Groundwater Compliance Monitoring Data Summary Report – November 2010

318 State Avenue NE Property
Olympia, Washington

for
City of Olympia

January 11, 2011

GeoEngineers
Earth Science + Technology

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Olympia, Washington

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INTRODUCTION

This data summary report presents the results of groundwater compliance monitoring performed by the City of Olympia (City) in November 2010 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 and November 2010 groundwater compliance monitoring events at the request of Ecology.

Groundwater samples were collected on November 22 and 24, 2010 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 November 2010 continued to include analysis for benzene.

FIELD ACTIVITIES

Groundwater compliance monitoring samples were collected on November 22 and 24, 2010 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 November 2010 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 November 2010 continue to indicate a north to northwest 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 November 2010 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 November 2010. Table 1 also includes the results from groundwater compliance monitoring performed in May and August 2010 for comparison purposes. Table 2 summarizes water quality and natural attenuation parameter measurements collected in November 2010 and also includes the results from May and August 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 November 2010.

Groundwater Compliance Monitoring Analyses

Natural Attenuation Parameters

The geochemical indicators of natural attenuation measured in November 2010 generally indicate that more oxidative conditions were present in groundwater downgradient of soil remediation area CSZ 1 during the November 2010 monitoring event (Table 2). The more oxidative conditions are indicated by generally higher sulfate and lower ferrous iron concentrations in groundwater collected from monitoring wells MW-03, MW-08, MW-16 and MW-18. The more oxidative conditions measured downgradient of the soil remediation area CSZ 1 are likely related to seasonal changes in groundwater conditions resulting from increased precipitation and associated surface water infiltration on and around the Property. Approximately 12.5 inches of precipitation occurred in October and November 2010 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-08, MW-16 and MW-18 in November 2010 (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-13, MW-17 and MW-09. The detected concentrations of VC in groundwater from monitoring wells MW-04 and MW-08 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 November 2010 sampling event at concentrations greater than the MTCA Method A CUL (Table 1 and Figure 4).

Arsenic

Arsenic was either not detected or was detected at concentrations less than MTCA Method A CUL during the November 2010 monitoring event.

Additional Analysis Requested by Ecology

Benzene

Benzene was detected in the one sample collected from MW-18 at a concentration that was an order of magnitude below the MTCA Method A groundwater CUL. Benzene was not detected in all other groundwater samples collected in November 2010.

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.

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 three groundwater monitoring events that have been performed after the completion of soil remedial actions (i.e., May, August and November 2010). The data presented for monitoring wells MW-17 and MW-18 include the three groundwater monitoring events performed after the soil remedial actions (i.e., May, August and November 2010) 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 three 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 that the MTCA Method A CUL in groundwater during the three 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-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 three post-soil remediation groundwater monitoring events and VC was not detected in groundwater during the November 2010 monitoring event. 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 and August 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 and November 2010. The increased concentrations of these compounds are likely related to higher groundwater levels at the Property in addition to the groundwater gradient observed in November 2010 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). TCE and DCE have not been detected in groundwater from MW-08. 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 increased from the concentration detected in May 2010. Furthermore, the concentration of VC decreased to below the MTCA Method A CUL in the sample collected in November 2010 (Figure 9 and Table 1).
- 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 although the concentration detected in the sample collected in August 2010 increased from the concentration detected in May 2010. However, the concentration of VC detected in November 2010 (i.e., 0.33 micrograms per liter [µg/l]) decreased to a concentration just above the MTCA Method A CUL (i.e., 0.2 µg/l) (Figure 10 and 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 has also decreased 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 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 concentrations of VC in the remaining two monitoring wells are continuing to decrease. The detected concentrations of VC decreased between August and November 2010 in all wells except monitoring well MW-03.

.As previously stated, the concentrations of TCE, cis-DCE and trans-DCE remain less than the CULs for these compounds. However, the observed concentrations of TCE and associated degradation products cis-DCE and trans-DCE in groundwater samples collected from the Property differed between August and November 2010. The concentrations of TCE generally showed an increase while the concentrations of cis-DCE and trans-DCE increased or decreased depending on the sample location. The groundwater levels measured in November 2010 were approximately 0.5 feet higher than groundwater levels that have previously been measured at the Property (Table 2). It is likely that the higher groundwater levels observed at the Property in November allowed for residual amounts of TCE, cis-DCE and trans-DCE in pore spaces and sorbed to soil above the normal water table to enter into solution by contact with groundwater. In addition, as previously stated, approximately 12.5 inches of precipitation occurred in October and November 2010. The infiltration of these amounts of rainwater would also provide another mechanism for transport of residual concentrations of TCE and associated degradation products cis-DCE and trans-DCE from soil above the water table to groundwater

The concentrations of TCE, cis-DCE and VC increased in groundwater in monitoring well MW-03 in November 2010. The VC concentration in groundwater at MW-03 in August 2010 (0.12 µg/l) was less than the groundwater CUL (0.2 µg/l) while the VC concentration in groundwater at MW-03 in November 2010 (1.1 µg/l) was greater than the groundwater CUL (Table 1). The increased concentrations of these compounds may be affected by increased infiltration of precipitation and the higher groundwater levels as described above. Also, the groundwater gradient observed in November 2010 was northwest toward MW-03 (Figure 3). Residual amounts of TCE, cis-DCE and VC may have been present in groundwater in the area between MW-03 and the remedial excavation. These residual amounts of contaminants would have been displaced by groundwater flowing in a northwesterly direction across the Property. It is likely that concentrations of TCE, cis-DCE and VC will decrease in the future as residual amounts of these compounds are displaced from soil and groundwater at the Property by infiltration and groundwater movement.

Arsenic was either not detected or detected at concentrations less than the MTCA Method A CUL in groundwater samples collected during the November 2010 event. Over the last three groundwater compliance monitoring events, arsenic has only been detected at a concentration greater than the CUL one time and it was in groundwater collected upgradient of the Property (i.e., MW-13) (Table 1). The results for arsenic continue to support our opinion that arsenic is not a chemical of concern for the Property.

Benzene was detected in the groundwater sample collected from monitoring well MW-18 at a concentration less than the MTCA Method A CUL during the November 2010 monitoring event. Benzene was not detected in groundwater collected from all other monitoring locations. 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 chemical of concern 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 breakdown of chlorinated solvents.

It is our opinion that the concentrations of chlorinated organic solvents and associated degradation products are naturally attenuating 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 February 2011 in accordance with the CMP.

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] - NOVEMBER 2010

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 [3]**	**800,000 [3]**	**1,600,000 [3]**	**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
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**
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**
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
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
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[2]	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[2]	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
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[2]	11/24/10		0.1 U	**0.50**	0.1 U	**0.16**	**0.21**	**0.38**	0.1 U	0.0004 UJ
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**

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] Sample DUP-1-052410-W is a field duplicate of sample MW8-052410-W, sample DUP-1-082510-W is a field duplicate of sample MW8-082510-W and sample DUP-1-112410-W is a field duplicate of sample MW16-112410-W.

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

MTCA = Model Toxics Control Act

µg/l = microgram per liter

mg/L = milligram per liter

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

J = The analyte concentration is estimated

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

Bold indicates analyte was detected

Green shading indicates sample results for current quarter of monitoring

Gray shading indicates concentration is greater than cleanup level

TABLE 2

SUMMARY OF GROUNDWATER QUALITY PARAMETERS[1] - NOVEMBER 2010

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
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
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
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
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
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
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
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

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

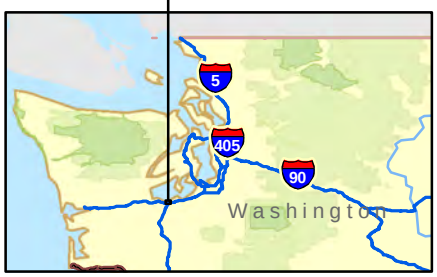
C = celcius

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
S

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\0415049 06 GW_Figure1_VicinityMap.mxd Map Revised: June 21, 2010 TCK

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
S

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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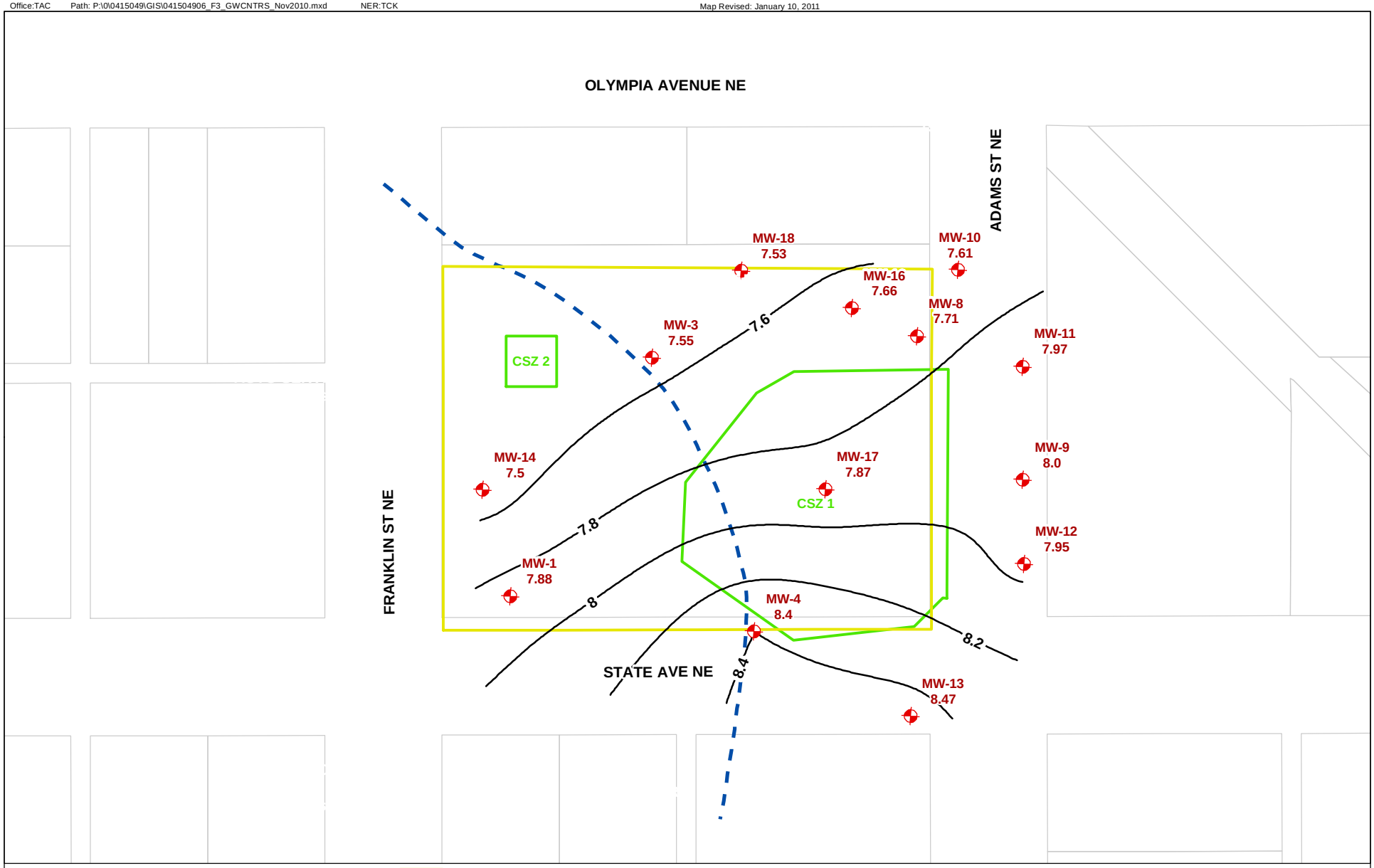
Figure 2

Map Revised: June 21, 2010 TCK

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

Office: TAC



MW-1 7.88 GeoEngineers Monitoring Well Location, ID and Groundwater Elevations (November 2010) 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 - November 22, 2010 Measurements

318 State Avenue NE
Olympia, Washington

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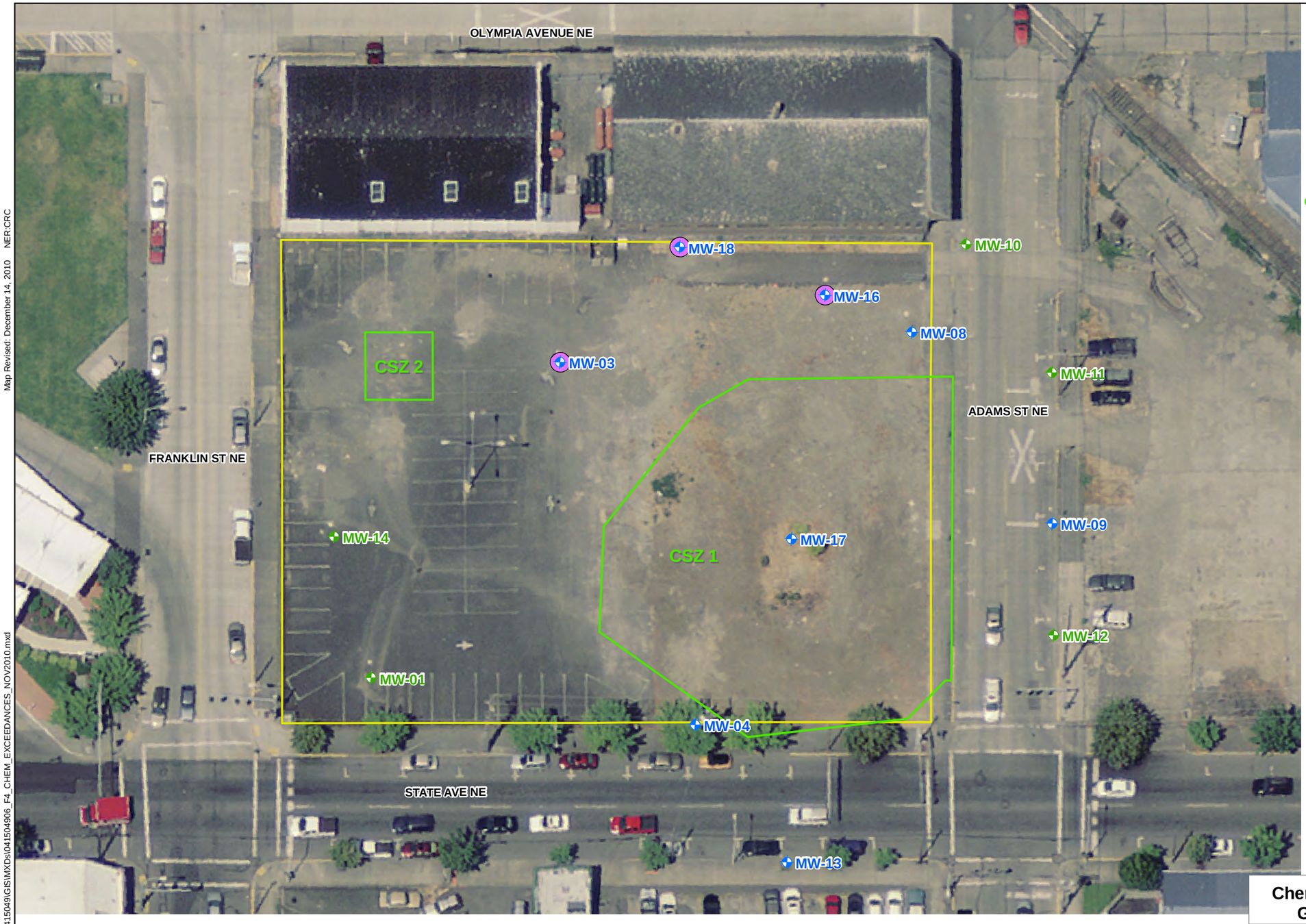
Figure 3



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

MW-03		
Vinyl Chloride	November-10	1.1 ug/L
MW-16		
Vinyl Chloride	November-10	0.33 ug/L
MW-16/DUPLICATE		
Vinyl Chloride	November-10	0.38 ug/L
MW-18		
Vinyl Chloride	November-10	1.7 ug/L

** Results for metals given as total.*

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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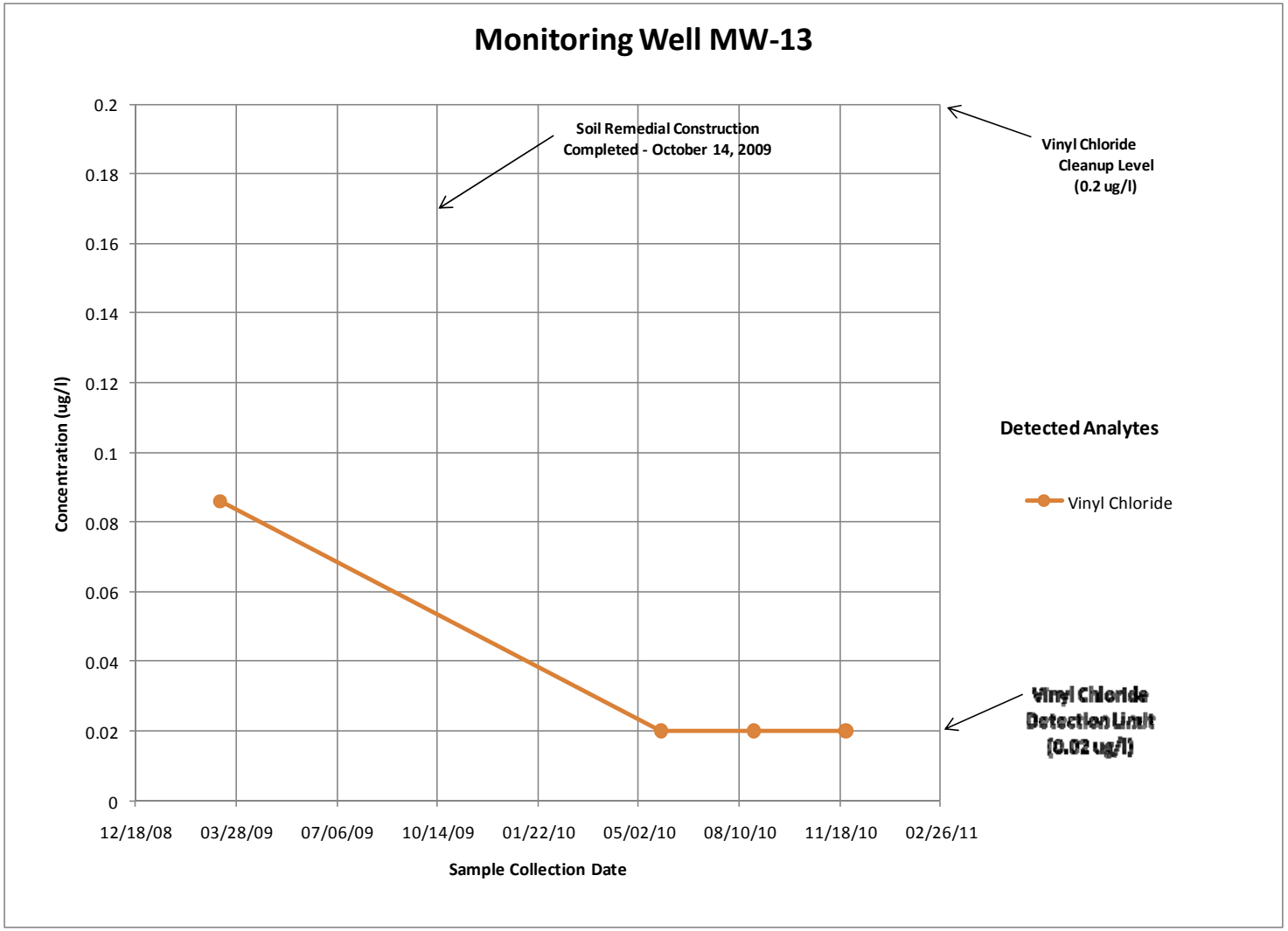
Figure 4

Map Revised: December 14, 2010 NER:CRC
Path: P:\0\04150491\GIS\MXDs\04150491906_F4_CHEM_EXCEEDANCES_NOV2010.mxd
Office: TAC



Trend Analysis– November 2010

318 State Avenue NE
Olympia, Washington

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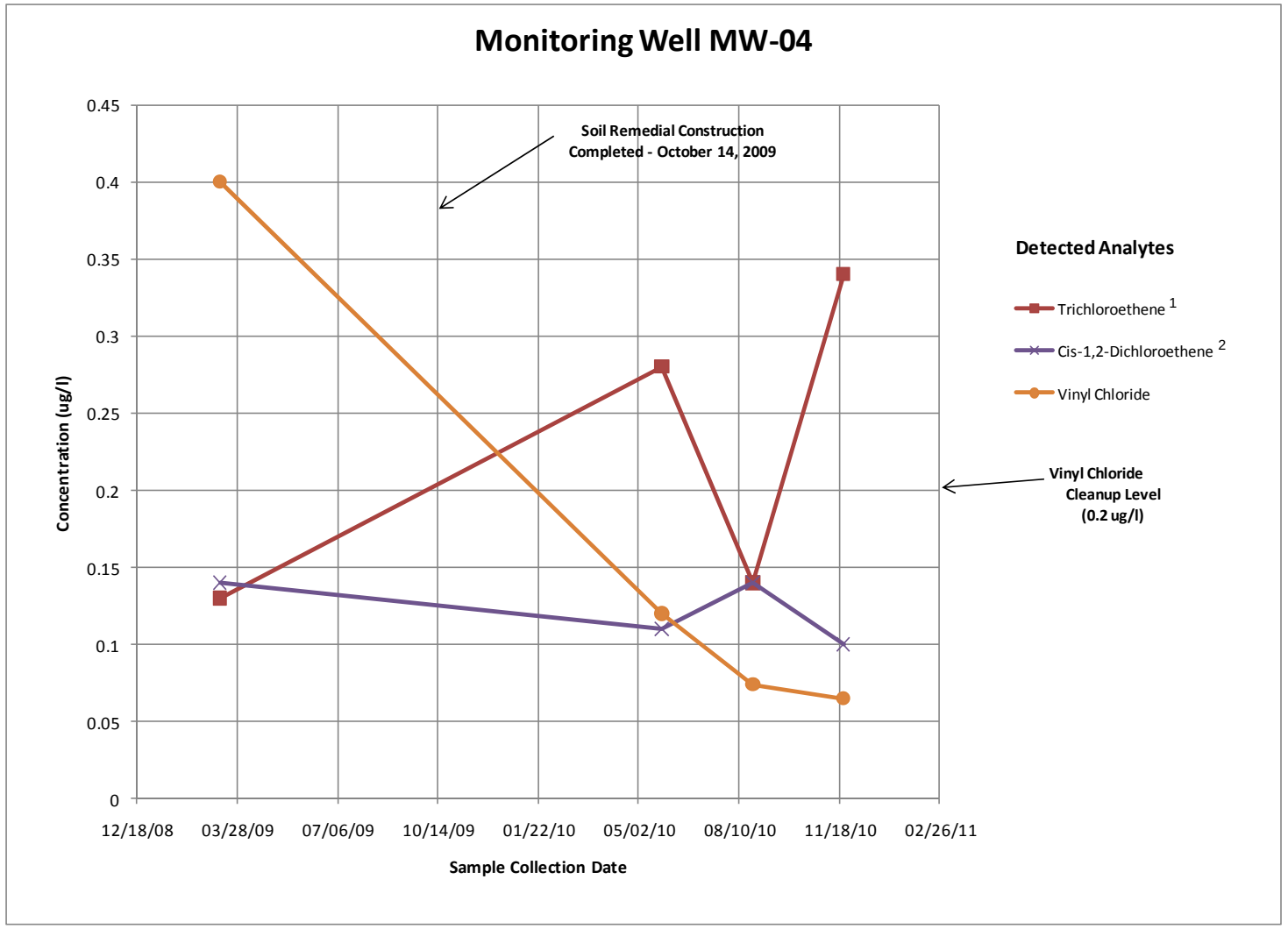
Figure 5



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– November 2010

318 State Avenue NE
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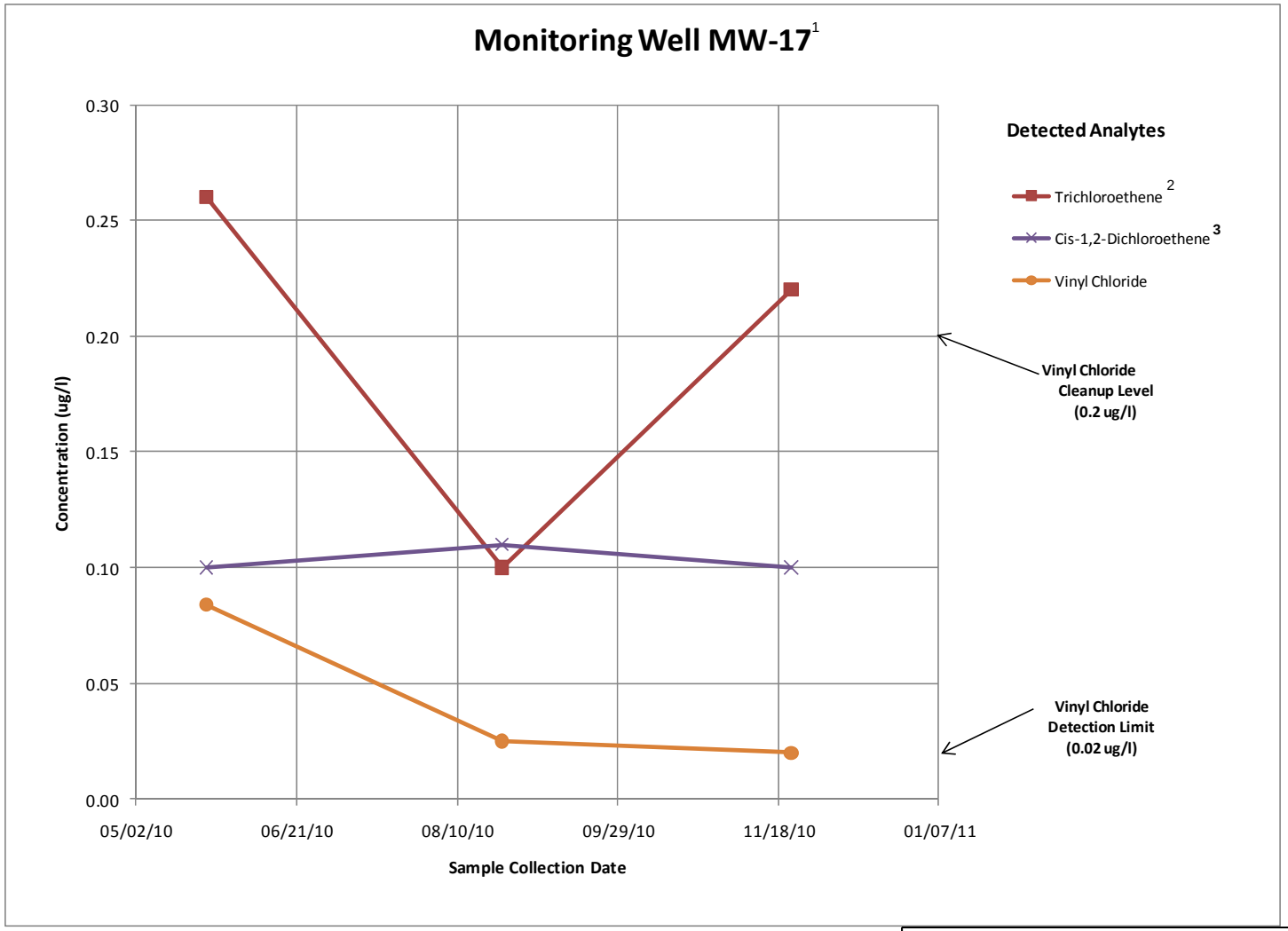
Figure 6



Notes:
[1] MW-17 was installed in 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– November 2010

