wells were installed after completion of the soil remedial actions. The following summarizes the results of the trend analysis:

- MW-13 – Monitoring well MW-13 is located upgradient of the Property and soil remedial action area CSZ 1 (Figure 3). VC was detected in groundwater during sampling performed prior to remedial actions for soil but at a concentration less than the MTCA Method A CUL. VC has not been detected in groundwater during the four monitoring events performed subsequent to the completion of soil remedial actions. Other chlorinated compounds have not been detected in groundwater at MW-13 (Figure 5 and Table 1).
- MW-04 – Monitoring well MW-04 is located on the southern Property boundary adjacent to CSZ 1 and upgradient of the Property (Figure 3). VC was detected in groundwater at a concentration greater than the MTCA Method A CUL during sampling performed prior to remedial actions for soil (Figure 6). VC concentrations have decreased to concentrations less than the MTCA Method A CUL in groundwater during the four monitoring events performed subsequent to the completion of soil remedial actions. The concentrations of TCE and cis-DCE have remained at least an order of magnitude less than the CULs for these compounds, and the observed concentrations have both increased and decreased between monitoring events (Figure 6 and Table 1).
- MW-09 – Monitoring well MW-09 is located on the eastern Property boundary and crossgradient of CSZ 1 (Figure 3). Chlorinated organic compounds have not been detected during four post-soil remediation groundwater monitoring events (Table 1).
- MW-17 – Monitoring well MW-17 is located within CSZ 1 and was installed after the completion of remedial actions for soil (Figure 3). Residual concentrations of TCE, cis-DCE and VC have

been detected in groundwater from MW-17 at concentrations less than the MTCA Method A CULs (Figure 7 and Table 1). VC concentrations have decreased during the four post-soil remediation groundwater monitoring events and VC was not detected in groundwater during the November 2010 and February 2011 monitoring events. The concentrations of TCE and cis-DCE have remained at least an order of magnitude less than the CULs for these compounds, and the observed concentrations have both increased and decreased between monitoring events (Table 1).

- MW-03 – Monitoring well MW-03 is located downgradient/crossgradient of soil remedial action area CSZ 1 (Figure 3). The concentrations of VC, TCE and cis-DCE in groundwater from MW-03 decreased after completion of soil remedial actions at CSZ 1 in samples collected in May 2010 and August 2010 and the concentration of VC was detected at a concentration less than the MTCA Method A CUL in August 2010 (Figure 8 and Table 1). The concentrations of VC, TCE and cis-DCE in groundwater increased between August 2010 and November 2010, but the concentration of VC decreased during the February 2011 event. The increasing concentrations of TCE and cis-DCE are likely related to continued higher groundwater levels at the Property in addition to the groundwater gradient observed in February 2011 as discussed in the following section. The concentrations of TCE and cis-DCE remain at least an order of magnitude less than the CULs for these compounds.
- MW-08 – Monitoring well MW-08 is located downgradient of soil remedial action area CSZ 1 (Figure 3). Chlorinated organic compounds have not been detected in groundwater from MW-08, except for VC. The concentration of VC in groundwater from MW-08 has decreased after completion of soil remedial actions at CSZ 1. The concentration detected in the sample collected in August 2010 temporarily increased from the concentration detected in May 2010. The concentration of VC decreased to below the MTCA Method A CUL in the sample collected in November 2010 (Figure 9 and Table 1) and has continued to decrease in concentration and was not detected in February 2011.
- MW-16 – Monitoring well MW-16 is located downgradient of soil remedial action area CSZ 1 (Figure 3). Similar to MW-08, the concentration of VC in groundwater from MW-16 has decreased after completion of soil remedial actions at CSZ 1. The concentration detected in the sample collected in August 2010 increased from the concentration detected in May 2010 but the concentration of VC detected in November 2010 and in February 2011 decreased to a concentration just above the MTCA Method A CUL in the parent sample (Figure 10 and Table 1). The duplicate sample collected at MW-16 in February 2011 was at the Method A CUL (Table 1). The concentrations of TCE, cis-DCE and trans-DCE remain an order of magnitude less than the CULs for these compounds.
- MW-18 – Monitoring well MW-18 is located downgradient of soil remedial action area CSZ 1 (Figure 3). The concentration of VC in groundwater from MW-18 continues to decrease after completion of soil remedial actions at CSZ 1 (Figure 11 and Table 1). The concentrations of TCE, cis-DCE and trans-DCE also remain less than the CULs for these compounds.

Overview of Groundwater Compliance Monitoring Results

The results of four quarters of post-soil remedial action groundwater compliance monitoring at the Property indicate that the concentrations of VC have decreased and are continuing to decrease in groundwater. VC has been detected at a concentration less than the MTCA Method A CUL in

groundwater during at least one monitoring event in all but two monitoring wells (i.e., MW-16 and MW-18). The detected concentrations of VC decrease between November 2010 and February 2011 in all monitoring wells.

The observed concentrations of TCE and associated degradation products cis-DCE and trans-DCE in groundwater samples collected from the Property fluctuated between August 2010, November 2010 and February 2011. The concentrations of TCE during the February 2011 event generally showed a decrease while the concentrations of cis-DCE and trans-DCE increased or decreased depending on the sample location. The groundwater levels measured in February 2011 were approximately 1 foot higher than groundwater levels measured in August 2010 at the Property (Table 2). It is likely that the higher groundwater levels observed at the Property in November 2010 and February 2011 caused residual amounts of TCE, cis-DCE and trans-DCE in pore spaces and sorbed to soil to enter into solution by contact with groundwater. As previously stated, the concentrations of TCE, cis-DCE and trans-DCE remain well below the CULs for these compounds.

Arsenic was detected at concentrations less than the MTCA Method A CUL in groundwater samples collected during the February 2011 event. Over the last four groundwater compliance monitoring events, arsenic has only been detected at a concentration greater than the CUL two times and it was in groundwater collected upgradient of CSZ 1 (i.e., MW-04 and MW-13) (Table 1). The results for arsenic continue to support our opinion that arsenic is not a COC for the Property.

Benzene was not detected in the groundwater samples collected from all monitoring wells during the February 2011 monitoring event. Benzene has never been detected at a concentration greater than the MTCA Method A CUL in groundwater samples collected from the Property. The results for benzene continue to support our opinion that benzene is not a COC for the Property.

Geochemical indicators of natural attenuation have fluctuated between reductive and oxidative conditions over the last year. The groundwater conditions observed at the Property (i.e., fluctuation between reductive and oxidative conditions) are anticipated to be favorable to the continued breakdown of chlorinated solvents and associated degradation products.

Future Groundwater Compliance Monitoring

The concentrations of chlorinated organic solvents and associated degradation products identified as COCs, as well as benzene, have been shown to be less than the groundwater CULs at multiple locations at the 318 State Avenue Property over the last four quarters of groundwater compliance monitoring. Additionally, arsenic concentrations have been less than the CUL in wells on the Property. Based on the results of the previous four quarters of groundwater compliance monitoring, it is proposed that the groundwater compliance monitoring parameters and locations be reduced for future monitoring at the Property.

Benzene has only been detected in several samples at the Property in the previous four quarters and the detection limits and detected concentrations were an order of magnitude less than the CUL (Table 1). As has been previously stated, benzene has never been detected in groundwater at the Property at a concentration greater than the CUL and therefore, benzene is not a COC at the Property. Therefore, no additional monitoring for benzene is necessary at the Property.

Arsenic is also not a COC for the Property. The highest arsenic concentrations have been detected upgradient of the Property. Arsenic has only been detected at a concentration greater than the CUL in monitoring well locations that are upgradient of the Property in the last four quarters of groundwater monitoring (i.e., MW-13 and MW-04) (Table 1). Therefore, no additional monitoring for arsenic is necessary at the Property.

The results of groundwater compliance monitoring have shown that the concentrations of chlorinated organic solvents and associated degradation products identified as COCs including VC are less than the CULs at monitoring well locations MW-13, MW-04, MW-17 and MW-09 (Table 1). However, it is proposed that monitoring be continued at MW-17 to measure upgradient/ background conditions for future monitoring to be performed at monitoring well locations MW-03, MW-08, MW-16 and MW-18. Therefore, it is proposed that monitoring locations MW-13, MW-04 and MW-09 be removed from future monitoring events because groundwater at these locations is in compliance with the MTCA CULs. Sampling and analysis of chlorinated organic solvents and associated degradation products will continue to be performed at monitoring wells MW-17, MW-03, MW-08, MW-16 and MW-18 until compliance with MTCA CULs has been achieved.

In summary, the following changes are proposed for future groundwater compliance monitoring at the 318 State Avenue Property:

- Benzene analyses will not be performed as part of future groundwater compliance monitoring at the Property.
- Arsenic analyses will not be performed as part of future groundwater compliance monitoring at the Property.
- Groundwater monitoring will not be performed at monitoring locations MW-13, MW-04 and MW-09 as part of future groundwater compliance monitoring events.

It is our opinion that the concentrations of chlorinated organic solvents and associated degradation products are continuing to naturally attenuate in groundwater at the Property. It is anticipated that natural attenuation will continue to reduce the concentrations of VC in groundwater at the Property to concentrations that are less than the CUL. The next round of groundwater compliance monitoring is scheduled to be performed in May 2011 in accordance with the CMP and the changes identified above.

REFERENCES

GeoEngineers 2010a, Groundwater Compliance Monitoring Plan, 318 State Avenue NE, Olympia, Washington, April 16, 2010.

GeoEngineers 2010b, Remedial Action Construction Report, 318 State Avenue NE, Olympia, Washington, January 5, 2010.

GeoEngineers 2010c, Groundwater Compliance Monitoring Data Summary Report – May 2010, 318 State Avenue NE, Olympia, Washington, July 16, 2010.

LIMITATIONS

This Groundwater Monitoring Report has been prepared for use by the City of Olympia. GeoEngineers has performed these services in general accordance with the scope and limitations of our proposal.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with the generally accepted environmental science practices for groundwater monitoring in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

TABLE 1

SUMMARY OF GROUNDWATER COMPLIANCE MONITORING PARAMETERS[1] - FEBRUARY 2011

318 STATE AVENUE NE

OLYMPIA, WASHINGTON

				Volatile Organic Compounds							Total Metals
			Analyte	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	Cis-1,2-Dichloroethene	Trans-1,2-Dichloroethene	Vinyl Chloride	Benzene	Arsenic
			Units	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/L
Location	Sample ID	Sample Date	MTCA Method A Cleanup Level	5	5	4,000,000 [2]	800,000 [2]	1,600,000 [2]	0.2	5	0.005
MW-13	MW13-052510-W	05/25/10		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.02 U	NA	**0.0041 J**
	MW13-082410-W	08/24/10		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.02 U	0.1 U	**0.058 J**
	MW13-112210-W	11/22/10		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.02 U	0.1 U	0.0004 UJ
	MW13-022211-W	02/22/11		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.02 U	0.1 U	**0.0012**
MW-04	MW4-052510-W	05/25/10		0.1 U	**0.28**	0.1 U	**0.11**	0.1 U	**0.12**	NA	**0.0045 J**
	MW4-082410-W	08/24/10		0.1 U	**0.14**	0.1 U	**0.14**	0.1 U	**0.074**	0.1 U	**0.0051 J**
	MW4-112210-W	11/22/10		0.1 U	**0.34**	0.1 U	0.1 U	0.1 U	**0.065**	0.1 U	**0.00067 J**
	MW4-022211-W	02/22/11		0.1 U	**0.25**	0.1 U	0.1 U	0.1 U	**0.053**	0.1 U	**0.0023**
MW-17	MW17-052410-W	05/24/10		0.1 UJ	**0.26 J**	0.1 UJ	0.1 UJ	0.1 UJ	**0.084 J**	**0.17 J**	**0.0031 J**
	MW17-082410-W	08/24/10		0.1 U	0.1 U	0.1 U	**0.11**	0.1 U	**0.025**	0.1 U	0.002 UJ
	MW17-112210-W	11/22/10		0.1 U	**0.22**	0.1 U	0.1 U	0.1 U	0.02 U	0.1 U	**0.0016 J**
	MW17-022211-W	02/22/11		0.1 U	**0.18**	0.1 U	0.1 U	0.1 U	0.02 U	0.1 U	**0.0012**
MW-09	MW9-052510-W	05/25/10		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.02 U	NA	**0.0016 J**
	MW9-082410-W	08/24/10		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.02 U	0.1 U	0.002 UJ
	MW9-112210-W	11/22/10		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.02 U	0.1 U	0.0004 UJ
	MW9-022211-W	02/22/11		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.02 U	0.1 U	**0.00059**
MW-03	MW3-052410-W	05/24/10		0.1 U	**0.48**	0.1 U	**0.14**	0.1 U	**0.48**	0.1 U	**0.002 J**
	MW3-082510-W	08/25/10		0.1 U	**0.26**	0.1 U	**0.11**	0.1 U	**0.12**	0.1 U	0.002 UJ
	MW3-112410-W	11/24/10		0.1 U	**1.3**	0.1 U	**0.28**	0.1 U	**1.1**	0.1 U	0.0004 UJ
	MW3-022311-W	02/23/11		0.1 U	**1.6**	0.1 U	**0.59**	0.1 U	**0.92**	0.1 U	**0.0010**
MW-08	MW8-052410-W	05/24/10		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.21**	0.1 U	**0.0027 J**
	DUP-1-052410-W[3]	05/24/10		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.23**	0.1 U	**0.0027 J**
	MW8-082510-W	08/25/10		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.29**	0.1 U	**0.0045 J**
	DUP-1-082510-W[4]	08/25/10		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.29**	0.1 U	**0.0045 J**
	MW8-112410-W	11/24/10		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.066**	0.1 U	0.0004 UJ
	MW8-022311-W	02/23/11		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.02 U	0.1 U	**0.0019**
MW-16	MW16-052410-W	05/24/10		0.1 U	**0.44**	0.1 U	**0.2**	**0.18**	**0.76**	0.1 U	**0.0019 J**
	MW16-082510-W	08/25/10		0.1 U	**0.46**	0.1 U	**0.32**	**0.34**	**1.0**	**0.12**	0.002 UJ
	MW16-112410-W	11/24/10		0.1 U	**0.49**	0.1 U	**0.17**	**0.19**	**0.33**	0.1 U	**0.0013 J**
	DUP-1-112410-W[5]	11/24/10		0.1 U	**0.50**	0.1 U	**0.16**	**0.21**	**0.38**	0.1 U	0.0004 UJ
	MW16-022311-W	02/23/11		0.1 U	**0.42**	0.1 U	**0.13**	**0.13**	**0.22**	0.1 U	**0.0014**
	DUP-1-022311-W[6]	02/23/11		0.1 U	**0.43**	0.1 U	**0.11**	**0.15**	**0.2**	0.1 U	**0.0015**
MW-18	MW18-052410-W	05/24/10		0.1 U	**0.62**	0.1 U	**0.28**	**0.16**	**2.3**	**0.2**	**0.0038 J**
	MW18-082510-W	08/25/10		0.1 U	**0.25**	0.1 U	**0.22**	**0.13**	**1.9**	**0.19**	**0.0028 J**
	MW18-112410-W	11/24/10		0.1 U	**0.81**	0.1 U	**0.34**	**0.23**	**1.7**	**0.11**	**0.0032 J**
	MW18-022311-W	02/23/11		0.1 U	**0.72**	0.1 U	**0.3**	**0.16**	**0.9**	0.1 U	**0.0045**

Notes:

[1] The parameters presented are the groundwater compliance monitoring parameters specified in the Groundwater Compliance Monitoring Plan (GeoEngineers 2010) and benzene as requested by Ecology in an email from Eugene Radcliff, Ecology to Iain Wingard, GeoEngineers dated July 19, 2010.

[2] A MTCA Method A groundwater cleanup level has not been established; therefore, the MTCA Method B groundwater cleanup level has been provided.

[3] Sample DUP-1-052410-W is a field duplicate of sample MW8-052410-W.

[4]Sample DUP-1-082510-W is a field duplicate of sample MW8-082510-W.

[5]Sample DUP-1-112410-W is a field duplicate of sample MW16-112410-W.

[6]Sample DUP-1-022311-W is a field duplicate of sample MW16-022311-W.

MTCA = Model Toxics Control Act

µg/l = microgram per liter

U = The analyte was not detected at a concentration greater than the identified reporting limit

UJ = The analyte was not detected at a concentration greater than the identified reporting limit and the reporting limit concentration is estimated

NA = Not analyzed

Green shading indicates sample results for current quarter of monitoring

mg/L = milligram per liter

J = The analyte concentration is estimated

Bold indicates analyte was detected

Gray shading indicates concentration is greater than cleanup level

TABLE 2

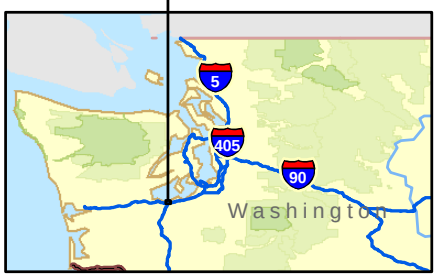
SUMMARY OF GROUNDWATER QUALITY PARAMETERS[1] - FEBRUARY 2011

318 STATE AVENUE NE
OLYMPIA, WASHINGTON

Location ID	Sample Date	Ferrous Iron (mg/l)	Sulfate (mg/l)	Dissolved Oxygen (mg/l)	pH	Conductivity (uS/m)	Salinity (%)	Total Dissolved Solids (g/l)	Turbidity (NTU)	Temperature (C)	ORP[2] (mv)	Water Level (ft btoc)
MW-13	05/25/10	2.2	6.0	1.23	8.34	156,000	0.1	1	4.74	14.4	-97	2.91
	08/24/10	3.8	1.6	2.21	6.58	999,000	0	0.72	4.16	21.07	-115	3.82
	11/22/10	1.2	8.1	0.98	6.63	400,000	0	0.26	8.97	14.79	6	2.24
	02/22/11	1.0	6.3	0.81	6.56	407,000	0	0.26	0.8	11.12	-43	2.62
MW-04	05/25/10	4.5	6.7	1.34	7.34	59,500	0	0.38	0.99	13.9	-80	3.29
	08/24/10	3.6	1.2 U	0.72	6.15	645,000	0	0.41	1.82	21.12	-75	4.23
	11/22/10	3.8	3.8	1.97	6.52	371,000	0	0.24	1.8	12.64	-57	2.61
	02/22/11	2.2	2.6	0.99	6.56	255,000	0	0.17	1.08	10.11	-70	2.95
MW-17	05/24/10	0.0	31.0	1.78	7	45,700	0	0.3	2.49	13.5	-23	3.83
	08/24/10	0.0	28.0	0.58	7.04	999,000	0	0.79	9.03	21.5	54	4.53
	11/22/10	0.2	28	0.00	7.16	509,000	0	0.33	10.5	15.64	39	3.32
	02/22/11	0.0	36	0.39	6.78	364,000	0	0.24	7.2	11.39	73	3.62
MW-09	05/25/10	1.6	9.1	1.22	8.8	99,900	0	0.6	0.96	14.8	-157	3.65
	08/24/10	2.2	1.2 U	0.99	6.74	1,450,000	0.1	0.9	1.48	23.16	-89	4.44
	11/22/10	0.4	1.9	1.32	7.01	447,000	0	0.29	1.99	15.08	-76	2.92
	02/22/11	0.4	1.7	0.15	7.06	472,000	0	0.31	0	12.73	-114	3.35
MW-03	05/24/10	0.9	7.5	4.38	9.79	272,000	0.1	1.4	0.89	16.2	-211	4.27
	08/25/10	1.4	1.2 U	0.31	6.96	750,000	0	0.48	0.94	21.32	-133	4.99
	11/24/10	0.8	6.6	0.00	7.04	667,000	0	0.43	0.84	15.53	-94	3.80
	02/23/11	0.6	2.5	0.01	7.1	463,000	0	0.3	2.51	11.26	-117	4.05
MW-08	05/24/10	0.3	10.0	1.30	8.45	245,000	0.1	1.6	0.73	14.9	-145	3.45
	08/25/10	3.0	2.5	0.11	7.06	692,000	0	0.44	1.25	21.68	-155	4.50
	11/24/10	0.6	17	2.33	7.21	546,000	0	0.35	1.24	15.08	-67	3.14
	02/23/11	0.0	7.9	2.04	7.27	332,000	0	0.22	4.98	11.59	-37	3.51
MW-16	05/24/10	0.0	20.0	2.44	8.19	26,600	0	0.17	2.9	15.1	-116	4.24
	08/25/10	0.4	42.0	0.04	7.26	698,000	0	0.44	1.2	21.91	-106	5.02
	11/24/10	0.0	28	1.93	7.54	498,000	0	0.36	1.16	15.42	-34	3.68
	02/23/11	0.0	17	5.08	7.53	375,000	0	0.24	2.58	11.53	-9	4.04
MW-18	05/24/10	0.0	34.0	3.92	9.16	90,000	0	0.5	1.9	14.3	-194	4.39
	08/25/10	0.2	11.0	0.00	6.81	719,000	0	0.46	4.12	21.82	-75	5.09
	11/24/10	0.0	38	0.01	7.11	479,000	0	0.31	0.61	15.52	39	3.87
	02/23/11	0.0	23	0.17	7.22	403,000	0	0.26	0.99	11.7	55	4.15

Notes:

[1] Groundwater quality parameters also include the analytes ferrous iron and sulfate to evaluate and monitor natural attenuation.
[2] ORP field readings are considered to be an estimate.
ORP = Oxidation/reduction potential
mg/l = milligrams per liter
g/l = grams per liter
% = percent
mv = Millivolts
uS/m = microSiemens per meter
C = celcius
U = The analyte was not detected at a concentration greater than the identified reporting limit
NTU = nephelometric turbidity unit
Green shading indicates sample results for current quarter of monitoring
ft btoc = feet below the top of monitoring well casing



N
W E
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2,000 0 2,000

Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: 2008 Shaded Relief from ESRI, 2008 Topographic Maps from National Geographic Society
Projection: NAD_1983_StatePlane_Washington_North_FIPS_4601_Feet
Datum: D_North_American_1983

Vicinity Map

318 State Avenue NE
Olympia, Washington

GeoEngineers

Figure 1

Office: TAC Path: \P:\0\0415049\GIS\MXDs\041504906_Figure1_VicinityMap.mxd Map Revised: April 13, 2010 KKS

Legend

- MW-03 — Monitoring Well Sampled for Groundwater Analysis and used to Monitor Groundwater Gradients
- MW-01 — Monitoring Well used to Monitor Groundwater Gradients
- CSZ 1 — Contaminated Soil Zones (CSZ) Remediated in September-October 2009
- Approximate Property Boundary

N
W E
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40 0 40
Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Sources: Approximate Property Boundary from Thurston County parcels (revised by GeoEngineers).
Aerial photograph (2009) from Thurston County Data Center. Data Frame Rotated 356 degrees.

Projection: NAD_1983_StatePlane_Washington_South_FIPS_4602_Feet
Datum: D_North_American_1983

Groundwater Compliance Monitoring Locations

318 State Avenue NE
Olympia, Washington

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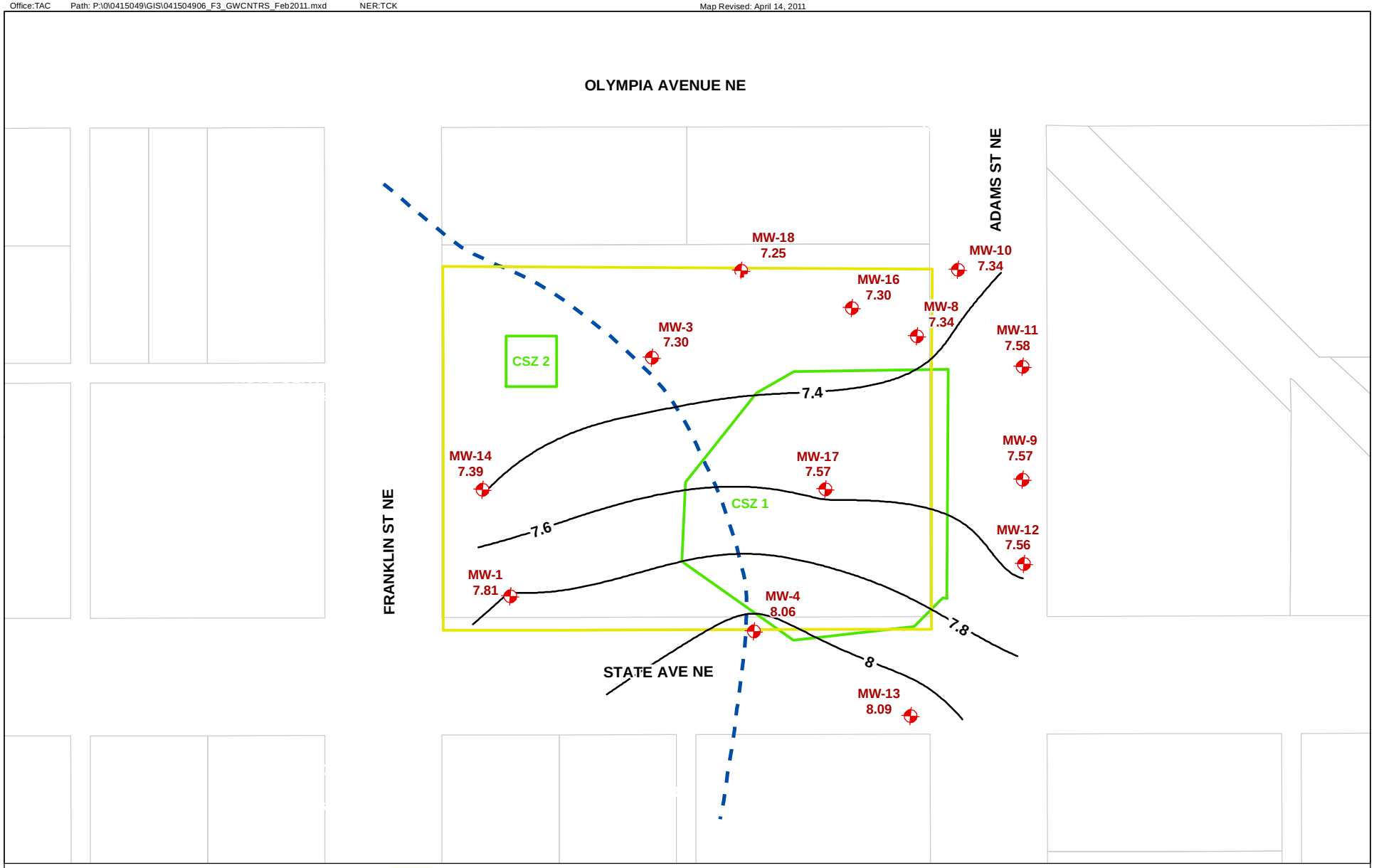
Figure 2

Map Revised: June 21, 2010 TCK

Path: P:\0\04150\49\GIS\MXDs\04150\4906_Figure2_ProposedGWMonitoring.mxd

Office: TAC



MW-1 7.81 GeoEngineers Monitoring Well Location, ID and Groundwater Elevations (February 2011) based on mean sea level

Groundwater Contours (0.2-ft interval)

Approximate Property Boundary

Parcel Boundary

Historic Shoreline

Remediation Areas

N W E S

70 0 70

Feet

Reference: Approximate Property Boundary from Thurston County parcels (revised by GeoEngineers). Parcels from Thurston County.

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Potentiometric Surface Map - February 22, 2011 Measurements

318 State Avenue NE
Olympia, Washington

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Figure 3

Legend

- MW-03 — Monitoring Well Sampled for Groundwater Analysis and used to Monitor Groundwater Gradients
- MW-01 — Monitoring Well used to Monitor Groundwater Gradients
- Vinyl Chloride at concentrations greater than MTCA Method A (0.2 ug/L)
- CSZ 1 — Contaminated Soil Zones (CSZ) Remediated in September-October 2009
- Approximate Property Boundary

Well	Event	Result *
MW-03		
Vinyl Chloride	February-11	0.92 ug/L
MW-16		
Vinyl Chloride	February-11	0.22 ug/L
MW-18		
Vinyl Chloride	February-11	0.9 ug/L

N W E S

40 0 40
Feet

Notes:
1. MTCA = Model Toxics Control Act, mg/L = milligrams per liter, ug/L = micrograms per liter
2. The locations of all features shown are approximate.
3. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Sources: Approximate Property Boundary from Thurston County parcels (revised by GeoEngineers).
Aerial photograph (2009) from Thurston County Data Center. Data Frame Rotated 356 degrees.

Projection: NAD_1983_StatePlane_Washington_South_FIPS_4602_Feet
Datum: D_North_American_1983

Chemical Analytical Results Exceeding Groundwater Compliance Criteria

318 State Avenue NE
Olympia, Washington

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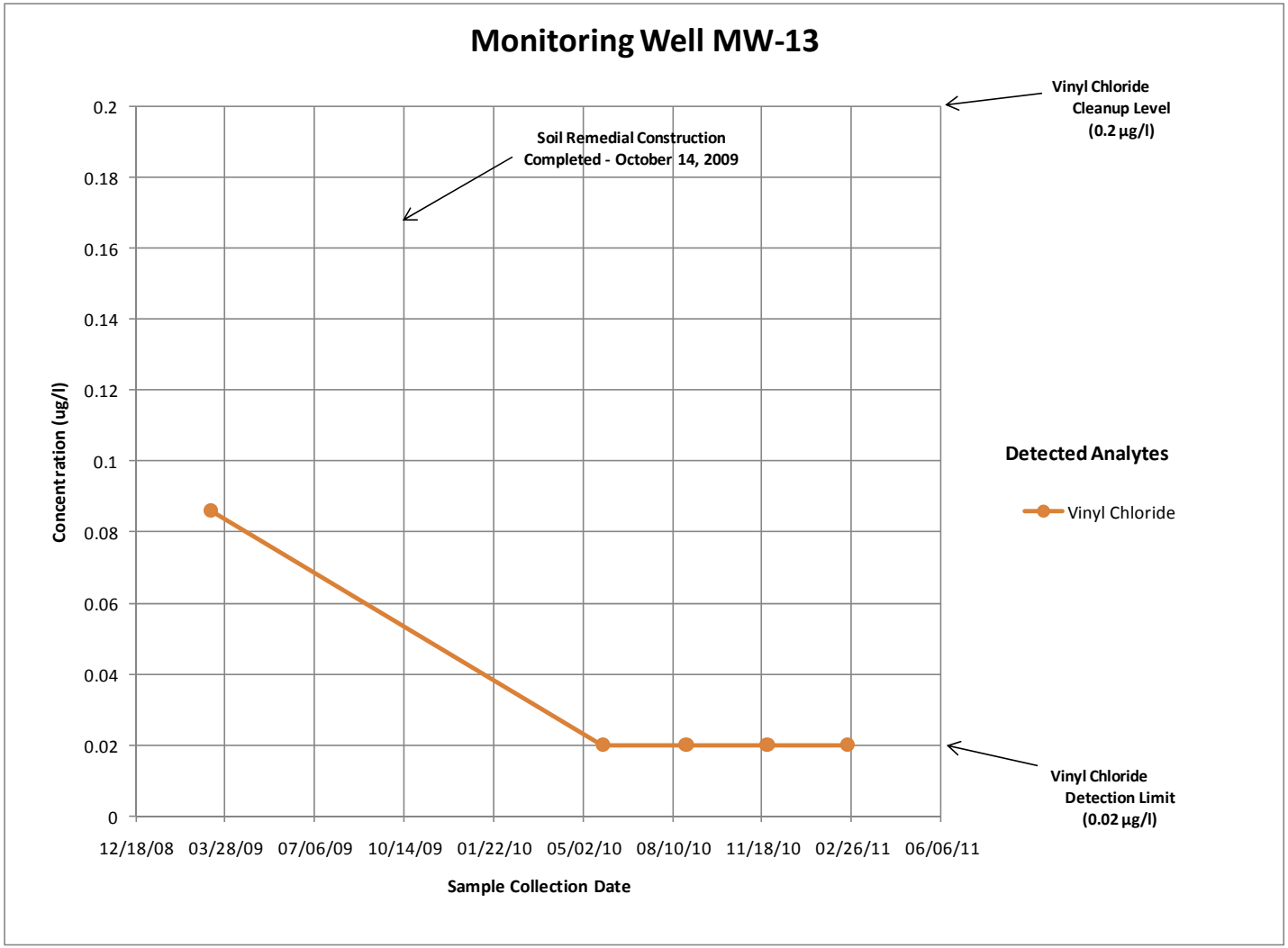
Figure 4

Map Revised: April 14, 2011 AMM:TCK

Path: P:\0\04150491\GIS\MXDs\041504906_F4_CHEM_EXCEEDANCES_FEB2011.mxd

Office: TAC



Trend Analysis – February 2011

318 State Avenue NE
Olympia, Washington

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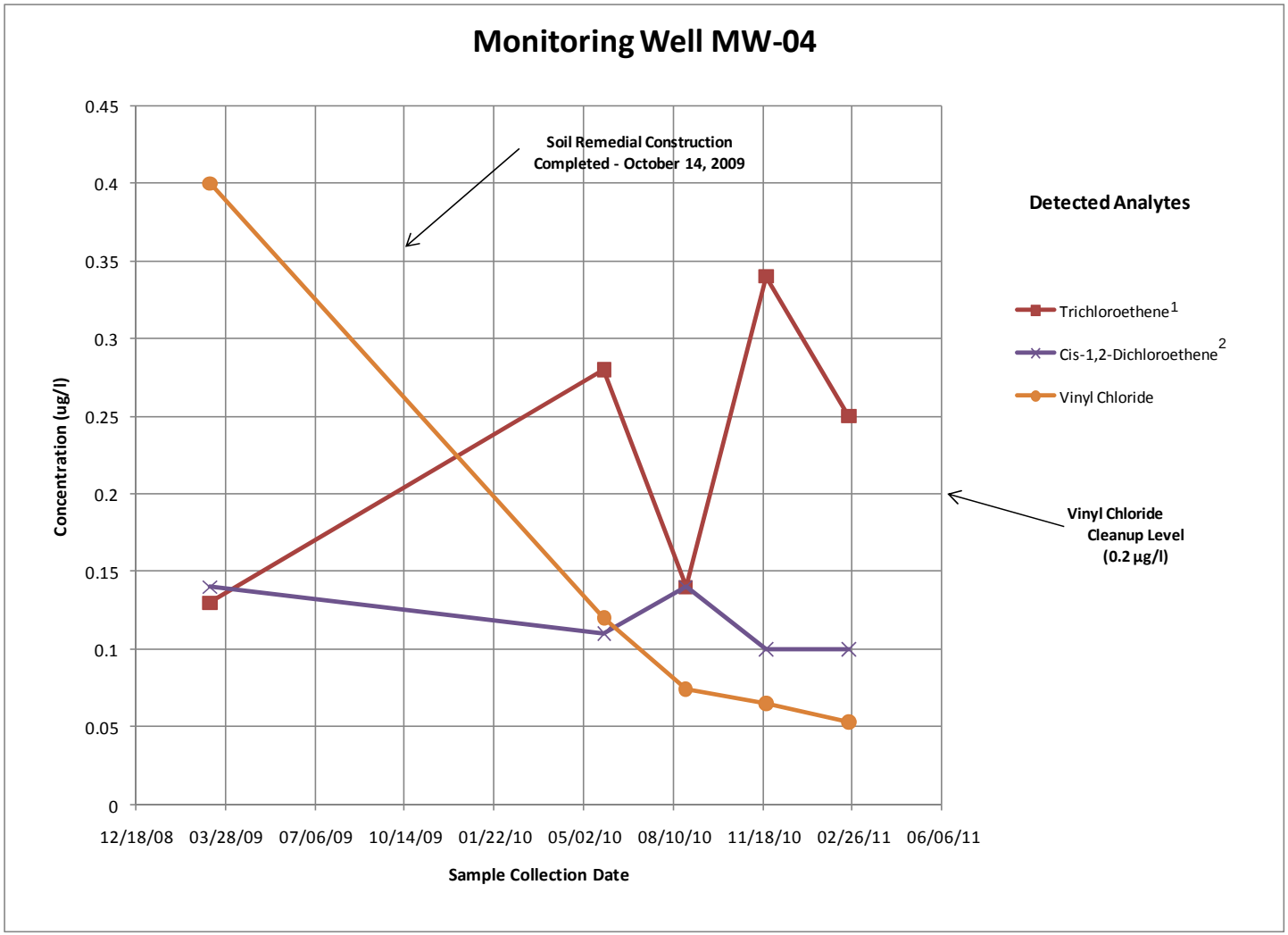
Figure 5



Notes:
[1] The concentrations of trichloroethene (TCE) are less than the TCE cleanup level of 5 µg/l.
[2] The concentrations of Cis-1,2-Dichloroethene (Cis-DCE) are less than the Cis-DCE cleanup level of 800,000 µg/l.