318 State Avenue NE
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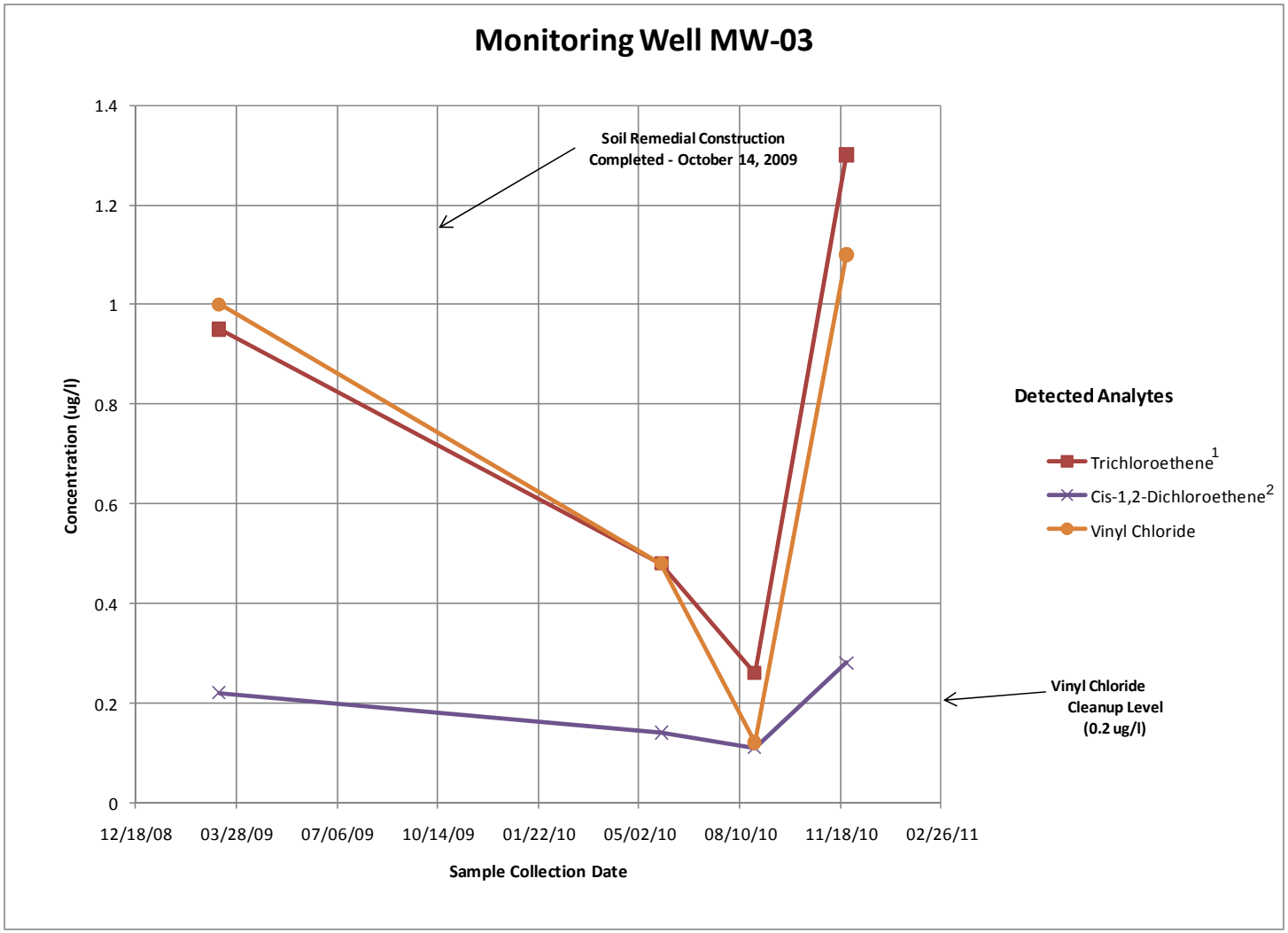
Figure 7



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– November 2010

318 State Avenue NE
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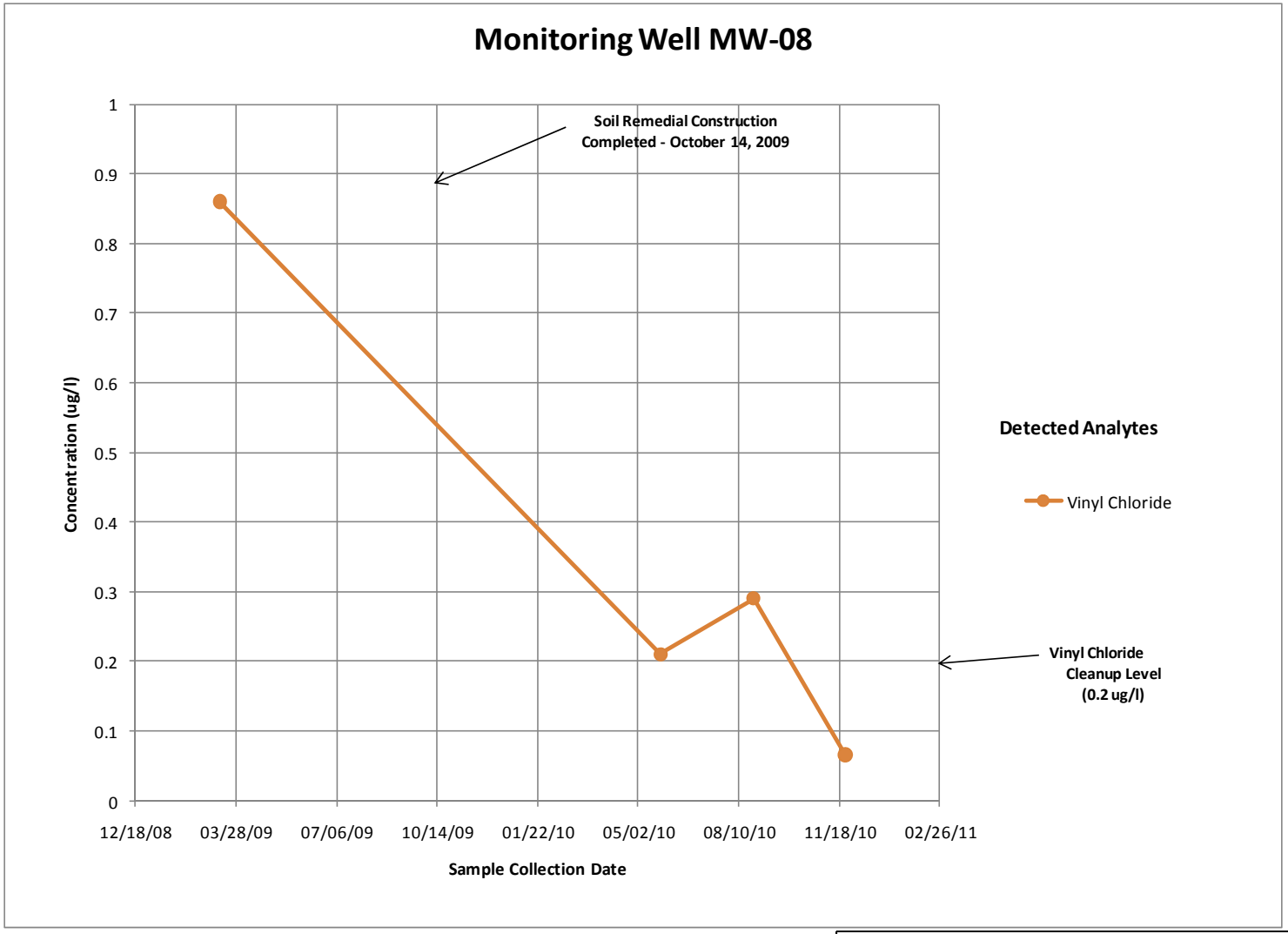
Figure 8



Trend Analysis– November 2010

318 State Avenue NE
Olympia, Washington

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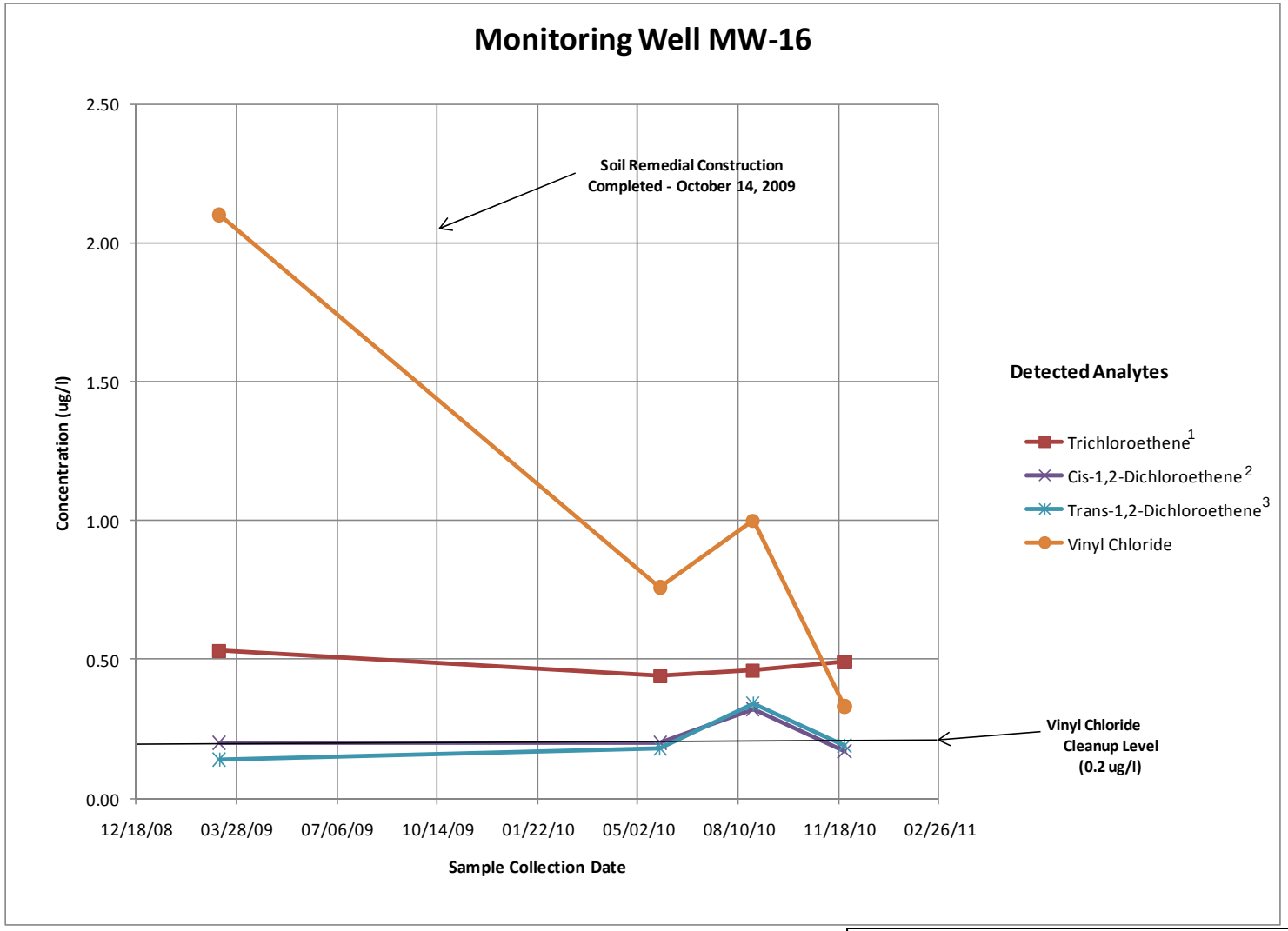
Figure 9



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– November 2010

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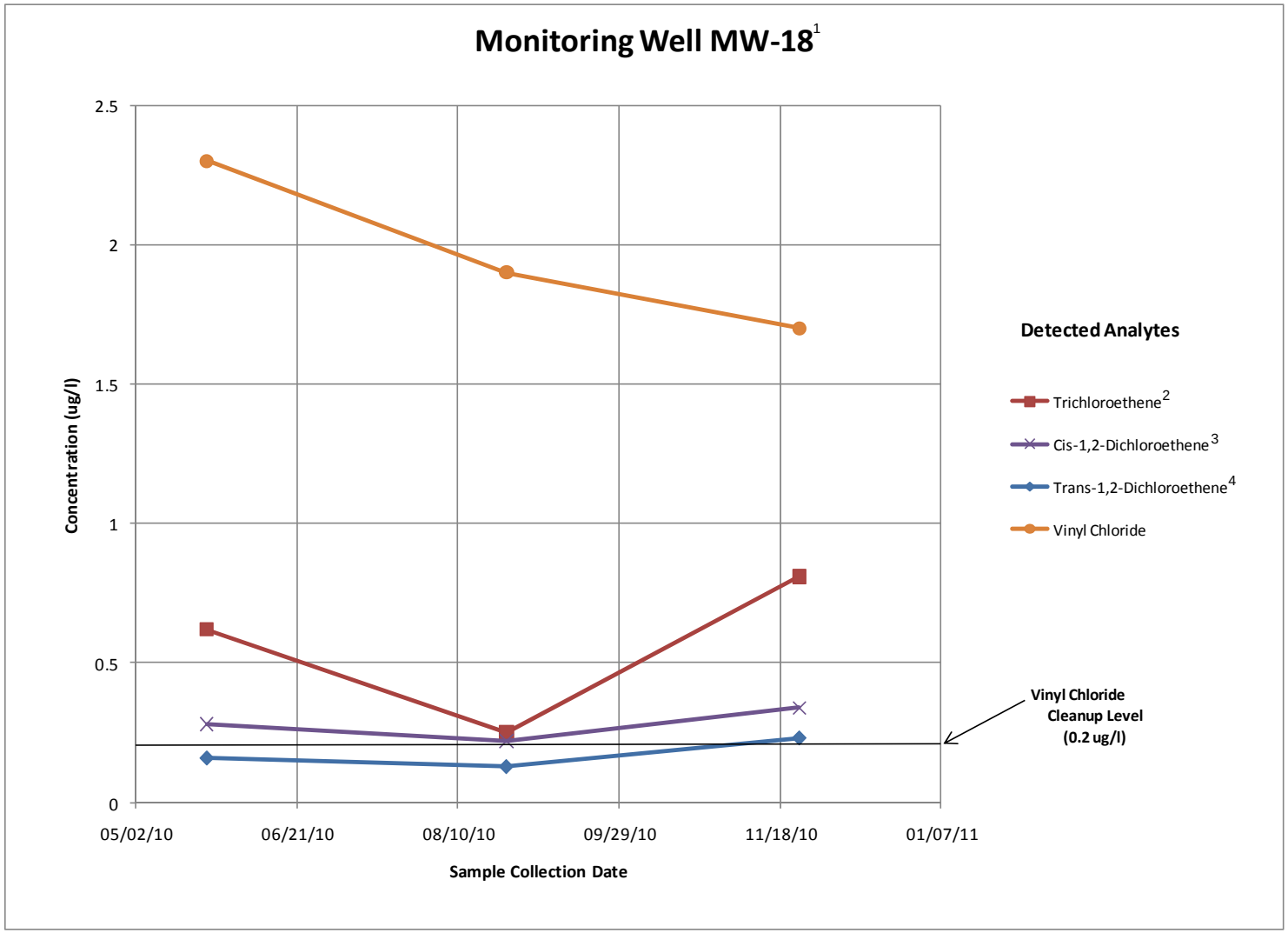
Figure 10



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– November 2010

318 State Avenue NE
Olympia, Washington

GeoEngineers

Figure 11

APPENDIX A
Laboratory Reports

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

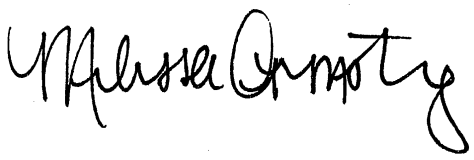
ANALYTICAL REPORT

Job Number: 580-23103-1

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
12/10/2010 12:50 PM

Melissa Armstrong
Project Manager I
melissa.armstrong@testamericainc.com
12/10/2010

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

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CASE NARRATIVE

Client: GeoEngineers Inc
Project: City of Olympia
Report Number: 580-23103-1

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 11/24/2010; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.5 C.

Client verified MS/MSD association with sample MW-18-112410-W.

COC indicates analysis for As & Sulfate on the Trip Blank. Containers were not provided for this sample for these analyses; as such these analyses were not performed.

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-9-112210-W (580-23103-1), MW-4-112210-W (580-23103-2), MW-17-112210-W (580-23103-3), MW-13-112210-W (580-23103-4), MW-3-112410-W (580-23103-5), MW-8-112410-W (580-23103-6), MW-16-112410-W (580-23103-7), DUP-1-112410-W (580-23103-8), MW-18-112410-W (580-23103-9) and Trip Blank (580-23103-10) were analyzed for volatile organic compounds (GC-MS) low level in accordance with EPA SW-846 8260B. The samples were analyzed on 12/06/2010 and 12/08/2010.

Trifluorotoluene (Surr) failed the surrogate recovery criteria high for MB 580-76949/5. All associated sample surrogates fell within acceptance criteria; therefore, the data have been reported.

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-9-112210-W (580-23103-1), MW-4-112210-W (580-23103-2), MW-17-112210-W (580-23103-3), MW-13-112210-W (580-23103-4), MW-3-112410-W (580-23103-5), MW-8-112410-W (580-23103-6), MW-16-112410-W (580-23103-7), DUP-1-112410-W (580-23103-8) and MW-18-112410-W (580-23103-9) were analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 12/07/2010 and analyzed on 12/08/2010.

For Arsenic, the ICP-MS ICSA standard contains trace impurities derived from the manufacturing process, which may cause these standards to fail method QC criteria. Regrettably corrective action can not be performed for any outliers other than to note deficiencies in the laboratory's QC report section. The data are qualified "^" and have been reported.

No other difficulties were encountered during the metals analyses.

All other quality control parameters were within the acceptance limits.

ANIONS
Samples MW-9-112210-W (580-23103-1), MW-4-112210-W (580-23103-2), MW-17-112210-W (580-23103-3), MW-13-112210-W (580-23103-4), MW-3-112410-W (580-23103-5), MW-8-112410-W (580-23103-6), MW-16-112410-W (580-23103-7), DUP-1-112410-W (580-23103-8) and MW-18-112410-W (580-23103-9) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 12/07/2010.

Sulfate failed the recovery criteria low for the MSD of sample MW-18-112410-WMSD (580-23103-9) in batch 580-76911.

No other difficulties were encountered during the anions analyses.

All other quality control parameters were within the acceptance limits.

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Instrument ID: SEA015 Analysis Batch Number: 76712

Lab Sample ID: STD 580-76712/3 IC Client Sample ID:

Date Analyzed: 12/03/10 12:07 Lab File ID: I0320256.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Vinyl chloride	1.01	Split Peak	kreiderma chers	12/03/10 14:14
Tetrachloroethene	3.58	Assign Peak	kreiderma chers	12/06/10 09:54
Chlorobenzene	3.93	Assign Peak	kreiderma chers	12/03/10 16:57
Styrene	4.18	Assign Peak	kreiderma chers	12/03/10 16:57
Isopropylbenzene	4.32	Assign Peak	kreiderma chers	12/03/10 16:57
tert-Butylbenzene	4.72	Assign Peak	kreiderma chers	12/03/10 16:57
1,2,4-Trimethylbenzene	4.74	Assign Peak	kreiderma chers	12/03/10 16:57
sec-Butylbenzene	4.83	Assign Peak	kreiderma chers	12/03/10 16:57
4-Isopropyltoluene	4.89	Assign Peak	kreiderma chers	12/03/10 16:57
1,3-Dichlorobenzene	4.91	Assign Peak	kreiderma chers	12/03/10 16:57
Naphthalene	6.75	Assign Peak	kreiderma chers	12/03/10 16:57

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Instrument ID: SEA015 Analysis Batch Number: 76712

Lab Sample ID: STD 580-76712/4 IC Client Sample ID:

Date Analyzed: 12/03/10 12:32 Lab File ID: I0320257.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,2-Dichloropropane	2.32	Assign Peak	kreiderma chers	12/03/10 14:34
trans-1,3-Dichloropropene	3.46	Assign Peak	kreiderma chers	12/03/10 14:34
Chlorodibromomethane	3.70	Assign Peak	kreiderma chers	12/03/10 14:34
Chlorobenzene	3.93	Assign Peak	kreiderma chers	12/03/10 14:34
Bromoform	4.28	Assign Peak	kreiderma chers	12/03/10 14:34
trans-1,4-Dichloro-2-butene	4.48	Assign Peak	kreiderma chers	12/03/10 14:34
Hexachloroethane	5.33	Assign Peak	kreiderma chers	12/03/10 14:34
1,2,4-Trichlorobenzene	6.47	Assign Peak	kreiderma chers	12/03/10 14:34
Hexachlorobutadiene	6.64	Assign Peak	kreiderma chers	12/03/10 14:34
Naphthalene	6.75	Assign Peak	kreiderma chers	12/03/10 14:34

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Instrument ID: SEA015 Analysis Batch Number: 76712

Lab Sample ID: STD 580-76712/5 IC Client Sample ID:

Date Analyzed: 12/03/10 12:58 Lab File ID: I0320258.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Methyl-2-propanol	1.86	Assign Peak	kreiderma chers	12/03/10 14:35
2-Butanone	2.31	Assign Peak	kreiderma chers	12/03/10 14:35
Bromoform	4.28	Assign Peak	kreiderma chers	12/03/10 14:35
Hexachloroethane	5.33	Assign Peak	kreiderma chers	12/03/10 14:35
1,2-Dibromo-3-Chloropropane	5.73	Assign Peak	kreiderma chers	12/03/10 14:35

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Instrument ID: SEA015 Analysis Batch Number: 76808

Lab Sample ID: 580-23103-1 Client Sample ID: MW-9-112210-W

Date Analyzed: 12/06/10 14:54 Lab File ID: I0320322.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1-Dichloroethene	1.61	Assign Peak	kreiderma chers	12/08/10 09:05
cis-1,2-Dichloroethene	2.31	Assign Peak	kreiderma chers	12/08/10 09:05
Benzene	2.64	Assign Peak	kreiderma chers	12/08/10 09:05

Lab Sample ID: 580-23103-2 Client Sample ID: MW-4-112210-W

Date Analyzed: 12/06/10 15:19 Lab File ID: I0320323.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Vinyl chloride	1.04	Split Peak	kreiderma chers	12/08/10 09:06
Tetrachloroethene	3.58	Assign Peak	kreiderma chers	12/08/10 11:31

Lab Sample ID: 580-23103-3 Client Sample ID: MW-17-112210-W

Date Analyzed: 12/06/10 15:45 Lab File ID: I0320324.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Vinyl chloride	1.04	Assign Peak	kreiderma chers	12/08/10 09:06
Benzene	2.64	Assign Peak	kreiderma chers	12/08/10 09:06
Tetrachloroethene	3.58	Assign Peak	kreiderma chers	12/08/10 09:06

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Instrument ID: SEA015 Analysis Batch Number: 76808

Lab Sample ID: 580-23103-4 Client Sample ID: MW-13-112210-W

Date Analyzed: 12/06/10 16:12 Lab File ID: I0320325.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	12/08/10 09:06

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Instrument ID: SEA015 Analysis Batch Number: 76949

Lab Sample ID: MB 580-76949/5 Client Sample ID:

Date Analyzed: 12/08/10 11:55 Lab File ID: I0320366.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	12/08/10 12:13

Lab Sample ID: 580-23103-5 Client Sample ID: MW-3-112410-W

Date Analyzed: 12/08/10 13:37 Lab File ID: I0320370.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloroethene	3.58	Assign Peak	kreiderma chers	12/08/10 13:59

Lab Sample ID: 580-23103-7 Client Sample ID: MW-16-112410-W

Date Analyzed: 12/08/10 14:28 Lab File ID: I0320372.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1-Dichloroethene	1.62	Assign Peak	kreiderma chers	12/08/10 14:44

Lab Sample ID: 580-23103-8 Client Sample ID: DUP-1-112410-W

Date Analyzed: 12/08/10 14:57 Lab File ID: I0320373.D GC Column: ZB-624short ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1-Dichloroethene	1.59	Assign Peak	kreiderma chers	12/09/10 11:28
Tetrachloroethene	3.58	Assign Peak	kreiderma chers	12/09/10 11:28

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Instrument ID: SEA015 Analysis Batch Number: 76949

Lab Sample ID: 580-23103-9 Client Sample ID: MW-18-112410-W

Date Analyzed: 12/08/10 15:22 Lab File ID: I0320374.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	12/09/10 11:29

SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-23103-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-23103-1	MW-9-112210-W	Water	11/22/2010 1315	11/24/2010 1440
580-23103-2	MW-4-112210-W	Water	11/22/2010 1413	11/24/2010 1440
580-23103-3	MW-17-112210-W	Water	11/22/2010 1521	11/24/2010 1440
580-23103-4	MW-13-112210-W	Water	11/22/2010 1653	11/24/2010 1440
580-23103-5	MW-3-112410-W	Water	11/24/2010 1005	11/24/2010 1440
580-23103-6	MW-8-112410-W	Water	11/24/2010 1110	11/24/2010 1440
580-23103-7	MW-16-112410-W	Water	11/24/2010 1208	11/24/2010 1440
580-23103-8	DUP-1-112410-W	Water	11/24/2010 0000	11/24/2010 1440
580-23103-9	MW-18-112410-W	Water	11/24/2010 1312	11/24/2010 1440
580-23103-9MS	MW-18-112410-W	Water	11/24/2010 1312	11/24/2010 1440
580-23103-9MSD	MW-18-112410-W	Water	11/24/2010 1312	11/24/2010 1440
580-23103-10	Trip Blank	Water	11/24/2010 0000	11/24/2010 1440

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-23103-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-23103-1	**MW-9-112210-W**					
Sulfate		1.9		1.2	mg/L	300.0
580-23103-2	**MW-4-112210-W**					
Trichloroethene		0.34		0.10	ug/L	8260B
Vinyl chloride		0.065		0.020	ug/L	8260B
Sulfate		3.8		1.2	mg/L	300.0
Total Recoverable						
Arsenic		0.00067	^	0.00040	mg/L	6020
580-23103-3	**MW-17-112210-W**					
Trichloroethene		0.22		0.10	ug/L	8260B
Sulfate		28		1.2	mg/L	300.0
Total Recoverable						
Arsenic		0.0016	^	0.00040	mg/L	6020
580-23103-4	**MW-13-112210-W**					
Sulfate		8.1		1.2	mg/L	300.0
580-23103-5	**MW-3-112410-W**					
cis-1,2-Dichloroethene		0.28		0.10	ug/L	8260B
Trichloroethene		1.3		0.10	ug/L	8260B
Vinyl chloride		1.1		0.020	ug/L	8260B
Sulfate		6.6		1.2	mg/L	300.0
580-23103-6	**MW-8-112410-W**					
Vinyl chloride		0.066		0.020	ug/L	8260B
Sulfate		17		1.2	mg/L	300.0

EXECUTIVE SUMMARY - Detections

Client: GeoEngineers Inc

Job Number: 580-23103-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-23103-7	**MW-16-112410-W**					
cis-1,2-Dichloroethene		0.17		0.10	ug/L	8260B
trans-1,2-Dichloroethene		0.19		0.10	ug/L	8260B
Trichloroethene		0.49		0.10	ug/L	8260B
Vinyl chloride		0.33		0.020	ug/L	8260B
Sulfate		29		1.2	mg/L	300.0
Total Recoverable						
Arsenic		0.0013	^	0.00040	mg/L	6020
580-23103-8	**DUP-1-112410-W**					
cis-1,2-Dichloroethene		0.16		0.10	ug/L	8260B
trans-1,2-Dichloroethene		0.21		0.10	ug/L	8260B
Trichloroethene		0.50		0.10	ug/L	8260B
Vinyl chloride		0.38		0.020	ug/L	8260B
Sulfate		28		1.2	mg/L	300.0
580-23103-9	**MW-18-112410-W**					
cis-1,2-Dichloroethene		0.34		0.10	ug/L	8260B
trans-1,2-Dichloroethene		0.23		0.10	ug/L	8260B
Trichloroethene		0.81		0.10	ug/L	8260B
Vinyl chloride		1.7		0.020	ug/L	8260B
Benzene		0.11		0.10	ug/L	8260B
Sulfate		38		1.2	mg/L	300.0
Total Recoverable						
Arsenic		0.0032	^	0.00040	mg/L	6020

METHOD SUMMARY

Client: GeoEngineers Inc

Job Number: 580-23103-1

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: 580-23103-1

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: 580-23103-1

Client Sample ID: **MW-9-112210-W**

Lab Sample ID: 580-23103-1
Client Matrix: Water

Date Sampled: 11/22/2010 1315
Date Received: 11/24/2010 1440

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-76808	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0320322.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	12/06/2010 1454		Final Weight/Volume: 10 mL
Date Prepared:	12/06/2010 1454		

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)	105		80 - 125
Fluorobenzene (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	97		75 - 120
Toluene-d8 (Surr)	93		75 - 125
Ethylbenzene-d10	96		75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-4-112210-W**

Lab Sample ID: 580-23103-2
Client Matrix: Water

Date Sampled: 11/22/2010 1413
Date Received: 11/24/2010 1440

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-76808	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0320323.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	12/06/2010 1519		Final Weight/Volume: 10 mL
Date Prepared:	12/06/2010 1519		

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	0.34		0.10	0.10
Vinyl chloride	0.065		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	102		80 - 125
Fluorobenzene (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	96		75 - 120
Toluene-d8 (Surr)	94		75 - 125
Ethylbenzene-d10	99		75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-17-112210-W**

Lab Sample ID: 580-23103-3
Client Matrix: Water

Date Sampled: 11/22/2010 1521
Date Received: 11/24/2010 1440

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-76808	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0320324.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	12/06/2010 1545		Final Weight/Volume: 10 mL
Date Prepared:	12/06/2010 1545		