Trend Analysis – February 2011

318 State Avenue NE
Olympia, Washington

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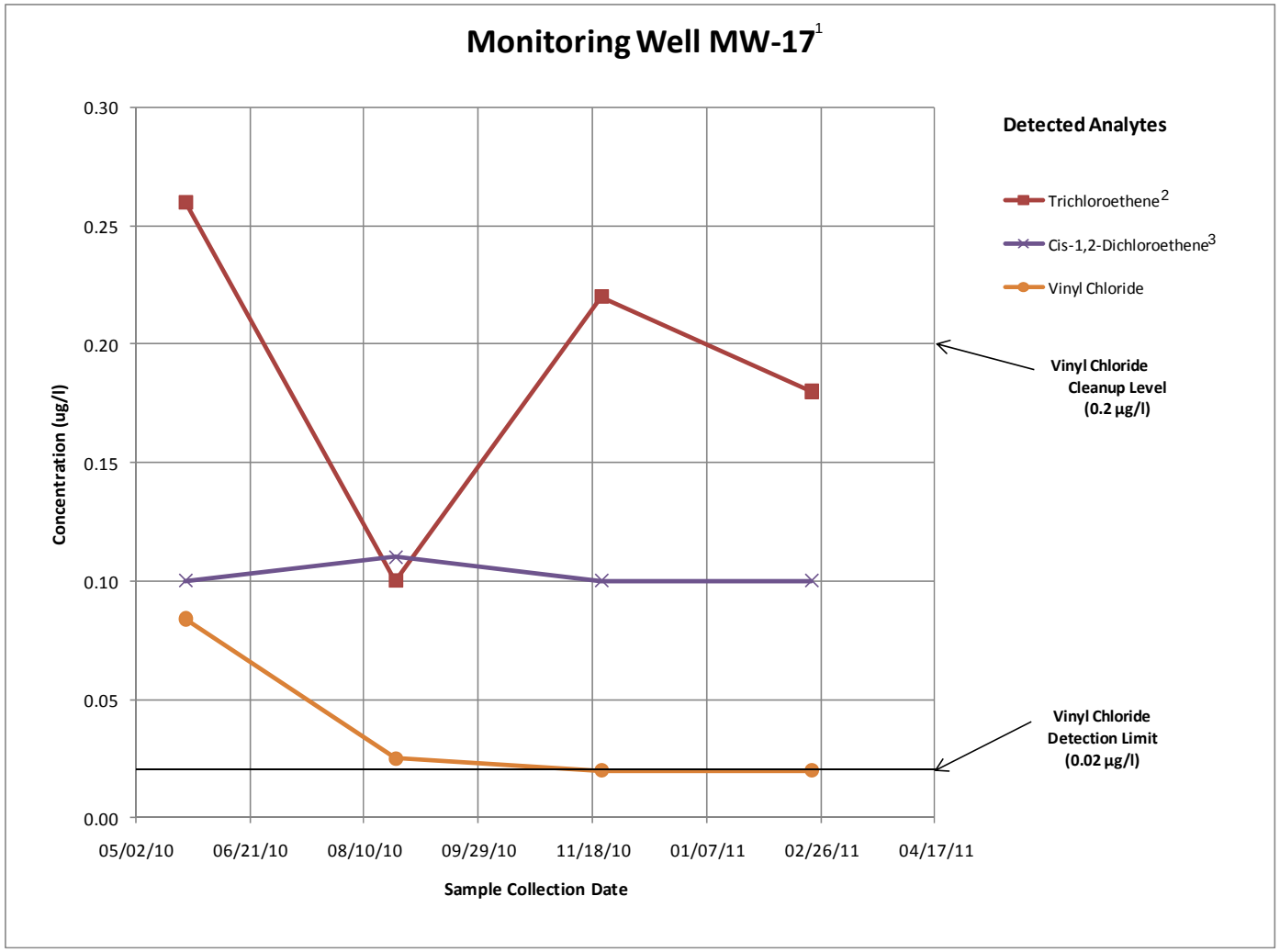
Figure 6



Notes:
[1] MW-17 was installed in the Contaminated Soil Zone 1 (CSZ 1) after remedial actions for soil were completed on October 14, 2009.
[2] The concentrations of trichloroethene (TCE) are less than the TCE cleanup level of 5 µg/l.
[3] The concentrations of Cis-1,2-Dichloroethene (Cis-DCE) are less than the Cis-DCE cleanup level of 800,000 µg/l.

Trend Analysis – February 2011

318 State Avenue NE
Olympia, Washington

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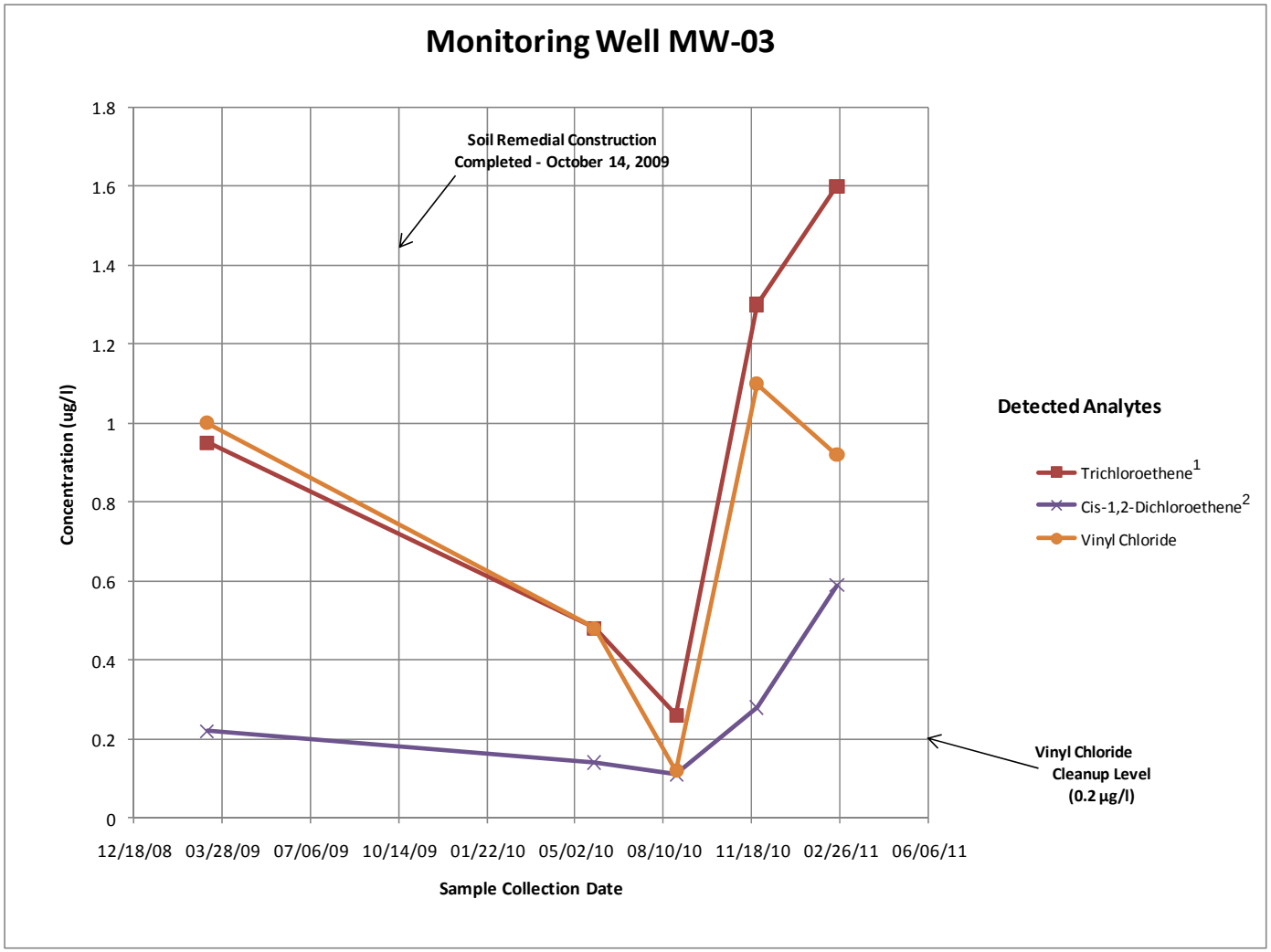
Figure 7



Notes:
[1] The concentrations of trichloroethene (TCE) are less than the TCE cleanup level of 5 µg/l.
[2] The concentrations of Cis-1,2-Dichloroethene (Cis-DCE) are less than the Cis-DCE cleanup level of 800,000 µg/l.

Trend Analysis – February 2011

318 State Avenue NE
Olympia, Washington

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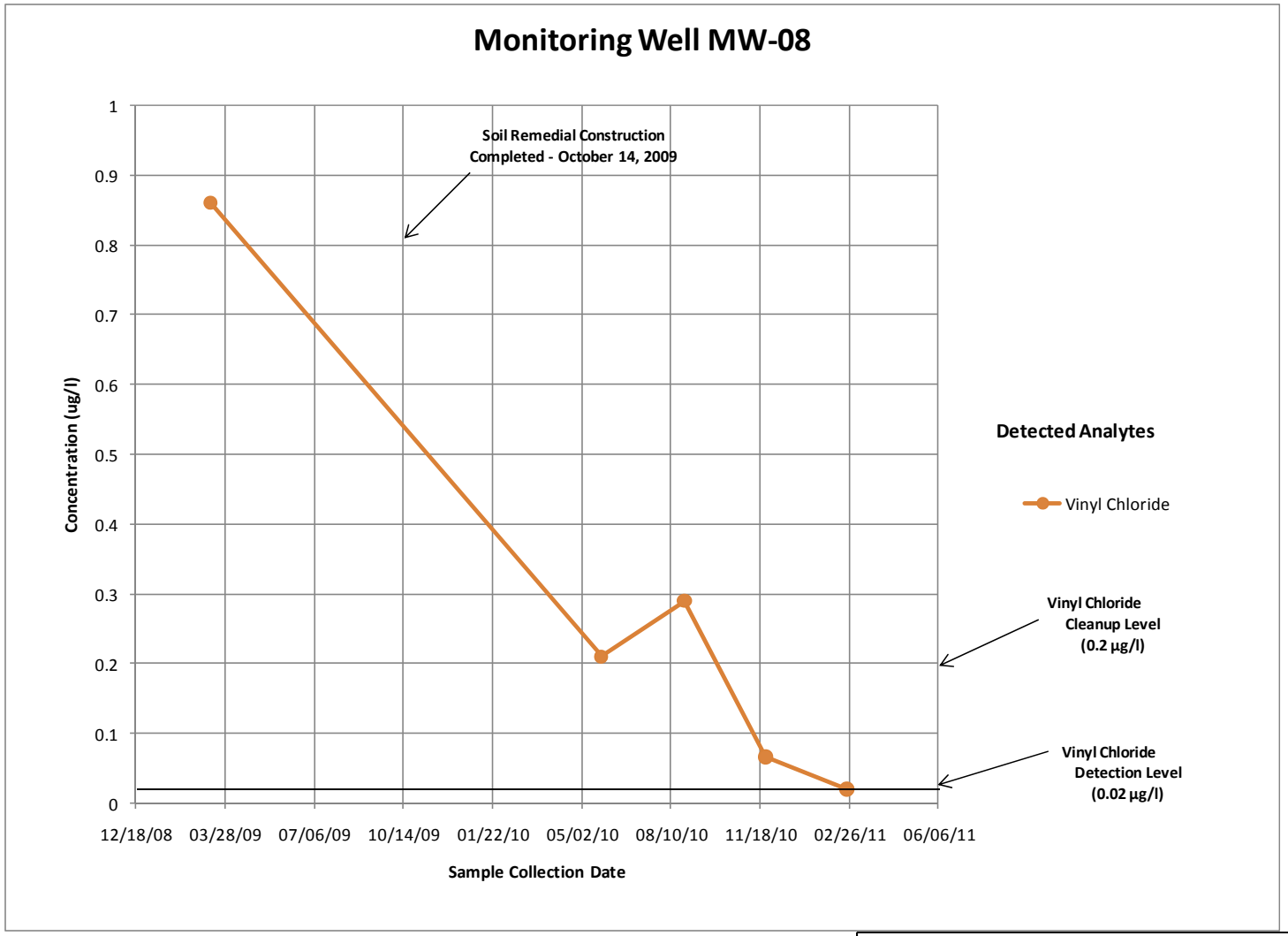
Figure 8



Trend Analysis – February 2011

318 State Avenue NE
Olympia, Washington

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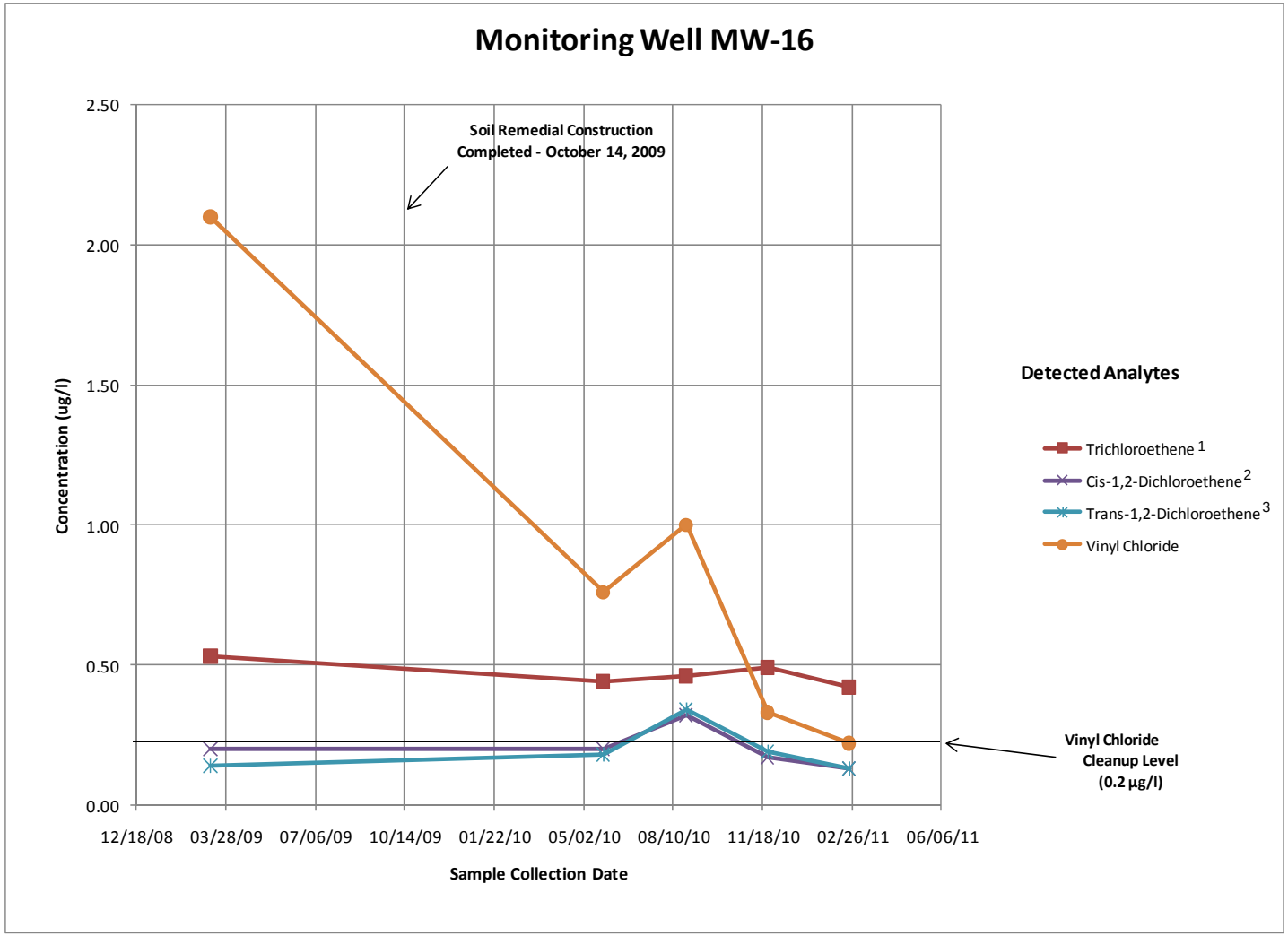
Figure 9



Notes:
[1] The concentrations of trichloroethene (TCE) are less than the TCE cleanup level of 5 µg/l.
[2] The concentrations of Cis-1,2-Dichloroethene (Cis-DCE) are less than the Cis-DCE cleanup level of 800,000 µg/l.
[3] The concentrations of trans-1,2-Dichloroethene (trans-DCE) are less than the trans-DCE cleanup level of 1,600,000 µg/l.

Trend Analysis – February 2011

318 State Avenue NE
Olympia, Washington

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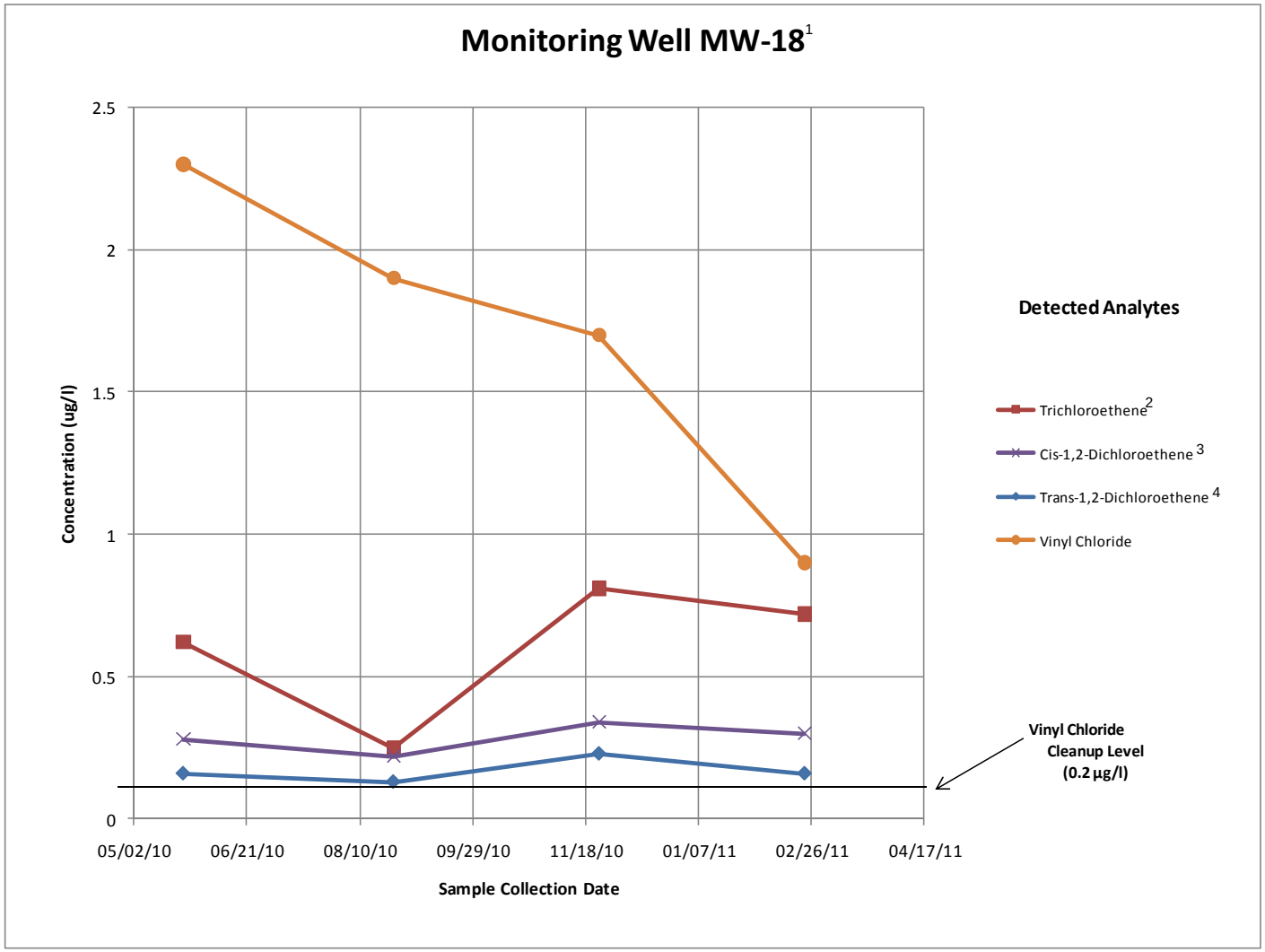
Figure 10



Notes:
[1] MW-18 was installed after remedial actions for soil were completed on October 14, 2009.
[2] The concentrations of trichloroethene (TCE) are less than the TCE cleanup level of 5 µg/l.
[3] The concentrations of Cis-1,2-Dichloroethene (Cis-DCE) are less than the cis-DCE cleanup level of 800,000 µg/l.
[4] The concentrations of trans-1,2-Dichloroethene (trans-DCE) are less than the trans-DCE cleanup level of 1,600,000 µg/l.

Trend Analysis – February 2011

318 State Avenue NE
Olympia, Washington

GeoEngineers

Figure 11

APPENDIX A
Laboratory Reports

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

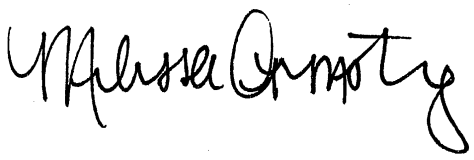
ANALYTICAL REPORT

Job Number: 580-24628-1

Job Description: City of Olympia

For:
GeoEngineers Inc
1101 Fawcett, Suite 200
Tacoma, WA 98402

Attention: Mr. Iain Wingard



Approved for release.
Melissa Armstrong
Project Manager I
3/9/2011 3:34 PM

Melissa Armstrong
Project Manager I
melissa.armstrong@testamericainc.com
03/09/2011

cc: Garrett Leque
Nick Rohrbach

TestAmerica Tacoma is a part of TestAmerica Laboratories, Inc.

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

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Table of Contents

Table of Contents

CASE NARRATIVE

Client: GeoEngineers Inc
Project: City of Olympia
Report Number: 580-24628-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 02/23/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.4 C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

VOLATILE ORGANIC COMPOUNDS (GC-MS) LOW LEVEL
Samples MW-13-022211-W (580-24628-1), MW-9-022211-W (580-24628-2), MW-4-022211-W (580-24628-3), MW-17-022211-W (580-24628-4), MW-03-022311-W (580-24628-5), MW-8-022311-W (580-24628-6), MW-16-022311-W (580-24628-7), MW-18-022311-W (580-24628-8), DUP-1-022311-W (580-24628-9) and Trip Blank (580-24628-10) were analyzed for volatile organic compounds (GC-MS) low level in accordance with EPA SW-846 8260B. The samples were analyzed on 02/25/2011 and 02/28/2011.

Sample MW-03-022311-W (580-24628-5), was reanalyzed in analytical batch 580-81318 due to a surrogate recovery deficiency in the original analysis. As all surrogates were within QC recovery ranges in the reanalysis, the original analysis was not reported.

The 133% Trifluorotoluene surrogate recovery for the method blank (MB) associated with batch 580-81240 was outside QC recovery limits of 80-125%. As the deficient recovery was above QC limits and all associated sample surrogates fell within acceptance criteria, the data have been reported. The deficient surrogate recovery has been qualified "X" on the appropriate forms.

No other difficulties were encountered during the volatile organic compounds (GC-MS) low level analyses.

All other quality control parameters were within the acceptance limits.

TOTAL RECOVERABLE METALS (ICPMS)
Samples MW-13-022211-W (580-24628-1), MW-9-022211-W (580-24628-2), MW-4-022211-W (580-24628-3), MW-17-022211-W (580-24628-4), MW-03-022311-W (580-24628-5), MW-8-022311-W (580-24628-6), MW-16-022311-W (580-24628-7), MW-18-022311-W (580-24628-8) and DUP-1-022311-W (580-24628-9) were analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 03/02/2011 and analyzed on 03/03/2011.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

ANIONS
Samples MW-13-022211-W (580-24628-1), MW-9-022211-W (580-24628-2), MW-4-022211-W (580-24628-3), MW-17-022211-W (580-24628-4), MW-03-022311-W (580-24628-5), MW-8-022311-W (580-24628-6), MW-16-022311-W (580-24628-7), MW-18-022311-W (580-24628-8) and DUP-1-022311-W (580-24628-9) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 03/02/2011.

No difficulties were encountered during the anions analyses.

All quality control parameters were within the acceptance limits.

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Instrument ID: SEA015 Analysis Batch Number: 80475

Lab Sample ID: STD 580-80475/3 IC Client Sample ID:

Date Analyzed: 02/09/11 10:17 Lab File ID: I0321815.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlorobenzene	3.93	Peak Tail	kreiderma chers	02/09/11 15:04
m-Xylene & p-Xylene	4.00	Wrong peak	kreiderma chers	02/09/11 12:55
Styrene	4.18	Assign Peak	kreiderma chers	02/09/11 15:04
n-Butylbenzene	5.13	Assign Peak	kreiderma chers	02/09/11 16:08

Lab Sample ID: STD 580-80475/4 IC Client Sample ID:

Date Analyzed: 02/09/11 10:42 Lab File ID: I0321816.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	0.91	Split Peak	kreiderma chers	02/09/11 12:59
Chlorobenzene	3.93	Split Peak	kreiderma chers	02/09/11 15:05
Bromoform	4.28	Assign Peak	kreiderma chers	02/09/11 12:59

Lab Sample ID: STD 580-80475/5 IC Client Sample ID:

Date Analyzed: 02/09/11 11:08 Lab File ID: I0321817.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	0.94	Split Peak	kreiderma chers	02/09/11 13:01
Chlorobenzene	3.93	Split Peak	kreiderma chers	02/09/11 15:04
1,2-Dibromo-3-Chloropropane	5.72	Assign Peak	kreiderma chers	02/09/11 13:01

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Instrument ID: SEA015 Analysis Batch Number: 80475

Lab Sample ID: STD 580-80475/6 IC Client Sample ID:

Date Analyzed: 02/09/11 11:33 Lab File ID: I0321818.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlorobenzene	3.93	Split Peak	kreiderma chers	02/09/11 15:05

Lab Sample ID: STD001 580-80475/7 IC Client Sample ID:

Date Analyzed: 02/09/11 11:59 Lab File ID: I0321819.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlorobenzene	3.93	Split Peak	kreiderma chers	02/09/11 15:05

Lab Sample ID: ICIS 580-80475/8 Client Sample ID:

Date Analyzed: 02/09/11 12:24 Lab File ID: I0321820.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlorobenzene	3.93	Split Peak	kreiderma chers	02/09/11 15:06

Lab Sample ID: STD010 580-80475/9 IC Client Sample ID:

Date Analyzed: 02/09/11 12:49 Lab File ID: I0321821.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	1.72	Split Peak	kreiderma chers	02/09/11 13:05
Chlorobenzene	3.93	Split Peak	kreiderma chers	02/09/11 15:06

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Instrument ID: SEA015 Analysis Batch Number: 80475

Lab Sample ID: STD020 580-80475/10 IC Client Sample ID:

Date Analyzed: 02/09/11 13:15 Lab File ID: I0321822.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	1.72	Split Peak	kreiderma chers	02/09/11 13:40
Chlorobenzene	3.93	Split Peak	kreiderma chers	02/09/11 15:06

Lab Sample ID: STD040 580-80475/11 IC Client Sample ID:

Date Analyzed: 02/09/11 13:40 Lab File ID: I0321823.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	1.73	Split Peak	kreiderma chers	02/09/11 14:17
Chlorobenzene	3.93	Split Peak	kreiderma chers	02/09/11 15:06

Lab Sample ID: STD080 580-80475/12 IC Client Sample ID:

Date Analyzed: 02/09/11 14:06 Lab File ID: I0321824.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	1.71	Wrong peak	kreiderma chers	02/09/11 14:20
Chlorobenzene	3.93	Split Peak	kreiderma chers	02/09/11 15:15

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Instrument ID: SEA015 Analysis Batch Number: 80475

Lab Sample ID: ICV 580-80475/14 Client Sample ID:

Date Analyzed: 02/09/11 14:57 Lab File ID: I0321826.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	0.94		kreiderma chers	02/09/11 15:18
Carbon disulfide	1.72	Split Peak	kreiderma chers	02/09/11 15:18

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Instrument ID: SEA015 Analysis Batch Number: 81240

Lab Sample ID: MB 580-81240/7 Client Sample ID:

Date Analyzed: 02/25/11 11:06 Lab File ID: I0322037.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzene	2.64	Assign Peak	kreiderma chers	02/25/11 11:48
Tetrachloroethene	3.59	Assign Peak	kreiderma chers	02/25/11 11:48

Lab Sample ID: 580-24628-1 Client Sample ID: MW-13-022211-W

Date Analyzed: 02/25/11 12:22 Lab File ID: I0322040.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
cis-1,2-Dichloroethene	2.31	Assign Peak	kreiderma chers	02/25/11 13:52
Tetrachloroethene	3.58	Assign Peak	kreiderma chers	02/25/11 13:52

Lab Sample ID: 580-24628-2 Client Sample ID: MW-9-022211-W

Date Analyzed: 02/25/11 12:48 Lab File ID: I0322041.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzene	2.64	Assign Peak	kreiderma chers	02/25/11 13:53

Lab Sample ID: 580-24628-7 Client Sample ID: MW-16-022311-W

Date Analyzed: 02/25/11 14:55 Lab File ID: I0322046.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloroethene	3.59	Assign Peak	kreiderma chers	02/25/11 15:17

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Instrument ID: SEA015 Analysis Batch Number: 81318

Lab Sample ID: MB 580-81318/4 Client Sample ID:

Date Analyzed: 02/28/11 11:14 Lab File ID: I0322063.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzene	2.65	Assign Peak	kreiderma chers	02/28/11 11:39
Trichloroethene	2.88	Assign Peak	kreiderma chers	02/28/11 11:39
Tetrachloroethene	3.58	Assign Peak	kreiderma chers	02/28/11 11:39

SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-24628-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-24628-1	MW-13-022211-W	Water	02/22/2011 1225	02/23/2011 1618
580-24628-2	MW-9-022211-W	Water	02/22/2011 1340	02/23/2011 1618
580-24628-3	MW-4-022211-W	Water	02/22/2011 1445	02/23/2011 1618
580-24628-4	MW-17-022211-W	Water	02/22/2011 1550	02/23/2011 1618
580-24628-5	MW-03-022311-W	Water	02/23/2011 0952	02/23/2011 1618
580-24628-6	MW-8-022311-W	Water	02/23/2011 1046	02/23/2011 1618
580-24628-7	MW-16-022311-W	Water	02/23/2011 1144	02/23/2011 1618
580-24628-8	MW-18-022311-W	Water	02/23/2011 1251	02/23/2011 1618
580-24628-8MS	MW-18-022311-W	Water	02/23/2011 1251	02/23/2011 1618
580-24628-8MSD	MW-18-022311-W	Water	02/23/2011 1251	02/23/2011 1618
580-24628-9	DUP-1-022311-W	Water	02/23/2011 0000	02/23/2011 1618
580-24628-10	Trip Blank	Water	02/22/2011 0000	02/23/2011 1618

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-24628-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
580-24628-1	**MW-13-022211-W**				
Sulfate		6.3	1.2	mg/L	300.0
Total Recoverable					
Arsenic		0.0012	0.00040	mg/L	6020
580-24628-2	**MW-9-022211-W**				
Sulfate		1.7	1.2	mg/L	300.0
Total Recoverable					
Arsenic		0.00059	0.00040	mg/L	6020
580-24628-3	**MW-4-022211-W**				
Trichloroethene		0.25	0.10	ug/L	8260B
Vinyl chloride		0.053	0.020	ug/L	8260B
Sulfate		2.6	1.2	mg/L	300.0
Total Recoverable					
Arsenic		0.0023	0.00040	mg/L	6020
580-24628-4	**MW-17-022211-W**				
Trichloroethene		0.18	0.10	ug/L	8260B
Sulfate		36	1.2	mg/L	300.0
Total Recoverable					
Arsenic		0.0012	0.00040	mg/L	6020
580-24628-5	**MW-03-022311-W**				
cis-1,2-Dichloroethene		0.59	0.10	ug/L	8260B
Trichloroethene		1.6	0.10	ug/L	8260B
Vinyl chloride		0.92	0.020	ug/L	8260B
Sulfate		2.5	1.2	mg/L	300.0
Total Recoverable					
Arsenic		0.0010	0.00040	mg/L	6020
580-24628-6	**MW-8-022311-W**				
Sulfate		7.9	1.2	mg/L	300.0
Total Recoverable					
Arsenic		0.0019	0.00040	mg/L	6020

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-24628-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
580-24628-7	**MW-16-022311-W**				
cis-1,2-Dichloroethene		0.13	0.10	ug/L	8260B
trans-1,2-Dichloroethene		0.13	0.10	ug/L	8260B
Trichloroethene		0.42	0.10	ug/L	8260B
Vinyl chloride		0.22	0.020	ug/L	8260B
Sulfate		17	1.2	mg/L	300.0
Total Recoverable					
Arsenic		0.0014	0.00040	mg/L	6020
580-24628-8	**MW-18-022311-W**				
cis-1,2-Dichloroethene		0.30	0.10	ug/L	8260B
trans-1,2-Dichloroethene		0.16	0.10	ug/L	8260B
Trichloroethene		0.72	0.10	ug/L	8260B
Vinyl chloride		0.90	0.020	ug/L	8260B
Sulfate		23	1.2	mg/L	300.0
Total Recoverable					
Arsenic		0.0045	0.00040	mg/L	6020
580-24628-9	**DUP-1-022311-W**				
cis-1,2-Dichloroethene		0.11	0.10	ug/L	8260B
trans-1,2-Dichloroethene		0.15	0.10	ug/L	8260B
Trichloroethene		0.43	0.10	ug/L	8260B
Vinyl chloride		0.23	0.020	ug/L	8260B
Sulfate		17	1.2	mg/L	300.0
Total Recoverable					
Arsenic		0.0015	0.00040	mg/L	6020

METHOD SUMMARY

Client: GeoEngineers Inc

Job Number: 580-24628-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds (GC/MS)	TAL SEA	SW846 8260B	
Purge and Trap	TAL SEA		SW846 5030B
Metals (ICP/MS)	TAL SEA	SW846 6020	
Preparation, Total Recoverable or Dissolved Metals	TAL SEA		SW846 3005A
Anions, Ion Chromatography	TAL SEA	MCAWW 300.0	

Lab References:

TAL SEA = TestAmerica Seattle

Method References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: GeoEngineers Inc

Job Number: 580-24628-1

Method	Analyst	Analyst ID
SW846 8260B	Kreidermacher, Scott	SK
SW846 6020	Woo, Fred C	FCW
MCAWW 300.0	Mattison, Adam	AM

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-13-022211-W**

Lab Sample ID: 580-24628-1
Client Matrix: Water

Date Sampled: 02/22/2011 1225
Date Received: 02/23/2011 1618

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-81240	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0322040.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	02/25/2011 1222		Final Weight/Volume: 10 mL
Date Prepared:	02/25/2011 1222		

Analyte	Result (ug/L)	Qualifier	RL	RL
cis-1,2-Dichloroethene	ND		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	ND		0.10	0.10
Trichloroethene	ND		0.10	0.10
Vinyl chloride	ND		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	119		80 - 125
Fluorobenzene (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	112		75 - 120
Toluene-d8 (Surr)	106		75 - 125
Ethylbenzene-d10	106		75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-9-022211-W**

Lab Sample ID: 580-24628-2
Client Matrix: Water

Date Sampled: 02/22/2011 1340
Date Received: 02/23/2011 1618

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-81240	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0322041.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	02/25/2011 1248		Final Weight/Volume: 10 mL
Date Prepared:	02/25/2011 1248		

Analyte	Result (ug/L)	Qualifier	RL	RL
cis-1,2-Dichloroethene	ND		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	ND		0.10	0.10
Trichloroethene	ND		0.10	0.10
Vinyl chloride	ND		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	123		80 - 125
Fluorobenzene (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	106		75 - 120
Toluene-d8 (Surr)	105		75 - 125
Ethylbenzene-d10	103		75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-4-022211-W**

Lab Sample ID: 580-24628-3
Client Matrix: Water

Date Sampled: 02/22/2011 1445
Date Received: 02/23/2011 1618

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-81240	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0322042.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	02/25/2011 1313		Final Weight/Volume: 10 mL
Date Prepared:	02/25/2011 1313		

Analyte	Result (ug/L)	Qualifier	RL	RL
cis-1,2-Dichloroethene	ND		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	ND		0.10	0.10
Trichloroethene	0.25		0.10	0.10
Vinyl chloride	0.053		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	124		80 - 125
Fluorobenzene (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	110		75 - 120
Toluene-d8 (Surr)	105		75 - 125
Ethylbenzene-d10	105		75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-17-022211-W**

Lab Sample ID: 580-24628-4
Client Matrix: Water

Date Sampled: 02/22/2011 1550
Date Received: 02/23/2011 1618

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-81240	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0322043.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	02/25/2011 1339		Final Weight/Volume: 10 mL
Date Prepared:	02/25/2011 1339		

Analyte	Result (ug/L)	Qualifier	RL	RL
cis-1,2-Dichloroethene	ND		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	ND		0.10	0.10
Trichloroethene	0.18		0.10	0.10
Vinyl chloride	ND		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	120		80 - 125
Fluorobenzene (Surr)	98		70 - 130
4-Bromofluorobenzene (Surr)	107		75 - 120
Toluene-d8 (Surr)	105		75 - 125
Ethylbenzene-d10	104		75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-03-022311-W**

Lab Sample ID: 580-24628-5
Client Matrix: Water

Date Sampled: 02/23/2011 0952
Date Received: 02/23/2011 1618

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-81318		Instrument ID:	SEA015
Preparation:	5030B			Lab File ID:	I0322066.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Date Analyzed:	02/28/2011 1230	Run Type:	RA	Final Weight/Volume:	10 mL
Date Prepared:	02/28/2011 1230				

Analyte	Result (ug/L)	Qualifier	RL	RL
cis-1,2-Dichloroethene	0.59		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	ND		0.10	0.10
Trichloroethene	1.6		0.10	0.10
Vinyl chloride	0.92		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	110		80 - 125
Fluorobenzene (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	103		75 - 120
Toluene-d8 (Surr)	105		75 - 125
Ethylbenzene-d10	105		75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-8-022311-W**

Lab Sample ID: 580-24628-6
Client Matrix: Water

Date Sampled: 02/23/2011 1046
Date Received: 02/23/2011 1618

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-81240	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0322045.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	02/25/2011 1430		Final Weight/Volume: 10 mL
Date Prepared:	02/25/2011 1430		

Analyte	Result (ug/L)	Qualifier	RL	RL
cis-1,2-Dichloroethene	ND		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	ND		0.10	0.10
Trichloroethene	ND		0.10	0.10
Vinyl chloride	ND		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	123		80 - 125
Fluorobenzene (Surr)	98		70 - 130
4-Bromofluorobenzene (Surr)	106		75 - 120
Toluene-d8 (Surr)	103		75 - 125
Ethylbenzene-d10	101		75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-16-022311-W**

Lab Sample ID: 580-24628-7
Client Matrix: Water

Date Sampled: 02/23/2011 1144
Date Received: 02/23/2011 1618

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-81240	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0322046.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	02/25/2011 1455		Final Weight/Volume: 10 mL
Date Prepared:	02/25/2011 1455		

Analyte	Result (ug/L)	Qualifier	RL	RL
cis-1,2-Dichloroethene	0.13		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	0.13		0.10	0.10
Trichloroethene	0.42		0.10	0.10
Vinyl chloride	0.22		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	118		80 - 125
Fluorobenzene (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	103		75 - 120
Toluene-d8 (Surr)	103		75 - 125
Ethylbenzene-d10	104		75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-18-022311-W**

Lab Sample ID: 580-24628-8
Client Matrix: Water

Date Sampled: 02/23/2011 1251
Date Received: 02/23/2011 1618

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-81240	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0322047.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	02/25/2011 1521		Final Weight/Volume: 10 mL
Date Prepared:	02/25/2011 1521		

Analyte	Result (ug/L)	Qualifier	RL	RL
cis-1,2-Dichloroethene	0.30		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	0.16		0.10	0.10
Trichloroethene	0.72		0.10	0.10
Vinyl chloride	0.90		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	121		80 - 125
Fluorobenzene (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	108		75 - 120
Toluene-d8 (Surr)	100		75 - 125
Ethylbenzene-d10	104		75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **DUP-1-022311-W**

Lab Sample ID: 580-24628-9
Client Matrix: Water

Date Sampled: 02/23/2011 0000
Date Received: 02/23/2011 1618

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-81240	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0322050.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	02/25/2011 1638		Final Weight/Volume: 10 mL
Date Prepared:	02/25/2011 1638		

Analyte	Result (ug/L)	Qualifier	RL	RL
cis-1,2-Dichloroethene	0.11		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	0.15		0.10	0.10
Trichloroethene	0.43		0.10	0.10
Vinyl chloride	0.23		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	119		80 - 125
Fluorobenzene (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	108		75 - 120
Toluene-d8 (Surr)	105		75 - 125
Ethylbenzene-d10	105		75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **Trip Blank**

Lab Sample ID: 580-24628-10
Client Matrix: Water

Date Sampled: 02/22/2011 0000
Date Received: 02/23/2011 1618

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 02/25/2011 1703
Date Prepared: 02/25/2011 1703

Analysis Batch: 580-81240

Instrument ID: SEA015
Lab File ID: I0322051.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result (ug/L)	Qualifier	RL	RL
cis-1,2-Dichloroethene	ND		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	ND		0.10	0.10
Trichloroethene	ND		0.10	0.10
Vinyl chloride	ND		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	124		80 - 125
Fluorobenzene (Surr)	95		70 - 130
4-Bromofluorobenzene (Surr)	103		75 - 120
Toluene-d8 (Surr)	105		75 - 125
Ethylbenzene-d10	100		75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-13-022211-W**

Lab Sample ID: 580-24628-1
Client Matrix: Water

Date Sampled: 02/22/2011 1225
Date Received: 02/23/2011 1618

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-81616		Instrument ID:	SEA044
Preparation:	3005A	Prep Batch: 580-81468		Lab File ID:	039SMP
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/03/2011 1338			Final Weight/Volume:	50 mL
Date Prepared:	03/02/2011 1019				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	0.0012		0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-9-022211-W**

Lab Sample ID: 580-24628-2
Client Matrix: Water

Date Sampled: 02/22/2011 1340
Date Received: 02/23/2011 1618

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-81616		Instrument ID:	SEA044
Preparation:	3005A	Prep Batch: 580-81468		Lab File ID:	040SMP
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/03/2011 1344			Final Weight/Volume:	50 mL
Date Prepared:	03/02/2011 1019				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	0.00059		0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-4-022211-W**

Lab Sample ID: 580-24628-3
Client Matrix: Water

Date Sampled: 02/22/2011 1445
Date Received: 02/23/2011 1618

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-81616		Instrument ID:	SEA044
Preparation:	3005A	Prep Batch: 580-81468		Lab File ID:	041SMP
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/03/2011 1350			Final Weight/Volume:	50 mL
Date Prepared:	03/02/2011 1019				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	0.0023		0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-17-022211-W**

Lab Sample ID: 580-24628-4
Client Matrix: Water

Date Sampled: 02/22/2011 1550
Date Received: 02/23/2011 1618

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-81616		Instrument ID:	SEA044
Preparation:	3005A	Prep Batch: 580-81468		Lab File ID:	042SMP
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/03/2011 1356			Final Weight/Volume:	50 mL
Date Prepared:	03/02/2011 1019				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	0.0012		0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-03-022311-W**

Lab Sample ID: 580-24628-5
Client Matrix: Water

Date Sampled: 02/23/2011 0952
Date Received: 02/23/2011 1618

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-81616		Instrument ID:	SEA044
Preparation:	3005A	Prep Batch: 580-81468		Lab File ID:	043SMP
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/03/2011 1402			Final Weight/Volume:	50 mL
Date Prepared:	03/02/2011 1019				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	0.0010		0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-8-022311-W**

Lab Sample ID: 580-24628-6
Client Matrix: Water

Date Sampled: 02/23/2011 1046
Date Received: 02/23/2011 1618

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-81616		Instrument ID:	SEA044
Preparation:	3005A	Prep Batch: 580-81468		Lab File ID:	044SMP
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/03/2011 1408			Final Weight/Volume:	50 mL
Date Prepared:	03/02/2011 1019				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	0.0019		0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-16-022311-W**

Lab Sample ID: 580-24628-7
Client Matrix: Water

Date Sampled: 02/23/2011 1144
Date Received: 02/23/2011 1618

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-81616		Instrument ID:	SEA044
Preparation:	3005A	Prep Batch: 580-81468		Lab File ID:	045SMP
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/03/2011 1414			Final Weight/Volume:	50 mL
Date Prepared:	03/02/2011 1019				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	0.0014		0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **MW-18-022311-W**

Lab Sample ID: 580-24628-8
Client Matrix: Water

Date Sampled: 02/23/2011 1251
Date Received: 02/23/2011 1618

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-81616		Instrument ID:	SEA044
Preparation:	3005A	Prep Batch: 580-81468		Lab File ID:	029SMPL
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/03/2011 1243			Final Weight/Volume:	50 mL
Date Prepared:	03/02/2011 1019				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	0.0045		0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-24628-1

Client Sample ID: **DUP-1-022311-W**

Lab Sample ID: 580-24628-9
Client Matrix: Water

Date Sampled: 02/23/2011 0000
Date Received: 02/23/2011 1618

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-81616		Instrument ID:	SEA044
Preparation:	3005A	Prep Batch: 580-81468		Lab File ID:	046SMP
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/03/2011 1419			Final Weight/Volume:	50 mL
Date Prepared:	03/02/2011 1019				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	0.0015		0.00040	0.00040

General Chemistry

Client Sample ID: **MW-13-022211-W**

Lab Sample ID: 580-24628-1 Date Sampled: 02/22/2011 1225
Client Matrix: Water Date Received: 02/23/2011 1618

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	6.3		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-81643 Date Analyzed: 03/02/2011 1406

General Chemistry

Client Sample ID: **MW-9-022211-W**

Lab Sample ID: 580-24628-2 Date Sampled: 02/22/2011 1340
Client Matrix: Water Date Received: 02/23/2011 1618

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	1.7		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-81643 Date Analyzed: 03/02/2011 1422

General Chemistry

Client Sample ID: **MW-4-022211-W**

Lab Sample ID: 580-24628-3 Date Sampled: 02/22/2011 1445
Client Matrix: Water Date Received: 02/23/2011 1618

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	2.6		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-81643 Date Analyzed: 03/02/2011 1438

General Chemistry

Client Sample ID: **MW-17-022211-W**

Lab Sample ID: 580-24628-4 Date Sampled: 02/22/2011 1550

Client Matrix: Water Date Received: 02/23/2011 1618

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	36		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-81643 Date Analyzed: 03/02/2011 1455

General Chemistry

Client Sample ID: **MW-03-022311-W**

Lab Sample ID: 580-24628-5 Date Sampled: 02/23/2011 0952

Client Matrix: Water Date Received: 02/23/2011 1618

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	2.5		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-81643 Date Analyzed: 03/02/2011 1511

General Chemistry

Client Sample ID: **MW-8-022311-W**

Lab Sample ID: 580-24628-6 Date Sampled: 02/23/2011 1046

Client Matrix: Water Date Received: 02/23/2011 1618

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	7.9		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-81643 Date Analyzed: 03/02/2011 1528

General Chemistry

Client Sample ID: **MW-16-022311-W**

Lab Sample ID: 580-24628-7 Date Sampled: 02/23/2011 1144
Client Matrix: Water Date Received: 02/23/2011 1618

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	17		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-81643 Date Analyzed: 03/02/2011 1544

General Chemistry

Client Sample ID: **MW-18-022311-W**

Lab Sample ID: 580-24628-8 Date Sampled: 02/23/2011 1251

Client Matrix: Water Date Received: 02/23/2011 1618

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	23		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-81643 Date Analyzed: 03/02/2011 1633

General Chemistry

Client Sample ID: **DUP-1-022311-W**

Lab Sample ID: 580-24628-9 Date Sampled: 02/23/2011 0000
Client Matrix: Water Date Received: 02/23/2011 1618

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	17		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-81643 Date Analyzed: 03/02/2011 1739

Client: GeoEngineers Inc

Job Number: 580-24628-1

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	FB %Rec	TFT %Rec	TOL %Rec	EBD10 %Rec	BFB %Rec
580-24628-1	MW-13-022211-W	96	119	106	106	112
580-24628-2	MW-9-022211-W	96	123	105	103	106
580-24628-3	MW-4-022211-W	99	124	105	105	110
580-24628-4	MW-17-022211-W	98	120	105	104	107
580-24628-5 RA	MW-03-022311-W RA	99	110	105	105	103
580-24628-6	MW-8-022311-W	98	123	103	101	106
580-24628-7	MW-16-022311-W	96	118	103	104	103
580-24628-8	MW-18-022311-W	97	121	100	104	108
580-24628-9	DUP-1-022311-W	97	119	105	105	108
580-24628-10	Trip Blank	95	124	105	100	103
MB 580-81240/7		97	133X	108	104	107
MB 580-81318/4		97	116	104	103	107
LCS 580-81240/8		98	124	111	109	112
LCS 580-81318/5		98	117	108	101	108
LCSD 580-81240/9		98	124	108	108	115
LCSD 580-81318/6		100	113	109	103	106
580-24628-8 MS	MW-18-022311-W MS	99	118	108	105	113
580-24628-8 MSD	MW-18-022311-W MSD	97	117	108	106	112

Surrogate	Acceptance Limits
FB = Fluorobenzene (Surr)	70-130
TFT = Trifluorotoluene (Surr)	80-125
TOL = Toluene-d8 (Surr)	75-125
EBD10 = Ethylbenzene-d10	75-125
BFB = 4-Bromofluorobenzene (Surr)	75-120

Client: GeoEngineers Inc

Job Number: 580-24628-1

Method Blank - Batch: 580-81240

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 580-81240/7
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/25/2011 1106
Date Prepared: 02/25/2011 1106

Analysis Batch: 580-81240
Prep Batch: N/A
Units: ug/L

Instrument ID: SEA015
Lab File ID: I0322037.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL	RL
cis-1,2-Dichloroethene	ND		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	ND		0.10	0.10
Trichloroethene	ND		0.10	0.10
Vinyl chloride	ND		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	% Rec		Acceptance Limits
Trifluorotoluene (Surr)	133	X	80 - 125
Fluorobenzene (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	107		75 - 120
Toluene-d8 (Surr)	108		75 - 125
Ethylbenzene-d10	104		75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 580-81240

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 580-81240/8	Analysis Batch:	580-81240	Instrument ID:	SEA015
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	I0322038.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	02/25/2011 1131			Final Weight/Volume:	10 mL
Date Prepared:	02/25/2011 1131				

LCSD Lab Sample ID:	LCSD 580-81240/9	Analysis Batch:	580-81240	Instrument ID:	SEA015
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	I0322039.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	02/25/2011 1157			Final Weight/Volume:	10 mL
Date Prepared:	02/25/2011 1157				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
cis-1,2-Dichloroethene	111	109	71 - 144	1	20		
1,1-Dichloroethene	98	94	78 - 151	4	20		
Tetrachloroethene	132	142	54 - 161	7	20		
trans-1,2-Dichloroethene	100	102	73 - 135	2	20		
Trichloroethene	120	124	79 - 131	3	20		
Vinyl chloride	107	105	47 - 160	2	20		
Benzene	107	107	75 - 142	1	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Trifluorotoluene (Surr)	124	124	80 - 125
Fluorobenzene (Surr)	98	98	70 - 130
4-Bromofluorobenzene (Surr)	112	115	75 - 120
Toluene-d8 (Surr)	111	108	75 - 125
Ethylbenzene-d10	109	108	75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 580-81240

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 580-81240/8	Units:	ug/L	LCSD Lab Sample ID:	LCSD 580-81240/9
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Date Analyzed:	02/25/2011 1131			Date Analyzed:	02/25/2011 1157
Date Prepared:	02/25/2011 1131			Date Prepared:	02/25/2011 1157

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
cis-1,2-Dichloroethene	5.00	5.00	5.53	5.47
1,1-Dichloroethene	4.95	4.95	4.86	4.66
Tetrachloroethene	5.00	5.00	6.61	7.09
trans-1,2-Dichloroethene	5.00	5.00	4.99	5.11
Trichloroethene	5.00	5.00	6.00	6.19
Vinyl chloride	5.00	5.00	5.37	5.27
Benzene	5.00	5.00	5.37	5.34

Client: GeoEngineers Inc

Job Number: 580-24628-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-81240

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	580-24628-8	Analysis Batch:	580-81240	Instrument ID:	SEA015
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	I0322048.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Date Analyzed:	02/25/2011 1547			Final Weight/Volume:	10 mL
Date Prepared:	02/25/2011 1547				

MSD Lab Sample ID:	580-24628-8	Analysis Batch:	580-81240	Instrument ID:	SEA015
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	I0322049.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Date Analyzed:	02/25/2011 1612			Final Weight/Volume:	10 mL
Date Prepared:	02/25/2011 1612				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
cis-1,2-Dichloroethene	113	106	71 - 144	6	20		
1,1-Dichloroethene	89	90	78 - 151	1	30		
Tetrachloroethene	112	115	64 - 161	2	20		
trans-1,2-Dichloroethene	99	94	73 - 135	5	20		
Trichloroethene	118	120	79 - 131	1	30		
Vinyl chloride	107	101	47 - 160	5	20		
Benzene	108	105	75 - 142	3	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Trifluorotoluene (Surr)	118	117	80 - 125
Fluorobenzene (Surr)	99	97	70 - 130
4-Bromofluorobenzene (Surr)	113	112	75 - 120
Toluene-d8 (Surr)	108	108	75 - 125
Ethylbenzene-d10	105	106	75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-81240

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	580-24628-8	Units: ug/L	MSD Lab Sample ID:	580-24628-8	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Date Analyzed:	02/25/2011 1547		Date Analyzed:	02/25/2011 1612	
Date Prepared:	02/25/2011 1547		Date Prepared:	02/25/2011 1612	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
cis-1,2-Dichloroethene	0.30	5.00	5.00	5.96	5.62
1,1-Dichloroethene	ND	4.95	4.95	4.40	4.45
Tetrachloroethene	ND	5.00	5.00	5.61	5.74
trans-1,2-Dichloroethene	0.16	5.00	5.00	5.11	4.86
Trichloroethene	0.72	5.00	5.00	6.61	6.71
Vinyl chloride	0.90	5.00	5.00	6.24	5.96
Benzene	ND	5.00	5.00	5.42	5.27

Client: GeoEngineers Inc

Job Number: 580-24628-1

Method Blank - Batch: 580-81318

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 580-81318/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/28/2011 1114
Date Prepared: 02/28/2011 1114

Analysis Batch: 580-81318
Prep Batch: N/A
Units: ug/L

Instrument ID: SEA015
Lab File ID: I0322063.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL	RL
cis-1,2-Dichloroethene	ND		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	ND		0.10	0.10
Trichloroethene	ND		0.10	0.10
Vinyl chloride	ND		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	% Rec	Acceptance Limits
Trifluorotoluene (Surr)	116	80 - 125
Fluorobenzene (Surr)	97	70 - 130
4-Bromofluorobenzene (Surr)	107	75 - 120
Toluene-d8 (Surr)	104	75 - 125
Ethylbenzene-d10	103	75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 580-81318

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 580-81318/5	Analysis Batch:	580-81318	Instrument ID:	SEA015
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	I0322064.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	02/28/2011 1139			Final Weight/Volume:	10 mL
Date Prepared:	02/28/2011 1139				

LCSD Lab Sample ID:	LCSD 580-81318/6	Analysis Batch:	580-81318	Instrument ID:	SEA015
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	I0322065.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	02/28/2011 1205			Final Weight/Volume:	10 mL
Date Prepared:	02/28/2011 1205				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
cis-1,2-Dichloroethene	108	109	71 - 144	1	20		
1,1-Dichloroethene	84	84	78 - 151	0	20		
Tetrachloroethene	143	141	54 - 161	2	20		
trans-1,2-Dichloroethene	94	94	73 - 135	1	20		
Trichloroethene	116	119	79 - 131	3	20		
Vinyl chloride	110	107	47 - 160	2	20		
Benzene	103	102	75 - 142	1	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Trifluorotoluene (Surr)	117	113	80 - 125
Fluorobenzene (Surr)	98	100	70 - 130
4-Bromofluorobenzene (Surr)	108	106	75 - 120
Toluene-d8 (Surr)	108	109	75 - 125
Ethylbenzene-d10	101	103	75 - 125

Client: GeoEngineers Inc

Job Number: 580-24628-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 580-81318

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 580-81318/5	Units:	ug/L	LCSD Lab Sample ID:	LCSD 580-81318/6
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Date Analyzed:	02/28/2011 1139			Date Analyzed:	02/28/2011 1205
Date Prepared:	02/28/2011 1139			Date Prepared:	02/28/2011 1205

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
cis-1,2-Dichloroethene	5.00	5.00	5.42	5.46
1,1-Dichloroethene	4.95	4.95	4.18	4.17
Tetrachloroethene	5.00	5.00	7.15	7.04
trans-1,2-Dichloroethene	5.00	5.00	4.68	4.72
Trichloroethene	5.00	5.00	5.79	5.96
Vinyl chloride	5.00	5.00	5.50	5.37
Benzene	5.00	5.00	5.17	5.12

Method Blank - Batch: 580-81468

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID: MB 580-81468/23-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/03/2011 1232
Date Prepared: 03/02/2011 1019

Analysis Batch: 580-81616
Prep Batch: 580-81468
Units: mg/L

Instrument ID: SEA044
Lab File ID: 027SMPL.D
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Arsenic	ND		0.00040	0.00040

LCS-Certified Reference Material - Batch:

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID: LCSSRM 580-81468/26-A
Client Matrix: Water
Dilution: 50
Date Analyzed: 03/03/2011 1321
Date Prepared: 03/02/2011 1019

Analysis Batch: 580-81616
Prep Batch: 580-81468
Units: mg/L

Instrument ID: SEA044
Lab File ID: 036SMP
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	4.00	4.03	101	80 - 120	

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 580-81468

Method: 6020
Preparation: 3005A
Total Recoverable

LCS Lab Sample ID: LCS 580-81468/24-A
Client Matrix: Water
Dilution: 50
Date Analyzed: 03/03/2011 1310
Date Prepared: 03/02/2011 1019

Analysis Batch: 580-81616
Prep Batch: 580-81468
Units: mg/L

Instrument ID: SEA044
Lab File ID: 034SMPL
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-81468/25-A
Client Matrix: Water
Dilution: 50
Date Analyzed: 03/03/2011 1316
Date Prepared: 03/02/2011 1019

Analysis Batch: 580-81616
Prep Batch: 580-81468
Units: mg/L

Instrument ID: SEA044
Lab File ID: 035SMP
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	98	99	80 - 120	1	20		

Client: GeoEngineers Inc

Job Number: 580-24628-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 580-81468

Method: 6020
Preparation: 3005A
Total Recoverable

LCS Lab Sample ID:	LCS 580-81468/24-A	Units:	mg/L	LCSD Lab Sample ID:	LCSD 580-81468/25-A
Client Matrix:	Water			Client Matrix:	Water
Dilution:	50			Dilution:	50
Date Analyzed:	03/03/2011 1310			Date Analyzed:	03/03/2011 1316
Date Prepared:	03/02/2011 1019			Date Prepared:	03/02/2011 1019

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Arsenic	4.00	4.00	3.93	3.97

Post Digestion Spike - Batch: 580-81468

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID:	580-24628-8	Analysis Batch:	580-81616	Instrument ID:	SEA044
Client Matrix:	Water	Prep Batch:	580-81468	Lab File ID:	033SMPL.D
Dilution:	50	Units:	mg/L	Initial Weight/Volume:	50 mL
Date Analyzed:	03/03/2011 1305			Final Weight/Volume:	50 mL
Date Prepared:	03/02/2011 1019				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	0.0045	4.00	4.15	104	75 - 125	

Client: GeoEngineers Inc

Job Number: 580-24628-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-81468

Method: 6020
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	580-24628-8	Analysis Batch: 580-81616	Instrument ID: SEA044
Client Matrix:	Water	Prep Batch: 580-81468	Lab File ID: 031SM
Dilution:	50		Initial Weight/Volume: 50 mL
Date Analyzed:	03/03/2011 1254		Final Weight/Volume: 50 mL
Date Prepared:	03/02/2011 1019		

MSD Lab Sample ID:	580-24628-8	Analysis Batch: 580-81616	Instrument ID: SEA044
Client Matrix:	Water	Prep Batch: 580-81468	Lab File ID: 032SMP
Dilution:	50		Initial Weight/Volume: 50 mL
Date Analyzed:	03/03/2011 1259		Final Weight/Volume: 50 mL
Date Prepared:	03/02/2011 1019		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Arsenic	105	105	80 - 120	0	20		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-81468

Method: 6020
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	580-24628-8	Units: mg/L	MSD Lab Sample ID: 580-24628-8
Client Matrix:	Water		Client Matrix: Water
Dilution:	50		Dilution: 50
Date Analyzed:	03/03/2011 1254		Date Analyzed: 03/03/2011 1259
Date Prepared:	03/02/2011 1019		Date Prepared: 03/02/2011 1019

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Arsenic	0.0045	4.00	4.00	4.20	4.20

Client: GeoEngineers Inc

Job Number: 580-24628-1

Serial Dilution - Batch: 580-81468

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID: 580-24628-8
Client Matrix: Water
Dilution: 5.0
Date Analyzed: 03/03/2011 1238
Date Prepared: 03/02/2011 1019

Analysis Batch: 580-81616
Prep Batch: 580-81468
Units: mg/L

Instrument ID: SEA044
Lab File ID: 028SMPL.D
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	%Diff	Limit	Qual
Arsenic	0.0045	0.00446	NC	10	

Duplicate - Batch: 580-81468

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID: 580-24628-8
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/03/2011 1249
Date Prepared: 03/02/2011 1019

Analysis Batch: 580-81616
Prep Batch: 580-81468
Units: mg/L

Instrument ID: SEA044
Lab File ID: 030SMP
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Arsenic	0.0045	0.00432	4	20	

Client: GeoEngineers Inc

Job Number: 580-24628-1

Method Blank - Batch: 580-81643

Method: 300.0
Preparation: N/A

Lab Sample ID: MB 580-81643/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/02/2011 1333
Date Prepared: N/A

Analysis Batch: 580-81643
Prep Batch: N/A
Units: mg/L

Instrument ID: TAC044
Lab File ID: 14.0000.TXT
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	RL	RL
Sulfate	ND		1.2	1.2

Lab Control Sample - Batch: 580-81643

Method: 300.0
Preparation: N/A

Lab Sample ID: LCS 580-81643/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/02/2011 1349
Date Prepared: N/A

Analysis Batch: 580-81643
Prep Batch: N/A
Units: mg/L

Instrument ID: TAC044
Lab File ID: 15.0000.TXT
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	15.0	13.8	92	90 - 110	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-81643

Method: 300.0
Preparation: N/A

MS Lab Sample ID: 580-24628-8
Client Matrix: Water
Dilution: 5.0
Date Analyzed: 03/02/2011 1706
Date Prepared: N/A

Analysis Batch: 580-81643
Prep Batch: N/A

Instrument ID: TAC044
Lab File ID: 27.0000.TXT
Initial Weight/Volume: 2 mL
Final Weight/Volume: 2 mL

MSD Lab Sample ID: 580-24628-8
Client Matrix: Water
Dilution: 5.0
Date Analyzed: 03/02/2011 1722
Date Prepared: N/A

Analysis Batch: 580-81643
Prep Batch: N/A

Instrument ID: TAC044
Lab File ID: 28.0000.TXT
Initial Weight/Volume: 2 mL
Final Weight/Volume: 2 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Sulfate	94	91	90 - 110	2	15		

Client: GeoEngineers Inc

Job Number: 580-24628-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-81643

Method: 300.0
Preparation: N/A

MS Lab Sample ID: 580-24628-8
Client Matrix: Water
Dilution: 5.0
Date Analyzed: 03/02/2011 1706
Date Prepared: N/A

Units: mg/L

MSD Lab Sample ID: 580-24628-8
Client Matrix: Water
Dilution: 5.0
Date Analyzed: 03/02/2011 1722
Date Prepared: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Sulfate	23	40.0	40.0	60.2	59.2

Duplicate - Batch: 580-81643

Method: 300.0
Preparation: N/A

Lab Sample ID: 580-24628-8
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/02/2011 1650
Date Prepared: N/A

Analysis Batch: 580-81643
Prep Batch: N/A
Units: mg/L

Instrument ID: TAC044
Lab File ID: 26.0000.TXT
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Sulfate	23	22.6	0.4	10	

DATA REPORTING QUALIFIERS

Client: GeoEngineers Inc

Job Number: 580-24628-1

Lab Section	Qualifier	Description
GC/MS VOA		
	X	Surrogate is outside control limits
Metals		
	^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

Client: GeoEngineers Inc

Job Number: 580-24628-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:580-81240					
LCS 580-81240/8	Lab Control Sample	T	Water	8260B	
LCSD 580-81240/9	Lab Control Sample Duplicate	T	Water	8260B	
MB 580-81240/7	Method Blank	T	Water	8260B	
580-24628-1	MW-13-022211-W	T	Water	8260B	
580-24628-2	MW-9-022211-W	T	Water	8260B	
580-24628-3	MW-4-022211-W	T	Water	8260B	
580-24628-4	MW-17-022211-W	T	Water	8260B	
580-24628-6	MW-8-022311-W	T	Water	8260B	
580-24628-7	MW-16-022311-W	T	Water	8260B	
580-24628-8	MW-18-022311-W	T	Water	8260B	
580-24628-8MS	Matrix Spike	T	Water	8260B	
580-24628-8MSD	Matrix Spike Duplicate	T	Water	8260B	
580-24628-9	DUP-1-022311-W	T	Water	8260B	
580-24628-10	Trip Blank	T	Water	8260B	
Analysis Batch:580-81318					
LCS 580-81318/5	Lab Control Sample	T	Water	8260B	
LCSD 580-81318/6	Lab Control Sample Duplicate	T	Water	8260B	
MB 580-81318/4	Method Blank	T	Water	8260B	
580-24628-5RA	MW-03-022311-W	T	Water	8260B	

Report Basis

T = Total

Client: GeoEngineers Inc

Job Number: 580-24628-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 580-81468					
LCS 580-81468/24-A	Lab Control Sample	R	Water	3005A	
LCSD 580-81468/25-A	Lab Control Sample Duplicate	R	Water	3005A	
LCSSRM 580-81468/26-A	LCS-Certified Reference Material	R	Water	3005A	
MB 580-81468/23-A	Method Blank	R	Water	3005A	
580-24628-1	MW-13-022211-W	R	Water	3005A	
580-24628-2	MW-9-022211-W	R	Water	3005A	
580-24628-3	MW-4-022211-W	R	Water	3005A	
580-24628-4	MW-17-022211-W	R	Water	3005A	
580-24628-5	MW-03-022311-W	R	Water	3005A	
580-24628-6	MW-8-022311-W	R	Water	3005A	
580-24628-7	MW-16-022311-W	R	Water	3005A	
580-24628-8	MW-18-022311-W	R	Water	3005A	
580-24628-8DU	Duplicate	R	Water	3005A	
580-24628-8MS	Matrix Spike	R	Water	3005A	
580-24628-8MSD	Matrix Spike Duplicate	R	Water	3005A	
580-24628-9	DUP-1-022311-W	R	Water	3005A	
Analysis Batch:580-81616					
LCS 580-81468/24-A	Lab Control Sample	R	Water	6020	580-81468
LCSD 580-81468/25-A	Lab Control Sample Duplicate	R	Water	6020	580-81468
LCSSRM 580-81468/26-A	LCS-Certified Reference Material	R	Water	6020	580-81468
MB 580-81468/23-A	Method Blank	R	Water	6020	580-81468
580-24628-1	MW-13-022211-W	R	Water	6020	580-81468
580-24628-2	MW-9-022211-W	R	Water	6020	580-81468
580-24628-3	MW-4-022211-W	R	Water	6020	580-81468
580-24628-4	MW-17-022211-W	R	Water	6020	580-81468
580-24628-5	MW-03-022311-W	R	Water	6020	580-81468
580-24628-6	MW-8-022311-W	R	Water	6020	580-81468
580-24628-7	MW-16-022311-W	R	Water	6020	580-81468
580-24628-8	MW-18-022311-W	R	Water	6020	580-81468
580-24628-8DU	Duplicate	R	Water	6020	580-81468
580-24628-8MS	Matrix Spike	R	Water	6020	580-81468
580-24628-8MSD	Matrix Spike Duplicate	R	Water	6020	580-81468
580-24628-9	DUP-1-022311-W	R	Water	6020	580-81468

Report Basis

R = Total Recoverable

Client: GeoEngineers Inc

Job Number: 580-24628-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:580-81643					
LCS 580-81643/4	Lab Control Sample	T	Water	300.0	
MB 580-81643/3	Method Blank	T	Water	300.0	
580-24628-1	MW-13-022211-W	T	Water	300.0	
580-24628-2	MW-9-022211-W	T	Water	300.0	
580-24628-3	MW-4-022211-W	T	Water	300.0	
580-24628-4	MW-17-022211-W	T	Water	300.0	
580-24628-5	MW-03-022311-W	T	Water	300.0	
580-24628-6	MW-8-022311-W	T	Water	300.0	
580-24628-7	MW-16-022311-W	T	Water	300.0	
580-24628-8	MW-18-022311-W	T	Water	300.0	
580-24628-8DU	Duplicate	T	Water	300.0	
580-24628-8MS	Matrix Spike	T	Water	300.0	
580-24628-8MSD	Matrix Spike Duplicate	T	Water	300.0	
580-24628-9	DUP-1-022311-W	T	Water	300.0	

Report Basis
T = Total

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
ICPMS- ICSA_00002	12/01/11	Inorganic Ventures, Lot d2-meb329124			(Purchased Reagent)		Al	1000 ug/mL
							Ca	3000 ug/mL
							Fe	2500 ug/mL
							K	1000 ug/mL
							Mg	1000 ug/mL
							Mo	20 ug/mL
							Na	2500 ug/mL
							P	1000 ug/mL
							Ti	20 ug/mL
ICPMS-ICSB_00002	12/01/11	Inorganic Ventures, Lot d2-meb324099			(Purchased Reagent)		Ag	5 ug/mL
							Arsenic	10 ug/mL
							Cd	10 ug/mL
							Co	20 ug/mL
							Cr	20 ug/mL
							Cu	20 ug/mL
							Mn	20 ug/mL
							Ni	20 ug/mL
							Se	10 ug/mL
							V	20 ug/mL
							Zn	10 ug/mL
ICPMS_CAL_WOR_00005	03/30/11	12/30/10	H2O, Lot 123010	1000 mL	ICPMS_CAL_00001	10 mL	Arsenic	100 ug/L
.ICPMS_CAL_00001	09/22/11	CPI, Lot 10C166			(Purchased Reagent)		Arsenic	10 mg/L
ICPMS_ICV_WOR_00008	05/15/11	02/15/11	H2O, Lot 021511	1000 mL	ICPMS_ICV_00003	4 mL	Arsenic	40 ug/L
.ICPMS_ICV_00003	01/30/12	SPEX, Lot 5-236cr			(Purchased Reagent)		Arsenic	10 mg/L
m-GPS-1_00019	05/15/12	CPI, Lot 10K135			(Purchased Reagent)		Arsenic	200 ppm
TAC044 CCV_00003	03/11/20	EnvExpress + Elements, Lot 1015320+CS1014318			(Purchased Reagent)		Sulfate	20 mg/L
TAC044 LCS_00002	03/11/20	Peak Performance + Accustandard, Lot 10C150			(Purchased Reagent)		Sulfate	15 mg/L
TAC044CustStk_00001	06/02/11	Environmental Express, Lot 1015320			(Purchased Reagent)		Sulfate	5000 mg/L
V-SurTFTWk_00012	05/04/11	11/04/10	MeOH, Lot CR013	200 mL	V-TFTStk_00014	800 uL	Trifluorotoluene (Surr)	39.984 mg/L
.V-TFTStk_00014	10/21/11	07/26/10	Fisher, Lot 096181	50 mL	TFTneat_00004	420 uL	Trifluorotoluene (Surr)	9996 mg/L
..TFTneat_00004	10/21/11	Sigma-Aldrich, Lot 96397PJ			(Purchased Reagent)		Trifluorotoluene (Surr)	1190000 mg/L
V_LCS_G_50w_00002	02/14/11	02/02/11	fisher MeOH, Lot 104737	50 mL	8260 Smix1_00012	1250 uL	Vinyl chloride	50 mg/L
.8260 Smix1_00012	10/06/13	AccuStandard, Lot 210091188			(Purchased Reagent)		Vinyl chloride	2000 ug/mL
V_LCS_G_50w_00004	02/28/11	02/22/11	fisher MeOH, Lot 104737	50 mL	8260 Smix1_00012	1250 uL	Vinyl chloride	50 mg/L
.8260 Smix1_00012	10/06/13	AccuStandard, Lot 210091188			(Purchased Reagent)		Vinyl chloride	2000 ug/mL
V_LCS_L_50_00022	03/11/11	12/20/10	fisher MeOH, Lot 100537	10 mL	8260 LiqS_00012	2500 uL	1,1-Dichloroethene	49.525 mg/L
							Benzene	50.025 mg/L
							cis-1,2-Dichloroethene	50 mg/L
							Tetrachloroethene	50.05 mg/L
							trans-1,2-Dichloroethene	50 mg/L
							Trichloroethene	50.05 mg/L
.8260 LiqS_00012	03/11/11	AccuStandard, Inc, Lot B8030094			(Purchased Reagent)		1,1-Dichloroethene	198.1 ug/mL
							Benzene	200.1 ug/mL
							cis-1,2-Dichloroethene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tetrachloroethene	200.2 ug/mL
							trans-1,2-Dichloroethene	200 ug/mL
							Trichloroethene	200.2 ug/mL
vcal_L_50_00013	08/04/11	02/04/11	fisher MeOH, Lot 104737	50 mL	8260 Pfull_00005	1250 uL	1,1,1,2-Tetrachloroethane	50.15 mg/L
							1,1,1-Trichloroethane	49.975 mg/L
							1,1,2,2-Tetrachloroethane	50.125 mg/L
							1,1,2-Trichloro-1,2,2-trifluoroethane	49.875 mg/L
							1,1,2-Trichloroethane	50.1 mg/L
							1,1-Dichloroethane	49.975 mg/L
							1,1-Dichloroethene	49.95 mg/L
							1,1-Dichloropropene	49.525 mg/L
							1,2,3-Trichlorobenzene	49.65 mg/L
							1,2,3-Trichloropropane	50.525 mg/L
							1,2,4-Trichlorobenzene	49.65 mg/L
							1,2,4-Trimethylbenzene	50.275 mg/L
							1,2-Dibromo-3-Chloropropane	50.15 mg/L
							1,2-Dichlorobenzene	50.025 mg/L
							1,2-Dichloroethane	49.975 mg/L
							1,2-Dichloropropane	51.1 mg/L
							1,3,5-Trichlorobenzene	50 mg/L
							1,3,5-Trimethylbenzene	50.05 mg/L
							1,3-Dichlorobenzene	50.025 mg/L
							1,3-Dichloropropane	49.95 mg/L
							1,4-Dichlorobenzene	49.95 mg/L
							2,2-Dichloropropane	50 mg/L
							2-Chlorotoluene	50.225 mg/L
							4-Chlorotoluene	50.125 mg/L
							4-Isopropyltoluene	49.95 mg/L
							Acrylonitrile	250.25 mg/L
							Benzene	49.95 mg/L
							Bromobenzene	50.35 mg/L
							Bromoform	50.75 mg/L
							Carbon disulfide	50.075 mg/L
							Carbon tetrachloride	50.075 mg/L
							Chlorobenzene	49.9 mg/L
							Chlorobromomethane	50.075 mg/L
							Chlorodibromomethane	49.625 mg/L
							Chloroform	50.05 mg/L
							cis-1,2-Dichloroethene	50.1 mg/L
							cis-1,3-Dichloropropene	49.6 mg/L
							Dibromomethane	50.3 mg/L
							Dichlorobromomethane	50.05 mg/L
							Ethylbenzene	49.975 mg/L
							Ethylene Dibromide	50.15 mg/L
							Hexachlorobutadiene	50 mg/L
							Hexachloroethane	50.15 mg/L
							Hexane	50.125 mg/L
							Iodomethane	251.25 mg/L
							Isopropylbenzene	50.025 mg/L

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							m-Xylene & p-Xylene	100.125 mg/L
							Methylene Chloride	49.875 mg/L
							n-Butylbenzene	50 mg/L
							N-Propylbenzene	50 mg/L
							Naphthalene	50.075 mg/L
							o-Xylene	50.05 mg/L
							sec-Butylbenzene	50.075 mg/L
							Styrene	50.2 mg/L
							tert-Butylbenzene	49.975 mg/L
							Tetrachloroethene	50.075 mg/L
							Toluene	49.975 mg/L
							trans-1,2-Dichloroethene	50 mg/L
							trans-1,3-Dichloropropene	51 mg/L
							trans-1,4-Dichloro-2-butene	250 mg/L
							Trichloroethene	50 mg/L
.8260 Pfull_00005	09/26/12		o2si, Lot 164150		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2006 mg/L
							1,1,1-Trichloroethane	1999 mg/L
							1,1,2,2-Tetrachloroethane	2005 mg/L
							1,1,2-Trichloro-1,2,2-trifluoroethane	1995 mg/L
							1,1,2-Trichloroethane	2004 mg/L
							1,1-Dichloroethane	1999 mg/L
							1,1-Dichloroethene	1998 mg/L
							1,1-Dichloropropene	1981 mg/L
							1,2,3-Trichlorobenzene	1986 mg/L
							1,2,3-Trichloropropane	2021 mg/L
							1,2,4-Trichlorobenzene	1986 mg/L
							1,2,4-Trimethylbenzene	2011 mg/L
							1,2-Dibromo-3-Chloropropane	2006 mg/L
							1,2-Dichlorobenzene	2001 mg/L
							1,2-Dichloroethane	1999 mg/L
							1,2-Dichloropropane	2044 mg/L
							1,3,5-Trichlorobenzene	2000 mg/L
							1,3,5-Trimethylbenzene	2002 mg/L
							1,3-Dichlorobenzene	2001 mg/L
							1,3-Dichloropropane	1998 mg/L
							1,4-Dichlorobenzene	1998 mg/L
							2,2-Dichloropropane	2000 mg/L
							2-Chlorotoluene	2009 mg/L
							4-Chlorotoluene	2005 mg/L
							4-Isopropyltoluene	1998 mg/L
							Acrylonitrile	10010 mg/L
							Benzene	1998 mg/L
							Bromobenzene	2014 mg/L
							Bromoform	2030 mg/L
							Carbon disulfide	2003 mg/L
							Carbon tetrachloride	2003 mg/L
							Chlorobenzene	1996 mg/L
							Chlorobromomethane	2003 mg/L
							Chlorodibromomethane	1999 mg/L

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chloroform	2002 mg/L
							cis-1,2-Dichloroethene	2004 mg/L
							cis-1,3-Dichloropropene	1984 mg/L
							Dibromomethane	2012 mg/L
							Dichlorobromomethane	2002 mg/L
							Ethylbenzene	1999 mg/L
							Ethylene Dibromide	2006 mg/L
							Hexachlorobutadiene	2000 mg/L
							Hexachloroethane	2006 mg/L
							Hexane	2005 mg/L
							Iodomethane	10050 mg/L
							Isopropylbenzene	2001 mg/L
							m-Xylene & p-Xylene	4005 mg/L
							Methylene Chloride	1995 mg/L
							n-Butylbenzene	2000 mg/L
							N-Propylbenzene	2000 mg/L
							Naphthalene	2003 mg/L
							o-Xylene	2002 mg/L
							sec-Butylbenzene	2003 mg/L
							Styrene	2008 mg/L
							tert-Butylbenzene	1999 mg/L
							Tetrachloroethene	2003 mg/L
							Toluene	1999 mg/L
							trans-1,2-Dichloroethene	2000 mg/L
							trans-1,3-Dichloropropene	2040 mg/L
							trans-1,4-Dichloro-2-butene	10000 mg/L
							Trichloroethene	2000 mg/L
vcalg50w_00003	02/14/11	02/02/11	fisher MeOH, Lot 104737	50 mL	8260 Pmix1_00005	1250 uL	Bromomethane	50.0108 mg/L
							Chloroethane	49.966 mg/L
							Chloromethane	50.0268 mg/L
							Dichlorodifluoromethane	49.9688 mg/L
							Trichlorofluoromethane	49.9963 mg/L
							Vinyl chloride	50.007 mg/L
					8260P VOA1_00006	2500 uL	2-Butanone (MEK)	250 mg/L
							2-Hexanone	250 mg/L
							4-Methyl-2-pentanone (MIBK)	250 mg/L
							Acetone	250 mg/L
					8260PCalO1_00005	1250 uL	2-Methyl-2-propanol	250 mg/L
							Methyl tert-butyl ether	50 mg/L
							Tert-amyl methyl ether	50 mg/L
							Tert-butyl ethyl ether	50 mg/L
					V-Acrolein_00001	15 uL	Acrolein	252 mg/L
					V-TFTStk_00014	250 uL	Trifluorotoluene (Surr)	49.98 mg/L
					vcalneat13_00002	13.5 uL	Vinyl acetate	251.64 mg/L
					vLCSneat25_00001	12 uL	2-Chloroethyl vinyl ether	251.52 mg/L
.8260 Pmix1_00005	05/31/17		Restek, Lot A076677		(Purchased Reagent)		Bromomethane	2000.43 ug/mL
							Chloroethane	1998.64 ug/mL
							Chloromethane	2001.07 ug/mL
							Dichlorodifluoromethane	1998.75 ug/mL
							Trichlorofluoromethane	1999.85 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Vinyl chloride	2000.28 ug/mL
.8260P VOA1_00006	07/31/13		Restek, Lot A073997		(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
.8260PCalO1_00005	06/30/15		Restek, Lot A075112		(Purchased Reagent)		2-Methyl-2-propanol	10000 ug/mL
							Methyl tert-butyl ether	2000 ug/mL
							Tert-amyl methyl ether	2000 ug/mL
							Tert-butyl ethyl ether	2000 ug/mL
.V-Acrolein_00001	03/21/12		Alfa Aesar, Lot K03R001		(Purchased Reagent)		Acrolein	0.84 g/mL
.V-TFTStk_00014	10/21/11	07/26/10	Fisher, Lot 096181	50 mL	TFTneat_00004	420 uL	Trifluorotoluene (Surr)	9996 mg/L
..TFTneat_00004	10/21/11		Sigma-Aldrich, Lot 96397PJ		(Purchased Reagent)		Trifluorotoluene (Surr)	1190000 mg/L
.vcalneat13_00002	03/13/12		Aldrich, Lot 12801TD		(Purchased Reagent)		Vinyl acetate	0.932 g/mL
.vLCSneat25_00001	12/31/12		Aldrich, Lot 08402CH		(Purchased Reagent)		2-Chloroethyl vinyl ether	1.048 g/mL
vcalg50w_00006	03/03/11	02/25/11	fisher MeOH, Lot 104737	50 mL	8260 Pmix1_00005	1250 uL	Vinyl chloride	50.007 mg/L
					V-TFTStk_00014	250 uL	Trifluorotoluene (Surr)	49.98 mg/L
.8260 Pmix1_00005	05/31/17		Restek, Lot A076677		(Purchased Reagent)		Vinyl chloride	2000.28 ug/mL
.V-TFTStk_00014	10/21/11	07/26/10	Fisher, Lot 096181	50 mL	TFTneat_00004	420 uL	Trifluorotoluene (Surr)	9996 mg/L
..TFTneat_00004	10/21/11		Sigma-Aldrich, Lot 96397PJ		(Purchased Reagent)		Trifluorotoluene (Surr)	1190000 mg/L
vwrkIS&sur_00036	03/06/11	10/30/10	fisher MeOH, Lot 096181	100 mL	V-SurStk_00009	250 uL	4-Bromofluorobenzene (Surr)	50.1072 mg/L
							Toluene-d8 (Surr)	50.0733 mg/L
							Ethylbenzene-d10	50.0123 mg/L
							Fluorobenzene (Surr)	50.02 mg/L
.V-SurStk_00009	10/21/11	10/27/10	fisher MeOH, Lot 096181	25 mL	V-Surnea3_00004	312 uL	4-Bromofluorobenzene (Surr)	20042.9 mg/L
					V-Surneat2_00003	531 uL	Toluene-d8 (Surr)	20029.3 mg/L
					V-Surneat4_00003	527 uL	Ethylbenzene-d10	20004.9 mg/L
					V-Surneat5_00003	488 uL	Fluorobenzene (Surr)	20008 mg/L
..V-Surnea3_00004	10/21/11		Aldrich, Lot 01127CO		(Purchased Reagent)		4-Bromofluorobenzene (Surr)	1.606 g/mL
..V-Surneat2_00003	10/21/11		Aldrich, Lot 07726DH		(Purchased Reagent)		Toluene-d8 (Surr)	0.943 g/mL
..V-Surneat4_00003	10/21/11		Aldrich, Lot 19510HA		(Purchased Reagent)		Ethylbenzene-d10	0.949 g/mL
..V-Surneat5_00003	10/21/11		Aldrich, Lot 0001448118		(Purchased Reagent)		Fluorobenzene (Surr)	1.025 g/mL
vwrkIS&sur_00037	10/21/11	10/27/10	fisher MeOH, Lot 096181	100 mL	V-ISStk_00011	1250 uL	1,4-Dichlorobenzene-d4	250 mg/L
							1,4-Difluorobenzene	250.088 mg/L
							Pentafluorobenzene	249.81 mg/L
					V-SurStk_00009	250 uL	4-Bromofluorobenzene (Surr)	50.1072 mg/L
							BFB	50.1072 mg/L
							Toluene-d8 (Surr)	50.0733 mg/L
							Ethylbenzene-d10	50.0123 mg/L
							Fluorobenzene (Surr)	50.02 mg/L
.V-ISStk_00011	10/21/11	10/27/10	fisher MeOH, Lot 096181	50 mL	V-ISneat#1_00003	1000 mg	1,4-Dichlorobenzene-d4	20000 mg/L
					V-ISneat#2_00004	855 uL	1,4-Difluorobenzene	20007 mg/L
					V-ISneat#3_00006	660 uL	Pentafluorobenzene	19984.8 mg/L
..V-ISneat#1_00003	10/21/11		Isotec, Lot ST0037		(Purchased Reagent)		1,4-Dichlorobenzene-d4	1 g/mL
..V-ISneat#2_00004	10/21/11		Aldrich, Lot 13105AO		(Purchased Reagent)		1,4-Difluorobenzene	1.17 g/mL
..V-ISneat#3_00006	10/21/11		Aldrich, Lot MKBC7851		(Purchased Reagent)		Pentafluorobenzene	1.514 g/mL
.V-SurStk_00009	10/21/11	10/27/10	fisher MeOH, Lot 096181	25 mL	V-Surnea3_00004	312 uL	4-Bromofluorobenzene (Surr)	20042.9 mg/L
							BFB	20042.9 mg/L
					V-Surneat2_00003	531 uL	Toluene-d8 (Surr)	20029.3 mg/L
					V-Surneat4_00003	527 uL	Ethylbenzene-d10	20004.9 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					V-Surneat5_00003	488 uL	Fluorobenzene (Surr)	20008 mg/L
..V-Surnea3_00004	10/21/11		Aldrich, Lot 01127CO		(Purchased Reagent)		4-Bromofluorobenzene (Surr)	1.606 g/mL
							BFB	1.606 g/mL
..V-Surneat2_00003	10/21/11		Aldrich, Lot 07726DH		(Purchased Reagent)		Toluene-d8 (Surr)	0.943 g/mL
..V-Surneat4_00003	10/21/11		Aldrich, Lot 19510HA		(Purchased Reagent)		Ethylbenzene-d10	0.949 g/mL
..V-Surneat5_00003	10/21/11		Aldrich, Lot 0001448118		(Purchased Reagent)		Fluorobenzene (Surr)	1.025 g/mL

Method 8260B Low Level

Volatile Organic Compounds (GC/MS) by Method 8260B Low Level

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): ZB-624short ID: 0.18 (mm)

Client Sample ID	Lab Sample ID	FB #	TFT #	TOL #	EBD10 #	BFB #
MW-13-022211-W	580-24628-1	96	119	106	106	112
MW-9-022211-W	580-24628-2	96	123	105	103	106
MW-4-022211-W	580-24628-3	99	124	105	105	110
MW-17-022211-W	580-24628-4	98	120	105	104	107
MW-03-022311-W RA	580-24628-5 RA	99	110	105	105	103
MW-8-022311-W	580-24628-6	98	123	103	101	106
MW-16-022311-W	580-24628-7	96	118	103	104	103
MW-18-022311-W	580-24628-8	97	121	100	104	108
DUP-1-022311-W	580-24628-9	97	119	105	105	108
Trip Blank	580-24628-10	95	124	105	100	103
	MB 580-81240/7	97	133 X	108	104	107
	MB 580-81318/4	97	116	104	103	107
	LCS 580-81240/8	98	124	111	109	112
	LCS 580-81318/5	98	117	108	101	108
	LCSD 580-81240/9	98	124	108	108	115
	LCSD 580-81318/6	100	113	109	103	106
MW-18-022311-W MS	580-24628-8 MS	99	118	108	105	113
MW-18-022311-W MSD	580-24628-8 MSD	97	117	108	106	112

	QC LIMITS
FB = Fluorobenzene (Surr)	70-130
TFT = Trifluorotoluene (Surr)	80-125
TOL = Toluene-d8 (Surr)	75-125
EBD10 = Ethylbenzene-d10	75-125
BFB = 4-Bromofluorobenzene (Surr)	75-120

Column to be used to flag recovery values

FORM II 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Matrix: Water Level: Low Lab File ID: I0322038.D

Lab ID: LCS 580-81240/8 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
cis-1,2-Dichloroethene	5.00	5.53	111	71-144	
1,1-Dichloroethene	4.95	4.86	98	78-151	
Tetrachloroethene	5.00	6.61	132	54-161	
trans-1,2-Dichloroethene	5.00	4.99	100	73-135	
Trichloroethene	5.00	6.00	120	79-131	
Vinyl chloride	5.00	5.37	107	47-160	
Benzene	5.00	5.37	107	75-142	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Matrix: Water Level: Low Lab File ID: I0322064.D

Lab ID: LCS 580-81318/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
cis-1,2-Dichloroethene	5.00	5.42	108	71-144	
1,1-Dichloroethene	4.95	4.18	84	78-151	
Tetrachloroethene	5.00	7.15	143	54-161	
trans-1,2-Dichloroethene	5.00	4.68	94	73-135	
Trichloroethene	5.00	5.79	116	79-131	
Vinyl chloride	5.00	5.50	110	47-160	
Benzene	5.00	5.17	103	75-142	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Matrix: Water Level: Low Lab File ID: I0322039.D

Lab ID: LCSD 580-81240/9 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
cis-1,2-Dichloroethene	5.00	5.47	109	1	20	71-144	
1,1-Dichloroethene	4.95	4.66	94	4	20	78-151	
Tetrachloroethene	5.00	7.09	142	7	20	54-161	
trans-1,2-Dichloroethene	5.00	5.11	102	2	20	73-135	
Trichloroethene	5.00	6.19	124	3	20	79-131	
Vinyl chloride	5.00	5.27	105	2	20	47-160	
Benzene	5.00	5.34	107	1	20	75-142	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Matrix: Water Level: Low Lab File ID: I0322065.D

Lab ID: LCSD 580-81318/6 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
cis-1,2-Dichloroethene	5.00	5.46	109	1	20	71-144	
1,1-Dichloroethene	4.95	4.17	84	0	20	78-151	
Tetrachloroethene	5.00	7.04	141	2	20	54-161	
trans-1,2-Dichloroethene	5.00	4.72	94	1	20	73-135	
Trichloroethene	5.00	5.96	119	3	20	79-131	
Vinyl chloride	5.00	5.37	107	2	20	47-160	
Benzene	5.00	5.12	102	1	20	75-142	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Matrix: Water Level: Low Lab File ID: I0322048.D

Lab ID: 580-24628-8 MS Client ID: MW-18-022311-W MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
cis-1,2-Dichloroethene	5.00	0.30	5.96	113	71-144	
1,1-Dichloroethene	4.95	ND	4.40	89	78-151	
Tetrachloroethene	5.00	ND	5.61	112	64-161	
trans-1,2-Dichloroethene	5.00	0.16	5.11	99	73-135	
Trichloroethene	5.00	0.72	6.61	118	79-131	
Vinyl chloride	5.00	0.90	6.24	107	47-160	
Benzene	5.00	ND	5.42	108	75-142	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Matrix: Water Level: Low Lab File ID: I0322049.D

Lab ID: 580-24628-8 MSD Client ID: MW-18-022311-W MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
cis-1,2-Dichloroethene	5.00	5.62	106	6	20	71-144	
1,1-Dichloroethene	4.95	4.45	90	1	30	78-151	
Tetrachloroethene	5.00	5.74	115	2	20	64-161	
trans-1,2-Dichloroethene	5.00	4.86	94	5	20	73-135	
Trichloroethene	5.00	6.71	120	1	30	79-131	
Vinyl chloride	5.00	5.96	101	5	20	47-160	
Benzene	5.00	5.27	105	3	30	75-142	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab File ID: I0322037.D Lab Sample ID: MB 580-81240/7

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: SEA015 Date Analyzed: 02/25/2011 11:06

GC Column: ZB-624short ID: 0.18(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 580-81240/8	I0322038.D	02/25/2011 11:31
	LCSD 580-81240/9	I0322039.D	02/25/2011 11:57
MW-13-022211-W	580-24628-1	I0322040.D	02/25/2011 12:22
MW-9-022211-W	580-24628-2	I0322041.D	02/25/2011 12:48
MW-4-022211-W	580-24628-3	I0322042.D	02/25/2011 13:13
MW-17-022211-W	580-24628-4	I0322043.D	02/25/2011 13:39
MW-8-022311-W	580-24628-6	I0322045.D	02/25/2011 14:30
MW-16-022311-W	580-24628-7	I0322046.D	02/25/2011 14:55
MW-18-022311-W	580-24628-8	I0322047.D	02/25/2011 15:21
MW-18-022311-W MS	580-24628-8 MS	I0322048.D	02/25/2011 15:47
MW-18-022311-W MSD	580-24628-8 MSD	I0322049.D	02/25/2011 16:12
DUP-1-022311-W	580-24628-9	I0322050.D	02/25/2011 16:38
Trip Blank	580-24628-10	I0322051.D	02/25/2011 17:03

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab File ID: I0322063.D Lab Sample ID: MB 580-81318/4

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: SEA015 Date Analyzed: 02/28/2011 11:14

GC Column: ZB-624short ID: 0.18(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 580-81318/5	I0322064.D	02/28/2011 11:39
	LCSD 580-81318/6	I0322065.D	02/28/2011 12:05
MW-03-022311-W RA	580-24628-5 RA	I0322066.D	02/28/2011 12:30

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab File ID: I0321814.D BFB Injection Date: 02/09/2011

Instrument ID: SEA015 BFB Injection Time: 09:51

Analysis Batch No.: 80475

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.7	
75	30.0 - 60.0 % of mass 95	45.2	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.6	
173	Less than 2.0 % of mass 174	0.6	(0.7)1
174	50.0 - 120.00 % of mass 95	91.2	
175	5.0 - 9.0 % of mass 174	6.8	(7.5)1
176	95.0 - 101.0 % of mass 174	86.6	(95.1)1
177	5.0 - 9.0 % of mass 176	5.5	(6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD 580-80475/3	I0321815.D	02/09/2011	10:17
	STD 580-80475/4	I0321816.D	02/09/2011	10:42
	STD 580-80475/5	I0321817.D	02/09/2011	11:08
	STD 580-80475/6	I0321818.D	02/09/2011	11:33
	STD001 580-80475/7	I0321819.D	02/09/2011	11:59
	ICIS 580-80475/8	I0321820.D	02/09/2011	12:24
	STD010 580-80475/9	I0321821.D	02/09/2011	12:49
	STD020 580-80475/10	I0321822.D	02/09/2011	13:15
	STD040 580-80475/11	I0321823.D	02/09/2011	13:40
	STD080 580-80475/12	I0321824.D	02/09/2011	14:06
	ICV 580-80475/14	I0321826.D	02/09/2011	14:57