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	0.22		0.10	0.10
Vinyl chloride	ND		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	100		80 - 125
Fluorobenzene (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	94		75 - 120
Toluene-d8 (Surr)	93		75 - 125
Ethylbenzene-d10	100		75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-13-112210-W**

Lab Sample ID: 580-23103-4
Client Matrix: Water

Date Sampled: 11/22/2010 1653
Date Received: 11/24/2010 1440

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-76808	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0320325.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	12/06/2010 1612		Final Weight/Volume: 10 mL
Date Prepared:	12/06/2010 1612		

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)	125		80 - 125
Fluorobenzene (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	94		75 - 120
Toluene-d8 (Surr)	98		75 - 125
Ethylbenzene-d10	97		75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-3-112410-W**

Lab Sample ID: 580-23103-5
Client Matrix: Water

Date Sampled: 11/24/2010 1005
Date Received: 11/24/2010 1440

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-76949	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0320370.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	12/08/2010 1337		Final Weight/Volume: 10 mL
Date Prepared:	12/08/2010 1337		

Analyte	Result (ug/L)	Qualifier	RL	RL
cis-1,2-Dichloroethene	0.28		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	1.3		0.10	0.10
Vinyl chloride	1.1		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	105		80 - 125
Fluorobenzene (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	96		75 - 120
Toluene-d8 (Surr)	95		75 - 125
Ethylbenzene-d10	104		75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-8-112410-W**

Lab Sample ID: 580-23103-6
Client Matrix: Water

Date Sampled: 11/24/2010 1110
Date Received: 11/24/2010 1440

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-76949	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0320371.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	12/08/2010 1403		Final Weight/Volume: 10 mL
Date Prepared:	12/08/2010 1403		

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	0.066		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	98		80 - 125
Fluorobenzene (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	96		75 - 120
Toluene-d8 (Surr)	95		75 - 125
Ethylbenzene-d10	100		75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-16-112410-W**

Lab Sample ID: 580-23103-7
Client Matrix: Water

Date Sampled: 11/24/2010 1208
Date Received: 11/24/2010 1440

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-76949	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0320372.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	12/08/2010 1428		Final Weight/Volume: 10 mL
Date Prepared:	12/08/2010 1428		

Analyte	Result (ug/L)	Qualifier	RL	RL
cis-1,2-Dichloroethene	0.17		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	0.19		0.10	0.10
Trichloroethene	0.49		0.10	0.10
Vinyl chloride	0.33		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	104		80 - 125
Fluorobenzene (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	95		75 - 120
Toluene-d8 (Surr)	95		75 - 125
Ethylbenzene-d10	104		75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **DUP-1-112410-W**

Lab Sample ID: 580-23103-8
Client Matrix: Water

Date Sampled: 11/24/2010 0000
Date Received: 11/24/2010 1440

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-76949	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0320373.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	12/08/2010 1457		Final Weight/Volume: 10 mL
Date Prepared:	12/08/2010 1457		

Analyte	Result (ug/L)	Qualifier	RL	RL
cis-1,2-Dichloroethene	0.16		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	0.21		0.10	0.10
Trichloroethene	0.50		0.10	0.10
Vinyl chloride	0.38		0.020	0.020
Benzene	ND		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	106		80 - 125
Fluorobenzene (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	91		75 - 120
Toluene-d8 (Surr)	97		75 - 125
Ethylbenzene-d10	94		75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-18-112410-W**

Lab Sample ID: 580-23103-9
Client Matrix: Water

Date Sampled: 11/24/2010 1312
Date Received: 11/24/2010 1440

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-76949	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0320374.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	12/08/2010 1522		Final Weight/Volume: 10 mL
Date Prepared:	12/08/2010 1522		

Analyte	Result (ug/L)	Qualifier	RL	RL
cis-1,2-Dichloroethene	0.34		0.10	0.10
1,1-Dichloroethene	ND		0.10	0.10
Tetrachloroethene	ND		0.10	0.10
trans-1,2-Dichloroethene	0.23		0.10	0.10
Trichloroethene	0.81		0.10	0.10
Vinyl chloride	1.7		0.020	0.020
Benzene	0.11		0.10	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	105		80 - 125
Fluorobenzene (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	89		75 - 120
Toluene-d8 (Surr)	96		75 - 125
Ethylbenzene-d10	98		75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **Trip Blank**

Lab Sample ID: 580-23103-10
Client Matrix: Water

Date Sampled: 11/24/2010 0000
Date Received: 11/24/2010 1440

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-76949	Instrument ID: SEA015
Preparation:	5030B		Lab File ID: I0320375.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	12/08/2010 1549		Final Weight/Volume: 10 mL
Date Prepared:	12/08/2010 1549		

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)	104		80 - 125
Fluorobenzene (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	97		75 - 120
Toluene-d8 (Surr)	93		75 - 125
Ethylbenzene-d10	101		75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-9-112210-W**

Lab Sample ID: 580-23103-1
Client Matrix: Water

Date Sampled: 11/22/2010 1315
Date Received: 11/24/2010 1440

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-77019		Instrument ID:	SEA026
Preparation:	3005A	Prep Batch: 580-76881		Lab File ID:	76881-ICPMS.rep
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1128			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1022				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	ND	^	0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-4-112210-W**

Lab Sample ID: 580-23103-2
Client Matrix: Water

Date Sampled: 11/22/2010 1413
Date Received: 11/24/2010 1440

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-77019		Instrument ID:	SEA026
Preparation:	3005A	Prep Batch: 580-76881		Lab File ID:	76881-ICPMS.rep
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1209			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1022				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	0.00067	^	0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-17-112210-W**

Lab Sample ID: 580-23103-3
Client Matrix: Water

Date Sampled: 11/22/2010 1521
Date Received: 11/24/2010 1440

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-77019		Instrument ID:	SEA026
Preparation:	3005A	Prep Batch: 580-76881		Lab File ID:	76881-ICPMS.rep
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1213			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1022				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	0.0016	^	0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-13-112210-W**

Lab Sample ID: 580-23103-4
Client Matrix: Water

Date Sampled: 11/22/2010 1653
Date Received: 11/24/2010 1440

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-77019		Instrument ID:	SEA026
Preparation:	3005A	Prep Batch: 580-76881		Lab File ID:	76881-ICPMS.rep
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1217			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1022				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	ND	^	0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-3-112410-W**

Lab Sample ID: 580-23103-5
Client Matrix: Water

Date Sampled: 11/24/2010 1005
Date Received: 11/24/2010 1440

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-77019		Instrument ID:	SEA026
Preparation:	3005A	Prep Batch: 580-76881		Lab File ID:	76881-ICPMS.rep
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1224			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1022				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	ND	^	0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-8-112410-W**

Lab Sample ID: 580-23103-6
Client Matrix: Water

Date Sampled: 11/24/2010 1110
Date Received: 11/24/2010 1440

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-77019		Instrument ID:	SEA026
Preparation:	3005A	Prep Batch: 580-76881		Lab File ID:	76881-ICPMS.rep
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1228			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1022				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	ND	^	0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-16-112410-W**

Lab Sample ID: 580-23103-7
Client Matrix: Water

Date Sampled: 11/24/2010 1208
Date Received: 11/24/2010 1440

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-77019		Instrument ID:	SEA026
Preparation:	3005A	Prep Batch: 580-76906		Lab File ID:	76881-ICPMS.rep
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1339			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1352				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	0.0013	^	0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **DUP-1-112410-W**

Lab Sample ID: 580-23103-8
Client Matrix: Water

Date Sampled: 11/24/2010 0000
Date Received: 11/24/2010 1440

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-77019		Instrument ID:	SEA026
Preparation:	3005A	Prep Batch: 580-76906		Lab File ID:	76881-ICPMS.rep
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1343			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1352				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	ND	^	0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-23103-1

Client Sample ID: **MW-18-112410-W**

Lab Sample ID: 580-23103-9
Client Matrix: Water

Date Sampled: 11/24/2010 1312
Date Received: 11/24/2010 1440

6020 Metals (ICP/MS)-Total Recoverable

Method:	6020	Analysis Batch: 580-77019		Instrument ID:	SEA026
Preparation:	3005A	Prep Batch: 580-76906		Lab File ID:	76881-ICPMS.rep
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1347			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1352				

Analyte	Result (mg/L)	Qualifier	RL	RL
Arsenic	0.0032	^	0.00040	0.00040

Client: GeoEngineers Inc

Job Number: 580-23103-1

General Chemistry

Client Sample ID: **MW-9-112210-W**

Lab Sample ID: 580-23103-1

Client Matrix: Water

Date Sampled: 11/22/2010 1315

Date Received: 11/24/2010 1440

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	1.9		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-76911 Date Analyzed: 12/07/2010 1231

General Chemistry

Client Sample ID: **MW-4-112210-W**

Lab Sample ID: 580-23103-2 Date Sampled: 11/22/2010 1413

Client Matrix: Water Date Received: 11/24/2010 1440

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	3.8		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-76911 Date Analyzed: 12/07/2010 1247

General Chemistry

Client Sample ID: **MW-17-112210-W**

Lab Sample ID: 580-23103-3 Date Sampled: 11/22/2010 1521
Client Matrix: Water Date Received: 11/24/2010 1440

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	28		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-76911 Date Analyzed: 12/07/2010 1304

General Chemistry

Client Sample ID: **MW-13-112210-W**

Lab Sample ID: 580-23103-4 Date Sampled: 11/22/2010 1653

Client Matrix: Water Date Received: 11/24/2010 1440

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	8.1		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-76911 Date Analyzed: 12/07/2010 1320

General Chemistry

Client Sample ID: **MW-3-112410-W**

Lab Sample ID: 580-23103-5 Date Sampled: 11/24/2010 1005

Client Matrix: Water Date Received: 11/24/2010 1440

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	6.6		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-76911 Date Analyzed: 12/07/2010 1409

General Chemistry

Client Sample ID: **MW-8-112410-W**

Lab Sample ID: 580-23103-6 Date Sampled: 11/24/2010 1110
Client Matrix: Water Date Received: 11/24/2010 1440

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

Analysis Batch: 580-76911 Date Analyzed: 12/07/2010 1426

General Chemistry

Client Sample ID: **MW-16-112410-W**

Lab Sample ID: 580-23103-7 Date Sampled: 11/24/2010 1208
Client Matrix: Water Date Received: 11/24/2010 1440

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	29		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-76911 Date Analyzed: 12/07/2010 1442

General Chemistry

Client Sample ID: **DUP-1-112410-W**

Lab Sample ID: 580-23103-8 Date Sampled: 11/24/2010 0000
Client Matrix: Water Date Received: 11/24/2010 1440

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	28		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-76911 Date Analyzed: 12/07/2010 1459

General Chemistry

Client Sample ID: **MW-18-112410-W**

Lab Sample ID: 580-23103-9 Date Sampled: 11/24/2010 1312
Client Matrix: Water Date Received: 11/24/2010 1440

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfate	38		mg/L	1.2	1.2	1.0	300.0

Analysis Batch: 580-76911 Date Analyzed: 12/07/2010 1515

Client: GeoEngineers Inc

Job Number: 580-23103-1

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
580-23103-1	MW-9-112210-W	102	105	93	96	97
580-23103-2	MW-4-112210-W	101	102	94	99	96
580-23103-3	MW-17-112210-W	100	100	93	100	94
580-23103-4	MW-13-112210-W	101	125	98	97	94
580-23103-5	MW-3-112410-W	101	105	95	104	96
580-23103-6	MW-8-112410-W	102	98	95	100	96
580-23103-7	MW-16-112410-W	102	104	95	104	95
580-23103-8	DUP-1-112410-W	102	106	97	94	91
580-23103-9	MW-18-112410-W	102	105	96	98	89
580-23103-10	Trip Blank	100	104	93	101	97
MB 580-76808/5		101	105	94	101	92
MB 580-76949/5		102	126X	96	102	96
LCS 580-76808/6		102	117	105	103	106
LCS 580-76949/6		103	107	107	103	106
LCSD 580-76808/7		102	115	107	104	105
LCSD 580-76949/7		102	121	106	100	103
580-23103-9 MS	MW-18-112410-W MS	103	106	106	96	96
580-23103-9 MSD	MW-18-112410-W MSD	100	111	104	105	106

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: 580-23103-1

Method Blank - Batch: 580-76808

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 580-76808/5
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/06/2010 1312
Date Prepared: 12/06/2010 1312

Analysis Batch: 580-76808
Prep Batch: N/A
Units: ug/L

Instrument ID: SEA015
Lab File ID: I0320318.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)	105	80 - 125
Fluorobenzene (Surr)	101	70 - 130
4-Bromofluorobenzene (Surr)	92	75 - 120
Toluene-d8 (Surr)	94	75 - 125
Ethylbenzene-d10	101	75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 580-76808

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 580-76808/6	Analysis Batch:	580-76808	Instrument ID:	SEA015
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	I0320319.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	12/06/2010 1338			Final Weight/Volume:	10 mL
Date Prepared:	12/06/2010 1338				

LCSD Lab Sample ID:	LCSD 580-76808/7	Analysis Batch:	580-76808	Instrument ID:	SEA015
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	I0320320.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	12/06/2010 1403			Final Weight/Volume:	10 mL
Date Prepared:	12/06/2010 1403				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
cis-1,2-Dichloroethene	100	110	71 - 144	10	20		
1,1-Dichloroethene	110	111	78 - 151	2	20		
Tetrachloroethene	92	102	54 - 161	10	20		
trans-1,2-Dichloroethene	106	114	73 - 135	8	20		
Trichloroethene	106	116	79 - 131	9	20		
Vinyl chloride	100	116	47 - 160	15	20		
Benzene	103	111	75 - 142	7	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Trifluorotoluene (Surr)	117	115	80 - 125
Fluorobenzene (Surr)	102	102	70 - 130
4-Bromofluorobenzene (Surr)	106	105	75 - 120
Toluene-d8 (Surr)	105	107	75 - 125
Ethylbenzene-d10	103	104	75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 580-76808

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 580-76808/6	Units:	ug/L	LCSD Lab Sample ID:	LCSD 580-76808/7
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Date Analyzed:	12/06/2010 1338			Date Analyzed:	12/06/2010 1403
Date Prepared:	12/06/2010 1338			Date Prepared:	12/06/2010 1403

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
cis-1,2-Dichloroethene	5.00	5.00	4.99	5.52
1,1-Dichloroethene	4.95	4.95	5.42	5.51
Tetrachloroethene	5.00	5.00	4.61	5.09
trans-1,2-Dichloroethene	5.00	5.00	5.28	5.70
Trichloroethene	5.00	5.00	5.29	5.78
Vinyl chloride	5.00	5.00	4.99	5.80
Benzene	4.98	4.98	5.14	5.51

Client: GeoEngineers Inc

Job Number: 580-23103-1

Method Blank - Batch: 580-76949

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 580-76949/5
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 1155
Date Prepared: 12/08/2010 1155

Analysis Batch: 580-76949
Prep Batch: N/A
Units: ug/L

Instrument ID: SEA015
Lab File ID: I0320366.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)	126	X	80 - 125
Fluorobenzene (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	96		75 - 120
Toluene-d8 (Surr)	96		75 - 125
Ethylbenzene-d10	102		75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 580-76949

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 580-76949/6	Analysis Batch:	580-76949	Instrument ID:	SEA015
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	I0320367.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	12/08/2010 1220			Final Weight/Volume:	10 mL
Date Prepared:	12/08/2010 1220				

LCSD Lab Sample ID:	LCSD 580-76949/7	Analysis Batch:	580-76949	Instrument ID:	SEA015
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	I0320368.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	10 mL
Date Analyzed:	12/08/2010 1245			Final Weight/Volume:	10 mL
Date Prepared:	12/08/2010 1245				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
cis-1,2-Dichloroethene	106	104	71 - 144	2	20		
1,1-Dichloroethene	115	114	78 - 151	1	20		
Tetrachloroethene	102	101	54 - 161	1	20		
trans-1,2-Dichloroethene	108	111	73 - 135	3	20		
Trichloroethene	110	109	79 - 131	1	20		
Vinyl chloride	108	110	47 - 160	1	20		
Benzene	109	107	75 - 142	1	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Trifluorotoluene (Surr)	107	121	80 - 125
Fluorobenzene (Surr)	103	102	70 - 130
4-Bromofluorobenzene (Surr)	106	103	75 - 120
Toluene-d8 (Surr)	107	106	75 - 125
Ethylbenzene-d10	103	100	75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 580-76949

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 580-76949/6	Units:	ug/L	LCSD Lab Sample ID:	LCSD 580-76949/7
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Date Analyzed:	12/08/2010 1220			Date Analyzed:	12/08/2010 1245
Date Prepared:	12/08/2010 1220			Date Prepared:	12/08/2010 1245

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
cis-1,2-Dichloroethene	5.00	5.00	5.30	5.20
1,1-Dichloroethene	4.95	4.95	5.67	5.63
Tetrachloroethene	5.00	5.00	5.12	5.07
trans-1,2-Dichloroethene	5.00	5.00	5.42	5.57
Trichloroethene	5.00	5.00	5.50	5.46
Vinyl chloride	5.00	5.00	5.42	5.48
Benzene	4.98	4.98	5.40	5.35

Client: GeoEngineers Inc

Job Number: 580-23103-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-76949

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	580-23103-9	Analysis Batch:	580-76949	Instrument ID:	SEA015
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	I0320376.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Date Analyzed:	12/08/2010 1615			Final Weight/Volume:	10 mL
Date Prepared:	12/08/2010 1615				

MSD Lab Sample ID:	580-23103-9	Analysis Batch:	580-76949	Instrument ID:	SEA015
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	I0320377.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Date Analyzed:	12/08/2010 1641			Final Weight/Volume:	10 mL
Date Prepared:	12/08/2010 1641				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
cis-1,2-Dichloroethene	105	103	71 - 144	2	20		
1,1-Dichloroethene	119	114	78 - 151	4	30		
Tetrachloroethene	84	81	64 - 161	4	20		
trans-1,2-Dichloroethene	110	107	73 - 135	3	20		
Trichloroethene	110	105	79 - 131	5	30		
Vinyl chloride	109	109	47 - 160	0	20		
Benzene	106	105	75 - 142	1	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Trifluorotoluene (Surr)	106	111	80 - 125
Fluorobenzene (Surr)	103	100	70 - 130
4-Bromofluorobenzene (Surr)	96	106	75 - 120
Toluene-d8 (Surr)	106	104	75 - 125
Ethylbenzene-d10	96	105	75 - 125

Client: GeoEngineers Inc

Job Number: 580-23103-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-76949

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	580-23103-9	Units: ug/L	MSD Lab Sample ID:	580-23103-9	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Date Analyzed:	12/08/2010 1615		Date Analyzed:	12/08/2010 1641	
Date Prepared:	12/08/2010 1615		Date Prepared:	12/08/2010 1641	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
cis-1,2-Dichloroethene	0.34	5.00	5.00	5.60	5.47
1,1-Dichloroethene	ND	4.95	4.95	5.90	5.66
Tetrachloroethene	ND	5.00	5.00	4.21	4.05
trans-1,2-Dichloroethene	0.23	5.00	5.00	5.73	5.58
Trichloroethene	0.81	5.00	5.00	6.33	6.05
Vinyl chloride	1.7	5.00	5.00	7.11	7.13
Benzene	0.11	4.98	4.98	5.38	5.31

Method Blank - Batch: 580-76881

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID: MB 580-76881/21-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 1120
Date Prepared: 12/07/2010 1022

Analysis Batch: 580-77019
Prep Batch: 580-76881
Units: mg/L

Instrument ID: SEA026
Lab File ID: 76881-ICPMS.rep
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 580-76881/24-A
Client Matrix: Water
Dilution: 50
Date Analyzed: 12/08/2010 1157
Date Prepared: 12/07/2010 1022

Analysis Batch: 580-77019
Prep Batch: 580-76881
Units: mg/L

Instrument ID: SEA026
Lab File ID: 76881-ICPMS.rep
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	4.00	4.10	102	80 - 120	^

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 580-76881

Method: 6020
Preparation: 3005A
Total Recoverable

LCS Lab Sample ID: LCS 580-76881/22-A
Client Matrix: Water
Dilution: 50
Date Analyzed: 12/08/2010 1148
Date Prepared: 12/07/2010 1022

Analysis Batch: 580-77019
Prep Batch: 580-76881
Units: mg/L

Instrument ID: SEA026
Lab File ID: 76881-ICPMS.rep
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-76881/23-A
Client Matrix: Water
Dilution: 50
Date Analyzed: 12/08/2010 1153
Date Prepared: 12/07/2010 1022

Analysis Batch: 580-77019
Prep Batch: 580-76881
Units: mg/L

Instrument ID: SEA026
Lab File ID: 76881-ICPMS.rep
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	101	102	80 - 120	0	20	^	^

Client: GeoEngineers Inc

Job Number: 580-23103-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 580-76881

Method: 6020
Preparation: 3005A
Total Recoverable

LCS Lab Sample ID:	LCS 580-76881/22-A	Units: mg/L	LCSD Lab Sample ID: LCSD 580-76881/23-A
Client Matrix:	Water		Client Matrix: Water
Dilution:	50		Dilution: 50
Date Analyzed:	12/08/2010 1148		Date Analyzed: 12/08/2010 1153
Date Prepared:	12/07/2010 1022		Date Prepared: 12/07/2010 1022

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Arsenic	4.00	4.00	4.05 ^	4.06 ^

Post Digestion Spike - Batch: 580-76881

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID:	580-23103-1	Analysis Batch:	580-77019	Instrument ID:	SEA026
Client Matrix:	Water	Prep Batch:	580-76881	Lab File ID:	76881-ICPMS.rep
Dilution:	50	Units:	mg/L	Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1144			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1022				

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

Client: GeoEngineers Inc

Job Number: 580-23103-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-76881

Method: 6020
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	580-23103-1	Analysis Batch:	580-77019	Instrument ID:	SEA026
Client Matrix:	Water	Prep Batch:	580-76881	Lab File ID:	76881-ICPMS.rep
Dilution:	50			Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1136			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1022				

MSD Lab Sample ID:	580-23103-1	Analysis Batch:	580-77019	Instrument ID:	SEA026
Client Matrix:	Water	Prep Batch:	580-76881	Lab File ID:	76881-ICPMS.rep
Dilution:	50			Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1140			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1022				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Arsenic	105	103	80 - 120	2	20	^	^

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-76881

Method: 6020
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	580-23103-1	Units: mg/L		MSD Lab Sample ID:	580-23103-1
Client Matrix:	Water			Client Matrix:	Water
Dilution:	50			Dilution:	50
Date Analyzed:	12/08/2010 1136			Date Analyzed:	12/08/2010 1140
Date Prepared:	12/07/2010 1022			Date Prepared:	12/07/2010 1022

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Arsenic	ND	4.00	4.00	4.20 ^	4.13 ^

Client: GeoEngineers Inc

Job Number: 580-23103-1

Serial Dilution - Batch: 580-76881

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID: 580-23103-1
Client Matrix: Water
Dilution: 5.0
Date Analyzed: 12/08/2010 1124
Date Prepared: 12/07/2010 1022

Analysis Batch: 580-77019
Prep Batch: 580-76881
Units: mg/L

Instrument ID: SEA026
Lab File ID: 76881-ICPMS.rep
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	%Diff	Limit	Qual
Arsenic	ND	ND	NC	10	^

Duplicate - Batch: 580-76881

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID: 580-23103-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 1132
Date Prepared: 12/07/2010 1022

Analysis Batch: 580-77019
Prep Batch: 580-76881
Units: mg/L

Instrument ID: SEA026
Lab File ID: 76881-ICPMS.rep
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Arsenic	ND	ND	NC	20	^

Method Blank - Batch: 580-76906

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID: MB 580-76906/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 1334
Date Prepared: 12/07/2010 1352

Analysis Batch: 580-77019
Prep Batch: 580-76906
Units: mg/L

Instrument ID: SEA026
Lab File ID: 76881-ICPMS.rep
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 580-76906/4-A
Client Matrix: Water
Dilution: 50
Date Analyzed: 12/08/2010 1412
Date Prepared: 12/07/2010 1352

Analysis Batch: 580-77019
Prep Batch: 580-76906
Units: mg/L

Instrument ID: SEA026
Lab File ID: 76881-ICPMS.rep
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	4.00	4.05	101	80 - 120	^

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 580-76906

Method: 6020
Preparation: 3005A
Total Recoverable

LCS Lab Sample ID: LCS 580-76906/2-A
Client Matrix: Water
Dilution: 50
Date Analyzed: 12/08/2010 1403
Date Prepared: 12/07/2010 1352

Analysis Batch: 580-77019
Prep Batch: 580-76906
Units: mg/L

Instrument ID: SEA026
Lab File ID: 76881-ICPMS.rep
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-76906/3-A
Client Matrix: Water
Dilution: 50
Date Analyzed: 12/08/2010 1407
Date Prepared: 12/07/2010 1352

Analysis Batch: 580-77019
Prep Batch: 580-76906
Units: mg/L

Instrument ID: SEA026
Lab File ID: 76881-ICPMS.rep
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Arsenic	100	100	80 - 120	1	20	^	^

Client: GeoEngineers Inc

Job Number: 580-23103-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 580-76906

Method: 6020
Preparation: 3005A
Total Recoverable

LCS Lab Sample ID:	LCS 580-76906/2-A	Units:	mg/L	LCSD Lab Sample ID:	LCSD 580-76906/3-A
Client Matrix:	Water			Client Matrix:	Water
Dilution:	50			Dilution:	50
Date Analyzed:	12/08/2010 1403			Date Analyzed:	12/08/2010 1407
Date Prepared:	12/07/2010 1352			Date Prepared:	12/07/2010 1352

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual		LCSD Result/Qual	
Arsenic	4.00	4.00	4.01	^	3.99	^

Post Digestion Spike - Batch: 580-76906

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID:	580-23103-9	Analysis Batch:	580-77019	Instrument ID:	SEA026
Client Matrix:	Water	Prep Batch:	580-76906	Lab File ID:	76881-ICPMS.rep
Dilution:	50	Units:	mg/L	Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1359			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1352				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	0.0032	4.00	4.00	100	75 - 125	^

Client: GeoEngineers Inc

Job Number: 580-23103-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-76906

Method: 6020
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	580-23103-9	Analysis Batch:	580-77019	Instrument ID:	SEA026
Client Matrix:	Water	Prep Batch:	580-76906	Lab File ID:	76881-ICPMS.rep
Dilution:	50			Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1351			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1352				

MSD Lab Sample ID:	580-23103-9	Analysis Batch:	580-77019	Instrument ID:	SEA026
Client Matrix:	Water	Prep Batch:	580-76906	Lab File ID:	76881-ICPMS.rep
Dilution:	50			Initial Weight/Volume:	50 mL
Date Analyzed:	12/08/2010 1355			Final Weight/Volume:	50 mL
Date Prepared:	12/07/2010 1352				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Arsenic	100	101	80 - 120	0	20	^	^

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-76906

Method: 6020
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	580-23103-9	Units: mg/L		MSD Lab Sample ID:	580-23103-9
Client Matrix:	Water			Client Matrix:	Water
Dilution:	50			Dilution:	50
Date Analyzed:	12/08/2010 1351			Date Analyzed:	12/08/2010 1355
Date Prepared:	12/07/2010 1352			Date Prepared:	12/07/2010 1352

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Arsenic	0.0032	4.00	4.00	4.02 ^	4.02 ^

Client: GeoEngineers Inc

Job Number: 580-23103-1

Method Blank - Batch: 580-76911

Method: 300.0
Preparation: N/A

Lab Sample ID: MB 580-76911/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/07/2010 1125
Date Prepared: N/A

Analysis Batch: 580-76911
Prep Batch: N/A
Units: mg/L

Instrument ID: TAC044
Lab File ID: 11.0000.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/
Lab Control Sample Duplicate Recovery Report - Batch: 580-76911

Method: 300.0
Preparation: N/A

LCS Lab Sample ID: LCS 580-76911/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/07/2010 1142
Date Prepared: N/A

Analysis Batch: 580-76911
Prep Batch: N/A
Units: mg/L

Instrument ID: TAC044
Lab File ID: 12.0000.TXT
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

LCSD Lab Sample ID: LCSD 580-76911/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/07/2010 1158
Date Prepared: N/A

Analysis Batch: 580-76911
Prep Batch: N/A
Units: mg/L

Instrument ID: TAC044
Lab File ID: 13.0000.TXT
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	% Rec. LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Sulfate	96	96	90 - 110	1	15		

Client: GeoEngineers Inc

Job Number: 580-23103-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 580-76911

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 580-76911/3	Units:	mg/L	LCSD Lab Sample ID:	LCSD 580-76911/4
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Date Analyzed:	12/07/2010 1142			Date Analyzed:	12/07/2010 1158
Date Prepared:	N/A			Date Prepared:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Sulfate	15.0	15.0	14.4	14.3

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-76911

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	580-23103-9	Analysis Batch:	580-76911	Instrument ID:	TAC044
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	27.0000.TXT
Dilution:	5.0			Initial Weight/Volume:	2 mL
Date Analyzed:	12/07/2010 1548			Final Weight/Volume:	2 mL
Date Prepared:	N/A				

MSD Lab Sample ID:	580-23103-9	Analysis Batch:	580-76911	Instrument ID:	TAC044
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	28.0000.TXT
Dilution:	5.0			Initial Weight/Volume:	2 mL
Date Analyzed:	12/07/2010 1604			Final Weight/Volume:	2 mL
Date Prepared:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Sulfate	94	89	90 - 110	3	15		F

Client: GeoEngineers Inc

Job Number: 580-23103-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-76911

Method: 300.0
Preparation: N/A

MS Lab Sample ID: 580-23103-9
Client Matrix: Water
Dilution: 5.0
Date Analyzed: 12/07/2010 1548
Date Prepared: N/A

Units: mg/L

MSD Lab Sample ID: 580-23103-9
Client Matrix: Water
Dilution: 5.0
Date Analyzed: 12/07/2010 1604
Date Prepared: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual	
Sulfate	38	40.0	40.0	75.2	73.4	F

Duplicate - Batch: 580-76911

Method: 300.0
Preparation: N/A

Lab Sample ID: 580-23103-9
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/07/2010 1531
Date Prepared: N/A

Analysis Batch: 580-76911
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	38	37.7	0.05	10	

DATA REPORTING QUALIFIERS

Client: GeoEngineers Inc

Job Number: 580-23103-1

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.
General Chemistry		
	F	MS or MSD exceeds the control limits

Client: GeoEngineers Inc

Job Number: 580-23103-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:580-76808					
LCS 580-76808/6	Lab Control Sample	T	Water	8260B	
LCSD 580-76808/7	Lab Control Sample Duplicate	T	Water	8260B	
MB 580-76808/5	Method Blank	T	Water	8260B	
580-23103-1	MW-9-112210-W	T	Water	8260B	
580-23103-2	MW-4-112210-W	T	Water	8260B	
580-23103-3	MW-17-112210-W	T	Water	8260B	
580-23103-4	MW-13-112210-W	T	Water	8260B	
Analysis Batch:580-76949					
LCS 580-76949/6	Lab Control Sample	T	Water	8260B	
LCSD 580-76949/7	Lab Control Sample Duplicate	T	Water	8260B	
MB 580-76949/5	Method Blank	T	Water	8260B	
580-23103-5	MW-3-112410-W	T	Water	8260B	
580-23103-6	MW-8-112410-W	T	Water	8260B	
580-23103-7	MW-16-112410-W	T	Water	8260B	
580-23103-8	DUP-1-112410-W	T	Water	8260B	
580-23103-9	MW-18-112410-W	T	Water	8260B	
580-23103-9MS	Matrix Spike	T	Water	8260B	
580-23103-9MSD	Matrix Spike Duplicate	T	Water	8260B	
580-23103-10	Trip Blank	T	Water	8260B	

Report Basis

T = Total

Client: GeoEngineers Inc

Job Number: 580-23103-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 580-76881					
LCS 580-76881/22-A	Lab Control Sample	R	Water	3005A	
LCSD 580-76881/23-A	Lab Control Sample Duplicate	R	Water	3005A	
LCSSRM 580-76881/24-A	LCS-Certified Reference Material	R	Water	3005A	
MB 580-76881/21-A	Method Blank	R	Water	3005A	
580-23103-1	MW-9-112210-W	R	Water	3005A	
580-23103-1DU	Duplicate	R	Water	3005A	
580-23103-1MS	Matrix Spike	R	Water	3005A	
580-23103-1MSD	Matrix Spike Duplicate	R	Water	3005A	
580-23103-2	MW-4-112210-W	R	Water	3005A	
580-23103-3	MW-17-112210-W	R	Water	3005A	
580-23103-4	MW-13-112210-W	R	Water	3005A	
580-23103-5	MW-3-112410-W	R	Water	3005A	
580-23103-6	MW-8-112410-W	R	Water	3005A	
Prep Batch: 580-76906					
LCS 580-76906/2-A	Lab Control Sample	R	Water	3005A	
LCSD 580-76906/3-A	Lab Control Sample Duplicate	R	Water	3005A	
LCSSRM 580-76906/4-A	LCS-Certified Reference Material	R	Water	3005A	
MB 580-76906/1-A	Method Blank	R	Water	3005A	
580-23103-7	MW-16-112410-W	R	Water	3005A	
580-23103-8	DUP-1-112410-W	R	Water	3005A	
580-23103-9	MW-18-112410-W	R	Water	3005A	
580-23103-9MS	Matrix Spike	R	Water	3005A	
580-23103-9MSD	Matrix Spike Duplicate	R	Water	3005A	

Client: GeoEngineers Inc

Job Number: 580-23103-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:580-77019					
LCS 580-76881/22-A	Lab Control Sample	R	Water	6020	580-76881
LCSD 580-76881/23-A	Lab Control Sample Duplicate	R	Water	6020	580-76881
LCSSRM 580-76881/24-A	LCS-Certified Reference Material	R	Water	6020	580-76881
MB 580-76881/21-A	Method Blank	R	Water	6020	580-76881
LCS 580-76906/2-A	Lab Control Sample	R	Water	6020	580-76906
LCSD 580-76906/3-A	Lab Control Sample Duplicate	R	Water	6020	580-76906
LCSSRM 580-76906/4-A	LCS-Certified Reference Material	R	Water	6020	580-76906
MB 580-76906/1-A	Method Blank	R	Water	6020	580-76906
580-23103-1	MW-9-112210-W	R	Water	6020	580-76881
580-23103-1DU	Duplicate	R	Water	6020	580-76881
580-23103-1MS	Matrix Spike	R	Water	6020	580-76881
580-23103-1MSD	Matrix Spike Duplicate	R	Water	6020	580-76881
580-23103-2	MW-4-112210-W	R	Water	6020	580-76881
580-23103-3	MW-17-112210-W	R	Water	6020	580-76881
580-23103-4	MW-13-112210-W	R	Water	6020	580-76881
580-23103-5	MW-3-112410-W	R	Water	6020	580-76881
580-23103-6	MW-8-112410-W	R	Water	6020	580-76881
580-23103-7	MW-16-112410-W	R	Water	6020	580-76906
580-23103-8	DUP-1-112410-W	R	Water	6020	580-76906
580-23103-9	MW-18-112410-W	R	Water	6020	580-76906
580-23103-9MS	Matrix Spike	R	Water	6020	580-76906
580-23103-9MSD	Matrix Spike Duplicate	R	Water	6020	580-76906

Report Basis

R = Total Recoverable

Client: GeoEngineers Inc

Job Number: 580-23103-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:580-76911					
LCS 580-76911/3	Lab Control Sample	T	Water	300.0	
LCSD 580-76911/4	Lab Control Sample Duplicate	T	Water	300.0	
MB 580-76911/2	Method Blank	T	Water	300.0	
580-23103-1	MW-9-112210-W	T	Water	300.0	
580-23103-2	MW-4-112210-W	T	Water	300.0	
580-23103-3	MW-17-112210-W	T	Water	300.0	
580-23103-4	MW-13-112210-W	T	Water	300.0	
580-23103-5	MW-3-112410-W	T	Water	300.0	
580-23103-6	MW-8-112410-W	T	Water	300.0	
580-23103-7	MW-16-112410-W	T	Water	300.0	
580-23103-8	DUP-1-112410-W	T	Water	300.0	
580-23103-9	MW-18-112410-W	T	Water	300.0	
580-23103-9DU	Duplicate	T	Water	300.0	
580-23103-9MS	Matrix Spike	T	Water	300.0	
580-23103-9MSD	Matrix Spike Duplicate	T	Water	300.0	

Report Basis

T = Total

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

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_00004	12/30/10	09/30/10	H2O, Lot 032610	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_00005	01/31/11	11/30/10	H2O, Lot 033110	1000 mL	ICPMS_ICV_00001	4 mL	Arsenic	40 ug/L
.ICPMS_ICV_00001	01/31/11	SPEX, Lot 21-150JB			(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_50_00023	02/16/11	12/01/10	omnisolv MeOH, Lot 50172	50 mL	8260 Smix1_00011	1250 uL	Vinyl chloride	50 mg/L
.8260 Smix1_00011	10/06/13	AccuStandard, Lot 210091188			(Purchased Reagent)		Vinyl chloride	2000 ug/mL
V_LCS_L_50_00020	01/12/11	07/12/10	B&J MeOH, Lot H46E47	50 mL	8260 LiqS_00011	1250 uL	1,1-Dichloroethene	49.5 mg/L
							Benzene	49.75 mg/L
							cis-1,2-Dichloroethene	49.975 mg/L
							Tetrachloroethene	50.05 mg/L
							trans-1,2-Dichloroethene	50.05 mg/L
							Trichloroethene	50.025 mg/L
.8260 LiqS_00011	03/11/11	AccuStandard, Inc, Lot B80100191			(Purchased Reagent)		1,1-Dichloroethene	1980 ug/mL
							Benzene	1990 ug/mL
							cis-1,2-Dichloroethene	1999 ug/mL
							Tetrachloroethene	2002 ug/mL
							trans-1,2-Dichloroethene	2002 ug/mL

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Trichloroethene	2001 ug/mL
vcal_L_50_00012	05/05/11	11/05/10	omnisolv MeOH, Lot 50172	50 mL	8260 Pfull_00004	1000 uL	1,1,1,2-Tetrachloroethane	50.05 mg/L
							1,1,1-Trichloroethane	50.015 mg/L
							1,1,2,2-Tetrachloroethane	50.025 mg/L
							1,1,2-Trichloro-1,2,2-trifluoroethane	49.735 mg/L
							1,1,2-Trichloroethane	50.02 mg/L
							1,1-Dichloroethane	49.915 mg/L
							1,1-Dichloroethene	50.31 mg/L
							1,1-Dichloropropene	49.905 mg/L
							1,2,3-Trichlorobenzene	49.93 mg/L
							1,2,3-Trichloropropane	50.145 mg/L
							1,2,4-Trichlorobenzene	49.99 mg/L
							1,2,4-Trimethylbenzene	50.075 mg/L
							1,2-Dibromo-3-Chloropropane	50.01 mg/L
							1,2-Dichlorobenzene	50.025 mg/L
							1,2-Dichloroethane	49.975 mg/L
							1,2-Dichloropropane	50.32 mg/L
							1,3,5-Trichlorobenzene	49.7 mg/L
							1,3,5-Trimethylbenzene	50.05 mg/L
							1,3-Dichlorobenzene	50.025 mg/L
							1,3-Dichloropropane	50.07 mg/L
							1,4-Dichlorobenzene	49.95 mg/L
							1,4-Dioxane	1249.85 mg/L
							2,2-Dichloropropane	50.04 mg/L
							2-Chlorotoluene	50.225 mg/L
							4-Chlorotoluene	50.125 mg/L
							4-Isopropyltoluene	49.95 mg/L
							Acrylonitrile	251.05 mg/L
							Benzene	49.97 mg/L
							Bromobenzene	50.29 mg/L
							Bromoform	50.75 mg/L
							Carbon disulfide	50.315 mg/L
							Carbon tetrachloride	50.055 mg/L
							Chlorobenzene	49.9 mg/L
							Chlorobromomethane	50.095 mg/L
							Chlorodibromomethane	49.625 mg/L
							Chloroform	50.05 mg/L
							cis-1,2-Dichloroethene	49.94 mg/L
							cis-1,3-Dichloropropene	49.2 mg/L
							Dibromomethane	50.06 mg/L
							Dichlorobromomethane	50.05 mg/L
							Ethylbenzene	50.075 mg/L
							Ethylene Dibromide	50.07 mg/L
							Hexachlorobutadiene	50.02 mg/L
							Hexachloroethane	49.75 mg/L
							Hexane	49.705 mg/L
							Iodomethane	250.65 mg/L
							Isopropylbenzene	50.2 mg/L

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

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	100.045 mg/L
							Methylene Chloride	50.495 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	50.035 mg/L
							Styrene	50.2 mg/L
							tert-Butylbenzene	49.995 mg/L
							Tetrachloroethene	50.155 mg/L
							Toluene	49.995 mg/L
							trans-1,2-Dichloroethene	49.72 mg/L
							trans-1,3-Dichloropropene	50.58 mg/L
							trans-1,4-Dichloro-2-butene	250.4 mg/L
							Trichloroethene	50.04 mg/L
					8260 Pfull_00005	250 uL	1,1,1,2-Tetrachloroethane	50.05 mg/L
							1,1,1-Trichloroethane	50.015 mg/L
							1,1,2,2-Tetrachloroethane	50.025 mg/L
							1,1,2-Trichloro-1,2,2-trifluoroethane	49.735 mg/L
							1,1,2-Trichloroethane	50.02 mg/L
							1,1-Dichloroethane	49.915 mg/L
							1,1-Dichloroethene	50.31 mg/L
							1,1-Dichloropropene	49.905 mg/L
							1,2,3-Trichlorobenzene	49.93 mg/L
							1,2,3-Trichloropropane	50.145 mg/L
							1,2,4-Trichlorobenzene	49.99 mg/L
							1,2,4-Trimethylbenzene	50.075 mg/L
							1,2-Dibromo-3-Chloropropane	50.01 mg/L
							1,2-Dichlorobenzene	50.025 mg/L
							1,2-Dichloroethane	49.975 mg/L
							1,2-Dichloropropane	50.32 mg/L
							1,3,5-Trichlorobenzene	49.7 mg/L
							1,3,5-Trimethylbenzene	50.05 mg/L
							1,3-Dichlorobenzene	50.025 mg/L
							1,3-Dichloropropane	50.07 mg/L
							1,4-Dichlorobenzene	49.95 mg/L
							1,4-Dioxane	1249.85 mg/L
							2,2-Dichloropropane	50.04 mg/L
							2-Chlorotoluene	50.225 mg/L
							4-Chlorotoluene	50.125 mg/L
							4-Isopropyltoluene	49.95 mg/L
							Acrylonitrile	251.05 mg/L
							Benzene	49.97 mg/L
							Bromobenzene	50.29 mg/L
							Bromoform	50.75 mg/L
							Carbon disulfide	50.315 mg/L
							Carbon tetrachloride	50.055 mg/L
							Chlorobenzene	49.9 mg/L
							Chlorobromomethane	50.225 mg/L

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chlorodibromomethane	49.625 mg/L
							Chloroform	50.05 mg/L
							cis-1,2-Dichloroethene	49.94 mg/L
							cis-1,3-Dichloropropene	49.2 mg/L
							Dibromomethane	50.06 mg/L
							Dichlorobromomethane	50.05 mg/L
							Ethylbenzene	50.075 mg/L
							Ethylene Dibromide	50.07 mg/L
							Hexachlorobutadiene	50.02 mg/L
							Hexachloroethane	49.75 mg/L
							Hexane	49.705 mg/L
							Iodomethane	250.65 mg/L
							Isopropylbenzene	49.985 mg/L
							m-Xylene & p-Xylene	100.045 mg/L
							Methylene Chloride	50.495 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	50.035 mg/L
							Styrene	50.2 mg/L
							tert-Butylbenzene	49.995 mg/L
							Tetrachloroethene	50.155 mg/L
							Toluene	49.995 mg/L
							trans-1,2-Dichloroethene	49.72 mg/L
							trans-1,3-Dichloropropene	50.58 mg/L
							trans-1,4-Dichloro-2-butene	250.4 mg/L
							Trichloroethene	50.04 mg/L
.8260 Pfull_00004	02/24/12		Elements, Lot 156529		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2001 mg/L
							1,1,1-Trichloroethane	2001 mg/L
							1,1,2,2-Tetrachloroethane	2000 mg/L
							1,1,2-Trichloro-1,2,2-trifluoroethane	1988 mg/L
							1,1,2-Trichloroethane	2000 mg/L
							1,1-Dichloroethane	1996 mg/L
							1,1-Dichloroethene	2016 mg/L
							1,1-Dichloropropene	2000 mg/L
							1,2,3-Trichlorobenzene	2000 mg/L
							1,2,3-Trichloropropane	2002 mg/L
							1,2,4-Trichlorobenzene	2003 mg/L
							1,2,4-Trimethylbenzene	2001 mg/L
							1,2-Dibromo-3-Chloropropane	1999 mg/L
							1,2-Dichlorobenzene	2001 mg/L
							1,2-Dichloroethane	1999 mg/L
							1,2-Dichloropropane	2005 mg/L
							1,3,5-Trichlorobenzene	1985 mg/L
							1,3,5-Trimethylbenzene	2002 mg/L
							1,3-Dichlorobenzene	2001 mg/L
							1,3-Dichloropropane	2004 mg/L
							1,4-Dichlorobenzene	1999 mg/L

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dioxane	49990 mg/L
							2,2-Dichloropropane	2002 mg/L
							2-Chlorotoluene	2009 mg/L
							4-Chlorotoluene	2005 mg/L
							4-Isopropyltoluene	1998 mg/L
							Acrylonitrile	10050 mg/L
							Benzene	1999 mg/L
							Bromobenzene	2011 mg/L
							Bromoform	2030 mg/L
							Carbon disulfide	2015 mg/L
							Carbon tetrachloride	2002 mg/L
							Chlorobenzene	1996 mg/L
							Chlorobromomethane	2004 mg/L
							Chlorodibromomethane	1985 mg/L
							Chloroform	2002 mg/L
							cis-1,2-Dichloroethene	1996 mg/L
							cis-1,3-Dichloropropene	1964 mg/L
							Dibromomethane	2000 mg/L
							Dichlorobromomethane	2002 mg/L
							Ethylbenzene	2004 mg/L
							Ethylene Dibromide	2002 mg/L
							Hexachlorobutadiene	2001 mg/L
							Hexachloroethane	1986 mg/L
							Hexane	1984 mg/L
							Iodomethane	10020 mg/L
							Isopropylbenzene	1999 mg/L
							m-Xylene & p-Xylene	4001 mg/L
							Methylene Chloride	2026 mg/L
							n-Butylbenzene	2000 mg/L
							N-Propylbenzene	2000 mg/L
							Naphthalene	2003 mg/L
							o-Xylene	2002 mg/L
							sec-Butylbenzene	2001 mg/L
							Styrene	2008 mg/L
							tert-Butylbenzene	2000 mg/L
							Tetrachloroethene	2007 mg/L
							Toluene	2000 mg/L
							trans-1,2-Dichloroethene	1986 mg/L
							trans-1,3-Dichloropropene	2019 mg/L
							trans-1,4-Dichloro-2-butene	10020 mg/L
							Trichloroethene	2002 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	1999 mg/L

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							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
							1,4-Dioxane	50010 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	1985 mg/L
							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	2001 mg/L

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							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
vcalg50_00018	06/02/11	12/02/10	omnisolv MeOH, Lot 50172	50 mL	8260 Pmix1_00004	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_00005	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_00004	03/31/16		Restek, Lot A068886		(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
							Vinyl chloride	2000.28 ug/mL
.8260P VOA1_00005	02/28/13		Restek, Lot A071117		(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
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
							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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					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
					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

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.: 580-23103-1

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-9-112210-W	580-23103-1	102	105	93	96	97
MW-4-112210-W	580-23103-2	101	102	94	99	96
MW-17-112210-W	580-23103-3	100	100	93	100	94
MW-13-112210-W	580-23103-4	101	125	98	97	94
MW-3-112410-W	580-23103-5	101	105	95	104	96
MW-8-112410-W	580-23103-6	102	98	95	100	96
MW-16-112410-W	580-23103-7	102	104	95	104	95
DUP-1-112410-W	580-23103-8	102	106	97	94	91
MW-18-112410-W	580-23103-9	102	105	96	98	89
Trip Blank	580-23103-10	100	104	93	101	97
	MB 580-76808/5	101	105	94	101	92
	MB 580-76949/5	102	126 X	96	102	96
	LCS 580-76808/6	102	117	105	103	106
	LCS 580-76949/6	103	107	107	103	106
	LCSD 580-76808/7	102	115	107	104	105
	LCSD 580-76949/7	102	121	106	100	103
MW-18-112410-W MS	580-23103-9 MS	103	106	106	96	96
MW-18-112410-W MSD	580-23103-9 MSD	100	111	104	105	106

	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.: 580-23103-1

SDG No.:

Matrix: Water Level: Low Lab File ID: I0320319.D

Lab ID: LCS 580-76808/6 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
cis-1,2-Dichloroethene	5.00	4.99	100	71-144	
1,1-Dichloroethene	4.95	5.42	110	78-151	
Tetrachloroethene	5.00	4.61	92	54-161	
trans-1,2-Dichloroethene	5.00	5.28	106	73-135	
Trichloroethene	5.00	5.29	106	79-131	
Vinyl chloride	5.00	4.99	100	47-160	
Benzene	4.98	5.14	103	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.: 580-23103-1

SDG No.:

Matrix: Water Level: Low Lab File ID: I0320367.D

Lab ID: LCS 580-76949/6 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
cis-1,2-Dichloroethene	5.00	5.30	106	71-144	
1,1-Dichloroethene	4.95	5.67	115	78-151	
Tetrachloroethene	5.00	5.12	102	54-161	
trans-1,2-Dichloroethene	5.00	5.42	108	73-135	
Trichloroethene	5.00	5.50	110	79-131	
Vinyl chloride	5.00	5.42	108	47-160	
Benzene	4.98	5.40	109	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.: 580-23103-1

SDG No.:

Matrix: Water Level: Low Lab File ID: I0320320.D

Lab ID: LCSD 580-76808/7 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	5.52	110	10	20	71-144	
1,1-Dichloroethene	4.95	5.51	111	2	20	78-151	
Tetrachloroethene	5.00	5.09	102	10	20	54-161	
trans-1,2-Dichloroethene	5.00	5.70	114	8	20	73-135	
Trichloroethene	5.00	5.78	116	9	20	79-131	
Vinyl chloride	5.00	5.80	116	15	20	47-160	
Benzene	4.98	5.51	111	7	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.: 580-23103-1

SDG No.:

Matrix: Water Level: Low Lab File ID: I0320368.D

Lab ID: LCSD 580-76949/7 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	5.20	104	2	20	71-144	
1,1-Dichloroethene	4.95	5.63	114	1	20	78-151	
Tetrachloroethene	5.00	5.07	101	1	20	54-161	
trans-1,2-Dichloroethene	5.00	5.57	111	3	20	73-135	
Trichloroethene	5.00	5.46	109	1	20	79-131	
Vinyl chloride	5.00	5.48	110	1	20	47-160	
Benzene	4.98	5.35	107	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.: 580-23103-1

SDG No.:

Matrix: Water Level: Low Lab File ID: I0320376.D

Lab ID: 580-23103-9 MS Client ID: MW-18-112410-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	0.34	5.60	105	71-144	
1,1-Dichloroethene	4.95	ND	5.90	119	78-151	
Tetrachloroethene	5.00	ND	4.21	84	64-161	
trans-1,2-Dichloroethene	5.00	0.23	5.73	110	73-135	
Trichloroethene	5.00	0.81	6.33	110	79-131	
Vinyl chloride	5.00	1.7	7.11	109	47-160	
Benzene	4.98	0.11	5.38	106	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.: 580-23103-1

SDG No.:

Matrix: Water Level: Low Lab File ID: I0320377.D

Lab ID: 580-23103-9 MSD Client ID: MW-18-112410-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	5.47	103	2	20	71-144	
1,1-Dichloroethene	4.95	5.66	114	4	30	78-151	
Tetrachloroethene	5.00	4.05	81	4	20	64-161	
trans-1,2-Dichloroethene	5.00	5.58	107	3	20	73-135	
Trichloroethene	5.00	6.05	105	5	30	79-131	
Vinyl chloride	5.00	7.13	109	0	20	47-160	
Benzene	4.98	5.31	105	1	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.: 580-23103-1

SDG No.:

Lab File ID: I0320318.D Lab Sample ID: MB 580-76808/5

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

Instrument ID: SEA015 Date Analyzed: 12/06/2010 13:12

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 580-76808/6	I0320319.D	12/06/2010 13:38
	LCSD 580-76808/7	I0320320.D	12/06/2010 14:03
MW-9-112210-W	580-23103-1	I0320322.D	12/06/2010 14:54
MW-4-112210-W	580-23103-2	I0320323.D	12/06/2010 15:19
MW-17-112210-W	580-23103-3	I0320324.D	12/06/2010 15:45
MW-13-112210-W	580-23103-4	I0320325.D	12/06/2010 16:12

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Lab File ID: I0320366.D Lab Sample ID: MB 580-76949/5

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

Instrument ID: SEA015 Date Analyzed: 12/08/2010 11:55

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 580-76949/6	I0320367.D	12/08/2010 12:20
	LCSD 580-76949/7	I0320368.D	12/08/2010 12:45
MW-3-112410-W	580-23103-5	I0320370.D	12/08/2010 13:37
MW-8-112410-W	580-23103-6	I0320371.D	12/08/2010 14:03
MW-16-112410-W	580-23103-7	I0320372.D	12/08/2010 14:28
DUP-1-112410-W	580-23103-8	I0320373.D	12/08/2010 14:57
MW-18-112410-W	580-23103-9	I0320374.D	12/08/2010 15:22
Trip Blank	580-23103-10	I0320375.D	12/08/2010 15:49
MW-18-112410-W MS	580-23103-9 MS	I0320376.D	12/08/2010 16:15
MW-18-112410-W MSD	580-23103-9 MSD	I0320377.D	12/08/2010 16:41

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

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Lab File ID: BFB Injection Date:

Instrument ID: BFB Injection Time:

Lab File ID: DFTPP Injection Date:

Instrument ID: DFTPP Injection Time:

Analysis Batch No.:

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE

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 580-76808/3	I0320316.D	12/06/2010	12:21

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

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Lab File ID: I0320255.D BFB Injection Date: 12/03/2010

Instrument ID: SEA015 BFB Injection Time: 11:41

Analysis Batch No.: 76712

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	18.2	
75	30.0 - 60.0 % of mass 95	47.2	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.2	
173	Less than 2.0 % of mass 174	0.9	(1.1)1
174	50.0 - 120.00 % of mass 95	76.8	
175	5.0 - 9.0 % of mass 174	5.7	(7.4)1
176	95.0 - 101.0 % of mass 174	71.6	(93.3)1
177	5.0 - 9.0 % of mass 176	4.5	(6.2)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 580-76712/3	I0320256.D	12/03/2010	12:07

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

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Lab File ID: I0320256BFB.D BFB Injection Date: 12/03/2010

Instrument ID: SEA015 BFB Injection Time: 12:07

Analysis Batch No.: 76712

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	16.9	
75	30.0 - 60.0 % of mass 95	44.9	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.1	
173	Less than 2.0 % of mass 174	0.7	(0.8)1
174	50.0 - 120.00 % of mass 95	80.0	
175	5.0 - 9.0 % of mass 174	5.9	(7.4)1
176	95.0 - 101.0 % of mass 174	77.4	(96.8)1
177	5.0 - 9.0 % of mass 176	5.2	(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
	STD 580-76712/4	I0320257.D	12/03/2010	12:32
	STD 580-76712/5	I0320258.D	12/03/2010	12:58
	STD 580-76712/6	I0320259.D	12/03/2010	13:23
	STD001 580-76712/7	I0320260.D	12/03/2010	13:48
	ICIS 580-76712/8	I0320261.D	12/03/2010	14:14
	STD010 580-76712/9	I0320262.D	12/03/2010	14:39
	STD020 580-76712/10	I0320263.D	12/03/2010	15:05
	STD040 580-76712/11	I0320264.D	12/03/2010	15:30
	STD080 580-76712/12	I0320265.D	12/03/2010	15:55
	ICV 580-76712/15	I0320268.D	12/03/2010	17:11

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

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Lab File ID: I0320316BFB.D BFB Injection Date: 12/06/2010

Instrument ID: SEA015 BFB Injection Time: 12:21

Analysis Batch No.: 76808

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	15.4	
75	30.0 - 60.0 % of mass 95	41.6	
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	0.8	(0.8)1
174	50.0 - 120.00 % of mass 95	99.8	
175	5.0 - 9.0 % of mass 174	6.6	(6.6)1
176	95.0 - 101.0 % of mass 174	95.0	(95.2)1
177	5.0 - 9.0 % of mass 176	5.5	(5.8)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
	MB 580-76808/5	I0320318.D	12/06/2010	13:12
	LCS 580-76808/6	I0320319.D	12/06/2010	13:38
	LCSD 580-76808/7	I0320320.D	12/06/2010	14:03
MW-9-112210-W	580-23103-1	I0320322.D	12/06/2010	14:54
MW-4-112210-W	580-23103-2	I0320323.D	12/06/2010	15:19
MW-17-112210-W	580-23103-3	I0320324.D	12/06/2010	15:45
MW-13-112210-W	580-23103-4	I0320325.D	12/06/2010	16:12