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab File ID: I0322032.D BFB Injection Date: 02/25/2011

Instrument ID: SEA015 BFB Injection Time: 08:48

Analysis Batch No.: 81240

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	16.0	
75	30.0 - 60.0 % of mass 95	42.0	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.6	
173	Less than 2.0 % of mass 174	0.6	(0.6)1
174	50.0 - 120.00 % of mass 95	95.3	
175	5.0 - 9.0 % of mass 174	6.7	(7.0)1
176	95.0 - 101.0 % of mass 174	92.6	(97.2)1
177	5.0 - 9.0 % of mass 176	6.2	(6.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 580-81240/5	I0322035.D	02/25/2011	10:04
	MB 580-81240/7	I0322037.D	02/25/2011	11:06
	LCS 580-81240/8	I0322038.D	02/25/2011	11:31
	LCSD 580-81240/9	I0322039.D	02/25/2011	11:57
MW-13-022211-W	580-24628-1	I0322040.D	02/25/2011	12:22
MW-9-022211-W	580-24628-2	I0322041.D	02/25/2011	12:48
MW-4-022211-W	580-24628-3	I0322042.D	02/25/2011	13:13
MW-17-022211-W	580-24628-4	I0322043.D	02/25/2011	13:39
MW-8-022311-W	580-24628-6	I0322045.D	02/25/2011	14:30
MW-16-022311-W	580-24628-7	I0322046.D	02/25/2011	14:55
MW-18-022311-W	580-24628-8	I0322047.D	02/25/2011	15:21
MW-18-022311-W MS	580-24628-8 MS	I0322048.D	02/25/2011	15:47
MW-18-022311-W MSD	580-24628-8 MSD	I0322049.D	02/25/2011	16:12
DUP-1-022311-W	580-24628-9	I0322050.D	02/25/2011	16:38
Trip Blank	580-24628-10	I0322051.D	02/25/2011	17:03

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab File ID: I0322061.D BFB Injection Date: 02/28/2011

Instrument ID: SEA015 BFB Injection Time: 10:22

Analysis Batch No.: 81318

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	16.4	
75	30.0 - 60.0 % of mass 95	42.6	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.9	
173	Less than 2.0 % of mass 174	0.5	(0.6)1
174	50.0 - 120.00 % of mass 95	91.4	
175	5.0 - 9.0 % of mass 174	6.5	(7.1)1
176	95.0 - 101.0 % of mass 174	89.2	(97.6)1
177	5.0 - 9.0 % of mass 176	6.0	(6.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 580-81318/3	I0322062.D	02/28/2011	10:48
	MB 580-81318/4	I0322063.D	02/28/2011	11:14
	LCS 580-81318/5	I0322064.D	02/28/2011	11:39
	LCSD 580-81318/6	I0322065.D	02/28/2011	12:05
MW-03-022311-W RA	580-24628-5 RA	I0322066.D	02/28/2011	12:30

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Sample No.: ICIS 580-80475/8 Date Analyzed: 02/09/2011 12:24

Instrument ID: SEA015 GC Column: ZB-624short ID: 0.18(mm)

Lab File ID (Standard): I0321820.D Heated Purge: (Y/N) N

Calibration ID: 7297

		PFB		DFB		DCB	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		1016562	2.49	1567226	2.78	770233	4.94
UPPER LIMIT		2033124	2.99	3134452	3.28	1540466	5.44
LOWER LIMIT		508281	1.99	783613	2.28	385117	4.44
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 580-80475/14		1149087	2.49	1753070	2.78	860760	4.95

PFB = Pentafluorobenzene
DFB = 1,4-Difluorobenzene
DCB = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260B

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Sample No.: CCVIS 580-81240/5 Date Analyzed: 02/25/2011 10:04

Instrument ID: SEA015 GC Column: ZB-624short ID: 0.18(mm)

Lab File ID (Standard): I0322035.D Heated Purge: (Y/N) N

Calibration ID: 7297

		PFB		DFB		DCB	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1356989	2.49	2017618	2.78	1085334	4.94
UPPER LIMIT		2713978	2.99	4035236	3.28	2170668	5.44
LOWER LIMIT		678495	1.99	1008809	2.28	542667	4.44
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 580-81240/7		1329012	2.49	1956089	2.78	1024765	4.94
LCS 580-81240/8		1302666	2.49	1943497	2.78	1058490	4.94
LCSD 580-81240/9		1360391	2.49	2062146	2.78	1058943	4.94
580-24628-1	MW-13-022211-W	1339537	2.49	2042771	2.77	1047003	4.95
580-24628-2	MW-9-022211-W	1350112	2.49	2015628	2.78	1050616	4.94
580-24628-3	MW-4-022211-W	1312128	2.49	1988125	2.78	1042428	4.94
580-24628-4	MW-17-022211-W	1292565	2.49	1961347	2.78	1021939	4.94
580-24628-6	MW-8-022311-W	1300901	2.48	1967847	2.77	1037560	4.94
580-24628-7	MW-16-022311-W	1312681	2.49	1959144	2.78	1033947	4.94
580-24628-8	MW-18-022311-W	1233897	2.49	1891573	2.78	970682	4.94
580-24628-8 MS	MW-18-022311-W MS	1259436	2.49	1963219	2.78	1040779	4.94
580-24628-8 MSD	MW-18-022311-W MSD	1292627	2.49	1938233	2.78	1037958	4.94
580-24628-9	DUP-1-022311-W	1308377	2.49	1938440	2.78	1006084	4.94
580-24628-10	Trip Blank	1301166	2.48	1909010	2.77	1001368	4.94

PFB = Pentafluorobenzene
DFB = 1,4-Difluorobenzene
DCB = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260B

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Sample No.: CCVIS 580-81318/3 Date Analyzed: 02/28/2011 10:48

Instrument ID: SEA015 GC Column: ZB-624short ID: 0.18(mm)

Lab File ID (Standard): I0322062.D Heated Purge: (Y/N) N

Calibration ID: 7297

		PFB		DFB		DCB	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1251245	2.49	1895651	2.78	1058023	4.95
UPPER LIMIT		2502490	2.99	3791302	3.28	2116046	5.45
LOWER LIMIT		625623	1.99	947826	2.28	529012	4.45
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 580-81318/4		1144875	2.49	1770795	2.78	991300	4.95
LCS 580-81318/5		1225392	2.48	1849002	2.77	1035798	4.94
LCSD 580-81318/6		1235797	2.49	1875353	2.77	1062381	4.94
580-24628-5 RA	MW-03-022311-W RA	1257294	2.48	1924504	2.77	1024759	4.94

PFB = Pentafluorobenzene
DFB = 1,4-Difluorobenzene
DCB = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: MW-13-022211-W | Lab Sample ID: 580-24628-1

Matrix: Water | Lab File ID: I0322040.D

Analysis Method: 8260B | Date Collected: 02/22/2011 12:25

Sample wt/vol: 10(mL) | Date Analyzed: 02/25/2011 12:22

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81240 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.10	0.10
75-35-4	1,1-Dichloroethene	ND		0.10	0.10
127-18-4	Tetrachloroethene	ND		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	ND		0.10	0.10
79-01-6	Trichloroethene	ND		0.10	0.10
75-01-4	Vinyl chloride	ND		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	119		80-125
462-06-6	Fluorobenzene (Surr)	96		70-130
460-00-4	4-Bromofluorobenzene (Surr)	112		75-120
2037-26-5	Toluene-d8 (Surr)	106		75-125
25837-05-2	Ethylbenzene-d10	106		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: MW-9-022211-W | Lab Sample ID: 580-24628-2

Matrix: Water | Lab File ID: I0322041.D

Analysis Method: 8260B | Date Collected: 02/22/2011 13:40

Sample wt/vol: 10(mL) | Date Analyzed: 02/25/2011 12:48

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81240 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.10	0.10
75-35-4	1,1-Dichloroethene	ND		0.10	0.10
127-18-4	Tetrachloroethene	ND		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	ND		0.10	0.10
79-01-6	Trichloroethene	ND		0.10	0.10
75-01-4	Vinyl chloride	ND		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	123		80-125
462-06-6	Fluorobenzene (Surr)	96		70-130
460-00-4	4-Bromofluorobenzene (Surr)	106		75-120
2037-26-5	Toluene-d8 (Surr)	105		75-125
25837-05-2	Ethylbenzene-d10	103		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: MW-4-022211-W | Lab Sample ID: 580-24628-3

Matrix: Water | Lab File ID: I0322042.D

Analysis Method: 8260B | Date Collected: 02/22/2011 14:45

Sample wt/vol: 10(mL) | Date Analyzed: 02/25/2011 13:13

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81240 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.10	0.10
75-35-4	1,1-Dichloroethene	ND		0.10	0.10
127-18-4	Tetrachloroethene	ND		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	ND		0.10	0.10
79-01-6	Trichloroethene	0.25		0.10	0.10
75-01-4	Vinyl chloride	0.053		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	124		80-125
462-06-6	Fluorobenzene (Surr)	99		70-130
460-00-4	4-Bromofluorobenzene (Surr)	110		75-120
2037-26-5	Toluene-d8 (Surr)	105		75-125
25837-05-2	Ethylbenzene-d10	105		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: MW-17-022211-W | Lab Sample ID: 580-24628-4

Matrix: Water | Lab File ID: I0322043.D

Analysis Method: 8260B | Date Collected: 02/22/2011 15:50

Sample wt/vol: 10(mL) | Date Analyzed: 02/25/2011 13:39

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81240 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.10	0.10
75-35-4	1,1-Dichloroethene	ND		0.10	0.10
127-18-4	Tetrachloroethene	ND		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	ND		0.10	0.10
79-01-6	Trichloroethene	0.18		0.10	0.10
75-01-4	Vinyl chloride	ND		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	120		80-125
462-06-6	Fluorobenzene (Surr)	98		70-130
460-00-4	4-Bromofluorobenzene (Surr)	107		75-120
2037-26-5	Toluene-d8 (Surr)	105		75-125
25837-05-2	Ethylbenzene-d10	104		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: MW-03-022311-W RA | Lab Sample ID: 580-24628-5 RA

Matrix: Water | Lab File ID: I0322066.D

Analysis Method: 8260B | Date Collected: 02/23/2011 09:52

Sample wt/vol: 10(mL) | Date Analyzed: 02/28/2011 12:30

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81318 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	0.59		0.10	0.10
75-35-4	1,1-Dichloroethene	ND		0.10	0.10
127-18-4	Tetrachloroethene	ND		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	ND		0.10	0.10
79-01-6	Trichloroethene	1.6		0.10	0.10
75-01-4	Vinyl chloride	0.92		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	110		80-125
462-06-6	Fluorobenzene (Surr)	99		70-130
460-00-4	4-Bromofluorobenzene (Surr)	103		75-120
2037-26-5	Toluene-d8 (Surr)	105		75-125
25837-05-2	Ethylbenzene-d10	105		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: MW-8-022311-W | Lab Sample ID: 580-24628-6

Matrix: Water | Lab File ID: I0322045.D

Analysis Method: 8260B | Date Collected: 02/23/2011 10:46

Sample wt/vol: 10(mL) | Date Analyzed: 02/25/2011 14:30

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81240 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.10	0.10
75-35-4	1,1-Dichloroethene	ND		0.10	0.10
127-18-4	Tetrachloroethene	ND		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	ND		0.10	0.10
79-01-6	Trichloroethene	ND		0.10	0.10
75-01-4	Vinyl chloride	ND		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	123		80-125
462-06-6	Fluorobenzene (Surr)	98		70-130
460-00-4	4-Bromofluorobenzene (Surr)	106		75-120
2037-26-5	Toluene-d8 (Surr)	103		75-125
25837-05-2	Ethylbenzene-d10	101		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Client Sample ID: MW-16-022311-W Lab Sample ID: 580-24628-7

Matrix: Water Lab File ID: I0322046.D

Analysis Method: 8260B Date Collected: 02/23/2011 11:44

Sample wt/vol: 10(mL) Date Analyzed: 02/25/2011 14:55

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624short ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 81240 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	0.13		0.10	0.10
75-35-4	1,1-Dichloroethene	ND		0.10	0.10
127-18-4	Tetrachloroethene	ND		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	0.13		0.10	0.10
79-01-6	Trichloroethene	0.42		0.10	0.10
75-01-4	Vinyl chloride	0.22		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	118		80-125
462-06-6	Fluorobenzene (Surr)	96		70-130
460-00-4	4-Bromofluorobenzene (Surr)	103		75-120
2037-26-5	Toluene-d8 (Surr)	103		75-125
25837-05-2	Ethylbenzene-d10	104		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: MW-18-022311-W | Lab Sample ID: 580-24628-8

Matrix: Water | Lab File ID: I0322047.D

Analysis Method: 8260B | Date Collected: 02/23/2011 12:51

Sample wt/vol: 10(mL) | Date Analyzed: 02/25/2011 15:21

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81240 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	0.30		0.10	0.10
75-35-4	1,1-Dichloroethene	ND		0.10	0.10
127-18-4	Tetrachloroethene	ND		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	0.16		0.10	0.10
79-01-6	Trichloroethene	0.72		0.10	0.10
75-01-4	Vinyl chloride	0.90		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	121		80-125
462-06-6	Fluorobenzene (Surr)	97		70-130
460-00-4	4-Bromofluorobenzene (Surr)	108		75-120
2037-26-5	Toluene-d8 (Surr)	100		75-125
25837-05-2	Ethylbenzene-d10	104		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: DUP-1-022311-W | Lab Sample ID: 580-24628-9

Matrix: Water | Lab File ID: I0322050.D

Analysis Method: 8260B | Date Collected: 02/23/2011 00:00

Sample wt/vol: 10(mL) | Date Analyzed: 02/25/2011 16:38

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81240 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	0.11		0.10	0.10
75-35-4	1,1-Dichloroethene	ND		0.10	0.10
127-18-4	Tetrachloroethene	ND		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	0.15		0.10	0.10
79-01-6	Trichloroethene	0.43		0.10	0.10
75-01-4	Vinyl chloride	0.23		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	119		80-125
462-06-6	Fluorobenzene (Surr)	97		70-130
460-00-4	4-Bromofluorobenzene (Surr)	108		75-120
2037-26-5	Toluene-d8 (Surr)	105		75-125
25837-05-2	Ethylbenzene-d10	105		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: Trip Blank | Lab Sample ID: 580-24628-10

Matrix: Water | Lab File ID: I0322051.D

Analysis Method: 8260B | Date Collected: 02/22/2011 00:00

Sample wt/vol: 10(mL) | Date Analyzed: 02/25/2011 17:03

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81240 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.10	0.10
75-35-4	1,1-Dichloroethene	ND		0.10	0.10
127-18-4	Tetrachloroethene	ND		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	ND		0.10	0.10
79-01-6	Trichloroethene	ND		0.10	0.10
75-01-4	Vinyl chloride	ND		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	124		80-125
462-06-6	Fluorobenzene (Surr)	95		70-130
460-00-4	4-Bromofluorobenzene (Surr)	103		75-120
2037-26-5	Toluene-d8 (Surr)	105		75-125
25837-05-2	Ethylbenzene-d10	100		75-125

FORM VI
GC/MS VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD CURVE EVALUTION

Lab Name: TestAmerica Seattle Job No.: 580-24628-1 Analy Batch No.: 80475

SDG No.:

Instrument ID: SEA015 GC Column: ZB-624short ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2011 10:17 Calibration End Date: 02/09/2011 14:06 Calibration ID: 7297

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 580-80475/3	I0321815.D
Level 2	STD 580-80475/4	I0321816.D
Level 3	STD 580-80475/5	I0321817.D
Level 4	STD 580-80475/6	I0321818.D
Level 5	STD001 580-80475/7	I0321819.D
Level 6	ICIS 580-80475/8	I0321820.D
Level 7	STD010 580-80475/9	I0321821.D
Level 8	STD020 580-80475/10	I0321822.D
Level 9	STD040 580-80475/11	I0321823.D
Level 10	STD080 580-80475/12	I0321824.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10		B	M1	M2								
Dichlorodifluoromethane	+++++ 0.4498	+++++ 0.4724	0.4488 0.4449	0.2961 0.4362	0.4705 0.4384	Ave		0.4322				13.0		15.0			
Chloromethane	+++++ 0.4343	0.6605 0.4652	0.4657 0.4058	0.4151 0.4127	0.4601 0.3784	Qua2	0.0202	0.4202	0		0.1000				0.9900		0.9900
Vinyl chloride	0.5202 0.3730	0.4167 0.3810	0.3173 0.3562	0.2828 0.3455	0.3818 0.3391	Lin1	0.0036	0.3466							0.9990		0.9900
Bromomethane	+++++ 0.3150	0.7088 0.3303	0.3615 0.3003	0.2906 0.2924	0.3523 0.2723	Qua1	0.0248	0.3156	-0.001						0.9990		0.9900
Chloroethane	0.4051 0.0717	0.1359 0.0684	0.0932 0.0615	0.0724 0.0584	0.0789 0.0542	Qua2	0.0068	0.0655	0						0.9930		0.9900
Trichlorofluoromethane	+++++ 0.5692	0.6559 0.5932	0.5286 0.5559	0.4071 0.5402	0.6142 0.5408	Ave		0.5561				12.0		15.0			
2-Methyl-2-propanol	+++++ 0.0076	+++++ 0.0094	+++++ 0.0090	0.0092 0.0114	0.0094 0.0102	Ave		0.0095				12.0		15.0			
Acrolein	+++++ 0.0291	0.0469 0.0323	0.0409 0.0288	0.0300 0.0275	0.0331 0.0286	Lin2	0.0092	0.0292							0.9930		0.9900
1,1,2-Trichloro-1,2,2-trifluoroethane	+++++ 0.3241	0.3994 0.3344	0.3294 0.3197	0.3130 0.3209	0.3292 0.3189	Lin2	0.0065	0.3184							0.9980		0.9900
1,1-Dichloroethene	0.2470 0.2862	0.3609 0.2932	0.3084 0.2808	0.2904 0.2774	0.2923 0.2705	Ave		0.2907				10.0		15.0			
Acetone	+++++ 0.0392	0.1913 0.0406	0.1139 0.0349	0.0620 0.0358	0.0572 0.0351	Lin1	0.0775	0.0353							0.9990		0.9900
Iodomethane	0.7422 0.7360	0.7773 0.7649	0.7344 0.7261	0.7243 0.7303	0.7450 0.6776	Ave		0.7358				3.6		15.0			
Carbon disulfide	+++++ 0.7767	0.7652 0.7566	0.7770 0.7165	0.6399 0.7896	0.8066 0.7907	Ave		0.7576				6.7		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD CURVE EVALUTION

Lab Name: TestAmerica Seattle Job No.: 580-24628-1 Analy Batch No.: 80475

SDG No.:

Instrument ID: SEA015 GC Column: ZB-624short ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2011 10:17 Calibration End Date: 02/09/2011 14:06 Calibration ID: 7297

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10		B	M1	M2								
Acrylonitrile	+++++ 0.0659	0.0632 0.0712	0.0575 0.0653	0.0745 0.0665	0.0692 0.0653	Ave		0.0665				7.3		15.0			
trans-1,2-Dichloroethene	+++++ 0.2930	0.3708 0.3119	0.2760 0.3003	0.2730 0.3051	0.2979 0.3162	Ave		0.3049				9.4		15.0			
Methylene Chloride	1.7548 0.3205	0.6280 0.3223	0.5156 0.2931	0.3696 0.2859	0.3264 0.2658	Qua2	0.0287	0.3223	-0.001						0.9940		0.9900
2-Butanone	+++++ 0.0068	+++++ 0.0079	0.0053 0.0073	0.0064 0.0069	0.0060 0.0075	Qua	0.0114	0.0066	0						0.9990		0.9900
Vinyl acetate	+++++ 0.0398	0.0296 0.0496	0.0321 0.0466	0.0349 0.0410	0.0372 0.0503	Qua2	-0.007	0.0410	0						0.9910		0.9900
Methyl tert-butyl ether	+++++ 0.6514	0.7136 0.7136	0.6258 0.6757	0.6686 0.7200	0.6796 0.7342	Ave		0.6869				5.2		15.0			
n-Hexane	0.6827 0.3477	0.4490 0.3632	0.3737 0.3650	0.3030 0.3666	0.3398 0.3682	Lin2	0.0067	0.3497							0.9940		0.9900
1,1-Dichloroethane	0.6215 0.5384	0.5988 0.5564	0.5486 0.5340	0.5257 0.5304	0.5196 0.5248	Ave		0.5498			0.1000	6.2		15.0			
Chlorobromomethane	+++++ 0.1998	0.2044 0.2080	0.1681 0.1938	0.2005 0.2027	0.1872 0.2133	Qua2	0	0.1930	0.0003						0.9960		0.9900
Tert-butyl ethyl ether	+++++ 0.2777	0.2548 0.3227	0.2092 0.3113	0.2213 0.3303	0.2658 0.3418	Lin1	-0.024	0.3321							0.9980		0.9900
cis-1,2-Dichloroethene	0.2863 0.3180	0.3140 0.3465	0.2746 0.3240	0.2670 0.3345	0.2979 0.3552	Qua2	0	0.3023	0.0008						0.9960		0.9900
2,2-Dichloropropane	0.2383 0.3570	0.3175 0.3791	0.3202 0.3760	0.3080 0.3854	0.3234 0.4119	Qua2	-0.002	0.3400	0.0010						0.9980		0.9900
Chloroform	0.4129 0.5166	0.4656 0.5332	0.5036 0.5084	0.4793 0.5110	0.4898 0.5234	Ave		0.4944				7.1		15.0			
1,1,1-Trichloroethane	0.5120 0.4081	0.3404 0.4377	0.4213 0.4277	0.3539 0.4375	0.3661 0.4630	Qua2	0.0024	0.3814	0.0012						0.9930		0.9900
1,1-Dichloropropene	0.5952 0.3988	0.5109 0.4021	0.3873 0.3967	0.3446 0.4023	0.3878 0.4161	Lin2	0.0041	0.3955							0.9920		0.9900
Carbon tetrachloride	0.8314 0.3527	0.4122 0.3794	0.3412 0.3859	0.3224 0.3996	0.3361 0.4276	Qua2	0.0099	0.3271	0.0015						0.9950		0.9900
Benzene	+++++ 1.1619	1.1241 1.2067	1.1827 1.1626	1.0685 1.1605	1.1300 1.2041	Ave		1.1557				3.8		15.0			
1,2-Dichloroethane	0.3308 0.3424	0.3652 0.3592	0.3738 0.3365	0.3314 0.3370	0.3615 0.3435	Ave		0.3481				4.4		15.0			
Tert-amyl methyl ether	0.4741 0.6243	0.5220 0.7061	0.4380 0.6930	0.4572 0.7340	0.5463 0.7643	Lin1	-0.021	0.7378							0.9970		0.9900
Dibromomethane	+++++ 0.1076	0.1018 0.1118	0.1046 0.1093	0.0883 0.1163	0.1077 0.1208	Ave		0.1076				8.6		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD CURVE EVALUTION

Lab Name: TestAmerica Seattle Job No.: 580-24628-1 Analy Batch No.: 80475

SDG No.:

Instrument ID: SEA015 GC Column: ZB-624short ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2011 10:17 Calibration End Date: 02/09/2011 14:06 Calibration ID: 7297

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10		B	M1	M2								
Trichloroethene	+++++ 0.1779	0.1750 0.1842	0.1592 0.1880	0.1733 0.2003	0.1745 0.2090	Ave		0.1824				8.3		15.0			
cis-1,3-Dichloropropene	+++++ 0.2456	0.1777 0.2802	0.1797 0.2820	0.1799 0.3019	0.2069 0.3190	Qua2	-0.008	0.2361	0.0013						0.9900		0.9900
4-Methyl-2-pentanone	+++++ 0.0489	0.0295 0.0551	0.0315 0.0526	0.0326 0.0551	0.0433 0.0553	Lin1	-0.024	0.0548							0.9990		0.9900
1,2-Dichloropropane	0.2136 0.2006	0.2108 0.2119	0.2028 0.2044	0.1888 0.2058	0.1927 0.2075	Ave		0.2039				4.0		15.0			
Dichlorobromomethane	0.2135 0.2129	0.1928 0.2276	0.1809 0.2377	0.1737 0.2476	0.1907 0.2583	Ave		0.2136				14.0		15.0			
trans-1,3-Dichloropropene	+++++ 0.1878	0.1245 0.2221	0.1276 0.2239	0.1388 0.2452	0.1633 +++++	Qua2	-0.006	0.1743	0.0020						0.9920		0.9900
2-Chloroethyl vinyl ether	+++++ 0.1068	0.0543 0.1209	0.0607 0.1190	0.0723 +++++	0.0857 +++++	Qua2	-0.021	0.0903	0.0004						0.9900		0.9900
2-Hexanone	+++++ 0.0423	0.0261 0.0500	0.0267 0.0493	0.0250 0.0513	0.0336 0.0511	Lin1	-0.027	0.0506							0.9980		0.9900
Chlorodibromomethane	+++++ 0.1413	0.1141 0.1678	0.1140 0.1716	0.1027 0.1856	0.1202 +++++	Qua2	-0.002	0.1290	0.0017						0.9900		0.9900
Toluene	+++++ 0.7663	0.7155 0.7976	0.7742 0.8027	0.7049 0.8172	0.7265 0.8680	Qua2	-0.004	0.7564	0.0015						0.9990		0.9900
1,1,2-Trichloroethane	0.1819 0.1432	0.1646 0.1556	0.1326 0.1488	0.1370 0.1510	0.1484 0.1568	Ave		0.1520				9.3		15.0			
Tetrachloroethene	+++++ 0.2060	0.1760 0.1656	0.1502 0.1637	0.1404 +++++	0.1358 +++++	Ave		0.1625				15.0		15.0			
1,3-Dichloropropane	+++++ 0.2384	0.2245 0.2566	0.2231 0.2507	0.2203 0.2577	0.2475 0.2594	Ave		0.2420				6.6		15.0			
1,2-Dibromoethane	+++++ 0.1493	0.1931 0.1579	0.1583 0.1551	0.1600 0.1562	0.1511 0.1576	Lin2	0.0034	0.1527							0.9980		0.9900
Bromoform	+++++ 0.1476	0.1128 0.1710	0.1208 0.1824	0.1250 0.2124	0.1402 0.2335	Qua2	-0.004	0.1489	0.0012		0.1000				0.9960		0.9900
Chlorobenzene	15.869 1.1214	4.2800 1.0991	2.4011 1.0768	1.6881 1.1012	1.3496 1.1665	Lin	-0.188	1.1526			0.3000				0.9990		0.9900
Ethylbenzene	1.9903 1.6881	1.7259 1.7479	1.4926 1.7916	1.4603 1.8540	1.6040 2.0059	Qua2	0.0078	1.5912	0.0058						0.9970		0.9900
1,1,1,2-Tetrachloroethane	0.5052 0.3461	0.3329 0.3750	0.3000 0.3768	0.3029 0.4129	0.3223 0.4765	Qua2	0.0036	0.3158	0.0022						0.9960		0.9900
m-Xylene & p-Xylene	1.5833 1.3111	1.1895 1.3694	1.0366 1.4148	1.0012 1.4510	1.1620 1.5055	Qua2	0.0153	1.1644	0.0027						0.9900		0.9900
1,1,2,2-Tetrachloroethane	+++++ 0.3791	0.4229 0.3964	0.3641 0.3810	0.3625 0.3812	0.4026 0.3988	Ave		0.3876			0.3000	5.0		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD CURVE EVALUTION

Lab Name: TestAmerica Seattle Job No.: 580-24628-1 Analy Batch No.: 80475

SDG No.:

Instrument ID: SEA015 GC Column: ZB-624short ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2011 10:17 Calibration End Date: 02/09/2011 14:06 Calibration ID: 7297

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10		B	M1	M2								
1,2,3-Trichloropropane	+++++ 0.0931	0.1367 0.1069	0.0636 0.1001	0.0982 0.1056	0.1000 0.1143	Qua1	0.0004	0.0977	0.0002						0.9990		0.9900
2-Chlorotoluene	+++++ 0.4229	0.3751 0.4420	0.3003 0.4417	0.3285 0.4665	0.3699 0.5130	Lin1	-0.038	0.4850							0.9960		0.9900
o-Xylene	0.9587 1.2566	0.9519 1.3815	0.8099 1.4235	0.8335 1.4831	1.0349 1.6187	Lin1	-0.051	1.5285							0.9950		0.9900
Styrene	0.5128 0.9917	0.5831 1.1113	0.5530 1.1366	0.5679 1.2001	0.7433 1.3065	Qua1	-0.034	1.0561	0.0032						0.9990		0.9900
Isopropylbenzene	1.1399 1.4613	0.9057 1.5528	0.8859 1.6275	0.8195 1.7055	1.0567 1.8638	Qua1	-0.040	1.5029	0.0046						0.9990		0.9900
BFB					+++++	None											
Bromobenzene	0.4579 0.4457	0.4217 0.4728	0.4344 0.4805	0.4056 0.5198	0.4388 0.5905	Qua2	0.0005	0.4309	0.0021						0.9990		0.9900
trans-1,4-Dichloro-2-butene	0.0909 0.0869	0.0611 0.0969	0.0742 0.0940	0.0758 0.0970	0.0807 0.0896	Ave		0.0847				14.0		15.0			
N-Propylbenzene	1.9665 2.1387	1.6235 2.2350	1.4656 2.2404	1.4699 2.3444	1.8309 2.4484	Lin1	-0.057	2.3671							0.9980		0.9900
1,3,5-Trimethylbenzene	1.0986 1.3243	0.7553 1.3986	0.8018 1.4080	0.8043 1.4770	1.0370 1.6403	Lin1	-0.053	1.5392							0.9940		0.9900
1,2-Dibromo-3-Chloropropane	+++++ 0.0379	+++++ 0.0472	0.0186 0.0506	0.0357 0.0550	0.0422 0.0559	Lin1	-0.010	0.0542							0.9960		0.9900
4-Chlorotoluene	0.4355 0.4189	0.2840 0.4559	0.2699 0.4514	0.3038 0.4687	0.3769 0.5070	Lin1	-0.012	0.4831							0.9960		0.9900
tert-Butylbenzene	0.6569 1.0907	0.5928 1.1720	0.6204 1.2395	0.5944 1.3199	0.7737 1.4688	Lin1	-0.060	1.3659							0.9910		0.9900
1,2,4-Trimethylbenzene	0.7243 1.3449	0.5611 1.4391	0.6688 1.4690	0.7388 1.5214	1.0014 1.7426	Lin1	-0.072	1.6142							0.9920		0.9900
Hexachloroethane	+++++ 0.2182	0.1645 0.2448	0.1745 0.2718	0.1980 0.2924	0.1901 0.3361	Qua2	-0.006	0.2165	0.0016						0.9960		0.9900
sec-Butylbenzene	0.9793 1.5993	0.9776 1.7154	0.8909 1.7909	0.9062 1.8836	1.2038 2.0939	Lin1	-0.080	1.9556							0.9930		0.9900
4-Isopropyltoluene	1.0486 1.2976	0.5812 1.4435	0.6756 1.4894	0.6569 1.5961	0.8804 1.8087	Lin1	-0.075	1.6677							0.9900		0.9900
1,3-Dichlorobenzene	1.0471 0.8767	0.7868 0.8947	0.8215 0.9005	0.7330 0.9549	0.8473 1.0579	Ave		0.8920				12.0		15.0			
1,4-Dichlorobenzene	1.3764 0.9217	1.1243 0.9483	0.9884 0.9247	0.9006 0.9703	0.9529 1.0565	Ave		1.0164				14.0		15.0			
n-Butylbenzene	0.1857 0.3286	0.2275 0.3504	0.1744 0.3640	0.1835 0.3802	0.2506 0.4228	Lin1	-0.016	0.3956							0.9930		0.9900

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD CURVE EVALUTION

Lab Name: TestAmerica Seattle Job No.: 580-24628-1 Analy Batch No.: 80475

SDG No.:

Instrument ID: SEA015 GC Column: ZB-624short ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2011 10:17 Calibration End Date: 02/09/2011 14:06 Calibration ID: 7297