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

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Lab File ID: I0320363.D BFB Injection Date: 12/08/2010

Instrument ID: SEA015 BFB Injection Time: 10:39

Analysis Batch No.: 76949

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.6	
75	30.0 - 60.0 % of mass 95	47.3	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.5	
173	Less than 2.0 % of mass 174	0.7	(0.9)1
174	50.0 - 120.00 % of mass 95	76.9	
175	5.0 - 9.0 % of mass 174	5.5	(7.1)1
176	95.0 - 101.0 % of mass 174	75.3	(98.0)1
177	5.0 - 9.0 % of mass 176	5.0	(6.6)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 580-76949/3	I0320364.D	12/08/2010	11:05
	MB 580-76949/5	I0320366.D	12/08/2010	11:55
	LCS 580-76949/6	I0320367.D	12/08/2010	12:20
	LCSD 580-76949/7	I0320368.D	12/08/2010	12:45
MW-3-112410-W	580-23103-5	I0320370.D	12/08/2010	13:37
MW-8-112410-W	580-23103-6	I0320371.D	12/08/2010	14:03
MW-16-112410-W	580-23103-7	I0320372.D	12/08/2010	14:28
DUP-1-112410-W	580-23103-8	I0320373.D	12/08/2010	14:57
MW-18-112410-W	580-23103-9	I0320374.D	12/08/2010	15:22
Trip Blank	580-23103-10	I0320375.D	12/08/2010	15:49
MW-18-112410-W MS	580-23103-9 MS	I0320376.D	12/08/2010	16:15
MW-18-112410-W MSD	580-23103-9 MSD	I0320377.D	12/08/2010	16:41

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

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Sample No.: ICIS 580-76712/8 Date Analyzed: 12/03/2010 14:14

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

Lab File ID (Standard): I0320261.D Heated Purge: (Y/N) N

Calibration ID: 6872

		PFB		DFB		DCB	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		883978	2.49	1572046	2.78	746729	4.94
UPPER LIMIT		1767956	2.99	3144092	3.28	1493458	5.44
LOWER LIMIT		441989	1.99	786023	2.28	373365	4.44
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 580-76712/15		1091391	2.49	1856512	2.78	877528	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.: 580-23103-1

SDG No.:

Sample No.: CCVIS 580-76808/3 Date Analyzed: 12/06/2010 12:21

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

Lab File ID (Standard): I0320316.D Heated Purge: (Y/N) N

Calibration ID: 6872

		PFB		DFB		DCB	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		873530	2.49	1578288	2.78	768864	4.94
UPPER LIMIT		1747060	2.99	3156576	3.28	1537728	5.44
LOWER LIMIT		436765	1.99	789144	2.28	384432	4.44
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 580-76808/5		786475	2.49	1512279	2.78	661450	4.94
LCS 580-76808/6		871551	2.49	1571061	2.78	731714	4.94
LCSD 580-76808/7		849690	2.49	1497310	2.78	718713	4.94
580-23103-1	MW-9-112210-W	830571	2.49	1561031	2.77	708317	4.94
580-23103-2	MW-4-112210-W	793373	2.49	1517974	2.78	687905	4.94
580-23103-3	MW-17-112210-W	794520	2.49	1510170	2.78	676984	4.95
580-23103-4	MW-13-112210-W	756976	2.48	1417432	2.77	664060	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.: 580-23103-1

SDG No.:

Sample No.: CCVIS 580-76949/3 Date Analyzed: 12/08/2010 11:05

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

Lab File ID (Standard): I0320364.D Heated Purge: (Y/N) N

Calibration ID: 6872

		PFB		DFB		DCB	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		852123	2.49	1525509	2.78	748755	4.94
UPPER LIMIT		1704246	2.99	3051018	3.28	1497510	5.44
LOWER LIMIT		426062	1.99	762755	2.28	374378	4.44
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 580-76949/5		841970	2.49	1561784	2.78	674930	4.95
LCS 580-76949/6		900340	2.49	1594498	2.77	759860	4.95
LCSD 580-76949/7		912688	2.49	1654378	2.78	782109	4.94
580-23103-5	MW-3-112410-W	862702	2.49	1602081	2.78	718709	4.94
580-23103-6	MW-8-112410-W	819156	2.49	1535846	2.78	690816	4.94
580-23103-7	MW-16-112410-W	819451	2.49	1538527	2.78	667943	4.94
580-23103-8	DUP-1-112410-W	810349	2.48	1527234	2.77	696171	4.94
580-23103-9	MW-18-112410-W	799138	2.48	1491847	2.77	696067	4.94
580-23103-10	Trip Blank	808560	2.49	1521036	2.78	667826	4.94
580-23103-9 MS	MW-18-112410-W MS	856775	2.49	1530457	2.77	775457	4.94
580-23103-9 MSD	MW-18-112410-W MSD	890656	2.49	1577972	2.78	767609	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.: 580-23103-1

SDG No.:

Client Sample ID: MW-9-112210-W | Lab Sample ID: 580-23103-1

Matrix: Water | Lab File ID: I0320322.D

Analysis Method: 8260B | Date Collected: 11/22/2010 13:15

Sample wt/vol: 10(mL) | Date Analyzed: 12/06/2010 14:54

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.: 76808 | 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)	105		80-125
462-06-6	Fluorobenzene (Surr)	102		70-130
460-00-4	4-Bromofluorobenzene (Surr)	97		75-120
2037-26-5	Toluene-d8 (Surr)	93		75-125
25837-05-2	Ethylbenzene-d10	96		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-23103-1

SDG No.:

Client Sample ID: MW-4-112210-W | Lab Sample ID: 580-23103-2

Matrix: Water | Lab File ID: I0320323.D

Analysis Method: 8260B | Date Collected: 11/22/2010 14:13

Sample wt/vol: 10(mL) | Date Analyzed: 12/06/2010 15:19

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.: 76808 | 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	0.34		0.10	0.10
75-01-4	Vinyl chloride	0.065		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	102		80-125
462-06-6	Fluorobenzene (Surr)	101		70-130
460-00-4	4-Bromofluorobenzene (Surr)	96		75-120
2037-26-5	Toluene-d8 (Surr)	94		75-125
25837-05-2	Ethylbenzene-d10	99		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-23103-1

SDG No.:

Client Sample ID: MW-17-112210-W | Lab Sample ID: 580-23103-3

Matrix: Water | Lab File ID: I0320324.D

Analysis Method: 8260B | Date Collected: 11/22/2010 15:21

Sample wt/vol: 10(mL) | Date Analyzed: 12/06/2010 15:45

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.: 76808 | 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	0.22		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)	100		80-125
462-06-6	Fluorobenzene (Surr)	100		70-130
460-00-4	4-Bromofluorobenzene (Surr)	94		75-120
2037-26-5	Toluene-d8 (Surr)	93		75-125
25837-05-2	Ethylbenzene-d10	100		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-23103-1

SDG No.:

Client Sample ID: MW-13-112210-W | Lab Sample ID: 580-23103-4

Matrix: Water | Lab File ID: I0320325.D

Analysis Method: 8260B | Date Collected: 11/22/2010 16:53

Sample wt/vol: 10(mL) | Date Analyzed: 12/06/2010 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.: 76808 | 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)	125		80-125
462-06-6	Fluorobenzene (Surr)	101		70-130
460-00-4	4-Bromofluorobenzene (Surr)	94		75-120
2037-26-5	Toluene-d8 (Surr)	98		75-125
25837-05-2	Ethylbenzene-d10	97		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-23103-1

SDG No.:

Client Sample ID: MW-3-112410-W | Lab Sample ID: 580-23103-5

Matrix: Water | Lab File ID: I0320370.D

Analysis Method: 8260B | Date Collected: 11/24/2010 10:05

Sample wt/vol: 10(mL) | Date Analyzed: 12/08/2010 13:37

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.: 76949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	0.28		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	1.3		0.10	0.10
75-01-4	Vinyl chloride	1.1		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	105		80-125
462-06-6	Fluorobenzene (Surr)	101		70-130
460-00-4	4-Bromofluorobenzene (Surr)	96		75-120
2037-26-5	Toluene-d8 (Surr)	95		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.: 580-23103-1

SDG No.:

Client Sample ID: MW-8-112410-W | Lab Sample ID: 580-23103-6

Matrix: Water | Lab File ID: I0320371.D

Analysis Method: 8260B | Date Collected: 11/24/2010 11:10

Sample wt/vol: 10(mL) | Date Analyzed: 12/08/2010 14:03

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.: 76949 | 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	0.066		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	98		80-125
462-06-6	Fluorobenzene (Surr)	102		70-130
460-00-4	4-Bromofluorobenzene (Surr)	96		75-120
2037-26-5	Toluene-d8 (Surr)	95		75-125
25837-05-2	Ethylbenzene-d10	100		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-23103-1

SDG No.:

Client Sample ID: MW-16-112410-W | Lab Sample ID: 580-23103-7

Matrix: Water | Lab File ID: I0320372.D

Analysis Method: 8260B | Date Collected: 11/24/2010 12:08

Sample wt/vol: 10(mL) | Date Analyzed: 12/08/2010 14:28

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.: 76949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	0.17		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	0.19		0.10	0.10
79-01-6	Trichloroethene	0.49		0.10	0.10
75-01-4	Vinyl chloride	0.33		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	104		80-125
462-06-6	Fluorobenzene (Surr)	102		70-130
460-00-4	4-Bromofluorobenzene (Surr)	95		75-120
2037-26-5	Toluene-d8 (Surr)	95		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.: 580-23103-1

SDG No.:

Client Sample ID: DUP-1-112410-W | Lab Sample ID: 580-23103-8

Matrix: Water | Lab File ID: I0320373.D

Analysis Method: 8260B | Date Collected: 11/24/2010 00:00

Sample wt/vol: 10(mL) | Date Analyzed: 12/08/2010 14:57

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.: 76949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	0.16		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	0.21		0.10	0.10
79-01-6	Trichloroethene	0.50		0.10	0.10
75-01-4	Vinyl chloride	0.38		0.020	0.020
71-43-2	Benzene	ND		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	106		80-125
462-06-6	Fluorobenzene (Surr)	102		70-130
460-00-4	4-Bromofluorobenzene (Surr)	91		75-120
2037-26-5	Toluene-d8 (Surr)	97		75-125
25837-05-2	Ethylbenzene-d10	94		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-23103-1

SDG No.:

Client Sample ID: MW-18-112410-W | Lab Sample ID: 580-23103-9

Matrix: Water | Lab File ID: I0320374.D

Analysis Method: 8260B | Date Collected: 11/24/2010 13:12

Sample wt/vol: 10(mL) | Date Analyzed: 12/08/2010 15:22

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.: 76949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	0.34		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	0.23		0.10	0.10
79-01-6	Trichloroethene	0.81		0.10	0.10
75-01-4	Vinyl chloride	1.7		0.020	0.020
71-43-2	Benzene	0.11		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	105		80-125
462-06-6	Fluorobenzene (Surr)	102		70-130
460-00-4	4-Bromofluorobenzene (Surr)	89		75-120
2037-26-5	Toluene-d8 (Surr)	96		75-125
25837-05-2	Ethylbenzene-d10	98		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-23103-1

SDG No.:

Client Sample ID: Trip Blank | Lab Sample ID: 580-23103-10

Matrix: Water | Lab File ID: I0320375.D

Analysis Method: 8260B | Date Collected: 11/24/2010 00:00

Sample wt/vol: 10(mL) | Date Analyzed: 12/08/2010 15:49

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.: 76949 | 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)	104		80-125
462-06-6	Fluorobenzene (Surr)	100		70-130
460-00-4	4-Bromofluorobenzene (Surr)	97		75-120
2037-26-5	Toluene-d8 (Surr)	93		75-125
25837-05-2	Ethylbenzene-d10	101		75-125

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

Lab Name: TestAmerica Seattle Job No.: 580-23103-1 Analy Batch No.: 76712

SDG No.:

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

Calibration Start Date: 12/03/2010 12:07 Calibration End Date: 12/03/2010 15:55 Calibration ID: 6872

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 580-76712/3	I0320256.D
Level 2	STD 580-76712/4	I0320257.D
Level 3	STD 580-76712/5	I0320258.D
Level 4	STD 580-76712/6	I0320259.D
Level 5	STD001 580-76712/7	I0320260.D
Level 6	ICIS 580-76712/8	I0320261.D
Level 7	STD010 580-76712/9	I0320262.D
Level 8	STD020 580-76712/10	I0320263.D
Level 9	STD040 580-76712/11	I0320264.D
Level 10	STD080 580-76712/12	I0320265.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	+++++ 0.5158	0.2251 0.5077	0.3235 0.5053	0.5748 0.5035	0.4816 0.4586	Qua1	-0.028	0.5296	-0.001						1.0000		0.9900
Chloromethane	+++++ 0.5086	0.8236 0.5192	0.6089 0.5117	0.4758 0.4523	0.4375 0.3931	Qua1	0.0132	0.5272	-0.002		0.1000				0.9990		0.9900
Vinyl chloride	0.6606 0.4823	0.5621 0.4617	0.5383 0.4952	0.5003 0.4696	0.4672 0.3896	Qua2	0.0034	0.4986	-0.001						0.9980		0.9900
Bromomethane	3.1846 0.4328	1.2128 0.4159	0.6174 0.4382	0.5749 0.3914	0.4360 0.3120	Qua1	0.0546	0.4528	-0.002						0.9990		0.9900
Chloroethane	+++++ 0.0872	0.2569 0.0835	0.1702 0.0861	0.1356 0.0717	0.1196 0.0587	Qua1	0.0176	0.0883	0						0.9990		0.9900
Trichlorofluoromethane	+++++ 0.7587	0.9856 0.7281	0.8100 0.7650	0.7943 0.7320	0.7119 0.6432	Qua2	0.0224	0.7382	-0.001						0.9970		0.9900
Acrolein	+++++ 0.0403	0.0626 0.0406	0.0518 0.0419	0.0503 0.0393	0.0432 0.0348	Qua2	0.0104	0.0422	0						0.9980		0.9900
1,1,2-Trichloro-1,2,2-trifluoroethane	+++++ 0.4042	0.4434 0.3881	0.3945 0.4010	0.4188 0.3896	0.4041 0.3408	Qua2	0.0029	0.4043	-0.001						0.9990		0.9900
1,1-Dichloroethene	0.6718 0.4035	0.5007 0.3819	0.5001 0.4010	0.4383 0.3806	0.4249 0.3359	Qua2	0.0051	0.4284	-0.001						0.9970		0.9900
Acetone	1.1444 0.0520	0.2478 0.0511	0.1589 0.0522	0.0943 0.0470	0.0763 +++++	Lin1	0.1082	0.0481							0.9980		0.9900
2-Methyl-2-propanol	+++++ 0.0109	0.0117	0.0035 0.0135	0.0109 0.0133	0.0114 0.0124	Qua1	-0.009	0.0132	0						0.9980		0.9900
Iodomethane	1.0399 0.9487	1.0367 0.9236	1.0089 0.9590	1.0093 0.8794	0.9987 0.7000	Qua2	0.0045	1.0008	-0.001						0.9990		0.9900
Carbon disulfide	1.1790 1.2009	1.0434 1.0282	1.1712 1.3409	0.9457 1.3236	0.9478 1.1699	Ave		1.1351				12.0		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.: 580-23103-1 Analy Batch No.: 76712

SDG No.:

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

Calibration Start Date: 12/03/2010 12:07 Calibration End Date: 12/03/2010 15:55 Calibration ID: 6872

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								
trans-1,2-Dichloroethene	+++++ 0.3342	0.3255 0.3419	0.3461 0.3634	0.3328 0.3745	0.3365 0.3647	Ave		0.3466				4.9		15.0			
Methyl tert-butyl ether	+++++ 0.7079	0.7487 0.7502	0.6946 0.8189	0.7162 0.8224	0.7304 0.8094	Ave		0.7554				6.6		15.0			
n-Hexane	+++++ 0.3812	0.3936 0.3742	0.3883 0.4090	0.3501 0.4043	0.3554 0.3849	Ave		0.3823				5.2		15.0			
Methylene Chloride	12.070 0.4247	2.4912 0.4324	1.6581 0.4260	1.0347 0.3946	0.6336 0.3468	Lin1	0.2376	0.3702							0.9940		0.9900
1,1-Dichloroethane	+++++ 0.6052	0.5230 0.6118	0.5880 0.6512	0.6563 0.6564	0.5984 0.6056	Lin2	-0.010	0.6307			0.1000				0.9980		0.9900
Vinyl acetate	+++++ 0.0457	0.0318 0.0499	0.0318 +++++	0.0333 +++++	0.0368 +++++	Qua2	-0.002	0.0351	0.0003						0.9980		0.9900
Acrylonitrile	0.0763 0.0766	0.0781 0.0790	0.0878 0.0831	0.0821 0.0796	0.0785 0.0757	Ave		0.0797				4.7		15.0			
Tert-butyl ethyl ether	+++++ 0.2995	0.2487 0.3274	0.2641 0.3691	0.2652 0.3754	0.2690 0.3653	Qua2	-0.007	0.3052	0.0011						0.9930		0.9900
2-Butanone	+++++ 0.0083	 0.0086	0.0050 0.0096	0.0045 0.0083	0.0075 +++++	Qua1	-0.007	0.0095	0						0.9960		0.9900
2,2-Dichloropropane	+++++ 0.3663	0.4515 0.3890	0.3460 0.4255	0.3190 0.4328	0.3429 0.4275	Qua2	0.0065	0.3530	0.0013						0.9900		0.9900
cis-1,2-Dichloroethene	+++++ 0.3545	0.3844 0.3819	0.3697 0.3991	0.3737 0.4177	0.3275 0.4074	Ave		0.3795				7.3		15.0			
Chlorobromomethane	+++++ 0.2120	0.1756 0.2204	0.1576 0.2274	0.1806 0.2345	0.2068 0.2384	Qua2	-0.005	0.2078	0.0005						0.9950		0.9900
1,1,1-Trichloroethane	+++++ 0.4409	0.4172 0.4614	0.4054 0.4969	0.4202 0.5043	0.4246 0.4962	Qua2	-0.004	0.4455	0.0009						0.9980		0.9900
1,1-Dichloropropene	+++++ 0.4602	0.5722 0.4753	0.5214 0.4938	0.4764 0.4968	0.4375 0.4884	Lin2	0.0093	0.4719							0.9970		0.9900
Carbon tetrachloride	+++++ 0.3828	0.3330 0.3905	0.3194 0.4396	0.3411 0.4514	0.3388 0.4614	Qua2	-0.006	0.3721	0.0014						0.9960		0.9900
1,2-Dichloroethane	+++++ 0.4019	0.4431 0.4073	0.4228 0.4203	0.3923 0.4098	0.4229 0.3921	Ave		0.4125				4.0		15.0			
Tert-amyl methyl ether	+++++ 0.6571	0.5817 0.7361	0.5300 0.8195	0.5409 0.8416	0.5573 0.8271	Qua1	-0.055	0.7802	0.0007						0.9980		0.9900
Chloroform	0.9540 0.5875	0.6349 0.6129	0.6046 0.6224	0.6004 0.6191	0.5725 0.5937	Lin2	0.0071	0.5914							0.9990		0.9900
1,4-Dioxane	+++++ 0.0002	 0.0001	 0.0002	 0.0002	 0.0002	Ave		0.0002				4.2		15.0			
Trichloroethene	+++++ 0.1716	0.1715 0.1770	0.1901 0.1944	0.1511 0.2013	0.1607 0.2111	Qua2	0.0005	0.1692	0.0006						0.9950		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.: 580-23103-1 Analy Batch No.: 76712

SDG No.:

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

Calibration Start Date: 12/03/2010 12:07 Calibration End Date: 12/03/2010 15:55 Calibration ID: 6872

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								
Benzene	+++++ 1.3186	1.4033 1.3570	1.3727 1.4048	1.2983 1.4274	1.2877 1.3711	Ave		1.3601				3.6		15.0			
1,2-Dichloropropane	+++++ 0.2055	0.2088 0.2096	0.1987 0.2249	0.1933 0.2257	0.1942 0.2190	Ave		0.2089				5.9		15.0			
Dibromomethane	+++++ 0.0922	0.0659 0.0924	0.1026 0.1026	0.0832 0.1015	0.0825 0.1057	Qua2	-0.002	0.0931	0.0002						0.9900		0.9900
Dichlorobromomethane	+++++ 0.2063	0.1670 0.2226	0.1819 0.2434	0.1674 0.2551	0.1751 0.2587	Qua2	-0.004	0.2016	0.0009						0.9920		0.9900
2-Chloroethyl vinyl ether	+++++ 0.0883	0.0452 0.0979	0.0481 0.1118	0.0548 0.1122	0.0673 0.1072	Qua1	-0.062	0.1067	0						0.9970		0.9900
cis-1,3-Dichloropropene	+++++ 0.2365	0.1980 0.2661	0.1536 0.3039	0.1528 0.3074	0.1909 0.3136	Qua1	-0.025	0.2809	0.0005						0.9980		0.9900
4-Methyl-2-pentanone	+++++ 0.0472	0.0259 0.0511	0.0263 0.0578	0.0279 0.0547	0.0380 0.0558	Qua1	-0.027	0.0537	0						0.9980		0.9900
trans-1,3-Dichloropropene	+++++ 0.1774	0.1260 0.1951	0.1171 0.2341	0.1250 0.2465	0.1336 0.2583	Qua1	-0.021	0.2110	0.0006						0.9980		0.9900
1,1,2-Trichloroethane	+++++ 0.1433	0.1337 0.1484	0.1443 0.1598	0.1398 0.1576	0.1517 0.1608	Lin2	-0.002	0.1532							0.9980		0.9900
1,3-Dichloropropane	+++++ 0.2458	0.1821 0.2557	0.2252 0.2744	0.2239 0.2761	0.2286 0.2744	Qua2	-0.007	0.2496	0.0004						0.9980		0.9900
2-Hexanone	+++++ 0.0407	0.0250 0.0490	0.0207 0.0544	0.0251 0.0518	0.0310 0.0519	Lin1	-0.031	0.0518							0.9970		0.9900
Chlorodibromomethane	+++++ 0.1255	0.0949 0.1444	0.0920 0.1679	0.0904 0.1760	0.0994 0.1877	Qua1	-0.013	0.1508	0.0005						0.9980		0.9900
Toluene	+++++ 0.7438	0.9609 0.7724	0.7986 0.8350	0.7185 0.8629	0.7523 0.8656	Lin2	0.0120	0.7871							0.9910		0.9900
1,2-Dibromoethane	+++++ 0.1423	0.1179 0.1462	0.1184 0.1612	0.1052 0.1592	0.1316 0.1604	Qua2	-0.003	0.1370	0.0004						0.9920		0.9900
1,1,1,2-Tetrachloroethane	+++++ 0.3378	0.2186 0.3689	0.3020 0.4134	0.2968 0.4562	0.2989 0.4958	Qua2	-0.012	0.3412	0.0022						0.9960		0.9900
Tetrachloroethene	0.2140 0.1376	0.1136 0.1393	0.1150 0.1618	0.1247 0.1621	0.1308 0.1872	Lin1	-0.003	0.1725							0.9910		0.9900
Bromoform	+++++ 0.1198	0.0862 0.1401	0.0806 0.1710	0.0954 0.1930	0.0995 +++++	Qua2	-0.003	0.1069	0.0024		0.1000				0.9930		0.9900
Chlorobenzene	21.718 1.1219	4.9864 1.1368	3.0778 1.1941	2.0823 1.2714	1.4499 1.2590	Lin	-0.092	1.2582			0.3000				1.0000		0.9900
Ethylbenzene	2.0132 1.7349	1.6977 1.8627	2.1352 1.9843	1.5899 2.1928	1.6677 2.1155	Qua2	0.0046	1.7800	0.0056						0.9920		0.9900
m-Xylene & p-Xylene	+++++ 1.3806	1.0558 1.4576	1.0687 1.5711	1.0817 1.7045	1.2207 +++++	Qua2	-0.053	1.2606	0.0062						0.9970		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.: 580-23103-1 Analy Batch No.: 76712

SDG No.:

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

Calibration Start Date: 12/03/2010 12:07 Calibration End Date: 12/03/2010 15:55 Calibration ID: 6872

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								
1,1,2,2-Tetrachloroethane	+++++ 0.4036	0.4488 0.4412	0.4282 0.4471	0.4127 0.4456	0.4014 0.4391	Ave		0.4297			0.3000	4.4		15.0			
Bromobenzene	+++++ 0.4121	0.3800 0.4528	0.4111 0.4861	0.3836 0.5563	0.3981 0.6130	Qua2	-0.004	0.4145	0.0027						0.9980		0.9900
trans-1,4-Dichloro-2-butene	+++++ 0.0833	0.0498 0.0878	0.0626 0.0984	0.0589 0.0994	0.0696 0.0892	Lin1	-0.036	0.0929							0.9970		0.9900
1,2,3-Trichloropropane	+++++ 0.1004	0.0826 0.1046	0.0975 0.1121	0.1000 0.1210	0.1038 0.1270	Qua2	-0.002	0.1042	0.0003						0.9990		0.9900
2-Chlorotoluene	+++++ 0.4163	0.3050 0.4436	0.2876 0.4650	0.3253 0.5077	0.3460 0.5403	Qua2	-0.012	0.3910	0.0022						0.9930		0.9900
1,3,5-Trimethylbenzene	+++++ 1.3317	0.7312 1.4510	0.8200 1.5566	0.8786 1.6854	1.0547 +++++	Qua2	-0.053	1.1675	0.0151						0.9910		0.9900
4-Chlorotoluene	+++++ 0.4348	0.2545 0.4445	0.2293 0.4801	0.3180 0.5114	0.3733 0.5413	Qua2	-0.020	0.4052	0.0020						0.9900		0.9900
o-Xylene	+++++ 1.2836	0.8241 1.4718	0.9312 1.6158	0.9911 1.7531	1.0405 +++++	Qua2	-0.040	1.1738	0.0167						0.9940		0.9900
Styrene	0.9120 1.0303	0.5935 1.1403	0.5515 1.2865	0.6246 1.4032	0.7677 1.3878	Lin1	-0.055	1.3476							0.9940		0.9900
Isopropylbenzene	0.9215 1.4454	0.7806 1.6217	0.8207 1.8222	0.9214 1.9305	1.0620 2.0198	Lin1	-0.085	1.9221							0.9930		0.9900
N-Propylbenzene	1.5763 2.2175	1.4447 2.3452	1.4625 2.4983	1.6331 2.6701	1.7958 2.4166	Lin1	-0.068	2.4773							0.9970		0.9900
n-Butylbenzene	+++++ 0.3212	0.1645 0.3396	0.1878 0.3807	0.2162 0.4103	0.2429 +++++	Qua2	-0.013	0.2772	0.0039						0.9920		0.9900
1,2-Dichlorobenzene	+++++ 0.7661	0.6425 0.8062	0.6462 0.8468	0.7179 0.8941	0.7192 0.9344	Ave		0.7748				13.0		15.0			
tert-Butylbenzene	0.5626 1.0551	0.6347 1.2168	0.6113 1.3079	0.6169 1.4931	0.7864 +++++	Qua1	-0.030	1.0576	0.0111						0.9980		0.9900
1,2,4-Trimethylbenzene	0.8407 1.3984	0.6707 1.4803	0.6469 1.6188	0.7837 1.7550	0.9942 1.8550	Lin1	-0.080	1.7553							0.9930		0.9900
Hexachloroethane	+++++ 0.2121	0.1390 0.2406	0.1377 0.2893	0.1756 0.3206	0.1679 +++++	Qua2	-0.006	0.1901	0.0037						0.9930		0.9900
sec-Butylbenzene	1.1942 1.6267	0.9696 1.7972	0.9877 1.9731	0.9998 2.0843	1.1950 2.1750	Lin1	-0.084	2.0782							0.9940		0.9900
4-Isopropyltoluene	0.5140 1.3052	0.5077 1.4283	0.6319 1.5936	0.6483 1.7464	0.8812 1.8771	Lin1	-0.093	1.7545							0.9900		0.9900
1,3-Dichlorobenzene	0.7566 0.8646	0.6195 0.8667	0.6901 0.9333	0.7156 1.0046	0.7772 1.0561	Qua2	-0.001	0.7655	0.0044						0.9920		0.9900
1,4-Dichlorobenzene	1.5571 0.9049	0.6204 0.9135	0.6911 0.9805	0.7167 1.0149	0.9772 1.0498	Lin1	-0.011	1.0174							0.9980		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.: 580-23103-1 Analy Batch No.: 76712

SDG No.:

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

Calibration Start Date: 12/03/2010 12:07 Calibration End Date: 12/03/2010 15:55 Calibration ID: 6872

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-Dibromo-3-Chloropropane	+++++ 0.0406	0.0503	0.0186 0.0573	0.0269 0.0585	0.0378 0.0601	Lin1	-0.013	0.0585							0.9960		0.9900
1,3,5-Trichlorobenzene	+++++ 0.4775	0.3330 0.5248	0.3615 0.6139	0.3657 0.6621	0.4012 0.7196	Lin1	-0.084	0.6725							0.9900		0.9900
1,2,4-Trichlorobenzene	+++++ 0.3679	0.2322 0.4507	0.2640 0.5379	0.2832 0.5967	0.2963 +++++	Qua2	-0.012	0.3356	0.0074						0.9920		0.9900
Hexachlorobutadiene	+++++ 0.1582	0.0949 0.1649	0.1076 0.1815	0.1548 0.1938	0.1412 0.2058	Lin1	-0.019	0.1958							0.9950		0.9900
1,2,3-Trichlorobenzene	+++++ 0.3618	0.4183	0.4858	0.2372 0.5210	0.2635 0.5490	Qua2	-0.073	0.3943	0.0023						0.9910		0.9900
Naphthalene	+++++ 0.6977	0.3160 0.9296	0.3684 1.1418	0.3468 +++++	0.4308 +++++	Qua2	-0.016	0.4506	0.0377						0.9910		0.9900
Fluorobenzene (Surr)	1.9716 1.9468	1.9848 2.0013	1.9187 1.9796	1.9814 1.9489	1.9164 1.9190	Ave		1.9569				1.6		15.0			
Trifluorotoluene (Surr)	0.2495 0.2688	0.2514 0.2800	0.2764 0.3112	0.2670 0.3388	0.2431 0.3659	Qua2	0	0.2655	0.0014						0.9980		0.9900
Toluene-d8 (Surr)	0.9322 1.0803	0.9706 1.1095	0.9829 +++++	0.9925 +++++	1.0621 +++++	Ave		1.0186				6.4		15.0			
Ethylbenzene-d10	0.7522 0.7597	0.7195 +++++	0.7347 +++++	0.7515 +++++	0.7173 +++++	Ave		0.7392				2.4		15.0			
4-Bromofluorobenzene (Surr)	0.5765 0.6540	0.5437 0.6503	0.5753 +++++	0.5930 +++++	0.6000 +++++	Ave		0.5990				6.8		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.: 580-23103-1 Analy Batch No.: 76712

SDG No.:

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

Calibration Start Date: 12/03/2010 12:07 Calibration End Date: 12/03/2010 15:55 Calibration ID: 6872

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 580-76712/3	I0320256.D
Level 2	STD 580-76712/4	I0320257.D
Level 3	STD 580-76712/5	I0320258.D
Level 4	STD 580-76712/6	I0320259.D
Level 5	STD001 580-76712/7	I0320260.D
Level 6	ICIS 580-76712/8	I0320261.D
Level 7	STD010 580-76712/9	I0320262.D
Level 8	STD020 580-76712/10	I0320263.D
Level 9	STD040 580-76712/11	I0320264.D
Level 10	STD080 580-76712/12	I0320265.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	Qua1	+++++ 91200	702 188811	2138 374824	7593 807995	16476 1688952	+++++ 5.00	0.0999 9.99	0.200 20.0	0.400 40.0	0.999 80.0
Chloromethane	PFB	Qua1	+++++ 90028	2571 193306	4029 380000	6293 726689	14983 1449353	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
Vinyl chloride	PFB	Qua2	431 85341	1754 171829	3561 367647	6614 754159	15994 1435698	0.0200 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
Bromomethane	PFB	Qua1	2078 76599	3785 154790	4084 325309	7601 628664	14926 1149888	0.0200 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
Chloroethane	PFB	Qua1	+++++ 15426	801 31038	1125 63831	1791 114988	4091 216261	+++++ 5.00	0.0999 9.99	0.200 20.0	0.400 40.0	0.999 79.9
Trichlorofluoromethane	PFB	Qua2	+++++ 134232	3075 270906	5357 567779	10499 1175491	24365 2369970	+++++ 5.00	0.1000 10.00	0.200 20.0	0.400 40.0	1.000 80.0
Acrolein	PFB	Qua2	+++++ 35935	984 76165	1727 156785	3352 318425	7456 645833	+++++ 25.2	0.504 50.4	1.01 101	2.02 202	5.04 403
1,1,2-Trichloro-1,2,2-trifluoroetha ne	PFB	Qua2	+++++ 71133	1376 143656	2595 296048	5507 622392	13758 1249116	+++++ 4.97	0.0995 9.95	0.199 19.9	0.398 39.8	0.995 79.6
1,1-Dichloroethene	PFB	Qua2	441 71828	1572 142989	3328 299533	5829 614960	14635 1245523	0.0201 5.03	0.101 10.1	0.201 20.1	0.402 40.2	1.01 80.5
Acetone	PFB	Lin1	3733 46020	3866 95007	5255 193854	6232 377040	13066 +++++	0.100 25.0	0.500 50.0	1.00 100	2.00 200	5.00 +++++
2-Methyl-2-propanol	PFB	Qua1	+++++ 9618	 21678	116 50282	721 106662	1947 227699	+++++ 25.0	 50.0	1.00 100	2.00 200	5.00 400
Iodomethane	PFB	Qua2	3401 841462	16216 1722878	33451 3568537	66882 7079204	171369 12931016	0.100 25.1	0.501 50.1	1.00 100	2.01 201	5.01 401
Carbon disulfide	PFB	Ave	774 213815	3276 385017	7795 1001584	12580 2138961	32647 4337823	0.0201 5.03	0.101 10.1	0.201 20.1	0.403 40.3	1.01 80.5
trans-1,2-Dichloroethene	PFB	Ave	+++++ 58804	1010 126501	2276 268223	4374 598071	11455 1336217	+++++ 4.97	0.0994 9.94	0.199 19.9	0.398 39.8	0.994 79.6

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

Lab Name: TestAmerica Seattle Job No.: 580-23103-1 Analy Batch No.: 76712

SDG No.:

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

Calibration Start Date: 12/03/2010 12:07 Calibration End Date: 12/03/2010 15:55 Calibration ID: 6872

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
Methyl tert-butyl ether	PFB	Ave	+++++ 125244	2336 279147	4594 607850	9467 1320669	25002 2982336	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
n-Hexane	PFB	Ave	+++++ 67054	1221 138428	2553 301777	4601 645425	12092 1409839	+++++ 4.97	0.0994 9.94	0.199 19.9	0.398 39.8	0.994 79.5
Methylene Chloride	PFB	Lin1	7952 75882	7850 162505	11075 319374	13813 639953	21904 1290721	0.0202 5.05	0.101 10.1	0.202 20.2	0.404 40.4	1.01 80.8
1,1-Dichloroethane	PFB	Lin2	+++++ 106902	1629 227256	3882 482539	8661 1052265	20447 2227886	+++++ 4.99	0.0998 9.98	0.200 20.0	0.399 39.9	0.998 79.9
Vinyl acetate	PFB	Qua2	+++++ 40713	500 93515	1059 +++++	2213 +++++	6346 +++++	+++++ 25.2	0.503 50.3	1.01 +++++	2.01 +++++	5.03 +++++
Acrylonitrile	PFB	Ave	250 68036	1224 147589	2917 309792	5452 641935	13483 1400749	0.100 25.1	0.502 50.2	1.00 100	2.01 201	5.02 402
Tert-butyl ethyl ether	PFB	Qua2	+++++ 52995	776 121826	1747 273987	3506 602879	9209 1346034	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
2-Butanone	PFB	Qua1	+++++ 7346	 15965	165 35774	295 66598	1292 +++++	+++++ 25.0	 50.0	1.00 100	2.00 200	5.00 +++++
2,2-Dichloropropane	PFB	Qua2	+++++ 64867	1410 144867	2290 316118	4220 695615	11745 1576392	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.1
cis-1,2-Dichloroethene	PFB	Ave	+++++ 62652	1198 141940	2442 295875	4934 669982	11198 1499362	+++++ 4.99	0.0999 9.99	0.200 20.0	0.400 40.0	0.999 79.9
Chlorobromomethane	PFB	Qua2	+++++ 37584	549 82183	1044 169121	2392 377223	7093 880097	+++++ 5.01	0.100 10.0	0.200 20.0	0.401 40.1	1.00 80.2
1,1,1-Trichloroethane	PFB	Qua2	+++++ 78033	1302 171758	2682 368979	5556 810116	14537 1828764	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
1,1-Dichloropropene	PFB	Lin2	+++++ 81260	1782 176526	3442 365866	6286 796319	14948 1796060	+++++ 4.99	0.0998 9.98	0.200 20.0	0.399 39.9	0.998 79.8
Carbon tetrachloride	PFB	Qua2	+++++ 67797	1040 145477	2115 326679	4514 725770	11608 1701965	+++++ 5.01	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.1
1,2-Dichloroethane	PFB	Ave	+++++ 71071	1382 151488	2795 311790	5183 657713	14468 1444058	+++++ 5.00	0.1000 10.00	0.200 20.0	0.400 40.0	1.000 80.0
Tert-amyl methyl ether	PFB	Qua1	+++++ 116265	1815 273903	3505 608311	7150 1351588	19075 3047548	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
Chloroform	PFB	Lin2	623 104045	1983 228295	4003 462452	7944 995211	19615 2189980	0.0200 5.01	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.1
1,4-Dioxane	DFB	Ave	+++++ 1237	 2398	 5288	 10489	 23999	+++++ 125	 250	 500	 1000	 2000
Trichloroethene	DFB	Qua2	+++++ 53966	1006 116255	2318 252687	3706 563428	9799 1314994	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.1
Benzene	PFB	Ave	+++++ 233163	4376 504655	9073 1042128	17152 2290850	44051 5049252	+++++ 5.00	0.0999 9.99	0.200 20.0	0.400 40.0	0.999 80.0
1,2-Dichloropropane	DFB	Ave	+++++ 64999	1232 138392	2436 293969	4767 635414	11906 1371568	+++++ 5.03	0.101 10.1	0.201 20.1	0.403 40.3	1.01 80.5

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

Lab Name: TestAmerica Seattle Job No.: 580-23103-1 Analy Batch No.: 76712

SDG No.:

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

Calibration Start Date: 12/03/2010 12:07 Calibration End Date: 12/03/2010 15:55 Calibration ID: 6872

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
Dibromomethane	DFB	Qua2	+++++ 29026	387 60731	1252 133342	2040 284296	5030 658502	+++++ 5.01	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.1
Dichlorobromomethane	DFB	Qua2	+++++ 64907	980 146203	2218 316437	4106 714263	10680 1611937	+++++ 5.01	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.1
2-Chloroethyl vinyl ether	DFB	Qua1	+++++ 139664	1332 323215	2951 730194	6748 1578084	20633 3356226	+++++ 25.2	0.503 50.3	1.01 101	2.01 201	5.03 402
cis-1,3-Dichloropropene	DFB	Qua1	+++++ 73150	1142 171855	1842 388403	3683 846118	11446 1920577	+++++ 4.92	0.0984 9.84	0.197 19.7	0.394 39.4	0.984 78.7
4-Methyl-2-pentanone	DFB	Qua1	+++++ 74192	758 167771	1601 375239	3413 765517	11563 1735371	+++++ 25.0	0.500 50.0	1.00 100	2.00 200	5.00 400
trans-1,3-Dichloropropene	DFB	Qua1	+++++ 56403	747 129534	1443 307505	3097 697531	8232 1626339	+++++ 5.06	0.101 10.1	0.202 20.2	0.405 40.5	1.01 80.9
1,1,2-Trichloroethane	DFB	Lin2	+++++ 45062	784 97398	1759 207659	3427 441071	9245 1000986	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
1,3-Dichloropropane	DFB	Qua2	+++++ 77376	1069 168044	2748 356895	5494 773330	13949 1710500	+++++ 5.01	0.100 10.0	0.200 20.0	0.401 40.1	1.00 80.1
2-Hexanone	DFB	Lin1	+++++ 64021	733 160704	1264 353384	3071 724912	9433 1615201	+++++ 25.0	0.500 50.0	1.00 100	2.00 200	5.00 400
Chlorodibromomethane	DFB	Qua1	+++++ 39164	552 94022	1112 216350	2199 488477	6011 1159745	+++++ 4.96	0.0993 9.93	0.199 19.9	0.397 39.7	0.993 79.4
Toluene	DFB	Lin2	+++++ 233750	5632 506789	9730 1084253	17602 2413318	45827 5387286	+++++ 5.00	0.1000 10.00	0.200 20.0	0.400 40.0	1.000 80.0
1,2-Dibromoethane	DFB	Qua2	+++++ 44795	692 96053	1445 209672	2580 445879	8028 1000081	+++++ 5.01	0.100 10.0	0.200 20.0	0.401 40.1	1.00 80.1
1,1,1,2-Tetrachloroethane	DCB	Qua2	+++++ 50497	560 114553	1660 262481	3218 609923	8556 1497349	+++++ 5.01	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.1
Tetrachloroethene	DFB	Lin1	266 43397	668 91707	1405 210814	3065 454779	7994 1168627	0.0201 5.02	0.100 10.0	0.201 20.1	0.401 40.1	1.00 80.2
Bromoform	DCB	Qua2	+++++ 18161	224 44114	449 110119	1049 261641	2889 +++++	+++++ 5.08	0.102 10.2	0.203 20.3	0.406 40.6	1.02 +++++
Chlorobenzene	DCB	Lin	11481 167214	12735 351946	16865 755868	22512 1694807	41382 3791174	0.0200 4.99	0.0998 9.98	0.200 20.0	0.399 39.9	0.998 79.8
Ethylbenzene	DCB	Qua2	1068 259496	4351 578732	11741 1260523	17249 2933312	47766 6392636	0.0200 5.01	0.100 10.0	0.200 20.0	0.401 40.1	1.00 80.1
m-Xylene & p-Xylene	DCB	Qua2	+++++ 412560	5406 904794	11741 1993999	23446 4555629	69850 +++++	+++++ 10.0	0.200 20.0	0.400 40.0	0.800 80.0	2.00 +++++
1,1,2,2-Tetrachloroethane	DCB	Ave	+++++ 60310	1149 136940	2352 283734	4473 595446	11485 1325500	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
Bromobenzene	DCB	Qua2	+++++ 61895	978 141272	2270 310128	4180 747432	11452 1860381	+++++ 5.03	0.101 10.1	0.201 20.1	0.402 40.2	1.01 80.5
trans-1,4-Dichloro-2-butene	DCB	Lin1	+++++ 62291	638 136380	1720 312540	3197 664895	9968 1347943	+++++ 25.0	0.501 50.1	1.00 100	2.00 200	5.01 401

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

Lab Name: TestAmerica Seattle Job No.: 580-23103-1 Analy Batch No.: 76712

SDG No.:

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

Calibration Start Date: 12/03/2010 12:07 Calibration End Date: 12/03/2010 15:55 Calibration ID: 6872

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
1,2,3-Trichloropropane	DCB	Qua2	+++++ 15044	212 32554	537 71313	1086 162125	2977 384349	+++++ 5.01	0.100 10.0	0.201 20.1	0.401 40.1	1.00 80.2
2-Chlorotoluene	DCB	Qua2	+++++ 62450	784 138246	1586 296295	3540 681241	9941 1637609	+++++ 5.02	0.100 10.0	0.201 20.1	0.402 40.2	1.00 80.4
1,3,5-Trimethylbenzene	DCB	Qua2	+++++ 199076	1873 450596	4507 988334	9527 2253433	30194 +++++	+++++ 5.01	0.100 10.0	0.200 20.0	0.400 40.0	1.00 +++++
4-Chlorotoluene	DCB	Qua2	+++++ 65099	653 138254	1262 305268	3454 684859	10702 1637343	+++++ 5.01	0.100 10.0	0.201 20.1	0.401 40.1	1.00 80.2
o-Xylene	DCB	Qua2	+++++ 191889	2111 457033	5118 1025917	10747 2344046	29788 +++++	+++++ 5.01	0.100 10.0	0.200 20.0	0.400 40.0	1.00 +++++
Styrene	DCB	Lin1	485 154484	1525 355168	3040 819295	6793 1881825	22042 4204023	0.0201 5.02	0.100 10.0	0.201 20.1	0.402 40.2	1.00 80.3
Isopropylbenzene	DCB	Lin1	488 215797	1997 502950	4505 1155427	9978 2577850	30363 6092464	0.0200 5.00	0.1000 10.00	0.200 20.0	0.400 40.0	1.000 80.0
N-Propylbenzene	DCB	Lin1	835 331181	3697 727546	8030 1584600	17691 3566477	51357 7291537	0.0200 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
n-Butylbenzene	DCB	Qua2	+++++ 47963	421 105344	1031 241473	2342 548079	6946 +++++	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 +++++
1,2-Dichlorobenzene	DCB	Ave	+++++ 114475	1645 250222	3550 537396	7781 1194835	20579 2820869	+++++ 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
tert-Butylbenzene	DCB	Qua1	298 157552	1624 377436	3356 829526	6682 1994155	22489 +++++	0.0200 5.00	0.1000 10.00	0.200 20.0	0.400 40.0	1.000 +++++
1,2,4-Trimethylbenzene	DCB	Lin1	446 209156	1719 459899	3557 1028290	8503 2347758	28476 5605548	0.0200 5.01	0.100 10.0	0.200 20.0	0.401 40.1	1.00 80.1
Hexachloroethane	DCB	Qua2	+++++ 31514	354 74273	752 182602	1893 426099	4778 +++++	+++++ 4.98	0.0995 9.95	0.199 19.9	0.398 39.8	0.995 +++++
sec-Butylbenzene	DCB	Lin1	633 243114	2483 557933	5427 1252383	10838 2785958	34198 6567072	0.0200 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.1
4-Isopropyltoluene	DCB	Lin1	272 194726	1298 442639	3466 1009776	7016 2330323	25175 5658174	0.0200 5.00	0.0999 9.99	0.200 20.0	0.400 40.0	0.999 79.9
1,3-Dichlorobenzene	DCB	Qua2	401 129187	1586 269011	3791 592302	7756 1342553	22239 3188198	0.0200 5.00	0.100 10.0	0.200 20.0	0.400 40.0	1.00 80.0
1,4-Dichlorobenzene	DCB	Lin1	824 135014	1586 283108	3791 621293	7756 1354236	27919 3164337	0.0200 5.00	0.0999 9.99	0.200 20.0	0.400 40.0	0.999 79.9
1,2-Dibromo-3-Chloropropane	DCB	Lin1	+++++ 6061	 15615	102 36353	291 78162	1082 181320	+++++ 5.00	 10.0	0.200 20.0	0.400 40.0	1.00 80.0
1,3,5-Trichlorobenzene	DCB	Lin1	+++++ 70888	847 161818	1973 387053	3938 879028	11404 2158317	+++++ 4.97	0.0994 9.94	0.199 19.9	0.398 39.8	0.994 79.5
1,2,4-Trichlorobenzene	DCB	Qua2	+++++ 54932	594 139786	1449 341126	3067 796832	8472 +++++	+++++ 5.00	0.1000 10.00	0.200 20.0	0.400 40.0	1.000 +++++
Hexachlorobutadiene	DCB	Lin1	+++++ 23640	243 51172	591 115188	1678 258977	4039 621085	+++++ 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.: 580-23103-1 Analy Batch No.: 76712

SDG No.:

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

Calibration Start Date: 12/03/2010 12:07 Calibration End Date: 12/03/2010 15:55 Calibration ID: 6872

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
1,2,3-Trichlorobenzene	DCB	Qua2	+++++ 53963			2566 694887	7526 1654220	+++++ 4.99			0.399 39.9	0.999 79.9
Naphthalene	DCB	Qua2	+++++ 104355	810 288824	2026 725315	3763 +++++	12340 +++++	+++++ 5.01	0.100 10.0	0.200 20.0	0.401 +++++	1.00 +++++
Fluorobenzene (Surr)	PFB	Ave	321682 344590	309775 372499	317378 367512	327525 391371	328122 442112	5.00 5.00	5.00 5.00	5.00 5.00	5.00 5.00	5.00 5.00
Trifluorotoluene (Surr)	DFB	Qua2	309 84457	1473 183642	3366 403958	6539 947067	14806 2276732	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	289148 340046	284899 364578	299856 +++++	304405 +++++	324025 +++++	5.01 5.01	5.01 5.01	5.01 +++++	5.01 +++++	5.01 +++++
Ethylbenzene-d10	DCB	Ave	99633 113485	92086 +++++	100879 +++++	101788 +++++	102596 +++++	5.00 5.00	5.00 +++++	5.00 +++++	5.00 +++++	5.00 +++++
4-Bromofluorobenzene (Surr)	DCB	Ave	76501 97882	69717 101079	79140 +++++	80475 +++++	85982 +++++	5.01 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
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.: 580-23103-1

SDG No.:

Lab Sample ID: ICV 580-76712/15 Calibration Date: 12/03/2010 17:11

Instrument ID: SEA015 Calib Start Date: 12/03/2010 12:07

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 12/03/2010 15:55

Lab File ID: I0320268.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	Qua1		0.4189		6.35	7.87	-19.4	25.0
Chloromethane	Qua1		0.4185	0.1000	6.46	8.00	-19.3	25.0
Vinyl chloride	Qua2		0.4436		7.24	8.00	-9.5	25.0
Bromomethane	Qua1		0.3897		6.95	8.00	-13.1	25.0
Chloroethane	Qua1		0.0728		6.59	8.02	-17.8	25.0
Trichlorofluoromethane	Qua2		0.6659		7.25	8.00	-9.4	25.0
Acrolein	Qua2		0.0149		14.2	40.5	-65.0*	40.0
1,1-Dichloroethene	Qua2		0.3642		6.86	7.92	-13.4	25.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Qua2		0.3999		7.97	7.96	0.2	40.0
Acetone	Lin1		0.0590		7.56	8.00	-5.5	25.0
Iodomethane	Qua2		0.9092		7.19	7.88	-8.7	40.0
Carbon disulfide	Ave	1.135	1.200		8.46	8.00	5.7	25.0
Methylene Chloride	Lin1		0.3438		6.79	8.00	-15.1	25.0
2-Methyl-2-propanol	Qua1		0.0116		36.2	40.0	-9.5	40.0
Acrylonitrile	Ave	0.0797	0.0803		40.2	39.9	0.7	40.0
Methyl tert-butyl ether	Ave	0.7554	0.7101		7.52	8.00	-6.0	25.0
trans-1,2-Dichloroethene	Ave	0.3466	0.3159		7.30	8.01	-8.9	25.0
1,1-Dichloroethane	Lin2		0.5618	0.1000	7.12	7.97	-10.7	25.0
Vinyl acetate	Qua2		0.0302		6.56	8.00	-18.1	40.0
Tert-butyl ethyl ether	Qua2		0.3120		7.98	8.00	-0.3	40.0
2-Butanone	Qua1		0.0071		6.73	7.99	-15.8	25.0
cis-1,2-Dichloroethene	Ave	0.3795	0.3565		7.51	8.00	-6.1	25.0
2,2-Dichloropropane	Qua2		0.3480		7.66	8.00	-4.3	25.0
Chlorobromomethane	Qua2		0.2082		7.84	7.94	-1.3	25.0
Chloroform	Lin2		0.5640		7.61	7.99	-4.8	25.0
1,1,1-Trichloroethane	Qua2		0.4275		7.57	8.00	-5.3	25.0
1,1-Dichloropropene	Lin2		0.4312		7.22	7.93	-8.9	25.0
Carbon tetrachloride	Qua2		0.3743		7.84	8.00	-2.1	25.0
Benzene	Ave	1.360	1.248		7.30	7.96	-8.2	25.0
1,2-Dichloroethane	Ave	0.4125	0.3610		7.00	8.00	-12.5	25.0
Tert-amyl methyl ether	Qua1		0.6968		7.17	8.00	-10.4	40.0
Trichloroethene	Qua2		0.1767		8.12	8.00	1.4	25.0
1,2-Dichloropropane	Ave	0.2089	0.1932		7.40	8.00	-7.5	25.0
1,4-Dioxane	Ave	0.0002	0.0001		53.4	160	-66.5*	40.0
Dibromomethane	Qua2		0.0935		7.83	7.89	-0.7	25.0
Dichlorobromomethane	Qua2		0.2016		7.66	7.90	-3.1	25.0
2-Chloroethyl vinyl ether	Qua1		0.0777		6.37	7.96	-20.0	40.0
cis-1,3-Dichloropropene	Qua1		0.2263		6.78	8.40	-19.3	25.0
4-Methyl-2-pentanone	Qua1		0.0421		6.75	7.95	-15.1	25.0
Toluene	Lin2		0.7515		7.62	8.00	-4.7	25.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Lab Sample ID: ICV 580-76712/15 Calibration Date: 12/03/2010 17:11

Instrument ID: SEA015 Calib Start Date: 12/03/2010 12:07

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 12/03/2010 15:55

Lab File ID: I0320268.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
trans-1,3-Dichloropropene	Qua1		0.1847		6.62	7.60	-12.9	25.0
1,1,2-Trichloroethane	Lin2		0.1440		7.40	7.86	-5.9	25.0
Tetrachloroethene	Lin1		0.2205		10.3	8.01	28.1*	25.0
1,3-Dichloropropane	Qua2		0.2408		7.64	7.99	-4.4	25.0
2-Hexanone	Lin1		0.0415		6.88	7.84	-12.2	25.0
Chlorodibromomethane	Qua1		0.1284		6.70	7.93	-15.6	25.0
1,2-Dibromoethane	Qua2		0.1410		8.08	8.02	0.8	25.0
Chlorobenzene	Lin		1.133	0.3000	7.27	8.00	-9.1	25.0
Ethylbenzene	Qua2		1.790		7.79	7.94	-1.9	25.0
1,1,1,2-Tetrachloroethane	Qua2		0.3665		8.09	7.89	2.5	25.0
m-Xylene & p-Xylene	Qua2		1.392		16.4	16.0	2.4	25.0
o-Xylene	Qua2		1.356		8.22	7.92	3.8	25.0
Styrene	Lin1		1.072		6.39	7.98	-20.0	25.0
Bromoform	Qua2		0.1315	0.1000	8.27	7.94	4.2	25.0
Isopropylbenzene	Lin1		1.382		5.80	8.00	-27.5*	25.0
1,1,2,2-Tetrachloroethane	Ave	0.4297	0.3767	0.3000	6.92	7.89	-12.3	25.0
Bromobenzene	Qua2		0.4349		7.95	7.96	-0.2	25.0
trans-1,4-Dichloro-2-butene	Lin1		0.0843		7.65	8.00	-4.4	40.0
1,2,3-Trichloropropane	Qua2		0.0986		7.32	7.88	-7.2	25.0
N-Propylbenzene	Lin1		2.062		6.69	8.00	-16.4	25.0
2-Chlorotoluene	Qua2		0.4351		8.44	7.92	6.6	25.0
1,3,5-Trimethylbenzene	Qua2		1.376		8.44	7.90	6.7	25.0
4-Chlorotoluene	Qua2		0.4445		8.35	7.88	5.9	25.0
tert-Butylbenzene	Qua1		1.117		7.80	7.97	-2.1	25.0
1,2,4-Trimethylbenzene	Lin1		1.439		6.48	7.86	-17.5	25.0
sec-Butylbenzene	Lin1		1.724		6.68	8.00	-16.5	25.0
4-Isopropyltoluene	Lin1		1.358		6.21	7.96	-21.9	25.0
1,3-Dichlorobenzene	Qua2		0.8633		8.58	7.98	7.5	25.0
1,4-Dichlorobenzene	Lin1		0.9181		7.22	7.99	-9.6	25.0
n-Butylbenzene	Qua2		0.3505		8.95	7.92	12.9	25.0
1,2-Dichlorobenzene	Ave	0.7748	0.7928		8.04	7.86	2.3	25.0
Hexachloroethane	Qua2		0.2125		7.79	7.99	-2.6	40.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0462		6.54	8.00	-18.2	25.0
1,2,4-Trichlorobenzene	Qua2		0.4467		8.87	7.95	11.6	25.0
Hexachlorobutadiene	Lin1		0.1732		7.04	7.84	-10.3	25.0
Naphthalene	Qua2		0.8759		8.91	7.98	11.6	25.0
1,2,3-Trichlorobenzene	Qua2		0.4208		8.32	8.00	4.0	25.0
Fluorobenzene (Surr)	Ave	1.957	1.877		4.80	5.00	-4.1	25.0
Trifluorotoluene (Surr)	Qua2		0.2959		2.20	2.00	10.2	25.0
Toluene-d8 (Surr)	Ave	1.019	1.082		5.32	5.01	6.2	25.0
Ethylbenzene-d10	Ave	0.7392	0.7949		5.38	5.00	7.5	25.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Lab Sample ID: ICV 580-76712/15 Calibration Date: 12/03/2010 17:11