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10		B	M1	M2								
1,2-Dichlorobenzene	0.5569 0.8058	0.8066 0.8302	0.6929 0.8114	0.6858 0.8526	0.7705 0.9108	Ave		0.7724				13.0		15.0			
1,3,5-Trichlorobenzene	0.5083 0.5605	0.5492 0.6168	0.4966 0.6630	0.4682 0.7266	0.4937 0.7757	Lin1	-0.021	0.7300							0.9930		0.9900
1,2,4-Trichlorobenzene	0.3495 0.4496	0.3584 0.5193	0.2539 0.5738	0.3452 0.6352	0.3601 0.6850	Qua1	-0.014	0.5193	0.0022						0.9980		0.9900
Hexachlorobutadiene	0.1613 0.1972	0.2816 0.2134	0.2119 0.2316	0.1809 0.2466	0.2097 0.2728	Qua1	0	0.2116	0.0008						1.0000		0.9900
Naphthalene	0.5710 0.6534	0.4745 0.9323	0.3000 1.0208	0.3958 1.1481	0.4348 1.2075	Qua1	-0.038	0.9114	0.0040						0.9950		0.9900
1,2,3-Trichlorobenzene	0.3560 0.4048	0.3194 0.4944	0.2848 0.4989	0.2575 0.5586	0.3303 0.6050	Lin1	-0.022	0.5643							0.9900		0.9900
Fluorobenzene (Surr)	1.6619 1.7226	1.6904 1.7154	1.6876 1.7024	1.6682 1.6851	1.6200 1.7355	Ave		1.6889				2.0		15.0			
Trifluorotoluene (Surr)	0.3042 0.3056	0.3123 0.3282	0.2817 0.3320	0.2141 0.3466	0.3133 0.3891	Qua2	0.0003	0.2895	0.0014						0.9910		0.9900
Toluene-d8 (Surr)	0.9761 1.0973	0.9684 +++++	1.0580 +++++	1.0206 +++++	1.0383 +++++	Ave		1.0265				4.8		15.0			
Ethylbenzene-d10	0.7526 0.7848	0.7316 0.7823	0.7036 +++++	0.7593 +++++	0.7349 +++++	Ave		0.7499				3.9		15.0			
4-Bromofluorobenzene (Surr)	0.6443 0.7270	0.6677 +++++	0.6241 +++++	0.6823 +++++	0.6969 +++++	Ave		0.6737				5.5		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Seattle Job No.: 580-24628-1 Analy Batch No.: 80475

SDG No.:

Instrument ID: SEA015 GC Column: ZB-624short ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2011 10:17 Calibration End Date: 02/09/2011 14:06 Calibration ID: 7297

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 580-80475/3	I0321815.D
Level 2	STD 580-80475/4	I0321816.D
Level 3	STD 580-80475/5	I0321817.D
Level 4	STD 580-80475/6	I0321818.D
Level 5	STD001 580-80475/7	I0321819.D
Level 6	ICIS 580-80475/8	I0321820.D
Level 7	STD010 580-80475/9	I0321821.D
Level 8	STD020 580-80475/10	I0321822.D
Level 9	STD040 580-80475/11	I0321823.D
Level 10	STD080 580-80475/12	I0321824.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10
Dichlorodifluoromethane	PFB	Ave	+++++	+++++	3684	4916	19812	+++++	+++++	0.200	0.400	0.999
			91469	194067	395482	803100	1673251	5.00	9.99	20.0	40.0	80.0
Chloromethane	PFB	Qua2	+++++	2531	3827	6900	19394	+++++	0.100	0.200	0.400	1.00
			88409	191316	361128	760683	1446198	5.00	10.0	20.0	40.0	80.0
Vinyl chloride	PFB	Lin1	428	1596	2607	4698	16087	0.0200	0.100	0.200	0.400	1.00
			75912	156627	316852	636496	1295374	5.00	10.0	20.0	40.0	80.0
Bromomethane	PFB	Qua1	+++++	2715	2970	4829	14845	+++++	0.100	0.200	0.400	1.00
			64101	135805	267175	538838	1040349	5.00	10.0	20.0	40.0	80.0
Chloroethane	PFB	Qua2	333	520	765	1202	3323	0.0200	0.0999	0.200	0.400	0.999
			14583	28086	54644	107490	206788	5.00	9.99	20.0	40.0	79.9
Trichlorofluoromethane	PFB	Ave	+++++	2512	4342	6763	25874	+++++	0.1000	0.200	0.400	1.000
			115798	243790	494372	995157	2065560	5.00	10.00	20.0	40.0	80.0
2-Methyl-2-propanol	PFB	Ave	+++++	+++++	+++++	767	1978	+++++	+++++	+++++	2.00	5.00
			7754	19398	39885	104704	194832	25.0	50.0	100	200	400
Acrolein	PFB	Lin2	+++++	906	1693	2510	7028	+++++	0.504	1.01	2.02	5.04
			29806	66867	129003	255281	550341	25.2	50.4	101	202	403
1,1,2-Trichloro-1,2,2-trifluoroetha ne	PFB	Lin2	+++++	1526	2699	5186	13836	+++++	0.0998	0.200	0.399	0.998
			65783	137087	283663	589763	1214959	4.99	9.98	20.0	39.9	79.8
1,1-Dichloroethene	PFB	Ave	203	1381	2531	4820	12302	0.0200	0.0999	0.200	0.400	0.999
			58181	120391	249460	510425	1031935	5.00	9.99	20.0	40.0	79.9
Acetone	PFB	Lin1	+++++	3664	4677	5153	12058	+++++	0.500	1.00	2.00	5.00
			39893	83386	155219	330060	670031	25.0	50.0	100	200	400
Iodomethane	PFB	Ave	3068	14960	30315	60460	157710	0.101	0.503	1.01	2.01	5.03
			752537	1579808	3245052	6760301	13005089	25.1	50.3	101	201	402
Carbon disulfide	PFB	Ave	+++++	2935	6392	10646	34032	+++++	0.100	0.200	0.401	1.00
			158278	311435	638230	1456825	3024388	5.01	10.0	20.0	40.1	80.1
Acrylonitrile	PFB	Ave	+++++	1212	2362	6195	14590	+++++	0.501	1.00	2.00	5.01
			67158	146404	290653	613188	1248857	25.0	50.1	100	200	400

FORM VI
GC/MS VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Seattle Job No.: 580-24628-1 Analy Batch No.: 80475

SDG No.:

Instrument ID: SEA015 GC Column: ZB-624short ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2011 10:17 Calibration End Date: 02/09/2011 14:06 Calibration ID: 7297

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10
trans-1,2-Dichloroethene	PFB	Ave	+++++ 59616	1420 128219	2267 267142	4536 561973	12552 1207627	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
Methylene Chloride	PFB	Qua2	1440 65042	2399 132130	4225 260006	6125 525347	13718 1012686	0.0200 4.99	0.0998 9.98	0.200 20.0	0.399 39.9	0.998 79.8
2-Butanone	PFB	Qua	+++++ 6951	+++++ 16186	218 32419	534 63211	1264 143129	+++++ 25.0	+++++ 50.0	1.00 100	2.00 200	5.00 400
Vinyl acetate	PFB	Qua2	+++++ 40771	570 102519	1328 208393	2915 380274	7893 967389	+++++ 25.2	0.503 50.3	1.01 101	2.01 201	5.03 403
Methyl tert-butyl ether	PFB	Ave	+++++ 132540	2733 293312	5140 601017	11107 1326346	28632 2804109	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
n-Hexane	PFB	Lin2	563 70914	1724 149652	3077 325495	5046 677085	14351 1409859	0.0201 5.01	0.100 10.0	0.201 20.1	0.401 40.1	1.00 80.2
1,1-Dichloroethane	PFB	Ave	511 109501	2292 228576	4504 474714	8729 976633	21878 2003444	0.0200 5.00	0.1000 10.00	0.200 20.0	0.400 40.0	1.000 80.0
Chlorobromomethane	PFB	Qua2	+++++ 40717	784 85641	1383 172630	3336 374041	7900 815791	+++++ 5.01	0.100 10.0	0.200 20.0	0.401 40.1	1.00 80.1
Tert-butyl ethyl ether	PFB	Lin1	+++++ 56500	976 132655	1718 276898	3676 608534	11198 1305413	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
cis-1,2-Dichloroethene	PFB	Qua2	236 64823	1205 142697	2260 288785	4445 617448	12574 1359463	0.0200 5.01	0.100 10.0	0.200 20.0	0.401 40.1	1.00 80.2
2,2-Dichloropropane	PFB	Qua2	196 72647	1216 155808	2630 334387	5116 710069	13626 1573243	0.0200 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
Chloroform	PFB	Ave	340 105217	1785 219363	4141 452603	7970 942227	20656 2000996	0.0200 5.01	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.1
1,1,1-Trichloroethane	PFB	Qua2	421 82986	1303 179832	3459 380192	5876 805586	15417 1767538	0.0200 5.00	0.1000 10.00	0.200 20.0	0.400 40.0	1.000 80.0
1,1-Dichloropropene	PFB	Lin2	485 80371	1938 163687	3151 349505	5670 734143	16184 1574179	0.0198 4.95	0.0991 9.91	0.198 19.8	0.396 39.6	0.991 79.2
Carbon tetrachloride	PFB	Qua2	685 71878	1581 156183	2807 343719	5364 737256	14182 1635536	0.0200 5.01	0.100 10.0	0.200 20.0	0.401 40.1	1.00 80.1
Benzene	PFB	Ave	+++++ 236165	4301 495496	9705 1033036	17733 2135784	47559 4594484	+++++ 5.00	0.0999 9.99	0.200 20.0	0.400 40.0	0.999 79.9
1,2-Dichloroethane	PFB	Ave	272 69627	1398 147573	3069 299167	5502 620477	15224 1311368	0.0200 5.00	0.1000 10.00	0.200 20.0	0.400 40.0	1.000 80.0
Tert-amyl methyl ether	PFB	Lin1	390 127032	1999 290228	3598 616362	7595 1352241	23014 2918985	0.0200 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
Dibromomethane	DFB	Ave	+++++ 33928	636 71883	1372 148095	2314 325813	7051 702299	+++++ 5.03	0.101 10.1	0.201 20.1	0.402 40.2	1.01 80.5
Trichloroethene	DFB	Ave	+++++ 55733	1086 117666	2076 253174	4513 557593	11359 1207695	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
cis-1,3-Dichloropropene	DFB	Qua2	+++++ 76347	1094 177613	2325 376700	4648 833887	13365 1828235	+++++ 4.96	0.0992 9.92	0.198 19.8	0.397 39.7	0.992 79.4

FORM VI
GC/MS VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Seattle Job No.: 580-24628-1 Analy Batch No.: 80475

SDG No.:

Instrument ID: SEA015 GC Column: ZB-624short ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2011 10:17 Calibration End Date: 02/09/2011 14:06 Calibration ID: 7297

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10
4-Methyl-2-pentanone	DFB	Lin1	+++++ 76542	916 176093	2054 354337	4244 767604	14083 1598255	+++++ 25.0	0.500 50.0	1.00 100	2.00 200	5.00 400
1,2-Dichloropropane	DFB	Ave	285 64238	1337 138339	2703 281275	5025 585566	12822 1225309	0.0204 5.11	0.102 10.2	0.204 20.4	0.409 40.9	1.02 81.8
Dichlorobromomethane	DFB	Ave	279 66779	1198 145595	2361 320374	4528 690080	12428 1493973	0.0200 5.01	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.1
trans-1,3-Dichloropropene	DFB	Qua2	+++++ 60013	788 144762	1697 307548	3687 696462	10847 +++++	+++++ 5.10	0.102 10.2	0.204 20.4	0.408 40.8	1.02 +++++
2-Chloroethyl vinyl ether	DFB	Qua2	+++++ 168275	1695 388473	3982 806040	9472 +++++	28054 +++++	+++++ 25.2	0.503 50.3	1.01 101	2.01 +++++	5.03 +++++
2-Hexanone	DFB	Lin1	+++++ 66322	810 159656	1743 331551	3250 714338	10950 1475864	+++++ 25.0	0.500 50.0	1.00 100	2.00 200	5.00 400
Chlorodibromomethane	DFB	Qua2	+++++ 43942	703 106399	1475 229343	2655 512929	7767 +++++	+++++ 4.96	0.0993 9.93	0.199 19.9	0.397 39.7	0.993 +++++
Toluene	DFB	Qua2	+++++ 239975	4439 509331	10090 1080185	18353 2274149	47275 5012730	+++++ 5.00	0.1000 10.00	0.200 20.0	0.400 40.0	1.000 80.0
1,1,2-Trichloroethane	DFB	Ave	238 44951	1024 99591	1733 200717	3576 421349	9681 907918	0.0200 5.01	0.100 10.0	0.200 20.0	0.401 40.1	1.00 80.2
Tetrachloroethene	DFB	Ave	+++++ 64633	1094 105959	1961 220723	3664 +++++	8856 +++++	+++++ 5.01	0.100 10.0	0.200 20.0	0.401 +++++	1.00 +++++
1,3-Dichloropropane	DFB	Ave	+++++ 74636	1392 163767	2906 337231	5733 716907	16100 1497403	+++++ 5.00	0.0999 9.99	0.200 20.0	0.400 40.0	0.999 79.9
1,2-Dibromoethane	DFB	Lin2	+++++ 46932	1202 101173	2071 209423	4180 436151	9864 913154	+++++ 5.02	0.100 10.0	0.201 20.1	0.401 40.1	1.00 80.2
Bromoform	DCB	Qua2	+++++ 23080	328 55622	807 126381	1577 305390	4536 692242	+++++ 5.08	0.102 10.2	0.203 20.3	0.406 40.6	1.02 81.2
Chlorobenzene	DCB	Lin	9721 172410	12242 351609	15775 733660	20948 1556548	42946 3400117	0.0200 4.99	0.0998 9.98	0.200 20.0	0.399 39.9	0.998 79.8
Ethylbenzene	DCB	Qua2	1221 259917	4944 560007	9821 1222506	18148 2624432	51120 5855638	0.0200 5.00	0.1000 10.00	0.200 20.0	0.400 40.0	1.000 80.0
1,1,1,2-Tetrachloroethane	DCB	Qua2	311 53469	957 120557	1981 258000	3778 586491	10307 1395971	0.0201 5.02	0.100 10.0	0.201 20.1	0.401 40.1	1.00 80.2
m-Xylene & p-Xylene	DCB	Qua2	1946 404440	6827 879020	13665 1934198	24929 4115288	74195 8805208	0.0401 10.0	0.200 20.0	0.401 40.1	0.801 80.1	2.00 160
1,1,2,2-Tetrachloroethane	DCB	Ave	+++++ 58548	1215 127392	2403 260758	4518 541199	12870 1167600	+++++ 5.01	0.100 10.0	0.201 20.1	0.401 40.1	1.00 80.2
1,2,3-Trichloropropane	DCB	Qua1	+++++ 14485	396 34615	423 69057	1234 151153	3221 337352	+++++ 5.05	0.101 10.1	0.202 20.2	0.404 40.4	1.01 80.8
2-Chlorotoluene	DCB	Lin1	+++++ 65438	1080 142309	1986 302898	4103 663669	11847 1505078	+++++ 5.02	0.100 10.0	0.201 20.1	0.402 40.2	1.00 80.4
o-Xylene	DCB	Lin1	589 193773	2731 443273	5337 972770	10374 2102645	33033 4732445	0.0200 5.01	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.1

FORM VI
GC/MS VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Seattle Job No.: 580-24628-1 Analy Batch No.: 80475

SDG No.:

Instrument ID: SEA015 GC Column: ZB-624short ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2011 10:17 Calibration End Date: 02/09/2011 14:06 Calibration ID: 7297

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10
Styrene	DCB	Qua1	316 153374	1678 357650	3655 779036	7089 1706520	23796 3830990	0.0201 5.02	0.100 10.0	0.201 20.1	0.402 40.2	1.00 80.3
Isopropylbenzene	DCB	Qua1	700 225226	2597 497984	5835 1111606	10194 2416748	33711 5446113	0.0200 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
BFB		None	64296 72948	61264 76225	67537 81500	69946 82664	72792 +++++	5.01 5.01	5.01 5.01	5.01 5.01	5.01 5.01	5.01 +++++
Bromobenzene	DCB	Qua2	283 69143	1217 152632	2880 330302	5079 741380	14089 1736700	0.0201 5.04	0.101 10.1	0.201 20.1	0.403 40.3	1.01 80.6
trans-1,4-Dichloro-2-butene	DCB	Ave	279 66932	876 155240	2442 320999	4711 687251	12863 1308588	0.100 25.0	0.500 50.0	1.00 100	2.00 200	5.00 400
N-Propylbenzene	DCB	Lin1	1207 329454	4653 716420	9648 1529504	18277 3320367	58381 7150757	0.0200 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
1,3,5-Trimethylbenzene	DCB	Lin1	675 204201	2167 448762	5284 962207	10010 2093980	33097 4795462	0.0200 5.01	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.1
1,2-Dibromo-3-Chloropropane	DCB	Lin1	+++++ 5849	+++++ 15167	123 34651	445 78079	1351 163828	+++++ 5.02	+++++ 10.0	0.201 20.1	0.401 40.1	1.00 80.2
4-Chlorotoluene	DCB	Lin1	268 64697	816 146514	1781 308947	3787 665466	12049 1484558	0.0201 5.01	0.100 10.0	0.201 20.1	0.401 40.1	1.00 80.2
tert-Butylbenzene	DCB	Lin1	403 167929	1698 375498	4082 845773	7387 1868395	24656 4287648	0.0200 5.00	0.1000 10.00	0.200 20.0	0.400 40.0	1.000 80.0
1,2,4-Trimethylbenzene	DCB	Lin1	447 208317	1617 463825	4427 1008380	9236 2166553	32107 5117337	0.0201 5.03	0.101 10.1	0.201 20.1	0.402 40.2	1.01 80.4
Hexachloroethane	DCB	Qua2	+++++ 33721	473 78709	1152 186144	2469 415367	6081 984610	+++++ 5.02	0.100 10.0	0.201 20.1	0.401 40.1	1.00 80.2
sec-Butylbenzene	DCB	Lin1	602 246735	2806 550694	5874 1224446	11285 2671731	38441 6124723	0.0200 5.01	0.100 10.0	0.200 20.0	0.401 40.1	1.00 80.1
4-Isopropyltoluene	DCB	Lin1	643 199698	1664 462262	4443 1015749	8160 2258250	28045 5277203	0.0200 5.00	0.0999 9.99	0.200 20.0	0.400 40.0	0.999 79.9
1,3-Dichlorobenzene	DCB	Ave	643 135117	2256 286929	5411 615080	9119 1353099	27031 3091322	0.0200 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
1,4-Dichlorobenzene	DCB	Ave	844 141850	3219 303671	6500 630615	11187 1372878	30355 3082417	0.0200 5.00	0.0999 9.99	0.200 20.0	0.400 40.0	0.999 79.9
n-Butylbenzene	DCB	Lin1	114 50622	652 112305	1148 248464	2282 538403	7992 1234839	0.0200 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
1,2-Dichlorobenzene	DCB	Ave	342 124199	2313 266267	4564 554209	8531 1208132	24579 2661434	0.0200 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
1,3,5-Trichlorobenzene	DCB	Lin1	312 86342	1574 197712	3269 452651	5822 1029039	15743 2265488	0.0200 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
1,2,4-Trichlorobenzene	DCB	Qua1	213 68778	1020 165283	1660 388984	4262 893261	11402 1986498	0.0199 4.97	0.0993 9.93	0.199 19.9	0.397 39.7	0.993 79.4
Hexachlorobutadiene	DCB	Qua1	99 30385	807 68420	1395 158142	2249 349237	6685 796662	0.0200 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0

FORM VI
GC/MS VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Seattle Job No.: 580-24628-1 Analy Batch No.: 80475

SDG No.:

Instrument ID: SEA015 GC Column: ZB-624short ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2011 10:17 Calibration End Date: 02/09/2011 14:06 Calibration ID: 7297

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10
Naphthalene	DCB	Qua1	351 100806	1362 299290	1978 697918	4929 1628546	13884 3531972	0.0200 5.01	0.100 10.0	0.200 20.0	0.401 40.1	1.00 80.1
1,2,3-Trichlorobenzene	DCB	Lin1	217 61923	909 157364	1862 338180	3179 785541	10459 1754464	0.0199 4.97	0.0993 9.93	0.199 19.9	0.397 39.7	0.993 79.4
Fluorobenzene (Surr)	PFB	Ave	341923 350631	323826 352682	346694 378688	346545 388186	341395 414456	5.00 5.00	5.00 5.00	5.00 5.00	5.00 5.00	5.00 5.00
Trifluorotoluene (Surr)	DFB	Qua2	397 95727	1938 209594	3672 446818	5574 964588	20391 2247387	0.0200 5.00	0.1000 10.00	0.200 20.0	0.400 40.0	1.000 80.0
Toluene-d8 (Surr)	DFB	Ave	319056 344335	301003 +++++	345421 +++++	332814 +++++	338501 +++++	5.01 5.01	5.01 +++++	5.01 +++++	5.01 +++++	5.01 +++++
Ethylbenzene-d10	DCB	Ave	115508 120919	104868 125406	115830 +++++	118046 +++++	117197 +++++	5.00 5.00	5.00 5.00	5.00 +++++	5.00 +++++	5.00 +++++
4-Bromofluorobenzene (Surr)	DCB	Ave	99085 112229	95889 +++++	102941 +++++	106269 +++++	111338 +++++	5.01 5.01	5.01 +++++	5.01 +++++	5.01 +++++	5.01 +++++

Curve Type Legend:

Ave = Average ISTD
Lin = Linear ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD
None = No Calib Curve
Qua = Quadratic ISTD
Qua1 = Quadratic 1/conc ISTD
Qua2 = Quadratic 1/conc^2 ISTD

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab Sample ID: ICV 580-80475/14 Calibration Date: 02/09/2011 14:57

Instrument ID: SEA015 Calib Start Date: 02/09/2011 10:17

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 02/09/2011 14:06

Lab File ID: I0321826.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4322	0.3638		6.60	7.84	-15.8	25.0
Chloromethane	Qua2		0.3628	0.1000	6.91	8.00	-13.7	25.0
Vinyl chloride	Lin1		0.3508		8.09	8.00	1.1	25.0
Bromomethane	Qua1		0.3105		7.90	8.00	-1.3	25.0
Chloroethane	Qua2		0.0623		7.64	8.02	-4.7	25.0
Trichlorofluoromethane	Ave	0.5561	0.5397		7.69	7.92	-3.0	25.0
1,1-Dichloroethene	Ave	0.2907	0.3056		8.33	7.92	5.1	25.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Lin2		0.3499		8.72	7.96	9.6	40.0
Acetone	Lin1		0.0413		7.16	8.00	-10.5	25.0
Iodomethane	Ave	0.7358	0.7338		7.85	7.88	-0.3	40.0
Carbon disulfide	Ave	0.7576	0.8017		8.46	8.00	5.8	25.0
Methylene Chloride	Qua2		0.3089		7.72	8.00	-3.4	25.0
2-Methyl-2-propanol	Ave	0.0095	0.0103		43.5	40.0	8.8	40.0
trans-1,2-Dichloroethene	Ave	0.3049	0.3125		8.20	8.00	2.5	25.0
Methyl tert-butyl ether	Ave	0.6869	0.6892		8.03	8.00	0.3	25.0
1,1-Dichloroethane	Ave	0.5498	0.5484	0.1000	7.95	7.97	-0.3	25.0
Vinyl acetate	Qua2		0.0359		7.14	8.00	-10.8	40.0
Tert-butyl ethyl ether	Lin1		0.3096		7.53	8.00	-5.9	40.0
2,2-Dichloropropane	Qua2		0.3719		8.54	8.00	6.7	25.0
2-Butanone	Qua		0.0090		9.09	7.99	13.7	25.0
cis-1,2-Dichloroethene	Qua2		0.3370		8.73	8.00	9.1	25.0
Chlorobromomethane	Qua2		0.2086		8.49	7.94	6.9	25.0
Chloroform	Ave	0.4944	0.5431		8.78	7.99	9.9	25.0
1,1,1-Trichloroethane	Qua2		0.4252		8.67	8.00	8.4	25.0
1,1-Dichloropropene	Lin2		0.4112		8.27	7.96	3.9	25.0
Carbon tetrachloride	Qua2		0.3736		8.76	8.00	9.5	25.0
Benzene	Ave	1.156	1.194		8.27	8.00	3.3	25.0
1,2-Dichloroethane	Ave	0.3481	0.3642		8.37	8.00	4.6	25.0
Tert-amyl methyl ether	Lin1		0.6865		7.47	8.00	-6.6	40.0
Trichloroethene	Ave	0.1824	0.1998		8.77	8.01	9.6	25.0
1,2-Dichloropropane	Ave	0.2039	0.2040		8.01	8.00	0.0	25.0
Dibromomethane	Ave	0.1076	0.1156		8.48	7.89	7.4	25.0
Dichlorobromomethane	Ave	0.2136	0.2251		8.43	8.00	5.4	25.0
2-Chloroethyl vinyl ether	Qua2		0.0790		7.00	7.96	-12.0	40.0
cis-1,3-Dichloropropene	Qua2		0.2540		8.68	8.41	3.2	25.0
4-Methyl-2-pentanone	Lin1		0.0447		6.91	7.95	-13.1	25.0
Toluene	Qua2		0.8017		8.36	8.01	4.3	25.0
trans-1,3-Dichloropropene	Qua2		0.2144		8.54	7.60	12.4	25.0
1,1,2-Trichloroethane	Ave	0.1520	0.1496		7.77	7.89	-1.6	25.0
Tetrachloroethene	Ave	0.1625	0.1712		8.44	8.01	5.4	25.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab Sample ID: ICV 580-80475/14 Calibration Date: 02/09/2011 14:57

Instrument ID: SEA015 Calib Start Date: 02/09/2011 10:17

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 02/09/2011 14:06

Lab File ID: I0321826.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,3-Dichloropropane	Ave	0.2420	0.2607		8.58	7.96	7.7	25.0
2-Hexanone	Lin1		0.0421		7.04	7.84	-10.3	25.0
Chlorodibromomethane	Qua2		0.1542		8.46	7.84	7.8	25.0
1,2-Dibromoethane	Lin2		0.1581		8.18	7.92	3.2	25.0
Chlorobenzene	Lin		1.128	0.3000	7.99	8.00	-0.1	25.0
Ethylbenzene	Qua2		1.829		8.90	8.00	11.2	25.0
1,1,1,2-Tetrachloroethane	Qua2		0.3836		8.99	7.87	14.2	25.0
m-Xylene & p-Xylene	Qua2		1.411		18.6	16.0	16.0	25.0
o-Xylene	Lin1		1.377		7.17	7.92	-9.5	25.0
Styrene	Qua1		1.099		8.13	7.98	2.0	25.0
Bromoform	Qua2		0.1671	0.1000	8.38	7.94	5.6	25.0
Isopropylbenzene	Qua1		1.473		7.69	8.00	-3.9	25.0
1,1,2,2-Tetrachloroethane	Ave	0.3876	0.3880	0.3000	7.88	7.87	0.1	25.0
Bromobenzene	Qua2		0.4822		8.56	7.96	7.5	25.0
trans-1,4-Dichloro-2-butene	Ave	0.0847	0.0984		9.30	8.00	16.2	40.0
1,2,3-Trichloropropane	Qua1		0.1008		8.00	7.88	1.4	25.0
N-Propylbenzene	Lin1		2.109		7.16	8.01	-10.6	25.0
2-Chlorotoluene	Lin1		0.4610		7.60	7.91	-4.0	25.0
1,3,5-Trimethylbenzene	Lin1		1.455		7.52	7.91	-5.0	25.0
4-Chlorotoluene	Lin1		0.4688		7.68	7.88	-2.6	25.0
tert-Butylbenzene	Lin1		1.219		7.11	7.92	-10.2	25.0
1,2,4-Trimethylbenzene	Lin1		1.552		7.74	8.00	-3.3	25.0
sec-Butylbenzene	Lin1		1.787		7.36	8.01	-8.1	25.0
4-Isopropyltoluene	Lin1		1.496		7.19	7.96	-9.7	25.0
1,3-Dichlorobenzene	Ave	0.8920	0.9084		8.14	7.99	1.8	25.0
1,4-Dichlorobenzene	Ave	1.016	0.9650		7.60	8.00	-5.1	25.0
n-Butylbenzene	Lin1		0.3722		7.57	8.00	-5.4	25.0
1,2-Dichlorobenzene	Ave	0.7724	0.8284		8.57	7.99	7.3	25.0
Hexachloroethane	Qua2		0.2239		7.83	7.99	-2.0	40.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0473		7.17	8.00	-10.3	25.0
1,2,4-Trichlorobenzene	Qua1		0.5687		8.43	7.94	6.1	25.0
Hexachlorobutadiene	Qua1		0.2523		9.06	7.85	15.4	25.0
Naphthalene	Qua1		0.9522		8.12	8.01	1.4	25.0
1,2,3-Trichlorobenzene	Lin1		0.5204		7.43	8.02	-7.3	25.0
Fluorobenzene (Surr)	Ave	1.689	1.713		5.07	5.00	1.5	25.0
Trifluorotoluene (Surr)	Qua2		0.3391		2.32	2.00	15.9	25.0
Toluene-d8 (Surr)	Ave	1.026	1.091		5.32	5.01	6.2	25.0
Ethylbenzene-d10	Ave	0.7499	0.8034		5.36	5.00	7.1	25.0
4-Bromofluorobenzene (Surr)	Ave	0.6737	0.7320		5.44	5.01	8.6	25.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab Sample ID: CCVIS 580-81240/5 Calibration Date: 02/25/2011 10:04

Instrument ID: SEA015 Calib Start Date: 02/09/2011 10:17

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 02/09/2011 14:06

Lab File ID: I0322035.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4322	0.4087		4.73	5.00	-5.4	
Chloromethane	Qua2		0.3884	0.1000	4.60	5.00	-8.1	
Vinyl chloride	Lin1		0.3263		4.70	5.00	-6.1	20.0
Bromomethane	Qua1		0.2804		4.40	5.00	-12.1	
Chloroethane	Qua2		0.0573		4.30	5.00	-13.9	
Trichlorofluoromethane	Ave	0.5561	0.4697		4.22	5.00	-15.5	
Acrolein	Lin2		0.0288		24.6	25.2	-2.4	
1,1-Dichloroethene	Ave	0.2907	0.2595		4.46	5.00	-10.7	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Lin2		0.2933		4.57	4.99	-8.3	
Acetone	Lin1		0.0343		22.1	25.0	-11.6	
Iodomethane	Ave	0.7358	0.6432		22.0	25.1	-12.6	
Carbon disulfide	Ave	0.7576	0.6500		4.30	5.01	-14.2	
Methylene Chloride	Qua2		0.2857		4.38	4.99	-12.2	
2-Methyl-2-propanol	Ave	0.0095	0.0095		25.2	25.0	0.9	
Acrylonitrile	Ave	0.0665	0.0631		23.8	25.0	-5.1	
Methyl tert-butyl ether	Ave	0.6869	0.7065		5.14	5.00	2.8	
trans-1,2-Dichloroethene	Ave	0.3049	0.2896		4.75	5.00	-5.0	
1,1-Dichloroethane	Ave	0.5498	0.5083	0.1000	4.62	5.00	-7.6	
Vinyl acetate	Qua2		0.0487		29.5	25.2	17.4	
Tert-butyl ethyl ether	Lin1		0.3290		5.03	5.00	0.5	
2,2-Dichloropropane	Qua2		0.3918		5.67	5.00	13.4	
2-Butanone	Qua		0.0073		25.5	25.0	2.1	
cis-1,2-Dichloroethene	Qua2		0.3308		5.41	5.01	8.0	
Chlorobromomethane	Qua2		0.2023		5.21	5.01	4.1	
Chloroform	Ave	0.4944	0.4896		4.96	5.00	-1.0	20.0
1,1,1-Trichloroethane	Qua2		0.4131		5.32	5.00	6.4	
1,1-Dichloropropene	Lin2		0.3965		4.96	4.95	0.0	
Carbon tetrachloride	Qua2		0.3529		5.25	5.01	4.8	
Benzene	Ave	1.156	1.165		5.04	5.00	0.8	
1,2-Dichloroethane	Ave	0.3481	0.3197		4.59	5.00	-8.2	
Tert-amyl methyl ether	Lin1		0.7369		5.02	5.00	0.4	
Trichloroethene	Ave	0.1824	0.2046		5.61	5.00	12.2	
1,2-Dichloropropane	Ave	0.2039	0.2057		5.15	5.11	0.9	20.0
Dibromomethane	Ave	0.1076	0.1180		5.51	5.03	9.6	
Dichlorobromomethane	Ave	0.2136	0.2146		5.03	5.00	0.5	
2-Chloroethyl vinyl ether	Qua2		0.1178		29.5	25.2	17.3	
cis-1,3-Dichloropropene	Qua2		0.2772		5.68	4.96	14.6	
4-Methyl-2-pentanone	Lin1		0.0528		24.5	25.0	-1.9	
Toluene	Qua2		0.8196		5.36	5.00	7.3	20.0
trans-1,3-Dichloropropene	Qua2		0.2170		5.97	5.10	17.1	

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab Sample ID: CCVIS 580-81240/5 Calibration Date: 02/25/2011 10:04