Instrument ID: SEA015 Calib Start Date: 12/03/2010 12:07

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 12/03/2010 15:55

Lab File ID: I0320268.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	0.5990	0.6804		5.69	5.01	13.6	25.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Lab Sample ID: CCVIS 580-76808/3 Calibration Date: 12/06/2010 12:21

Instrument ID: SEA015 Calib Start Date: 12/03/2010 12:07

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 12/03/2010 15:55

Lab File ID: I0320316.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	Qua1		0.5629		5.41	5.00	8.3	
Chloromethane	Qua1		0.5511	0.1000	5.29	5.00	5.8	
Vinyl chloride	Qua2		0.5207		5.28	5.00	5.7	20.0
Bromomethane	Qua1		0.4817		5.31	5.00	6.1	
Chloroethane	Qua1		0.0863		4.78	5.00	-4.3	
Trichlorofluoromethane	Qua2		0.8371		5.68	5.00	13.6	
Acrolein	Qua2		0.0479		28.7	25.2	14.0	
1,1-Dichloroethene	Qua2		0.4257		5.06	5.03	0.6	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Qua2		0.4317		5.35	4.97	7.6	
Acetone	Lin1		0.0681		33.1	25.0	32.5	
Iodomethane	Qua2		0.9863		25.2	25.1	0.4	
Carbon disulfide	Ave	1.135	1.047		4.64	5.03	-7.8	
Methylene Chloride	Lin1		0.4771		5.87	5.05	16.2	
2-Methyl-2-propanol	Qua1		0.0175		34.1	25.0	36.4	
Acrylonitrile	Ave	0.0797	0.0844		26.6	25.1	5.9	
Methyl tert-butyl ether	Ave	0.7554	0.7922		5.24	5.00	4.9	
trans-1,2-Dichloroethene	Ave	0.3466	0.3488		5.00	4.97	0.6	
1,1-Dichloroethane	Lin2		0.6405	0.1000	5.08	4.99	1.9	
Vinyl acetate	Qua2		0.0482		27.6	25.2	9.8	
Tert-butyl ethyl ether	Qua2		0.3155		5.10	5.00	2.0	
2,2-Dichloropropane	Qua2		0.4236		5.86	5.00	17.1	
2-Butanone	Qua1		0.0096		26.4	25.0	5.6	
cis-1,2-Dichloroethene	Ave	0.3795	0.3659		4.81	4.99	-3.6	
Chlorobromomethane	Qua2		0.2123		5.08	5.01	1.5	
Chloroform	Lin2		0.6075		5.13	5.00	2.5	20.0
1,1,1-Trichloroethane	Qua2		0.4670		5.20	5.00	3.9	
1,1-Dichloropropene	Lin2		0.4713		4.96	4.99	-0.5	
Carbon tetrachloride	Qua2		0.3979		5.26	5.01	5.2	
Benzene	Ave	1.360	1.340		4.92	5.00	-1.5	
1,2-Dichloroethane	Ave	0.4125	0.4034		4.89	5.00	-2.2	
Tert-amyl methyl ether	Qua1		0.7369		4.77	5.00	-4.6	
Trichloroethene	Qua2		0.1733		5.03	5.00	0.5	
1,2-Dichloropropane	Ave	0.2089	0.2125		5.12	5.03	1.7	20.0
1,4-Dioxane	Ave	0.0002	0.0002		132	125	6.0	
Dibromomethane	Qua2		0.0907		4.85	5.01	-3.1	
Dichlorobromomethane	Qua2		0.2184		5.32	5.00	6.2	
2-Chloroethyl vinyl ether	Qua1		0.1001		24.1	25.2	-4.0	
cis-1,3-Dichloropropene	Qua1		0.2516		4.46	4.92	-9.3	
4-Methyl-2-pentanone	Qua1		0.0522		24.8	25.0	-0.9	
Toluene	Lin2		0.7550		4.78	5.00	-4.4	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Lab Sample ID: CCVIS 580-76808/3 Calibration Date: 12/06/2010 12:21

Instrument ID: SEA015 Calib Start Date: 12/03/2010 12:07

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 12/03/2010 15:55

Lab File ID: I0320316.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
trans-1,3-Dichloropropene	Qua1		0.1948		4.70	5.06	-7.0	
1,1,2-Trichloroethane	Lin2		0.1492		4.89	5.00	-2.3	
Tetrachloroethene	Lin1		0.1444		4.22	5.02	-15.9	
1,3-Dichloropropane	Qua2		0.2603		5.20	5.01	3.9	
2-Hexanone	Lin1		0.0475		23.5	25.0	-5.9	
Chlorodibromomethane	Qua1		0.1376		4.55	4.96	-8.3	
1,2-Dibromoethane	Qua2		0.1429		5.17	5.01	3.2	
Chlorobenzene	Lin		1.125	0.3000	4.53	4.99	-9.1	
1,1,1,2-Tetrachloroethane	Qua2		0.3434		4.92	5.00	-1.8	
Ethylbenzene	Qua2		1.757		4.87	5.01	-2.8	20.0
m-Xylene & p-Xylene	Qua2		1.357		10.3	10.0	2.8	
o-Xylene	Qua2		1.281		5.12	5.00	2.3	
Styrene	Lin1		1.029		3.87	5.02	-22.8	
Bromoform	Qua2		0.1290	0.1000	5.48	5.08	8.0	
Isopropylbenzene	Lin1		1.412		3.72	5.00	-25.6	
1,1,2,2-Tetrachloroethane	Ave	0.4297	0.4289	0.3000	4.99	5.00	-0.2	
Bromobenzene	Qua2		0.4105		4.83	5.03	-3.9	
trans-1,4-Dichloro-2-butene	Lin1		0.0918		25.1	25.0	0.4	
1,2,3-Trichloropropane	Qua2		0.1055		5.02	5.01	0.1	
N-Propylbenzene	Lin1		2.228		4.52	5.00	-9.5	
2-Chlorotoluene	Qua2		0.4125		5.18	5.02	3.1	
1,3,5-Trimethylbenzene	Qua2		1.342		5.42	5.00	8.2	
4-Chlorotoluene	Qua2		0.4248		5.17	5.01	3.2	
tert-Butylbenzene	Qua1		1.060		4.80	5.00	-4.1	
1,2,4-Trimethylbenzene	Lin1		1.352		3.90	5.01	-22.1	
sec-Butylbenzene	Lin1		1.649		4.01	5.00	-19.8	
4-Isopropyltoluene	Lin1		1.313		3.79	5.00	-24.1	
1,3-Dichlorobenzene	Qua2		0.8257		5.24	5.00	4.7	
1,4-Dichlorobenzene	Lin1		0.8935		4.40	5.00	-12.0	
n-Butylbenzene	Qua2		0.3223		5.45	5.00	8.9	
1,2-Dichlorobenzene	Ave	0.7748	0.7807		5.04	5.00	0.8	
Hexachloroethane	Qua2		0.2259		5.38	4.98	8.2	
1,2-Dibromo-3-Chloropropane	Lin1		0.0487		4.39	5.00	-12.2	
1,3,5-Trichlorobenzene	Lin1		0.4800		3.67	4.97	-26.1	
1,2,4-Trichlorobenzene	Qua2		0.3832		5.15	5.00	3.1	
Hexachlorobutadiene	Lin1		0.1561		4.08	5.00	-18.4	
Naphthalene	Qua2		0.7055		5.42	5.01	8.2	
1,2,3-Trichlorobenzene	Qua2		0.3569		4.58	4.99	-8.2	
Fluorobenzene (Surr)	Ave	1.957	1.986		5.08	5.00	1.5	
Trifluorotoluene (Surr)	Qua2		0.2871		5.26	5.00	5.2	
Toluene-d8 (Surr)	Ave	1.019	1.107		5.44	5.01	8.7	

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Lab Sample ID: CCVIS 580-76808/3 Calibration Date: 12/06/2010 12:21

Instrument ID: SEA015 Calib Start Date: 12/03/2010 12:07

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 12/03/2010 15:55

Lab File ID: I0320316.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
Ethylbenzene-d10	Ave	0.7392	0.7298		4.94	5.00	-1.3	
4-Bromofluorobenzene (Surr)	Ave	0.5990	0.6437		5.39	5.01	7.5	

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Lab Sample ID: CCVIS 580-76949/3 Calibration Date: 12/08/2010 11:05

Instrument ID: SEA015 Calib Start Date: 12/03/2010 12:07

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 12/03/2010 15:55

Lab File ID: I0320364.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	Qua1		0.4982		4.79	5.00	-4.1	
Chloromethane	Qua1		0.5362	0.1000	5.15	5.00	2.9	
Vinyl chloride	Qua2		0.5064		5.14	5.00	2.7	20.0
Bromomethane	Qua1		0.4512		4.96	5.00	-0.9	
Chloroethane	Qua1		0.0931		5.18	5.00	3.7	
Trichlorofluoromethane	Qua2		0.7732		5.24	5.00	4.8	
Acrolein	Qua2		0.0453		27.1	25.2	7.6	
1,1-Dichloroethene	Qua2		0.4349		5.17	5.03	2.8	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Qua2		0.4450		5.52	4.97	11.0	
Acetone	Lin1		0.0642		31.1	25.0	24.5	
Iodomethane	Qua2		1.055		26.9	25.1	7.5	
Carbon disulfide	Ave	1.135	1.409		6.25	5.03	24.2	
Methylene Chloride	Lin1		0.4792		5.89	5.05	16.7	
2-Methyl-2-propanol	Qua1		0.0191		37.1	25.0	48.4	
Acrylonitrile	Ave	0.0797	0.0924		29.1	25.1	16.0	
Methyl tert-butyl ether	Ave	0.7554	0.8003		5.30	5.00	5.9	
trans-1,2-Dichloroethene	Ave	0.3466	0.3599		5.16	4.97	3.8	
1,1-Dichloroethane	Lin2		0.6601	0.1000	5.24	4.99	5.0	
Vinyl acetate	Qua2		0.0460		26.6	25.2	5.7	
Tert-butyl ethyl ether	Qua2		0.3315		5.35	5.00	7.1	
2,2-Dichloropropane	Qua2		0.4380		6.06	5.00	21.0	
2-Butanone	Qua1		0.0101		27.9	25.0	11.6	
cis-1,2-Dichloroethene	Ave	0.3795	0.3830		5.04	4.99	0.9	
Chlorobromomethane	Qua2		0.2306		5.51	5.01	10.1	
Chloroform	Lin2		0.6339		5.35	5.00	6.9	20.0
1,1,1-Trichloroethane	Qua2		0.5055		5.62	5.00	12.4	
1,1-Dichloropropene	Lin2		0.4924		5.19	4.99	4.0	
Carbon tetrachloride	Qua2		0.4163		5.50	5.01	9.9	
Benzene	Ave	1.360	1.436		5.28	5.00	5.6	
1,2-Dichloroethane	Ave	0.4125	0.4371		5.29	5.00	6.0	
Tert-amyl methyl ether	Qua1		0.7575		4.90	5.00	-1.9	
Trichloroethene	Qua2		0.1819		5.28	5.00	5.4	
1,2-Dichloropropane	Ave	0.2089	0.2232		5.38	5.03	6.9	20.0
1,4-Dioxane	Ave	0.0002	0.0002		135	125	7.7	
Dibromomethane	Qua2		0.0961		5.14	5.01	2.6	
Dichlorobromomethane	Qua2		0.2309		5.61	5.00	12.1	
2-Chloroethyl vinyl ether	Qua1		0.1038		25.0	25.2	-0.5	
cis-1,3-Dichloropropene	Qua1		0.2686		4.76	4.92	-3.3	
4-Methyl-2-pentanone	Qua1		0.0514		24.4	25.0	-2.4	
Toluene	Lin2		0.7995		5.06	5.00	1.3	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Lab Sample ID: CCVIS 580-76949/3 Calibration Date: 12/08/2010 11:05

Instrument ID: SEA015 Calib Start Date: 12/03/2010 12:07

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 12/03/2010 15:55

Lab File ID: I0320364.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
trans-1,3-Dichloropropene	Qua1		0.2039		4.91	5.06	-2.8	
1,1,2-Trichloroethane	Lin2		0.1610		5.27	5.00	5.3	
Tetrachloroethene	Lin1		0.1743		5.09	5.02	1.5	
1,3-Dichloropropane	Qua2		0.2762		5.52	5.01	10.2	
2-Hexanone	Lin1		0.0480		23.8	25.0	-4.8	
Chlorodibromomethane	Qua1		0.1415		4.68	4.96	-5.8	
1,2-Dibromoethane	Qua2		0.1547		5.58	5.01	11.5	
Chlorobenzene	Lin		1.188	0.3000	4.78	4.99	-4.1	
Ethylbenzene	Qua2		1.813		5.02	5.01	0.2	20.0
1,1,1,2-Tetrachloroethane	Qua2		0.3557		5.09	5.00	1.6	
m-Xylene & p-Xylene	Qua2		1.431		10.8	10.0	8.1	
o-Xylene	Qua2		1.357		5.40	5.00	7.9	
Styrene	Lin1		1.119		4.21	5.02	-16.2	
Bromoform	Qua2		0.1383	0.1000	5.83	5.08	14.9	
Isopropylbenzene	Lin1		1.526		4.01	5.00	-19.7	
1,1,2,2-Tetrachloroethane	Ave	0.4297	0.4415	0.3000	5.14	5.00	2.7	
Bromobenzene	Qua2		0.4376		5.14	5.03	2.3	
trans-1,4-Dichloro-2-butene	Lin1		0.0967		26.5	25.0	5.7	
1,2,3-Trichloropropane	Qua2		0.1111		5.28	5.01	5.3	
N-Propylbenzene	Lin1		2.329		4.73	5.00	-5.4	
2-Chlorotoluene	Qua2		0.4441		5.56	5.02	10.8	
1,3,5-Trimethylbenzene	Qua2		1.366		5.51	5.00	10.0	
4-Chlorotoluene	Qua2		0.4400		5.35	5.01	6.7	
tert-Butylbenzene	Qua1		1.134		5.11	5.00	2.3	
1,2,4-Trimethylbenzene	Lin1		1.431		4.13	5.01	-17.6	
sec-Butylbenzene	Lin1		1.725		4.19	5.00	-16.2	
4-Isopropyltoluene	Lin1		1.358		3.92	5.00	-21.6	
1,3-Dichlorobenzene	Qua2		0.9018		5.71	5.00	14.1	
1,4-Dichlorobenzene	Lin1		0.9453		4.65	5.00	-6.9	
n-Butylbenzene	Qua2		0.3519		5.91	5.00	18.2	
1,2-Dichlorobenzene	Ave	0.7748	0.8095		5.23	5.00	4.5	
Hexachloroethane	Qua2		0.2380		5.64	4.98	13.4	
1,2-Dibromo-3-Chloropropane	Lin1		0.0518		4.66	5.00	-6.9	
1,3,5-Trichlorobenzene	Lin1		0.5148		3.93	4.97	-20.9	
1,2,4-Trichlorobenzene	Qua2		0.4070		5.44	5.00	8.8	
Hexachlorobutadiene	Lin1		0.1610		4.21	5.00	-15.9	
Naphthalene	Qua2		0.7935		5.92	5.01	18.2	
1,2,3-Trichlorobenzene	Qua2		0.3844		4.91	4.99	-1.6	
Fluorobenzene (Surr)	Ave	1.957	1.989		5.08	5.00	1.6	
Trifluorotoluene (Surr)	Qua2		0.2761		5.06	5.00	1.3	
Toluene-d8 (Surr)	Ave	1.019	1.112		5.47	5.01	9.2	

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Lab Sample ID: CCVIS 580-76949/3 Calibration Date: 12/08/2010 11:05

Instrument ID: SEA015 Calib Start Date: 12/03/2010 12:07

GC Column: ZB-624short ID: 0.18(mm) Calib End Date: 12/03/2010 15:55

Lab File ID: I0320364.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
Ethylbenzene-d10	Ave	0.7392	0.7303		4.94	5.00	-1.2	
4-Bromofluorobenzene (Surr)	Ave	0.5990	0.6545		5.47	5.01	9.3	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-23103-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 580-76808/5

Matrix: Water | Lab File ID: I0320318.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 10(mL) | Date Analyzed: 12/06/2010 13:12

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.: 76808 | 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)	105		80-125
462-06-6	Fluorobenzene (Surr)	101		70-130
460-00-4	4-Bromofluorobenzene (Surr)	92		75-120
2037-26-5	Toluene-d8 (Surr)	94		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.: 580-23103-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 580-76949/5

Matrix: Water | Lab File ID: I0320366.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 10(mL) | Date Analyzed: 12/08/2010 11:55

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.: 76949 | 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)	126	X	80-125
462-06-6	Fluorobenzene (Surr)	102		70-130
460-00-4	4-Bromofluorobenzene (Surr)	96		75-120
2037-26-5	Toluene-d8 (Surr)	96		75-125
25837-05-2	Ethylbenzene-d10	102		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-23103-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 580-76808/6

Matrix: Water | Lab File ID: I0320319.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 10(mL) | Date Analyzed: 12/06/2010 13:38

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.: 76808 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	4.99		0.10	0.10
75-35-4	1,1-Dichloroethene	5.42		0.10	0.10
127-18-4	Tetrachloroethene	4.61		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	5.28		0.10	0.10
79-01-6	Trichloroethene	5.29		0.10	0.10
75-01-4	Vinyl chloride	4.99		0.020	0.020
71-43-2	Benzene	5.14		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	117		80-125
462-06-6	Fluorobenzene (Surr)	102		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.: 580-23103-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 580-76949/6

Matrix: Water | Lab File ID: I0320367.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 10(mL) | Date Analyzed: 12/08/2010 12:20

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.: 76949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	5.30		0.10	0.10
75-35-4	1,1-Dichloroethene	5.67		0.10	0.10
127-18-4	Tetrachloroethene	5.12		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	5.42		0.10	0.10
79-01-6	Trichloroethene	5.50		0.10	0.10
75-01-4	Vinyl chloride	5.42		0.020	0.020
71-43-2	Benzene	5.40		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	107		80-125
462-06-6	Fluorobenzene (Surr)	103		70-130
460-00-4	4-Bromofluorobenzene (Surr)	106		75-120
2037-26-5	Toluene-d8 (Surr)	107		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.: 580-23103-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 580-76808/7

Matrix: Water | Lab File ID: I0320320.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 10(mL) | Date Analyzed: 12/06/2010 14:03

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.: 76808 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	5.52		0.10	0.10
75-35-4	1,1-Dichloroethene	5.51		0.10	0.10
127-18-4	Tetrachloroethene	5.09		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	5.70		0.10	0.10
79-01-6	Trichloroethene	5.78		0.10	0.10
75-01-4	Vinyl chloride	5.80		0.020	0.020
71-43-2	Benzene	5.51		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	115		80-125
462-06-6	Fluorobenzene (Surr)	102		70-130
460-00-4	4-Bromofluorobenzene (Surr)	105		75-120
2037-26-5	Toluene-d8 (Surr)	107		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.: 580-23103-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 580-76949/7

Matrix: Water | Lab File ID: I0320368.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 10(mL) | Date Analyzed: 12/08/2010 12:45

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.: 76949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	5.20		0.10	0.10
75-35-4	1,1-Dichloroethene	5.63		0.10	0.10
127-18-4	Tetrachloroethene	5.07		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	5.57		0.10	0.10
79-01-6	Trichloroethene	5.46		0.10	0.10
75-01-4	Vinyl chloride	5.48		0.020	0.020
71-43-2	Benzene	5.35		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	121		80-125
462-06-6	Fluorobenzene (Surr)	102		70-130
460-00-4	4-Bromofluorobenzene (Surr)	103		75-120
2037-26-5	Toluene-d8 (Surr)	106		75-125
25837-05-2	Ethylbenzene-d10	100		75-125

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-23103-1

SDG No.:

Client Sample ID: MW-18-112410-W MS | Lab Sample ID: 580-23103-9 MS

Matrix: Water | Lab File ID: I0320376.D

Analysis Method: 8260B | Date Collected: 11/24/2010 13:12

Sample wt/vol: 10(mL) | Date Analyzed: 12/08/2010 16:15

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.: 76949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	RL
156-59-2	cis-1,2-Dichloroethene	5.60		0.10	0.10
75-35-4	1,1-Dichloroethene	5.90		0.10	0.10
127-18-4	Tetrachloroethene	4.21		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	5.73		0.10	0.10
79-01-6	Trichloroethene	6.33		0.10	0.10
75-01-4	Vinyl chloride	7.11		0.020	0.020
71-43-2	Benzene	5.38		0.10	0.10

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

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Seattle | Job No.: 580-23103-1

SDG No.:

Client Sample ID: MW-18-112410-W MSD | Lab Sample ID: 580-23103-9 MSD

Matrix: Water | Lab File ID: I0320377.D

Analysis Method: 8260B | Date Collected: 11/24/2010 13:12

Sample wt/vol: 10(mL) | Date Analyzed: 12/08/2010 16:41

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.: 76949 | 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	5.66		0.10	0.10
127-18-4	Tetrachloroethene	4.05		0.10	0.10
156-60-5	trans-1,2-Dichloroethene	5.58		0.10	0.10
79-01-6	Trichloroethene	6.05		0.10	0.10
75-01-4	Vinyl chloride	7.13		0.020	0.020
71-43-2	Benzene	5.31		0.10	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	Trifluorotoluene (Surr)	111		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)	104		75-125
25837-05-2	Ethylbenzene-d10	105		75-125

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Instrument ID: SEA015 Start Date: 12/03/2010 11:11

Analysis Batch Number: 76712 End Date: 12/03/2010 23:08

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
RINSE 580-76712/1		12/03/2010 11:11	1		ZB-624short 0.18(mm)
BFB 580-76712/2		12/03/2010 11:41	1	I0320255.D	ZB-624short 0.18(mm)
STD 580-76712/3 IC		12/03/2010 12:07	1	I0320256.D	ZB-624short 0.18(mm)
BFB 580-76712/30		12/03/2010 12:07	1	I0320256BFB.D	ZB-624short 0.18(mm)
STD 580-76712/4 IC		12/03/2010 12:32	1	I0320257.D	ZB-624short 0.18(mm)
STD 580-76712/5 IC		12/03/2010 12:58	1	I0320258.D	ZB-624short 0.18(mm)
STD 580-76712/6 IC		12/03/2010 13:23	1	I0320259.D	ZB-624short 0.18(mm)
STD001 580-76712/7 IC		12/03/2010 13:48	1	I0320260.D	ZB-624short 0.18(mm)
ICIS 580-76712/8		12/03/2010 14:14	1	I0320261.D	ZB-624short 0.18(mm)
STD010 580-76712/9 IC		12/03/2010 14:39	1	I0320262.D	ZB-624short 0.18(mm)
STD020 580-76712/10 IC		12/03/2010 15:05	1	I0320263.D	ZB-624short 0.18(mm)
STD040 580-76712/11 IC		12/03/2010 15:30	1	I0320264.D	ZB-624short 0.18(mm)
STD080 580-76712/12 IC		12/03/2010 15:55	1	I0320265.D	ZB-624short 0.18(mm)
ZZZZZ		12/03/2010 16:20	1		ZB-624short 0.18(mm)
RINSE 580-76712/14		12/03/2010 16:46	1		ZB-624short 0.18(mm)
ICV 580-76712/15		12/03/2010 17:11	1	I0320268.D	ZB-624short 0.18(mm)
ZZZZZ		12/03/2010 17:37	1		ZB-624short 0.18(mm)
ZZZZZ		12/03/2010 18:02	1		ZB-624short 0.18(mm)
ZZZZZ		12/03/2010 18:28	1		ZB-624short 0.18(mm)
ZZZZZ		12/03/2010 18:54	1		ZB-624short 0.18(mm)
ZZZZZ		12/03/2010 19:19	1		ZB-624short 0.18(mm)
ZZZZZ		12/03/2010 19:44	1		ZB-624short 0.18(mm)
ZZZZZ		12/03/2010 20:10	1		ZB-624short 0.18(mm)
ZZZZZ		12/03/2010 20:35	20		ZB-624short 0.18(mm)
ZZZZZ		12/03/2010 21:01	20		ZB-624short 0.18(mm)
ZZZZZ		12/03/2010 21:26	10		ZB-624short 0.18(mm)
ZZZZZ		12/03/2010 21:52	10		ZB-624short 0.18(mm)
ZZZZZ		12/03/2010 22:17	1		ZB-624short 0.18(mm)
RINSE 580-76712/28		12/03/2010 22:43	1		ZB-624short 0.18(mm)
RINSE 580-76712/29		12/03/2010 23:08	1		ZB-624short 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Instrument ID: SEA015 Start Date: 12/06/2010 11:30

Analysis Batch Number: 76808 End Date: 12/06/2010 16:12

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		12/06/2010 11:30	1		ZB-624short 0.18(mm)
BFB 580-76808/2		12/06/2010 11:55	1		ZB-624short 0.18(mm)
CCVIS 580-76808/3		12/06/2010 12:21	1	I0320316.D	ZB-624short 0.18(mm)
BFB 580-76808/24		12/06/2010 12:21	1	I0320316BFB.D	ZB-624short 0.18(mm)
ZZZZZ		12/06/2010 12:47	1		ZB-624short 0.18(mm)
MB 580-76808/5		12/06/2010 13:12	1	I0320318.D	ZB-624short 0.18(mm)
LCS 580-76808/6		12/06/2010 13:38	1	I0320319.D	ZB-624short 0.18(mm)
LCSD 580-76808/7		12/06/2010 14:03	1	I0320320.D	ZB-624short 0.18(mm)
ZZZZZ		12/06/2010 14:28	1		ZB-624short 0.18(mm)
580-23103-1	MW-9-112210-W	12/06/2010 14:54	1	I0320322.D	ZB-624short 0.18(mm)
580-23103-2	MW-4-112210-W	12/06/2010 15:19	1	I0320323.D	ZB-624short 0.18(mm)
580-23103-3	MW-17-112210-W	12/06/2010 15:45	1	I0320324.D	ZB-624short 0.18(mm)
580-23103-4	MW-13-112210-W	12/06/2010 16:12	1	I0320325.D	ZB-624short 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Instrument ID: SEA015 Start Date: 12/08/2010 10:14

Analysis Batch Number: 76949 End Date: 12/08/2010 17:08

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		12/08/2010 10:14	1		ZB-624short 0.18(mm)
BFB 580-76949/2		12/08/2010 10:39	1	I0320363.D	ZB-624short 0.18(mm)
CCVIS 580-76949/3		12/08/2010 11:05	1	I0320364.D	ZB-624short 0.18(mm)
ZZZZZ		12/08/2010 11:30	1		ZB-624short 0.18(mm)
MB 580-76949/5		12/08/2010 11:55	1	I0320366.D	ZB-624short 0.18(mm)
LCS 580-76949/6		12/08/2010 12:20	1	I0320367.D	ZB-624short 0.18(mm)
LCSD 580-76949/7		12/08/2010 12:45	1	I0320368.D	ZB-624short 0.18(mm)
ZZZZZ		12/08/2010 13:12	1		ZB-624short 0.18(mm)
580-23103-5	MW-3-112410-W	12/08/2010 13:37	1	I0320370.D	ZB-624short 0.18(mm)
580-23103-6	MW-8-112410-W	12/08/2010 14:03	1	I0320371.D	ZB-624short 0.18(mm)
580-23103-7	MW-16-112410-W	12/08/2010 14:28	1	I0320372.D	ZB-624short 0.18(mm)
580-23103-8	DUP-1-112410-W	12/08/2010 14:57	1	I0320373.D	ZB-624short 0.18(mm)
580-23103-9	MW-18-112410-W	12/08/2010 15:22	1	I0320374.D	ZB-624short 0.18(mm)
580-23103-10	Trip Blank	12/08/2010 15:49	1	I0320375.D	ZB-624short 0.18(mm)
580-23103-9 MS	MW-18-112410-W MS	12/08/2010 16:15	1	I0320376.D	ZB-624short 0.18(mm)
580-23103-9 MSD	MW-18-112410-W MSD	12/08/2010 16:41	1	I0320377.D	ZB-624short 0.18(mm)
RINSE 580-76949/17		12/08/2010 17:08	1		ZB-624short 0.18(mm)

METALS

COVER PAGE
METALS

Lab Name: TestAmerica Seattle Job Number: 580-23103-1

SDG No.:

Project: City of Olympia

Client Sample ID	Lab Sample ID
MW-9-112210-W	580-23103-1
MW-4-112210-W	580-23103-2
MW-17-112210-W	580-23103-3
MW-13-112210-W	580-23103-4
MW-3-112410-W	580-23103-5
MW-8-112410-W	580-23103-6
MW-16-112410-W	580-23103-7
DUP-1-112410-W	580-23103-8
MW-18-112410-W	580-23103-9

Comments:

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

Client Sample ID: MW-9-112210-W
Lab Sample ID: 580-23103-1
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/22/2010 13:15
Reporting Basis: WET
Date Received: 11/24/2010 14:40