Instrument ID: SEA015 Calib Start Date: 02/09/2011 10:17

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 02/09/2011 14:06

Lab File ID: I0322035.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1,2-Trichloroethane	Ave	0.1520	0.1537		5.07	5.01	1.1	
Tetrachloroethene	Ave	0.1625	0.1940		5.98	5.01	19.4	
1,3-Dichloropropane	Ave	0.2420	0.2572		5.31	5.00	6.3	
2-Hexanone	Lin1		0.0490		24.7	25.0	-1.2	
Chlorodibromomethane	Qua2		0.1592		5.72	4.96	15.2	
1,2-Dibromoethane	Lin2		0.1584		5.18	5.02	3.3	
Chlorobenzene	Lin		1.106	0.3000	4.95	4.99	-0.8	
Ethylbenzene	Qua2		1.705		5.25	5.00	5.0	20.0
1,1,1,2-Tetrachloroethane	Qua2		0.3475		5.31	5.02	5.9	
m-Xylene & p-Xylene	Qua2		1.316		11.0	10.0	10.1	
o-Xylene	Lin1		1.338		4.42	5.00	-11.8	
Styrene	Qua1		1.047		4.94	5.02	-1.7	
Bromoform	Qua2		0.1543	0.1000	5.08	5.08	0.1	
Isopropylbenzene	Qua1		1.581		5.21	5.00	4.1	
1,1,2,2-Tetrachloroethane	Ave	0.3876	0.3714	0.3000	4.80	5.01	-4.2	
Bromobenzene	Qua2		0.4691		5.34	5.04	6.1	
trans-1,4-Dichloro-2-butene	Ave	0.0847	0.0838		24.7	25.0	-1.0	
1,2,3-Trichloropropane	Qua1		0.0929		4.75	5.05	-5.9	
N-Propylbenzene	Lin1		2.134		4.53	5.00	-9.4	
2-Chlorotoluene	Lin1		0.4358		4.59	5.02	-8.6	
1,3,5-Trimethylbenzene	Lin1		1.376		4.51	5.00	-9.9	
4-Chlorotoluene	Lin1		0.4458		4.65	5.01	-7.2	
tert-Butylbenzene	Lin1		1.216		4.49	5.00	-10.1	
1,2,4-Trimethylbenzene	Lin1		1.375		4.33	5.03	-13.9	
sec-Butylbenzene	Lin1		1.736		4.49	5.01	-10.4	
4-Isopropyltoluene	Lin1		1.447		4.38	5.00	-12.3	
1,3-Dichlorobenzene	Ave	0.8920	0.8951		5.02	5.00	0.3	
1,4-Dichlorobenzene	Ave	1.016	0.9248		4.54	5.00	-9.0	
n-Butylbenzene	Lin1		0.3673		4.68	5.00	-6.4	
1,2-Dichlorobenzene	Ave	0.7724	0.8208		5.32	5.00	6.3	
Hexachloroethane	Qua2		0.2241		5.03	5.02	0.3	
1,2-Dibromo-3-Chloropropane	Lin1		0.0433		4.20	5.02	-16.3	
1,3,5-Trichlorobenzene	Lin1		0.6584		4.54	5.00	-9.2	
1,2,4-Trichlorobenzene	Qua1		0.5624		5.29	4.96	6.5	
Hexachlorobutadiene	Qua1		0.2359		5.47	5.00	9.3	
Naphthalene	Qua1		0.9217		5.00	5.01	-0.2	
1,2,3-Trichlorobenzene	Lin1		0.4962		4.41	4.96	-11.3	
Fluorobenzene (Surr)	Ave	1.689	1.655		4.90	5.00	-2.0	
Trifluorotoluene (Surr)	Qua2		0.3572		6.00	5.00	20.0	
Toluene-d8 (Surr)	Ave	1.026	1.119		5.46	5.01	9.0	
Ethylbenzene-d10	Ave	0.7499	0.7948		5.30	5.00	6.0	

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab Sample ID: CCVIS 580-81240/5 Calibration Date: 02/25/2011 10:04

Instrument ID: SEA015 Calib Start Date: 02/09/2011 10:17

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 02/09/2011 14:06

Lab File ID: I0322035.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
4-Bromofluorobenzene (Surr)	Ave	0.6737	0.7546		5.61	5.01	12.0	

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab Sample ID: CCVIS 580-81318/3 Calibration Date: 02/28/2011 10:48

Instrument ID: SEA015 Calib Start Date: 02/09/2011 10:17

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 02/09/2011 14:06

Lab File ID: I0322062.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4322	0.4146		4.79	5.00	-4.1	
Chloromethane	Qua2		0.3987	0.1000	4.72	5.00	-5.6	
Vinyl chloride	Lin1		0.3488		5.02	5.00	0.4	20.0
Bromomethane	Qua1		0.2976		4.68	5.00	-6.5	
Chloroethane	Qua2		0.0564		4.23	5.00	-15.3	
Trichlorofluoromethane	Ave	0.5561	0.5166		4.64	5.00	-7.1	
Acrolein	Lin2		0.0310		26.4	25.2	4.9	
1,1-Dichloroethene	Ave	0.2907	0.2702		4.64	5.00	-7.1	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Lin2		0.3006		4.69	4.99	-6.0	
Acetone	Lin1		0.0831		56.7	25.0	127.0	
Iodomethane	Ave	0.7358	0.6588		22.5	25.1	-10.5	
Carbon disulfide	Ave	0.7576	0.7268		4.80	5.01	-4.1	
Methylene Chloride	Qua2		3.821		71.7	4.99	1336.9	
2-Methyl-2-propanol	Ave	0.0095	0.0121		32.0	25.0	28.0	
Acrylonitrile	Ave	0.0665	0.0694		26.1	25.0	4.3	
Methyl tert-butyl ether	Ave	0.6869	0.7314		5.32	5.00	6.5	
trans-1,2-Dichloroethene	Ave	0.3049	0.2957		4.85	5.00	-3.0	
1,1-Dichloroethane	Ave	0.5498	0.5278	0.1000	4.80	5.00	-4.0	
Vinyl acetate	Qua2		0.0488		29.6	25.2	17.7	
Tert-butyl ethyl ether	Lin1		0.3348		5.11	5.00	2.3	
2,2-Dichloropropane	Qua2		0.4055		5.87	5.00	17.3	
2-Butanone	Qua		0.0064		22.4	25.0	-10.6	
cis-1,2-Dichloroethene	Qua2		0.3262		5.34	5.01	6.5	
Chlorobromomethane	Qua2		0.2039		5.25	5.01	4.9	
Chloroform	Ave	0.4944	0.4936		5.00	5.00	-0.2	20.0
1,1,1-Trichloroethane	Qua2		0.4208		5.41	5.00	8.3	
1,1-Dichloropropene	Lin2		0.4042		5.05	4.95	2.0	
Carbon tetrachloride	Qua2		0.3700		5.50	5.01	9.7	
Benzene	Ave	1.156	1.143		4.94	5.00	-1.1	
1,2-Dichloroethane	Ave	0.3481	0.3312		4.75	5.00	-4.9	
Tert-amyl methyl ether	Lin1		0.7398		5.04	5.00	0.8	
Trichloroethene	Ave	0.1824	0.1971		5.41	5.00	8.1	
1,2-Dichloropropane	Ave	0.2039	0.2050		5.14	5.11	0.5	20.0
Dibromomethane	Ave	0.1076	0.1130		5.28	5.03	5.0	
Dichlorobromomethane	Ave	0.2136	0.2124		4.98	5.00	-0.5	
2-Chloroethyl vinyl ether	Qua2		0.1143		28.7	25.2	14.2	
cis-1,3-Dichloropropene	Qua2		0.2748		5.64	4.96	13.6	
4-Methyl-2-pentanone	Lin1		0.0533		24.8	25.0	-1.0	
Toluene	Qua2		0.7907		5.18	5.00	3.6	20.0
trans-1,3-Dichloropropene	Qua2		0.2253		6.19	5.10	21.3	

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab Sample ID: CCVIS 580-81318/3 Calibration Date: 02/28/2011 10:48

Instrument ID: SEA015 Calib Start Date: 02/09/2011 10:17

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 02/09/2011 14:06

Lab File ID: I0322062.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1,2-Trichloroethane	Ave	0.1520	0.1478		4.87	5.01	-2.7	
Tetrachloroethene	Ave	0.1625	0.1702		5.24	5.01	4.7	
1,3-Dichloropropane	Ave	0.2420	0.2523		5.21	5.00	4.3	
2-Hexanone	Lin1		0.0490		24.7	25.0	-1.1	
Chlorodibromomethane	Qua2		0.1554		5.59	4.96	12.6	
1,2-Dibromoethane	Lin2		0.1578		5.16	5.02	2.9	
Chlorobenzene	Lin		1.025	0.3000	4.60	4.99	-7.8	
1,1,1,2-Tetrachloroethane	Qua2		0.3517		5.37	5.02	7.2	
Ethylbenzene	Qua2		1.626		5.01	5.00	0.2	20.0
m-Xylene & p-Xylene	Qua2		1.279		10.7	10.0	7.0	
o-Xylene	Lin1		1.235		4.08	5.00	-18.5	
Styrene	Qua1		0.9579		4.52	5.02	-9.9	
Bromoform	Qua2		0.1587	0.1000	5.22	5.08	2.9	
Isopropylbenzene	Qua1		1.506		4.96	5.00	-0.8	
1,1,2,2-Tetrachloroethane	Ave	0.3876	0.3594	0.3000	4.65	5.01	-7.3	
Bromobenzene	Qua2		0.4544		5.18	5.04	2.9	
trans-1,4-Dichloro-2-butene	Ave	0.0847	0.0814		24.0	25.0	-3.9	
1,2,3-Trichloropropane	Qua1		0.0917		4.69	5.05	-7.2	
N-Propylbenzene	Lin1		2.057		4.37	5.00	-12.6	
2-Chlorotoluene	Lin1		0.4248		4.48	5.02	-10.9	
1,3,5-Trimethylbenzene	Lin1		1.270		4.16	5.00	-16.8	
4-Chlorotoluene	Lin1		0.4408		4.60	5.01	-8.2	
tert-Butylbenzene	Lin1		1.123		4.15	5.00	-16.9	
1,2,4-Trimethylbenzene	Lin1		1.285		4.05	5.03	-19.5	
sec-Butylbenzene	Lin1		1.666		4.31	5.01	-14.0	
4-Isopropyltoluene	Lin1		1.359		4.11	5.00	-17.6	
1,3-Dichlorobenzene	Ave	0.8920	0.8642		4.85	5.00	-3.1	
1,4-Dichlorobenzene	Ave	1.016	0.9178		4.51	5.00	-9.7	
n-Butylbenzene	Lin1		0.3597		4.59	5.00	-8.3	
1,2-Dichlorobenzene	Ave	0.7724	0.8012		5.19	5.00	3.7	
Hexachloroethane	Qua2		0.2164		4.86	5.02	-3.0	
1,2-Dibromo-3-Chloropropane	Lin1		0.0436		4.23	5.02	-15.7	
1,3,5-Trichlorobenzene	Lin1		0.6154		4.24	5.00	-15.1	
1,2,4-Trichlorobenzene	Qua1		0.5331		5.02	4.96	1.1	
Hexachlorobutadiene	Qua1		0.2265		5.25	5.00	5.0	
Naphthalene	Qua1		0.8724		4.74	5.01	-5.4	
1,2,3-Trichlorobenzene	Lin1		0.4721		4.19	4.96	-15.5	
Fluorobenzene (Surr)	Ave	1.689	1.659		4.91	5.00	-1.8	
Trifluorotoluene (Surr)	Qua2		0.3455		5.81	5.00	16.2	
Toluene-d8 (Surr)	Ave	1.026	1.111		5.42	5.01	8.3	
Ethylbenzene-d10	Ave	0.7499	0.7751		5.17	5.00	3.4	

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab Sample ID: CCVIS 580-81318/3 Calibration Date: 02/28/2011 10:48

Instrument ID: SEA015 Calib Start Date: 02/09/2011 10:17

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 02/09/2011 14:06

Lab File ID: I0322062.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
4-Bromofluorobenzene (Surr)	Ave	0.6737	0.7642		5.68	5.01	13.4	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 580-81240/7

Matrix: Water | Lab File ID: I0322037.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 10(mL) | Date Analyzed: 02/25/2011 11:06

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81240 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.10	0.10
75-35-4	1,1-Dichloroethene	ND		0.10	0.10
127-18-4	Tetrachloroethene	ND		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	ND		0.10	0.10
79-01-6	Trichloroethene	ND		0.10	0.10
75-01-4	Vinyl chloride	ND		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	133	X	80-125
462-06-6	Fluorobenzene (Surr)	97		70-130
460-00-4	4-Bromofluorobenzene (Surr)	107		75-120
2037-26-5	Toluene-d8 (Surr)	108		75-125
25837-05-2	Ethylbenzene-d10	104		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 580-81318/4

Matrix: Water | Lab File ID: I0322063.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 10(mL) | Date Analyzed: 02/28/2011 11:14

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81318 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.10	0.10
75-35-4	1,1-Dichloroethene	ND		0.10	0.10
127-18-4	Tetrachloroethene	ND		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	ND		0.10	0.10
79-01-6	Trichloroethene	ND		0.10	0.10
75-01-4	Vinyl chloride	ND		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	116		80-125
462-06-6	Fluorobenzene (Surr)	97		70-130
460-00-4	4-Bromofluorobenzene (Surr)	107		75-120
2037-26-5	Toluene-d8 (Surr)	104		75-125
25837-05-2	Ethylbenzene-d10	103		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 580-81240/8

Matrix: Water | Lab File ID: I0322038.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 10(mL) | Date Analyzed: 02/25/2011 11:31

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81240 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	5.53		0.10	0.10
75-35-4	1,1-Dichloroethene	4.86		0.10	0.10
127-18-4	Tetrachloroethene	6.61		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	4.99		0.10	0.10
79-01-6	Trichloroethene	6.00		0.10	0.10
75-01-4	Vinyl chloride	5.37		0.020	0.020
71-43-2	Benzene	5.37		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	124		80-125
462-06-6	Fluorobenzene (Surr)	98		70-130
460-00-4	4-Bromofluorobenzene (Surr)	112		75-120
2037-26-5	Toluene-d8 (Surr)	111		75-125
25837-05-2	Ethylbenzene-d10	109		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 580-81318/5

Matrix: Water Lab File ID: I0322064.D

Analysis Method: 8260B Date Collected:

Sample wt/vol: 10(mL) Date Analyzed: 02/28/2011 11:39

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624short ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 81318 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	5.42		0.10	0.10
75-35-4	1,1-Dichloroethene	4.18		0.10	0.10
127-18-4	Tetrachloroethene	7.15		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	4.68		0.10	0.10
79-01-6	Trichloroethene	5.79		0.10	0.10
75-01-4	Vinyl chloride	5.50		0.020	0.020
71-43-2	Benzene	5.17		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	117		80-125
462-06-6	Fluorobenzene (Surr)	98		70-130
460-00-4	4-Bromofluorobenzene (Surr)	108		75-120
2037-26-5	Toluene-d8 (Surr)	108		75-125
25837-05-2	Ethylbenzene-d10	101		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 580-81240/9

Matrix: Water | Lab File ID: I0322039.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 10(mL) | Date Analyzed: 02/25/2011 11:57

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81240 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	5.47		0.10	0.10
75-35-4	1,1-Dichloroethene	4.66		0.10	0.10
127-18-4	Tetrachloroethene	7.09		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	5.11		0.10	0.10
79-01-6	Trichloroethene	6.19		0.10	0.10
75-01-4	Vinyl chloride	5.27		0.020	0.020
71-43-2	Benzene	5.34		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	124		80-125
462-06-6	Fluorobenzene (Surr)	98		70-130
460-00-4	4-Bromofluorobenzene (Surr)	115		75-120
2037-26-5	Toluene-d8 (Surr)	108		75-125
25837-05-2	Ethylbenzene-d10	108		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 580-81318/6

Matrix: Water | Lab File ID: I0322065.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 10(mL) | Date Analyzed: 02/28/2011 12:05

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81318 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	5.46		0.10	0.10
75-35-4	1,1-Dichloroethene	4.17		0.10	0.10
127-18-4	Tetrachloroethene	7.04		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	4.72		0.10	0.10
79-01-6	Trichloroethene	5.96		0.10	0.10
75-01-4	Vinyl chloride	5.37		0.020	0.020
71-43-2	Benzene	5.12		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	113		80-125
462-06-6	Fluorobenzene (Surr)	100		70-130
460-00-4	4-Bromofluorobenzene (Surr)	106		75-120
2037-26-5	Toluene-d8 (Surr)	109		75-125
25837-05-2	Ethylbenzene-d10	103		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: MW-18-022311-W MS | Lab Sample ID: 580-24628-8 MS

Matrix: Water | Lab File ID: I0322048.D

Analysis Method: 8260B | Date Collected: 02/23/2011 12:51

Sample wt/vol: 10(mL) | Date Analyzed: 02/25/2011 15:47

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81240 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	5.96		0.10	0.10
75-35-4	1,1-Dichloroethene	4.40		0.10	0.10
127-18-4	Tetrachloroethene	5.61		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	5.11		0.10	0.10
79-01-6	Trichloroethene	6.61		0.10	0.10
75-01-4	Vinyl chloride	6.24		0.020	0.020
71-43-2	Benzene	5.42		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	118		80-125
462-06-6	Fluorobenzene (Surr)	99		70-130
460-00-4	4-Bromofluorobenzene (Surr)	113		75-120
2037-26-5	Toluene-d8 (Surr)	108		75-125
25837-05-2	Ethylbenzene-d10	105		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

Client Sample ID: MW-18-022311-W MSD | Lab Sample ID: 580-24628-8 MSD

Matrix: Water | Lab File ID: I0322049.D

Analysis Method: 8260B | Date Collected: 02/23/2011 12:51

Sample wt/vol: 10(mL) | Date Analyzed: 02/25/2011 16:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-624short ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 81240 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	5.62		0.10	0.10
75-35-4	1,1-Dichloroethene	4.45		0.10	0.10
127-18-4	Tetrachloroethene	5.74		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	4.86		0.10	0.10
79-01-6	Trichloroethene	6.71		0.10	0.10
75-01-4	Vinyl chloride	5.96		0.020	0.020
71-43-2	Benzene	5.27		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	117		80-125
462-06-6	Fluorobenzene (Surr)	97		70-130
460-00-4	4-Bromofluorobenzene (Surr)	112		75-120
2037-26-5	Toluene-d8 (Surr)	108		75-125
25837-05-2	Ethylbenzene-d10	106		75-125

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Instrument ID: SEA015 Start Date: 02/09/2011 09:24

Analysis Batch Number: 80475 End Date: 03/08/2011 12:05

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		02/09/2011 09:24	1		ZB-624short 0.18(mm)
BFB 580-80475/2		02/09/2011 09:51	1	I0321814.D	ZB-624short 0.18(mm)
STD 580-80475/3 IC		02/09/2011 10:17	1	I0321815.D	ZB-624short 0.18(mm)
STD 580-80475/4 IC		02/09/2011 10:42	1	I0321816.D	ZB-624short 0.18(mm)
STD 580-80475/5 IC		02/09/2011 11:08	1	I0321817.D	ZB-624short 0.18(mm)
STD 580-80475/6 IC		02/09/2011 11:33	1	I0321818.D	ZB-624short 0.18(mm)
STD001 580-80475/7 IC		02/09/2011 11:59	1	I0321819.D	ZB-624short 0.18(mm)
ICIS 580-80475/8		02/09/2011 12:24	1	I0321820.D	ZB-624short 0.18(mm)
STD010 580-80475/9 IC		02/09/2011 12:49	1	I0321821.D	ZB-624short 0.18(mm)
STD020 580-80475/10 IC		02/09/2011 13:15	1	I0321822.D	ZB-624short 0.18(mm)
STD040 580-80475/11 IC		02/09/2011 13:40	1	I0321823.D	ZB-624short 0.18(mm)
STD080 580-80475/12 IC		02/09/2011 14:06	1	I0321824.D	ZB-624short 0.18(mm)
ZZZZZ		02/09/2011 14:31	1		ZB-624short 0.18(mm)
ICV 580-80475/14		02/09/2011 14:57	1	I0321826.D	ZB-624short 0.18(mm)
ZZZZZ		02/09/2011 15:22	1		ZB-624short 0.18(mm)
ZZZZZ		02/09/2011 15:47	1		ZB-624short 0.18(mm)
ZZZZZ		02/09/2011 16:13	1		ZB-624short 0.18(mm)
ZZZZZ		02/09/2011 16:38	1		ZB-624short 0.18(mm)
ZZZZZ		02/09/2011 17:04	1		ZB-624short 0.18(mm)
BFB 580-80475/35		03/08/2011 11:40	1		ZB-624short 0.18(mm)
ICV 580-80475/36		03/08/2011 12:05	1		ZB-624short 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Instrument ID: SEA015 Start Date: 02/25/2011 08:23

Analysis Batch Number: 81240 End Date: 02/25/2011 17:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		02/25/2011 08:23	1		ZB-624short 0.18(mm)
BFB 580-81240/2		02/25/2011 08:48	1	I0322032.D	ZB-624short 0.18(mm)
CCVIS 580-81240/3		02/25/2011 09:13	1		ZB-624short 0.18(mm)
ZZZZZ		02/25/2011 09:38	1		ZB-624short 0.18(mm)
CCVIS 580-81240/5		02/25/2011 10:04	1	I0322035.D	ZB-624short 0.18(mm)
RINSE 580-81240/6		02/25/2011 10:29	1		ZB-624short 0.18(mm)
MB 580-81240/7		02/25/2011 11:06	1	I0322037.D	ZB-624short 0.18(mm)
LCS 580-81240/8		02/25/2011 11:31	1	I0322038.D	ZB-624short 0.18(mm)
LCSD 580-81240/9		02/25/2011 11:57	1	I0322039.D	ZB-624short 0.18(mm)
580-24628-1	MW-13-022211-W	02/25/2011 12:22	1	I0322040.D	ZB-624short 0.18(mm)
580-24628-2	MW-9-022211-W	02/25/2011 12:48	1	I0322041.D	ZB-624short 0.18(mm)
580-24628-3	MW-4-022211-W	02/25/2011 13:13	1	I0322042.D	ZB-624short 0.18(mm)
580-24628-4	MW-17-022211-W	02/25/2011 13:39	1	I0322043.D	ZB-624short 0.18(mm)
ZZZZZ		02/25/2011 14:05	1		ZB-624short 0.18(mm)
580-24628-6	MW-8-022311-W	02/25/2011 14:30	1	I0322045.D	ZB-624short 0.18(mm)
580-24628-7	MW-16-022311-W	02/25/2011 14:55	1	I0322046.D	ZB-624short 0.18(mm)
580-24628-8	MW-18-022311-W	02/25/2011 15:21	1	I0322047.D	ZB-624short 0.18(mm)
580-24628-8 MS	MW-18-022311-W MS	02/25/2011 15:47	1	I0322048.D	ZB-624short 0.18(mm)
580-24628-8 MSD	MW-18-022311-W MSD	02/25/2011 16:12	1	I0322049.D	ZB-624short 0.18(mm)
580-24628-9	DUP-1-022311-W	02/25/2011 16:38	1	I0322050.D	ZB-624short 0.18(mm)
580-24628-10	Trip Blank	02/25/2011 17:03	1	I0322051.D	ZB-624short 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Instrument ID: SEA015 Start Date: 02/28/2011 09:57

Analysis Batch Number: 81318 End Date: 02/28/2011 12:30

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		02/28/2011 09:57	1		ZB-624short 0.18(mm)
BFB 580-81318/2		02/28/2011 10:22	1	I0322061.D	ZB-624short 0.18(mm)
CCVIS 580-81318/3		02/28/2011 10:48	1	I0322062.D	ZB-624short 0.18(mm)
MB 580-81318/4		02/28/2011 11:14	1	I0322063.D	ZB-624short 0.18(mm)
LCS 580-81318/5		02/28/2011 11:39	1	I0322064.D	ZB-624short 0.18(mm)
LCSD 580-81318/6		02/28/2011 12:05	1	I0322065.D	ZB-624short 0.18(mm)
580-24628-5 RA	MW-03-022311-W RA	02/28/2011 12:30	1	I0322066.D	ZB-624short 0.18(mm)

METALS

COVER PAGE
METALS

Lab Name: TestAmerica Seattle Job Number: 580-24628-1

SDG No.:

Project: City of Olympia

Client Sample ID	Lab Sample ID
MW-13-022211-W	580-24628-1
MW-9-022211-W	580-24628-2
MW-4-022211-W	580-24628-3
MW-17-022211-W	580-24628-4
MW-03-022311-W	580-24628-5
MW-8-022311-W	580-24628-6
MW-16-022311-W	580-24628-7
MW-18-022311-W	580-24628-8
DUP-1-022311-W	580-24628-9

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-13-022211-W
Lab Sample ID: 580-24628-1
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/22/2011 12:25
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0012	0.00040		mg/L			1	6020

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-9-022211-W
Lab Sample ID: 580-24628-2
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/22/2011 13:40
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.00059	0.00040		mg/L			1	6020

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-4-022211-W
Lab Sample ID: 580-24628-3
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/22/2011 14:45
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0023	0.00040		mg/L			1	6020

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-17-022211-W
Lab Sample ID: 580-24628-4
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/22/2011 15:50
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0012	0.00040		mg/L			1	6020

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-03-022311-W
Lab Sample ID: 580-24628-5
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/23/2011 09:52
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0010	0.00040		mg/L			1	6020

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-8-022311-W
Lab Sample ID: 580-24628-6
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/23/2011 10:46
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0019	0.00040		mg/L			1	6020

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-16-022311-W
Lab Sample ID: 580-24628-7
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/23/2011 11:44
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0014	0.00040		mg/L			1	6020

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-18-022311-W
Lab Sample ID: 580-24628-8
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/23/2011 12:51
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0045	0.00040		mg/L			1	6020

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: DUP-1-022311-W
Lab Sample ID: 580-24628-9
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/23/2011 00:00
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0015	0.00040		mg/L			1	6020

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

ICV Source: ICPMS_ICV_WOR_00008 Concentration Units: mg/L

CCV Source: ICPMS_CAL_WOR_00005

Analyte	ICV 580-81616/7 03/03/2011 11:15				CCV 580-81616/12 03/03/2011 12:21				CCV 580-81616/24 03/03/2011 13:27			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Arsenic	0.0408		0.0400	102	0.0502		0.0500	100	0.0506		0.0500	101

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

ICV Source: ICPMS_ICV_WOR_00008 Concentration Units: mg/L

CCV Source: ICPMS_CAL_WOR_00005

Analyte	CCV 580-81616/34 03/03/2011 14:25											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Arsenic	0.0499		0.0500	100								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Analysis Method: 6020 Instrument ID: SEA044

Lab Sample ID: CRI 580-81616/9 Concentration Units: mg/L

CRQL Check Standard Source: ICPMS_CAL_WOR_00005

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Arsenic	0.00200	0.00207		104	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICB 580-81616/8 03/03/2011 11:21		CCB 580-81616/13 03/03/2011 12:27		CCB 580-81616/25 03/03/2011 13:32		CCB 580-81616/35 03/03/2011 14:31	
		Found	C	Found	C	Found	C	Found	C
Arsenic	0.00040	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 580-81468/23-A

Instrument Code: SEA044 Batch No.: 81616

CAS No.	Analyte	Concentration	C	Q	Method
7440-38-2	Arsenic	ND			6020

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab Sample ID: ICSA 580-81616/10 Instrument ID: SEA044

Lab File ID: 016SMPL.D ICS Source: ICPMS- ICSA_00002

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Arsenic		**0.0000**	
Aluminum	*20.0*	*19.0*	*95*
Antimony		*0.0001*	
Barium		*0.0001*	
Beryllium		*0.0000*	
Cadmium		*0.0000*	
Calcium	*60.0*	*57.7*	*96*
Chromium		*0.0012*	
Cobalt		*0.0000*	
Copper		*0.0000*	
Iron	*50.0*	*48.7*	*97*
Lead		*0.0000*	
Magnesium	*20.0*	*19.3*	*96*
Manganese		*0.0004*	
Mercury		*0.0000*	
Molybdenum	*0.400*	*0.398*	*100*
Nickel		*0.0002*	
Phosphorus	*20.0*	*20.1*	*100*
Potassium	*20.0*	*19.0*	*95*
Selenium		*0.0000*	
Silver		*0.0000*	
Sodium	*50.0*	*48.2*	*96*
Strontium		*0.0027*	
Thallium		*0.0002*	
Tin		*0.0001*	
Titanium	*0.400*	*0.409*	*102*
Uranium		*0.0000*	
Vanadium		*0.0000*	
Zinc		*0.0002*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab Sample ID: ICSAB 580-81616/11 Instrument ID: SEA044

Lab File ID: 017SMPL.D ICS Source: ICPMS- ICSA_00002

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Arsenic	**0.0200**	**0.0207**	**103**
Aluminum	*20.0*	*19.5*	*97*
Antimony		*0.0001*	
Barium		*0.0001*	
Beryllium		*0.0000*	
Cadmium	*0.0200*	*0.0207*	*104*
Calcium	*60.0*	*57.4*	*96*
Chromium	*0.0400*	*0.0413*	*103*
Cobalt	*0.0400*	*0.0404*	*101*
Copper	*0.0400*	*0.0391*	*98*
Iron	*50.0*	*48.0*	*96*
Lead		*0.0000*	
Magnesium	*20.0*	*19.6*	*98*
Manganese	*0.0400*	*0.0403*	*101*
Mercury		*0.0000*	
Molybdenum	*0.400*	*0.399*	*100*
Nickel	*0.0400*	*0.0402*	*101*
Phosphorus	*20.0*	*20.2*	*101*
Potassium	*20.0*	*19.2*	*96*
Selenium	*0.0200*	*0.0199*	*99*
Silver	*0.0100*	*0.0102*	*102*
Sodium	*50.0*	*48.9*	*98*
Strontium		*0.0026*	
Thallium		*0.0001*	
Tin		*0.0001*	
Titanium	*0.400*	*0.406*	*102*
Uranium		*0.0000*	
Vanadium	*0.0400*	*0.0413*	*103*
Zinc	*0.0200*	*0.0193*	*97*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Lab Sample ID: ICSAB 580-81616/11 Instrument ID: SEA044

Lab File ID: 017SMPL.D ICS Source: ICPMS-ICSB_00002

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Found Percent Recovery
Arsenic	**0.0200**	**0.0207**	**103**
Aluminum	*20.0*	*19.5*	*97*
Antimony		*0.0001*	
Barium		*0.0001*	
Beryllium		*0.0000*	
Cadmium	*0.0200*	*0.0207*	*104*
Calcium	*60.0*	*57.4*	*96*
Chromium	*0.0400*	*0.0413*	*103*
Cobalt	*0.0400*	*0.0404*	*101*
Copper	*0.0400*	*0.0391*	*98*
Iron	*50.0*	*48.0*	*96*
Lead		*0.0000*	
Magnesium	*20.0*	*19.6*	*98*
Manganese	*0.0400*	*0.0403*	*101*
Mercury		*0.0000*	
Molybdenum	*0.400*	*0.399*	*100*
Nickel	*0.0400*	*0.0402*	*101*
Phosphorus	*20.0*	*20.2*	*101*
Potassium	*20.0*	*19.2*	*96*
Selenium	*0.0200*	*0.0199*	*99*
Silver	*0.0100*	*0.0102*	*102*
Sodium	*50.0*	*48.9*	*98*
Strontium		*0.0026*	
Thallium		*0.0001*	
Tin		*0.0001*	
Titanium	*0.400*	*0.406*	*102*
Uranium		*0.0000*	
Vanadium	*0.0400*	*0.0413*	*103*
Zinc	*0.0200*	*0.0193*	*97*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: MW-18-022311-W MS Lab ID: 580-24628-8 MS

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Matrix: Water Concentration Units: mg/L

% Solids:

Analyte	SSR C		Sample Result (SR) C		Spike Added (SA)	%R	Control Limit %R	Q	Method
Arsenic	4.20		0.0045		4.00	105	80-120		6020

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: MW-18-022311-W MSD Lab ID: 580-24628-8 MSD

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Matrix: Water Concentration Units: mg/L

% Solids:

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Arsenic	4.20		4.00	105	80-120	0	20		6020

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: MW-18-022311-W PDS Lab ID: 580-24628-8 PDS

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Matrix: Water Concentration Units: mg/L

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Arsenic	4.15		0.0045		4.00	104	75-125		6020

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VB - IN

6-IN
DUPLICATES
METALS - TOTAL RECOVERABLE

Client ID: MW-18-022311-W DU | Lab ID: 580-24628-8 DU

Lab Name: TestAmerica Seattle | Job No.: 580-24628-1

SDG No.:

% Solids for Sample: | % Solids for Duplicate:

Matrix: Water | Concentration Units: mg/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic	0.00040	0.0045		0.00432		4		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 580-81468/24-A

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

Sample Matrix: Water LCS Source: m-GPS-1_00019

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Arsenic	4.00	3.93		98	80	120		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS - TOTAL RECOVERABLE

Lab ID: LCSD 580-81468/25-A

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

Sample Matrix: Water LCS Source: m-GPS-1_00019

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Arsenic	3.97		4.00	99	80-120	1	20		6020

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LCS-CERTIFIED REFERENCE MATERIAL
METALS - TOTAL RECOVERABLE

Lab ID: LCSSRM 580-81468/26-A

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

Sample Matrix: Water LCS Source: m-GPS-1_00019

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Arsenic	4.00	4.03		101	80	120		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - TOTAL RECOVERABLE

Lab ID: 580-24628-8

SDG No:

Lab Name: TestAmerica Seattle Job No: 580-24628-1

Matrix: Water Concentration Units: mg/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Arsenic	0.0045		0.00446		NC		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Seattle Job Number: 580-24628-1

SDG Number:

Matrix: Water Instrument ID: SEA044

Analysis Method: 6020 RL Date: 07/29/2010 05:39

Prep Method: 3005A

Leach Method:

Analyte	Wavelength/ Mass	RL (mg/L)	
Arsenic		0.0004	

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Seattle Job Number: 580-24628-1

SDG Number:

Matrix: Water Instrument ID: SEA044

Analysis Method: 6020 XMDL Date: 10/02/2008 10:31

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Arsenic		0.0004	0.00024

11-IN
ICP-AES AND ICP-MS LINEAR RANGES
METALS

Lab Name: TestAmerica Seattle Job No: 580-24628-1

SDG No.:

Instrument ID: SEA044 Date: 03/01/2010 06:51

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Arsenic		5	6020

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Preparation Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
580-24628-8	03/02/2011 10:19	81468		50	50
580-24628-8 DU	03/02/2011 10:19	81468		50	50
580-24628-8 MS	03/02/2011 10:19	81468		50	50
580-24628-8 MSD	03/02/2011 10:19	81468		50	50
580-24628-1	03/02/2011 10:19	81468		50	50
580-24628-2	03/02/2011 10:19	81468		50	50
580-24628-3	03/02/2011 10:19	81468		50	50
580-24628-4	03/02/2011 10:19	81468		50	50
580-24628-5	03/02/2011 10:19	81468		50	50
580-24628-6	03/02/2011 10:19	81468		50	50
580-24628-7	03/02/2011 10:19	81468		50	50
580-24628-9	03/02/2011 10:19	81468		50	50
MB 580-81468/23-A	03/02/2011 10:19	81468		50	50
LCS 580-81468/24-A	03/02/2011 10:19	81468		50	50
LCSD 580-81468/25-A	03/02/2011 10:19	81468		50	50
LCSSRM 580-81468/26-A	03/02/2011 10:19	81468		50	50

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Instrument ID: SEA044 Method: 6020

Start Date: 03/03/2011 10:43 End Date: 03/03/2011 18:48

Lab Sample ID	D/F	Type	Time	Analytes																			
				As																			
STD0 580-81616/1 IC	1		10:43	X																			
STD1 580-81616/2 IC	1		10:48	X																			
STD2 580-81616/3 IC	1		10:54	X																			
STD3 580-81616/4 IC	1		10:59	X																			
STD4 580-81616/5 IC	1		11:04	X																			
STD5 580-81616/6 IC	1		11:10	X																			
ICV 580-81616/7	1		11:15	X																			
ICB 580-81616/8	1		11:21	X																			
CRI 580-81616/9	1		11:26	X																			
ICSA 580-81616/10	1		11:32	X																			
ICSAB 580-81616/11	1		11:37	X																			
CCV 580-81616/12	1		12:21	X																			
CCB 580-81616/13	1		12:27	X																			
MB 580-81468/23-A	1	R	12:32	X																			
580-24628-8 SD	5	R	12:38	X																			
580-24628-8	1	R	12:43	X																			
580-24628-8 DU	1	R	12:49	X																			
580-24628-8 MS	50	R	12:54	X																			
580-24628-8 MSD	50	R	12:59	X																			
580-24628-8 PDS	50	R	13:05	X																			
LCS 580-81468/24-A	50	R	13:10	X																			
LCSD 580-81468/25-A	50	R	13:16	X																			
LCSSRM 580-81468/26-A	50	R	13:21	X																			
CCV 580-81616/24	1		13:27	X																			
CCB 580-81616/25	1		13:32	X																			
580-24628-1	1	R	13:38	X																			
580-24628-2	1	R	13:44	X																			
580-24628-3	1	R	13:50	X																			
580-24628-4	1	R	13:56	X																			
580-24628-5	1	R	14:02	X																			
580-24628-6	1	R	14:08	X																			
580-24628-7	1	R	14:14	X																			
580-24628-9	1	R	14:19	X																			
CCV 580-81616/34	1		14:25	X																			
CCB 580-81616/35	1		14:31	X																			
ZZZZZZ			14:37																				
ZZZZZZ			14:43																				
ZZZZZZ			14:49																				
ZZZZZZ			14:55																				
ZZZZZZ			15:01																				
ZZZZZZ			15:07																				
ZZZZZZ			15:13																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Instrument ID: SEA044 Method: 6020

Start Date: 03/03/2011 10:43 End Date: 03/03/2011 18:48

Lab Sample ID	D / F	Type	Time	Analytes																			
				As																			
ZZZZZZ			15:19																				
ZZZZZZ			15:25																				
ZZZZZZ			15:31																				
CCV 580-81616/46			15:37																				
CCB 580-81616/47			15:43																				
ZZZZZZ			15:49																				
ZZZZZZ			16:01																				
ZZZZZZ			16:07																				
ZZZZZZ			16:13																				
ZZZZZZ			16:19																				
ZZZZZZ			16:31																				
ZZZZZZ			16:37																				
ZZZZZZ			16:55																				
ZZZZZZ			17:00																				
ZZZZZZ			17:06																				
ZZZZZZ			17:12																				
ZZZZZZ			17:18																				
ZZZZZZ			17:24																				
ZZZZZZ			17:36																				
ZZZZZZ			18:00																				
ZZZZZZ			18:12																				
ZZZZZZ			18:24																				
ZZZZZZ			18:36																				
ZZZZZZ			18:48																				

Prep Types
R = Total Recoverable

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

ICP-MS Instrument ID: SEA044 Start Date: 03/03/2011 End Date: 03/03/2011

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Li-6	Q	Element Sc	Q	Element Sc	Q	Element Sc/	Q
STD0 580-81616/1 IC	10:43	100		100		100		100		100	
STD1 580-81616/2 IC	10:48	100		102		98		99		98	
STD2 580-81616/3 IC	10:54	100		98		99		99		99	
STD3 580-81616/4 IC	10:59	102		101		100		98		100	
STD4 580-81616/5 IC	11:04	101		108		98		98		98	
STD5 580-81616/6 IC	11:10	98		96		99		97		99	
ICV 580-81616/7	11:15	98		103		98		99		98	
ICB 580-81616/8	11:21	102		103		100		102		100	
CRI 580-81616/9	11:26	101		105		100		101		100	
ICSA 580-81616/10	11:32	97		102		101		101		101	
ICSAB 580-81616/11	11:37	95		97		100		99		100	
CCV 580-81616/12	12:21	102		100		97		102		97	
CCB 580-81616/13	12:27	101		102		100		103		100	
MB 580-81468/23-A	12:32					101		104		101	
580-24628-8 SD	12:38	97		112		97		102		97	
580-24628-8	12:43					92		94		92	
580-24628-8 DU	12:49					93		95		93	
580-24628-8 MS	12:54					102		105		102	
580-24628-8 MSD	12:59					101		104		101	
580-24628-8 PDS	13:05	101		106		99		105		99	
LCS 580-81468/24-A	13:10					101		103		101	
LCSD 580-81468/25-A	13:16					100		105		100	
LCSSRM	13:21					99		105		99	
CCV 580-81616/24	13:27	99		100		101		104		101	
CCB 580-81616/25	13:32	102		108		102		108		102	
580-24628-1	13:38					93		97		93	
580-24628-2	13:44					96		98		96	
580-24628-3	13:50					95		99		95	
580-24628-4	13:56					95		99		95	
580-24628-5	14:02					96		98		96	
580-24628-6	14:08					97		99		97	
580-24628-7	14:14					96		97		96	
580-24628-9	14:19					97		100		97	
CCV 580-81616/34	14:25	103		105		103		109		103	
CCB 580-81616/35	14:31	104		107		105		111		105	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

ICP-MS Instrument ID: SEA044 Start Date: 03/03/2011 End Date: 03/03/2011

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge	Q	Element Ge	Q	Element Ge	Q	Element Rh	Q	Element Rh	Q
STD0 580-81616/1 IC	10:43	100		100		100		100		100	
STD1 580-81616/2 IC	10:48	97		99		98		99		100	
STD2 580-81616/3 IC	10:54	98		98		100		101		101	
STD3 580-81616/4 IC	10:59	99		99		100		100		102	
STD4 580-81616/5 IC	11:04	99		100		100		98		99	
STD5 580-81616/6 IC	11:10	100		100		100		97		98	
ICV 580-81616/7	11:15	99		101		101		99		100	
ICB 580-81616/8	11:21	101		103		101		102		102	
CRI 580-81616/9	11:26							101		102	
ICSA 580-81616/10	11:32	100		100		100		91		92	
ICSAB 580-81616/11	11:37	99		100		100		90		92	
CCV 580-81616/12	12:21	99		105		101		101		100	
CCB 580-81616/13	12:27	101		104		101		102		103	
MB 580-81468/23-A	12:32							103		103	
580-24628-8 SD	12:38							100		99	
580-24628-8	12:43							93		92	
580-24628-8 DU	12:49							95		91	
580-24628-8 MS	12:54							105		105	
580-24628-8 MSD	12:59							105		104	
580-24628-8 PDS	13:05							105		105	
LCS 580-81468/24-A	13:10							104		104	
LCSD 580-81468/25-A	13:16							105		104	
LCSSRM	13:21							106		105	
CCV 580-81616/24	13:27	101		106		102		102		100	
CCB 580-81616/25	13:32	102		109		102		107		104	
580-24628-1	13:38							95		93	
580-24628-2	13:44							95		92	
580-24628-3	13:50							97		95	
580-24628-4	13:56							94		93	
580-24628-5	14:02							94		93	
580-24628-6	14:08							96		95	
580-24628-7	14:14							94		93	
580-24628-9	14:19							96		94	
CCV 580-81616/34	14:25	104		111		103		105		105	
CCB 580-81616/35	14:31	105		111		105		109		109	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

ICP-MS Instrument ID: SEA044 Start Date: 03/03/2011 End Date: 03/03/2011

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ho	Q	Element Lu	Q	Element Bi	Q	Element	Q	Element	Q
STD0 580-81616/1 IC	10:43	100		100		100					
STD1 580-81616/2 IC	10:48	100		99		98					
STD2 580-81616/3 IC	10:54	103		101		100					
STD3 580-81616/4 IC	10:59	103		101		101					
STD4 580-81616/5 IC	11:04	102		100		97					
STD5 580-81616/6 IC	11:10	101		99		96					
ICV 580-81616/7	11:15	102		101		98					
ICB 580-81616/8	11:21	103		100		99					
CRI 580-81616/9	11:26	102		102							
ICSA 580-81616/10	11:32	98		96		88					
ICSAB 580-81616/11	11:37	97		95		85					
CCV 580-81616/12	12:21	105		102		99					
CCB 580-81616/13	12:27	104		103		102					
MB 580-81468/23-A	12:32	104		103							
580-24628-8 SD	12:38	104		102							
580-24628-8	12:43	101		100							
580-24628-8 DU	12:49	100		100							
580-24628-8 MS	12:54	106		104							
580-24628-8 MSD	12:59	106		106							
580-24628-8 PDS	13:05	105		104							
LCS 580-81468/24-A	13:10	107		105							
LCSD 580-81468/25-A	13:16	107		105							
LCSSRM	13:21	108		107							
CCV 580-81616/24	13:27	105		104		100					
CCB 580-81616/25	13:32	107		105		104					
580-24628-1	13:38	102		101							
580-24628-2	13:44	102		102							
580-24628-3	13:50	104		103							
580-24628-4	13:56	102		101							
580-24628-5	14:02	103		103							
580-24628-6	14:08	105		103							
580-24628-7	14:14	103		101							
580-24628-9	14:19	105		104							
CCV 580-81616/34	14:25	109		107		103					
CCB 580-81616/35	14:31	108		108		106					

Metals Worksheet

Batch Number: 580-81468
Method: 3005A
Analyst: Boardway, Peter A

Date Open: Mar 02 2011 10:19AM
Batch End: Mar 02 2011 2:30PM

Lab ID	Client ID	Method Chain	Basis	Initial weight/volume of sample	Final weight/volume of sample	m-GPS-1_00019	m-GPS-2_00016	m-GPS-3_00016	m-GPS-4_00018
580-24628-A-8	MW-18-022311-W	3005A, 6020	R	50 mL	50 mL				
580-24628-A-8~DU	MW-18-022311-W	3005A, 6020	R	50 mL	50 mL				
580-24628-A-8~MS	MW-18-022311-W	3005A, 6020	R	50 mL	50 mL	1 mL	1 mL	1 mL	1 mL
580-24628-A-8~MSD	MW-18-022311-W	3005A, 6020	R	50 mL	50 mL	1 mL	1 mL	1 mL	1 mL
580-24628-A-1	MW-13-022211-W	3005A, 6020	R	50 mL	50 mL				
580-24628-A-2	MW-9-022211-W	3005A, 6020	R	50 mL	50 mL				
580-24628-A-3	MW-4-022211-W	3005A, 6020	R	50 mL	50 mL				
580-24628-A-4	MW-17-022211-W	3005A, 6020	R	50 mL	50 mL				
580-24628-A-5	MW-03-022311-W	3005A, 6020	R	50 mL	50 mL				
580-24628-A-6	MW-8-022311-W	3005A, 6020	R	50 mL	50 mL				
580-24628-A-7	MW-16-022311-W	3005A, 6020	R	50 mL	50 mL				
580-24628-A-9	DUP-1-022311-W	3005A, 6020	R	50 mL	50 mL				
580-24596-B-1			R	50 mL	50 mL				
580-24596-B-2			R	50 mL	50 mL				
580-24596-B-3			R	50 mL	50 mL				
580-24596-B-4			R	50 mL	50 mL				
580-24596-B-5			R	50 mL	50 mL				
580-24596-B-6			R	50 mL	50 mL				
580-24596-B-7			R	50 mL	50 mL				
580-24596-B-8			R	50 mL	50 mL				
580-24596-B-9			R	50 mL	50 mL				
580-24596-B-10			R	50 mL	50 mL				
MB~580-81468/23		3005A, 6020		50 mL	50 mL				
LCS~580-81468/24		3005A, 6020		50 mL	50 mL	1 mL	1 mL	1 mL	1 mL
LCSD~580-81468/25		3005A, 6020		50 mL	50 mL	1 mL	1 mL	1 mL	1 mL

Metals Worksheet

Batch Number: 580-81468
Method: 3005A
Analyst: Boardway, Peter A

Date Open: Mar 02 2011 10:19AM
Batch End: Mar 02 2011 2:30PM

Lab ID	Client ID	Method Chain	Basis	MS-HgSpk_00010
580-24628-A-8	MW-18-022311-W	3005A, 6020	R	
580-24628-A-8~DU	MW-18-022311-W	3005A, 6020	R	
580-24628-A-8~MS	MW-18-022311-W	3005A, 6020	R	1 mL
580-24628-A-8~MSD	MW-18-022311-W	3005A, 6020	R	1 mL
580-24628-A-1	MW-13-022211-W	3005A, 6020	R	
580-24628-A-2	MW-9-022211-W	3005A, 6020	R	
580-24628-A-3	MW-4-022211-W	3005A, 6020	R	
580-24628-A-4	MW-17-022211-W	3005A, 6020	R	
580-24628-A-5	MW-03-022311-W	3005A, 6020	R	
580-24628-A-6	MW-8-022311-W	3005A, 6020	R	
580-24628-A-7	MW-16-022311-W	3005A, 6020	R	
580-24628-A-9	DUP-1-022311-W	3005A, 6020	R	
580-24596-B-1			R	
580-24596-B-2			R	
580-24596-B-3			R	
580-24596-B-4			R	
580-24596-B-5			R	
580-24596-B-6			R	
580-24596-B-7			R	
580-24596-B-8			R	
580-24596-B-9			R	
580-24596-B-10			R	
MB~580-81468/23		3005A, 6020		
LCS~580-81468/24		3005A, 6020		1 mL
LCSD~580-81468/25		3005A, 6020		1 mL

Metals Worksheet

Batch Number: 580-81468
Method: 3005A
Analyst: Boardway, Peter A

Date Open: Mar 02 2011 10:19AM
Batch End: Mar 02 2011 2:30PM

Lab ID	Client ID	Method Chain	Basis	Initial weight/volume of sample	Final weight/volume of sample	m-GPS-1_00019	m-GPS-2_00016	m-GPS-3_00016	m-GPS-4_00018
LCSSRM~580-81468/26		3005A, 6020		50 mL	50 mL	1 mL	1 mL	1 mL	1 mL

Metals Worksheet

Batch Number: 580-81468
Method: 3005A
Analyst: Boardway, Peter A

Date Open: Mar 02 2011 10:19AM
Batch End: Mar 02 2011 2:30PM

Lab ID	Client ID	Method Chain	Basis	MS-HgSpk_00010
LCSSRM~580-81468/26		3005A, 6020		1 mL

Digestion Tube/Cup Lot #:	660786
Hot Block ID number:	38009
Hood ID or number:	06
Lot # of Nitric Acid:	657999
Lot # of hydrochloric acid:	659246
Uncorrected Temperature:	95 Celsius
Oven, Bath or Block Temperature 1:	94 CORRECTED-TEMP
ID number of the thermometer:	15-041-1A-A
Pipette ID:	20051014

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job Number: 580-24628-1

SDG No.:

Project: City of Olympia

Client Sample ID	Lab Sample ID
MW-13-022211-W	580-24628-1
MW-9-022211-W	580-24628-2
MW-4-022211-W	580-24628-3
MW-17-022211-W	580-24628-4
MW-03-022311-W	580-24628-5
MW-8-022311-W	580-24628-6
MW-16-022311-W	580-24628-7
MW-18-022311-W	580-24628-8
DUP-1-022311-W	580-24628-9

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-13-022211-W
Lab Sample ID: 580-24628-1
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/22/2011 12:25
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	6.3	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-9-022211-W
Lab Sample ID: 580-24628-2
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/22/2011 13:40
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	1.7	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-4-022211-W
Lab Sample ID: 580-24628-3
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/22/2011 14:45
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	2.6	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-17-022211-W
Lab Sample ID: 580-24628-4
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/22/2011 15:50
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	36	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-03-022311-W
Lab Sample ID: 580-24628-5
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/23/2011 09:52
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	2.5	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-8-022311-W
Lab Sample ID: 580-24628-6
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/23/2011 10:46
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	7.9	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-16-022311-W
Lab Sample ID: 580-24628-7
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/23/2011 11:44
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	17	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-18-022311-W
Lab Sample ID: 580-24628-8
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/23/2011 12:51
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	23	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: DUP-1-022311-W
Lab Sample ID: 580-24628-9
Lab Name: TestAmerica Seattle
Job No.: 580-24628-1
SDG ID.:
Matrix: Water
Date Sampled: 02/23/2011 00:00
Reporting Basis: WET
Date Received: 02/23/2011 16:18

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	17	1.2		mg/L			1	300.0

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Analyst: AM Batch Start Date: 03/02/2011

Reporting Units: mg/L Analytical Batch No.: 81643

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	13:00	Sulfate	13.8	15.0	92	90-110		TAC044 LCS_00002
2	ICB	13:16	Sulfate	ND					
12	CCV	16:00	Sulfate	19.5	20.0	97	90-110		TAC044 CCV_00003
13	CCB	16:17	Sulfate	ND					
19	CCV	18:12	Sulfate	19.8	20.0	99	90-110		TAC044 CCV_00003
20	CCB	18:28	Sulfate	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 81643	Date: 03/02/2011 13:33						
300.0	MB 580-81643/3	Sulfate	ND		mg/L	1.2	1

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 81643		Date: 03/02/2011 17:06									
300.0	580-24628-8	Sulfate	23		mg/L						
300.0	580-24628-8 MS	Sulfate	60.2		mg/L	40.0	94	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 81643		Date: 03/02/2011 17:22									
300.0	580-24628-8 MSD	Sulfate	59.2		mg/L	40.0	91	90-110	2	15	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 81643	Date: 03/02/2011 16:50							
300.0	MW-18-022311-W	580-24628-8	Sulfate	23	mg/L			
300.0	MW-18-022311-W	580-24628-8 DU	Sulfate	22.6	mg/L	0.4	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 81643	Date: 03/02/2011 13:49										
						LCS Source:	TAC044 LCS_00002				
300.0	LCS 580-81643/4	Sulfate	13.8		mg/L	15.0	92	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job Number: 580-24628-1

SDG Number:

Matrix: Water Instrument ID: TAC044

Analysis Method: 300.0 RL Date: 09/24/2009 08:59

Prep Method:

Leach Method:

Analyte	Wavelength/ Mass	RL (mg/L)	
Sulfate		1.2	

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job Number: 580-24628-1

SDG Number:

Matrix: Water Instrument ID: TAC044

Analysis Method: 300.0 XMDL Date: 08/24/2009 13:55

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfate		1.2	0.4

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job No.: 580-24628-1

SDG No.:

Instrument ID: TAC044 Method: 300.0

Start Date: 03/02/2011 13:00 End Date: 03/02/2011 18:28

Lab Sample ID	D/F	Type	Time	Analytes																			
				SO4																			
ICV 580-81643/1	1		13:00	X																			
ICB 580-81643/2	1		13:16	X																			
MB 580-81643/3	1	T	13:33	X																			
LCS 580-81643/4	1	T	13:49	X																			
580-24628-1	1	T	14:06	X																			
580-24628-2	1	T	14:22	X																			
580-24628-3	1	T	14:38	X																			
580-24628-4	1	T	14:55	X																			
580-24628-5	1	T	15:11	X																			
580-24628-6	1	T	15:28	X																			
580-24628-7	1	T	15:44	X																			
CCV 580-81643/12	1		16:00	X																			
CCB 580-81643/13	1		16:17	X																			
580-24628-8	1	T	16:33	X																			
580-24628-8 DU	1	T	16:50	X																			
580-24628-8 MS	5	T	17:06	X																			
580-24628-8 MSD	5	T	17:22	X																			
580-24628-9	1	T	17:39	X																			
CCV 580-81643/19	1		18:12	X																			
CCB 580-81643/20	1		18:28	X																			

Prep Types

T = Total/NA

General Chemistry Worksheet

Batch Number: 580-81643
Method: 300.0
Analyst: Mattison, Adam

Date Open: Mar 02 2011 1:00PM
Batch End:

Lab ID	Client ID	Method Chain	Basis	Initial weight/volume of sample	Final weight/volume of sample	TAC044 CCV_00003	TAC044 LCS_00002	TAC044CustStk_00001
ICV~580-81643/1		300.0		5 mL	5 mL		5 mL	
ICB~580-81643/2		300.0		5 mL	5 mL			
MB~580-81643/3		300.0		5 mL	5 mL			
LCS~580-81643/4		300.0		5 mL	5 mL		5 mL	
580-24628-B-1	MW-13-022211-W	300.0	T	5 mL	5 mL			
580-24628-B-2	MW-9-022211-W	300.0	T	5 mL	5 mL			
580-24628-B-3	MW-4-022211-W	300.0	T	5 mL	5 mL			
580-24628-B-4	MW-17-022211-W	300.0	T	5 mL	5 mL			
580-24628-B-5	MW-03-022311-W	300.0	T	5 mL	5 mL			
580-24628-B-6	MW-8-022311-W	300.0	T	5 mL	5 mL			
580-24628-B-7	MW-16-022311-W	300.0	T	5 mL	5 mL			
CCV~580-81643/12		300.0		5 mL	5 mL	5 mL		
CCB~580-81643/13		300.0		5 mL	5 mL			
580-24628-B-8	MW-18-022311-W	300.0	T	5 mL	5 mL			
580-24628-B-8~DU	MW-18-022311-W	300.0	T	5 mL	5 mL			
580-24628-B-8~MS	MW-18-022311-W	300.0	T	2 mL	2 mL			16 uL
580-24628-B-8~MSD	MW-18-022311-W	300.0	T	2 mL	2 mL			16 uL
580-24628-B-9	DUP-1-022311-W	300.0	T	5 mL	5 mL			
CCV~580-81643/19		300.0		5 mL	5 mL	5 mL		
CCB~580-81643/20		300.0		5 mL	5 mL			

Shipping and Receiving Documents

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

☐ Rush
☐ Short Hold

Chain of Custody Record

Client	Client Contact	Date	Chain of Custody Number
GEI	IAIN WINGARD	02-23-11	09824
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page**
1101 S. FAWCETT AVE	253-383-4940	24628	1 of 1
City / State / Zip Code	**Sampler / Lab Contact**		
TACOMA / WA / 98402	NICK ROHRBACH / MELISSA ARMSTRONG		
Project Name and Location (State)	**Billing Contact**		
318 STATE AVE NE (WA)	SAA		
Contract/Purchase Order/Quote No.			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: SULFATE EPA 300.0	ARSENIC EPA 6020 6PH	VOCs 8260B	BENZENE	Special Instructions/ Conditions of Receipt
-1 MW-13-022211-W	02-22-11			X			X		X	X			X	X	X	X	* REPORTING LIMITS,
-2 MW-9-022211-W	"			"			"		"	"			"	"	"	"	ANALYTE LIST,
-3 MW-4-022211-W	"			"			"		"	"			"	"	"	"	QA/QC TO BE
-4 MW-17-022211-W	"			"			"		"	"			"	"	"	"	ACHIEVED: SEE
-5 MW-03-022311-W	02-23-11			"			"		"	"			"	"	"	"	TABLES B-1 THRU
-6 MW-8-022311-W	"			"			"		"	"			"	"	"	"	B-4 OF
-7 MW-16-022311-W	"			"			"		"	"			"	"	"	"	COMPLIANCE
-8 MW-18-022311-W	"			"			"		"	"			"	"	"	"	MONITORING
-9 DUP-1-022311-W	"	—		"			"		"	"			"	"	"	"	PLAN
-8 MS-022311-W	"	—		"			"		"	"			"	"	"	"	"
-8 MSD-022311-W	"	—		"			"		"	"			"	"	"	"	"
-10 TRIP BLANK	—	—		"			"		"	"			"	"	"	"	"

Cooler: ☒ Yes ☐ No Cooler Temp: ____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☒ 10 Days ☐ 15 Days ☐ Other ____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By Sign/Print: NICK ROHRBACH	02-23-11	2:18 PM	1. Received By Sign/Print: Cathy Gamble	2/23/11	17:16
2. Relinquished By Sign/Print:			2. Received By Sign/Print:		
3. Relinquished By Sign/Print:			3. Received By Sign/Print:		

Comments: Changed MW-03-022311-W TO -022311-W, along w/ all other pertinent 2/25/11 MA. Blue = 5.2/5.4 by Green blue

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 580-24628-1

Login Number: 24628

List Source: TestAmerica Seattle

List Number: 1

Creator: Gamble, Cathy

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	COC missing sampling times. Times taken from labels.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

APPENDIX B
Data Quality Assessment

DATA QUALITY ASSESSMENT SUMMARY
VOLATILE ORGANIC COMPOUNDS BY METHOD SW8260, SULFATE ANIONS BY METHOD SW300.0, TOTAL ARSENIC BY METHOD SW6020

TestAmerica Laboratory SDG	Samples Validated (Bold indicates the sample was qualified)
580-24628-1	MW-9-022211-W, MW-4-022211-W, MW-17-022211-W, MW-13-022211-W, MW-03-022311-W, MW-8-022311-W, MW-16-022311-W, DUP-1-022311-W, MW-18-022311-W, Trip Blank

PROJECT: 318 CITY OF OLYMPIA (0415-049-06)

This report documents the results of an Environmental Protection Agency (EPA) level 2a data validation of analytical data from the analyses of groundwater samples and the associated laboratory and field quality control (QC) samples. The review included the following:

- Chain of Custody
- Holding Times
- Surrogates
- Method and Trip Blanks
- Laboratory Control Samples
- Matrix Spikes/Matrix Spike Duplicates
- Laboratory and Field Duplicates
- Interference Check Standards

DATA PACKAGE COMPLETENESS

TestAmerica, located in Tacoma, Washington, analyzed the groundwater samples evaluated as part of this data quality assessment. The laboratory provided all required deliverables for the assessment according to the National Functional Guidelines. The laboratory followed adequate corrective action processes and all identified anomalies were discussed in the case narrative.

The following sections discuss the data. Based on this review, no data points were qualified for any reason.

OBJECTIVE

The objective of the data validation was to review laboratory analytical procedures and quality control (QC) results to evaluate whether:

- The samples were analyzed using well-defined and acceptable methods that provide detection limits below applicable regulatory criteria;

- The precision and accuracy of the data are well defined and sufficient to provide defensible data; and
- The quality assurance/quality control (QA/QC) procedures utilized by the laboratory meet acceptable industry practices and standards.

Eight (8) groundwater samples, one field duplicate, and one trip blank were analyzed by one or more of the analytical methods listed in the title of this appendix.

DATA QUALITY ASSESSMENT SUMMARY

The results for each of the QC elements are summarized below. The data assessment was performed using guidance in the USEPA Contract Laboratory Program *National Functional Guidelines for Inorganic Data Review* (USEPA, 2002) and USEPA Contract Laboratory Program *National Functional Guidelines for Organic Data Review* (USEPA, 2008).

Chain-of-Custody Documentation

Chain-of-custody (COC) forms were provided with the laboratory analytical reports. There were no anomalies noted on the COC forms; proper COC protocols appear to have been followed for this sampling event.

Holding Times

The holding time is defined as the time that elapses between sample collection and sample analysis. Maximum holding time criteria exist for each analysis to help ensure that the analyte concentrations found at the time of analysis reflect the concentration present at the time of sample collection. Established holding times were met for all analyses.

Surrogate Recoveries

A surrogate compound is a compound that is chemically similar to the analytes of interest, but unlikely to be found in any environmental sample. Surrogates are used for organic analyses and are added to all samples, standards and blanks to serve as an accuracy and specificity check of each analysis. The surrogates are added at a known concentration and percent recoveries are calculated following analysis. All surrogate recoveries for field samples were within the laboratory control limits.

All Samples: The percent recovery (%R) value for the volatile surrogate trifluorotoluene exceeded the control limits in the method blank extracted on 2/25/11. As there were three other surrogates in this quality control sample that were within the control limits, no action was required.

Method and Trip Blanks

Method blanks are analyzed to ensure that laboratory procedures and reagents do not introduce measurable concentrations of the analytes of interest. Method blanks were analyzed with each batch of samples, at a frequency of 1 per 20 samples. For all sample batches, method blanks for all applicable methods were analyzed at the required frequency. None of the analytes of interest were detected above the reporting limits in any of the method blanks.

Trip blanks are analyzed to ensure that the methods of storage and transportation to and from the site do not introduce measureable concentrations of the volatile analytes of interest. One Trip blank is usually analyzed per sample cooler. In this sampling event, one trip blank was analyzed at the required frequency. None of the volatile analytes were detected above the reporting limits in this blank.

Matrix Spikes/Matrix Spike Duplicates (MS/MSD)

Because the actual analyte concentration in an environmental sample is not known, the accuracy of a particular analysis is usually inferred by performing a matrix spike (MS) analysis. One aliquot of sample is analyzed in the normal manner, and then a second aliquot of the sample is spiked with a known amount of analyte concentration and analyzed. From these analyses, a percent recovery (%R) is calculated. Matrix spike duplicates (MSD) analyses are generally performed for organic analyses as a precision check.

For inorganics methods, the matrix spike (referred to as a "spiked sample") is typically followed by a post spike sample if any element recoveries were outside the control limits in the "spike sample". In this case, it was not necessary to analyze a post spike sample as there were no positive results in the "spiked sample".

Matrix spike analyses should be performed once per analytical batch or every 20 field samples, whichever is more frequent. The recovery criteria for matrix spikes and laboratory control samples are specified in the laboratory documents as are the relative percent difference values. The frequency requirements were met for all analyses and the %R/RPD values were within the proper control limits.

Laboratory Control Samples/Laboratory Control Sample Duplicates (LCS/LCSD)

A laboratory control sample is essentially a blank sample that is spiked with a known amount of analyte concentration and analyzed. It is to be treated much like a matrix spike, without the possibility for matrix interference. As there is no actual sample matrix in the analysis, the analytical expectations for accuracy and precision are usually more rigorous and qualification would apply to all samples in the batch, instead of the parent sample only.

Laboratory control sample analyses should be performed once per analytical batch or every 20 field samples, whichever is more frequent. The recovery criteria for laboratory control samples are specified in the laboratory documents as are the relative percent difference values. The frequency requirements were met for all analyses, and the %R/RPD values were within the proper control limits.

Laboratory Duplicates (Metals and Anions only)

Internal laboratory duplicate analyses are performed to monitor the precision of the analyses. Two separate aliquots of a sample are analyzed as distinct samples in the laboratory, and the RPD between the two results is calculated. Duplicate analyses should be performed once per analytical batch. If one or more of the samples used has a concentration greater than five times the reporting limit for that sample, the absolute difference is used instead of the RPD.

Laboratory duplicates were analyzed at the proper frequency and the specified acceptance criteria were met in all cases.

Field Replicates/Duplicates

Field duplicate samples were collected and analyzed along with the reviewed sample batches. The duplicate samples were analyzed for the same parameters as the associated parent samples. As mentioned above for the laboratory duplicates the RPD is used as the criteria for assessing precision, unless one or more of the samples used has a concentration greater than five times the reporting limit for that sample, the absolute difference is used instead of the RPD.

Sample DUP-1-022311-W: This sample was a field duplicate of Sample MW-16-022311-W. The specified precision criteria above were met for all target analytes.

Interference Check Standard

The metals ICP/MS analysis requires the use of an interference check sample which verifies the instruments ability to overcome isobaric interferences (unrelated ions with the same mass as the target ions) typical of those found in environmental samples. The check standard consists of two solutions which are to be analyzed consecutively before every analytical batch. The purpose of the first solution is to determine whether any unspiked interferences exist in the analysis, the purpose of the second solution is to determine whether the accuracy of the instrumentation is consistent with a known spiked concentration of a target analyte.

Interference check standards were analyzed at the proper frequency and the specified acceptance criteria were met in all cases.

OVERALL ASSESSMENT

As was determined by this data quality assessement, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the surrogate, LCS/LCSD, and MS/MSD %R values. Precision was acceptable, as demonstrated by the field duplicate, laboratory duplicate, LCS/LCSD and MS/MSD RPD and absolute difference values.

No data were qualified for any reason.

The data are acceptable for use as qualified.