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

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

Client Sample ID: MW-4-112210-W
Lab Sample ID: 580-23103-2
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/22/2010 14:13
Reporting Basis: WET
Date Received: 11/24/2010 14:40

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.00067	0.00040		mg/L		^	1	6020

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

Client Sample ID: MW-17-112210-W
Lab Sample ID: 580-23103-3
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/22/2010 15:21
Reporting Basis: WET
Date Received: 11/24/2010 14:40

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0016	0.00040		mg/L		^	1	6020

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

Client Sample ID: MW-13-112210-W
Lab Sample ID: 580-23103-4
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/22/2010 16:53
Reporting Basis: WET
Date Received: 11/24/2010 14:40

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

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

Client Sample ID: MW-3-112410-W
Lab Sample ID: 580-23103-5
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/24/2010 10:05
Reporting Basis: WET
Date Received: 11/24/2010 14:40

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

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

Client Sample ID: MW-8-112410-W
Lab Sample ID: 580-23103-6
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/24/2010 11:10
Reporting Basis: WET
Date Received: 11/24/2010 14:40

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

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

Client Sample ID: MW-16-112410-W
Lab Sample ID: 580-23103-7
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/24/2010 12:08
Reporting Basis: WET
Date Received: 11/24/2010 14:40

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0013	0.00040		mg/L		^	1	6020

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

Client Sample ID: DUP-1-112410-W
Lab Sample ID: 580-23103-8
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/24/2010 00:00
Reporting Basis: WET
Date Received: 11/24/2010 14:40

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

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

Client Sample ID: MW-18-112410-W
Lab Sample ID: 580-23103-9
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/24/2010 13:12
Reporting Basis: WET
Date Received: 11/24/2010 14:40

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0032	0.00040		mg/L		^	1	6020

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

ICV Source: ICPMS_ICV_WOR_00005 Concentration Units: mg/L

CCV Source: ICPMS_CAL_WOR_00004

Analyte	ICV 580-77019/7 12/08/2010 07:54				CCV 580-77019/12 12/08/2010 11:11				CCV 580-77019/24 12/08/2010 12:01			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
As	0.0395		0.0400	99	0.0510		0.0500	102	0.0514		0.0500	103

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

ICV Source: ICPMS_ICV_WOR_00005 Concentration Units: mg/L

CCV Source: ICPMS_CAL_WOR_00004

Analyte	CCV 580-77019/36 12/08/2010 12:53				CCV 580-77019/44 12/08/2010 13:26				CCV 580-77019/56 12/08/2010 14:16			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
As	0.0509		0.0500	102	0.0503		0.0500	101	0.0503		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.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

ICV Source: ICPMS_ICV_WOR_00005 Concentration Units: mg/L

CCV Source: ICPMS_CAL_WOR_00004

Analyte	CCV 580-77019/62 12/08/2010 14:40											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
As	0.0502		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.: 580-23103-1

SDG No.:

Analysis Method: 6020 Instrument ID: SEA026

Lab Sample ID: CRI 580-77019/9 Concentration Units: mg/L

CRQL Check Standard Source: ICPMS_CAL_WOR_00004

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Arsenic	0.00200	0.00193		96	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.: 580-23103-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICB 580-77019/8 12/08/2010 07:58		CCB 580-77019/13 12/08/2010 11:15		CCB 580-77019/25 12/08/2010 12:05		CCB 580-77019/37 12/08/2010 12:57	
		Found	C	Found	C	Found	C	Found	C
As	0.00040	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	CCB 580-77019/45 12/08/2010 13:30		CCB 580-77019/57 12/08/2010 14:20		CCB 580-77019/63 12/08/2010 14:45			
		Found	C	Found	C	Found	C	Found	C
As	0.00040	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 580-76881/21-A

Instrument Code: SEA026 Batch No.: 77019

CAS No.	Analyte	Concentration	C	Q	Method
7440-38-2	Arsenic	ND		^	6020

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 580-76906/1-A

Instrument Code: SEA026 Batch No.: 77019

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.: 580-23103-1

SDG No.:

Lab Sample ID: ICSA 580-77019/10 Instrument ID: SEA026

Lab File ID: 76881-ICPMS.rep ICS Source: ICPMS- ICSA_00002

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
As		**0.0005**	
Ag		*0.0002*	
Al	*20.0*	*19.7*	*99*
Ba		*0.0001*	
Be		*0.0000*	
Ca	*60.0*	*60.4*	*101*
Cd		*0.0001*	
Co		*0.0001*	
Cr		*0.0011*	
Cu		*0.0008*	
Fe	*50.0*	*50.2*	*100*
Hg		*0.0000*	
K	*20.0*	*20.5*	*103*
Lead		*0.0003*	
Mg	*20.0*	*20.6*	*103*
Mn		*0.0003*	
Mo	*0.400*	*0.417*	*104*
Na	*50.0*	*52.2*	*104*
Ni		*0.0012*	
P	*20.0*	*20.3*	*101*
Sb		*0.0001*	
Se		*-0.0006*	
Sn		*0.0001*	
Sr		*0.0038*	
Ti	*0.400*	*0.344*	*86*
Tl		*0.0000*	
U		*0.0028*	
V		*0.0003*	
Zn		*0.0003*	

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.: 580-23103-1

SDG No.:

Lab Sample ID: ICSAB 580-77019/11 Instrument ID: SEA026

Lab File ID: 76881-ICPMS.rep ICS Source: ICPMS- ICSA_00002

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Found Percent Recovery
As	**0.0200**	**0.0210**	**105**
Ag	*0.0100*	*0.0101*	*101*
Al	*20.0*	*19.3*	*96*
Ba		*0.0001*	
Be		*0.0000*	
Ca	*60.0*	*59.9*	*100*
Cd	*0.0200*	*0.0200*	*100*
Co	*0.0400*	*0.0412*	*103*
Cr	*0.0400*	*0.0417*	*104*
Cu	*0.0400*	*0.0393*	*98*
Fe	*50.0*	*49.9*	*100*
Hg		*0.0000*	
K	*20.0*	*19.9*	*100*
Lead		*0.0003*	
Mg	*20.0*	*20.2*	*101*
Mn	*0.0400*	*0.0409*	*102*
Mo	*0.400*	*0.410*	*102*
Na	*50.0*	*51.6*	*103*
Ni	*0.0400*	*0.0408*	*102*
P	*20.0*	*19.6*	*98*
Sb		*0.0001*	
Se	*0.0200*	*0.0194*	*97*
Sn		*0.0001*	
Sr		*0.0037*	
Ti	*0.400*	*0.339*	*85*
Tl		*0.0000*	
U		*0.0000*	
V	*0.0400*	*0.0412*	*103*
Zn	*0.0200*	*0.0199*	*99*

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.: 580-23103-1

SDG No.:

Lab Sample ID: ICSAB 580-77019/11 Instrument ID: SEA026

Lab File ID: 76881-ICPMS.rep ICS Source: ICPMS-ICSB_00002

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
As	**0.0200**	**0.0210**	**105**
Ag	*0.0100*	*0.0101*	*101*
Al	*20.0*	*19.3*	*96*
Ba		*0.0001*	
Be		*0.0000*	
Ca	*60.0*	*59.9*	*100*
Cd	*0.0200*	*0.0200*	*100*
Co	*0.0400*	*0.0412*	*103*
Cr	*0.0400*	*0.0417*	*104*
Cu	*0.0400*	*0.0393*	*98*
Fe	*50.0*	*49.9*	*100*
Hg		*0.0000*	
K	*20.0*	*19.9*	*100*
Lead		*0.0003*	
Mg	*20.0*	*20.2*	*101*
Mn	*0.0400*	*0.0409*	*102*
Mo	*0.400*	*0.410*	*102*
Na	*50.0*	*51.6*	*103*
Ni	*0.0400*	*0.0408*	*102*
P	*20.0*	*19.6*	*98*
Sb		*0.0001*	
Se	*0.0200*	*0.0194*	*97*
Sn		*0.0001*	
Sr		*0.0037*	
Ti	*0.400*	*0.339*	*85*
Tl		*0.0000*	
U		*0.0000*	
V	*0.0400*	*0.0412*	*103*
Zn	*0.0200*	*0.0199*	*99*

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-9-112210-W MS Lab ID: 580-23103-1 MS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

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		ND		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 SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: MW-18-112410-W MS Lab ID: 580-23103-9 MS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

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	4.02		0.0032		4.00	100	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-9-112210-W MSD
Lab ID: 580-23103-1 MSD
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
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	4.13		4.00	103	80-120	2	20	^	6020

SDR = Sample Duplicate Result

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

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: MW-18-112410-W MSD Lab ID: 580-23103-9 MSD

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

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	4.02		4.00	101	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-9-112210-W PDS Lab ID: 580-23103-1 PDS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

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		ND		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

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: MW-18-112410-W PDS Lab ID: 580-23103-9 PDS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

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	4.00		0.0032		4.00	100	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-9-112210-W DU | Lab ID: 580-23103-1 DU

Lab Name: TestAmerica Seattle | Job No.: 580-23103-1

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	ND		ND		NC	^	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 580-76881/22-A

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

Sample Matrix: Water LCS Source: m-GPS-1_00019

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Arsenic	4.00	4.05		101	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 580-76881/23-A

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

Sample Matrix: Water LCS Source: m-GPS-1_00019

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Arsenic	4.06		4.00	102	80-120	0	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 580-76881/24-A

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

Sample Matrix: Water LCS Source: m-GPS-1_00019

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Arsenic	4.00	4.10		102	80	120	^	6020

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

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 580-76906/2-A

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

Sample Matrix: Water LCS Source: m-GPS-1_00019

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Arsenic	4.00	4.01		100	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 580-76906/3-A

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

Sample Matrix: Water LCS Source: m-GPS-1_00019

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Arsenic	3.99		4.00	100	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 580-76906/4-A

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

Sample Matrix: Water LCS Source: m-GPS-1_00019

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Arsenic	4.00	4.05		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: 580-23103-1

SDG No:

Lab Name: TestAmerica Seattle Job No: 580-23103-1

Matrix: Water Concentration Units: mg/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Arsenic	ND		ND		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: 580-23103-1

SDG Number:

Matrix: Water Instrument ID: SEA026

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: 580-23103-1

SDG Number:

Matrix: Water Instrument ID: SEA026

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: 580-23103-1

SDG No.:

Instrument ID: SEA026 Date: 03/01/2010 06:52

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Arsenic		4	6020

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Preparation Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
580-23103-1	12/07/2010 10:22	76881		50	50
580-23103-1 DU	12/07/2010 10:22	76881		50	50
580-23103-1 MS	12/07/2010 10:22	76881		50	50
580-23103-1 MSD	12/07/2010 10:22	76881		50	50
580-23103-2	12/07/2010 10:22	76881		50	50
580-23103-3	12/07/2010 10:22	76881		50	50
580-23103-4	12/07/2010 10:22	76881		50	50
580-23103-5	12/07/2010 10:22	76881		50	50
580-23103-6	12/07/2010 10:22	76881		50	50
MB 580-76881/21-A	12/07/2010 10:22	76881		50	50
LCS 580-76881/22-A	12/07/2010 10:22	76881		50	50
LCSD 580-76881/23-A	12/07/2010 10:22	76881		50	50
LCSSRM 580-76881/24-A	12/07/2010 10:22	76881		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Preparation Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 580-76906/1-A	12/07/2010 13:52	76906		50	50
LCS 580-76906/2-A	12/07/2010 13:52	76906		50	50
LCSD 580-76906/3-A	12/07/2010 13:52	76906		50	50
LCSSRM 580-76906/4-A	12/07/2010 13:52	76906		50	50
580-23103-7	12/07/2010 13:52	76906		50	50
580-23103-8	12/07/2010 13:52	76906		50	50
580-23103-9	12/07/2010 13:52	76906		50	50
580-23103-9 MS	12/07/2010 13:52	76906		50	50
580-23103-9 MSD	12/07/2010 13:52	76906		50	50

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Instrument ID: SEA026 Method: 6020

Start Date: 12/08/2010 07:29 End Date: 12/09/2010 00:40

Lab Sample ID	D/F	Type	Time	Analytes																			
				As																			
STD0 580-77019/1 IC	1		07:29	X																			
STD1 580-77019/2 IC	1		07:34	X																			
STD2 580-77019/3 IC	1		07:38	X																			
STD3 580-77019/4 IC	1		07:42	X																			
STD4 580-77019/5 IC	1		07:46	X																			
STD5 580-77019/6 IC	1		07:50	X																			
ICV 580-77019/7	1		07:54	X																			
ICB 580-77019/8	1		07:58	X																			
CRI 580-77019/9	1		08:03	X																			
ICSA 580-77019/10	1		08:07	X																			
ICSAB 580-77019/11	1		08:11	X																			
CCV 580-77019/12	1		11:11	X																			
CCB 580-77019/13	1		11:15	X																			
MB 580-76881/21-A	1	R	11:20	X																			
580-23103-1 SD	5	R	11:24	X																			
580-23103-1	1	R	11:28	X																			
580-23103-1 DU	1	R	11:32	X																			
580-23103-1 MS	50	R	11:36	X																			
580-23103-1 MSD	50	R	11:40	X																			
580-23103-1 PDS	50	R	11:44	X																			
LCS 580-76881/22-A	50	R	11:48	X																			
LCSD 580-76881/23-A	50	R	11:53	X																			
LCSSRM 580-76881/24-A	50	R	11:57	X																			
CCV 580-77019/24	1		12:01	X																			
CCB 580-77019/25	1		12:05	X																			
580-23103-2	1	R	12:09	X																			
580-23103-3	1	R	12:13	X																			
580-23103-4	1	R	12:17	X																			
580-23103-5	1	R	12:24	X																			
580-23103-6	1	R	12:28	X																			
ZZZZZZ			12:33																				
ZZZZZZ			12:37																				
ZZZZZZ			12:41																				
ZZZZZZ			12:45																				
ZZZZZZ			12:49																				
CCV 580-77019/36	1		12:53	X																			
CCB 580-77019/37	1		12:57	X																			
ZZZZZZ			13:02																				
ZZZZZZ			13:06																				
ZZZZZZ			13:10																				
ZZZZZZ			13:14																				
ZZZZZZ			13:18																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Instrument ID: SEA026 Method: 6020

Start Date: 12/08/2010 07:29 End Date: 12/09/2010 00:40

Lab Sample ID	D / F	Type	Time	Analytes																			
				As																			
ZZZZZZ			13:22																				
CCV 580-77019/44	1		13:26	X																			
CCB 580-77019/45	1		13:30	X																			
MB 580-76906/1-A	1	R	13:34	X																			
580-23103-7	1	R	13:39	X																			
580-23103-8	1	R	13:43	X																			
580-23103-9	1	R	13:47	X																			
580-23103-9 MS	50	R	13:51	X																			
580-23103-9 MSD	50	R	13:55	X																			
580-23103-9 PDS	50	R	13:59	X																			
LCS 580-76906/2-A	50	R	14:03	X																			
LCSD 580-76906/3-A	50	R	14:07	X																			
LCSSRM 580-76906/4-A	50	R	14:12	X																			
CCV 580-77019/56	1		14:16	X																			
CCB 580-77019/57	1		14:20	X																			
ZZZZZZ			14:24																				
ZZZZZZ			14:28																				
ZZZZZZ			14:32																				
ZZZZZZ			14:36																				
CCV 580-77019/62	1		14:40	X																			
CCB 580-77019/63	1		14:45	X																			
CCV 580-77019/64			22:23																				
CCB 580-77019/65			22:27																				
ZZZZZZ			22:31																				
ZZZZZZ			22:35																				
ZZZZZZ			22:40																				
ZZZZZZ			22:44																				
ZZZZZZ			22:48																				
ZZZZZZ			22:52																				
ZZZZZZ			22:56																				
ZZZZZZ			23:00																				
ZZZZZZ			23:04																				
ZZZZZZ			23:09																				
CCV 580-77019/76			23:13																				
CCB 580-77019/77			23:17																				
ZZZZZZ			23:21																				
ZZZZZZ			23:25																				
ZZZZZZ			23:29																				
ZZZZZZ			23:33																				
ZZZZZZ			23:37																				
ZZZZZZ			23:42																				
ZZZZZZ			23:46																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Instrument ID: SEA026 Method: 6020

Start Date: 12/08/2010 07:29 End Date: 12/09/2010 00:40

Lab Sample ID	D / F	Type	Time	Analytes																			
				As																			
ZZZZZZ			23:50																				
ZZZZZZ			23:54																				
ZZZZZZ			23:58																				
CCV 580-77019/88			00:02																				
CCB 580-77019/89			00:06																				
ZZZZZZ			00:10																				
ZZZZZZ			00:15																				
ZZZZZZ			00:19																				
ZZZZZZ			00:23																				
ZZZZZZ			00:27																				
ZZZZZZ			00:31																				
CCV 580-77019/96			00:35																				
CCB 580-77019/97			00:40																				

Prep Types

R = Total Recoverable

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

ICP-MS Instrument ID: SEA026 Start Date: 12/08/2010 End Date: 12/08/2010

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc	Q	Element Ge	Q	Element Rh	Q	Element Lu	Q
STD0 580-77019/1 IC	07:29										
STD1 580-77019/2 IC	07:34										
STD2 580-77019/3 IC	07:38										
STD3 580-77019/4 IC	07:42										
STD4 580-77019/5 IC	07:46										
STD5 580-77019/6 IC	07:50										
ICV 580-77019/7	07:54										
ICB 580-77019/8	07:58										
CRI 580-77019/9	08:03										
ICSA 580-77019/10	08:07										
ICSAB 580-77019/11	08:11										
CCV 580-77019/12	11:11										
CCB 580-77019/13	11:15										
MB 580-76881/21-A	11:20										
580-23103-1 SD	11:24										
580-23103-1	11:28										
580-23103-1 DU	11:32										
580-23103-1 MS	11:36										
580-23103-1 MSD	11:40										
580-23103-1 PDS	11:44										
LCS 580-76881/22-A	11:48										
LCSD 580-76881/23-A	11:53										
LCSSRM	11:57										
CCV 580-77019/24	12:01										
CCB 580-77019/25	12:05										
580-23103-2	12:09										
580-23103-3	12:13										
580-23103-4	12:17										
580-23103-5	12:24										
580-23103-6	12:28										
CCV 580-77019/36	12:53										
CCB 580-77019/37	12:57										
CCV 580-77019/44	13:26										
CCB 580-77019/45	13:30										
MB 580-76906/1-A	13:34										
580-23103-7	13:39										
580-23103-8	13:43										
580-23103-9	13:47										
580-23103-9 MS	13:51										
580-23103-9 MSD	13:55										
580-23103-9 PDS	13:59										
LCS 580-76906/2-A	14:03										

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

ICP-MS Instrument ID: SEA026 Start Date: 12/08/2010 End Date: 12/08/2010

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc	Q	Element Ge	Q	Element Rh	Q	Element Lu	Q
LCSD 580-76906/3-A	14:07										
LCSSRM	14:12										
CCV 580-77019/56	14:16										
CCB 580-77019/57	14:20										
CCV 580-77019/62	14:40										
CCB 580-77019/63	14:45										

Metals Worksheet

Batch Number: 580-76881
Method: 3005A
Analyst: Froyland, Zoe

Date Open: Dec 07 2010 10:22AM
Batch End: Dec 07 2010 3:00PM

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
580-23103-B-1	MW-9-112210-W	3005A, 6020	R	50 mL	50 mL				
580-23103-B-1~DU	MW-9-112210-W	3005A, 6020	R	50 mL	50 mL				
580-23103-B-1~MS	MW-9-112210-W	3005A, 6020	R	50 mL	50 mL	1.0 mL	1.0 mL	1.0 mL	1.0 mL
580-23103-B-1~MSD	MW-9-112210-W	3005A, 6020	R	50 mL	50 mL	1.0 mL	1.0 mL	1.0 mL	1.0 mL
580-23103-B-2	MW-4-112210-W	3005A, 6020	R	50 mL	50 mL				
580-23103-B-3	MW-17-112210-W	3005A, 6020	R	50 mL	50 mL				
580-23103-B-4	MW-13-112210-W	3005A, 6020	R	50 mL	50 mL				
580-23103-B-5	MW-3-112410-W	3005A, 6020	R	50 mL	50 mL				
580-23103-B-6	MW-8-112410-W	3005A, 6020	R	50 mL	50 mL				
580-23069-D-1			R	50 mL	50 mL				
580-23069-D-2			R	50 mL	50 mL				
580-23069-D-3			R	50 mL	50 mL				
580-23069-D-4			R	50 mL	50 mL				
580-23161-A-10			R	50 mL	50 mL				
580-23161-A-11			R	50 mL	50 mL				
580-23161-A-12			R	50 mL	50 mL				
580-23161-A-13			R	50 mL	50 mL				
580-23161-A-14			R	50 mL	50 mL				
580-23161-A-15			R	50 mL	50 mL				
580-23161-A-16			R	50 mL	50 mL				
MB~580-76881/21		3005A, 6020		50 mL	50 mL				
LCS~580-76881/22		3005A, 6020		50 mL	50 mL	1.0 mL	1.0 mL	1.0 mL	1.0 mL
LCSD~580-76881/23		3005A, 6020		50 mL	50 mL	1.0 mL	1.0 mL	1.0 mL	1.0 mL
LCSSRM~580-76881/24		3005A, 6020		50 mL	50 mL	1.0 mL	1.0 mL	1.0 mL	1.0 mL

Metals Worksheet

Batch Number: 580-76881
Method: 3005A
Analyst: Froyland, Zoe

Date Open: Dec 07 2010 10:22AM
Batch End: Dec 07 2010 3:00PM

Lab ID	Client ID	Method Chain	Basis	MS-HgSpk_00010
580-23103-B-1	MW-9-112210-W	3005A, 6020	R	
580-23103-B-1~DU	MW-9-112210-W	3005A, 6020	R	
580-23103-B-1~MS	MW-9-112210-W	3005A, 6020	R	1.0 mL
580-23103-B-1~MSD	MW-9-112210-W	3005A, 6020	R	1.0 mL
580-23103-B-2	MW-4-112210-W	3005A, 6020	R	
580-23103-B-3	MW-17-112210-W	3005A, 6020	R	
580-23103-B-4	MW-13-112210-W	3005A, 6020	R	
580-23103-B-5	MW-3-112410-W	3005A, 6020	R	
580-23103-B-6	MW-8-112410-W	3005A, 6020	R	
580-23069-D-1			R	
580-23069-D-2			R	
580-23069-D-3			R	
580-23069-D-4			R	
580-23161-A-10			R	
580-23161-A-11			R	
580-23161-A-12			R	
580-23161-A-13			R	
580-23161-A-14			R	
580-23161-A-15			R	
580-23161-A-16			R	
MB~580-76881/21		3005A, 6020		
LCS~580-76881/22		3005A, 6020		1.0 mL
LCSD~580-76881/23		3005A, 6020		1.0 mL
LCSSRM~580-76881/24		3005A, 6020		1.0 mL

Digestion Tube/Cup Lot #:	630333
Hot Block ID number:	38009
Hood ID or number:	06
Lot # of Nitric Acid:	618142
Lot # of hydrochloric acid:	618190
Uncorrected Temperature:	95 Celsius
Oven, Bath or Block Temperature 1:	94 CORRECTED-TEMP
ID number of the thermometer:	15-041-1A-A

Metals Worksheet

Batch Number: 580-76906
Method: 3005A
Analyst: Kimura, Evan

Date Open: Dec 07 2010 1:52PM
Batch End: Dec 07 2010 7:00PM

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_00015	m-GPS-4_00018
MB~580-76906/1		3005A, 6020		50 mL	50 mL				
LCS~580-76906/2		3005A, 6020		50 mL	50 mL	1 mL	1 mL	1 mL	1 mL
LCSD~580-76906/3		3005A, 6020		50 mL	50 mL	1 mL	1 mL	1 mL	1 mL
LCSSRM~580-76906/4		3005A, 6020		50 mL	50 mL	1 mL	1 mL	1 mL	1 mL
LCS~580-76906/5				50 mL	50 mL	1 mL	1 mL	1 mL	1 mL
580-23103-B-7	MW-16-112410-W	3005A, 6020	R	50 mL	50 mL				
580-23103-B-8	DUP-1-112410-W	3005A, 6020	R	50 mL	50 mL				
580-23103-B-9	MW-18-112410-W	3005A, 6020	R	50 mL	50 mL				
580-23093-H-1			R	50 mL	50 mL				
580-23093-H-2			R	50 mL	50 mL				
580-23093-H-2~DU			R	50 mL	50 mL				
580-23070-B-1			R	50 mL	50 mL				
580-23103-B-9~MS	MW-18-112410-W	3005A, 6020	R	50 mL	50 mL	1 mL	1 mL	1 mL	1 mL
580-23103-B-9~MSD	MW-18-112410-W	3005A, 6020	R	50 mL	50 mL	1 mL	1 mL	1 mL	1 mL
580-23073-C-1			R	50 mL	50 mL				
580-23073-C-2			R	50 mL	50 mL				
580-23073-C-3			R	50 mL	50 mL				
580-23073-C-4			R	50 mL	50 mL				
580-23128-C-1			R	50 mL	50 mL				
580-23221-C-1			R	50 mL	50 mL				
580-23221-C-2			R	50 mL	50 mL				
580-23221-C-3			R	50 mL	50 mL				
580-23221-C-4			R	50 mL	50 mL				
580-23223-C-1			R	50 mL	50 mL				
580-23223-C-2			R	50 mL	50 mL				

Metals Worksheet

Batch Number: 580-76906
Method: 3005A
Analyst: Kimura, Evan

Date Open: Dec 07 2010 1:52PM
Batch End: Dec 07 2010 7:00PM

Lab ID	Client ID	Method Chain	Basis	MS-HgSpk_00010
MB~580-76906/1		3005A, 6020		
LCS~580-76906/2		3005A, 6020		1 mL
LCSD~580-76906/3		3005A, 6020		1 mL
LCSSRM~580-76906/4		3005A, 6020		1 mL
LCS~580-76906/5				1 mL
580-23103-B-7	MW-16-112410-W	3005A, 6020	R	
580-23103-B-8	DUP-1-112410-W	3005A, 6020	R	
580-23103-B-9	MW-18-112410-W	3005A, 6020	R	
580-23093-H-1			R	
580-23093-H-2			R	
580-23093-H-2~DU			R	
580-23070-B-1			R	
580-23103-B-9~MS	MW-18-112410-W	3005A, 6020	R	1 mL
580-23103-B-9~MSD	MW-18-112410-W	3005A, 6020	R	1 mL
580-23073-C-1			R	
580-23073-C-2			R	
580-23073-C-3			R	
580-23073-C-4			R	
580-23128-C-1			R	
580-23221-C-1			R	
580-23221-C-2			R	
580-23221-C-3			R	
580-23221-C-4			R	
580-23223-C-1			R	
580-23223-C-2			R	

Metals Worksheet

Batch Number: 580-76906
Method: 3005A
Analyst: Kimura, Evan

Date Open: Dec 07 2010 1:52PM
Batch End: Dec 07 2010 7:00PM

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_00015	m-GPS-4_00018
580-23223-C-3			R	50 mL	50 mL				
580-23223-C-4			R	50 mL	50 mL				

Metals Worksheet

Batch Number: 580-76906
Method: 3005A
Analyst: Kimura, Evan

Date Open: Dec 07 2010 1:52PM
Batch End: Dec 07 2010 7:00PM

Lab ID	Client ID	Method Chain	Basis	MS-HgSpk_00010
580-23223-C-3			R	
580-23223-C-4			R	

Digestion Tube/Cup Lot #:	630333
Hot Block ID number:	38010
Hood ID or number:	06
Lot # of Nitric Acid:	618142
Lot # of hydrochloric acid:	618190
Uncorrected Temperature:	95.0 Celsius
Oven, Bath or Block Temperature 1:	94.0 CORRECTED-TEMP
ID number of the thermometer:	15-041-1A-A
Uncorrected Temperature 2:	na Celsius
Oven, Bath or Block Temperature 2:	na
First Start time:	1500

Metals Worksheet

Batch Number: 580-76906
Method: 3005A
Analyst: Kimura, Evan

Date Open: Dec 07 2010 1:52PM
Batch End: Dec 07 2010 7:00PM

Comments

Lab ID	Client ID	Method Chain	Basis	Analysis comment
MB~580-76906/1		3005A, 6020		
LCS~580-76906/2		3005A, 6020		EKK 6010/6020 IDOC
LCSD~580-76906/3		3005A, 6020		EKK 6010/6020 IDOC
LCSSRM~580-76906/4		3005A, 6020		EKK 6010/6020 IDOC
LCS~580-76906/5				EKK 6010/6020 IDOC
580-23103-B-7	MW-16-112410-W	3005A, 6020	R	
580-23103-B-8	DUP-1-112410-W	3005A, 6020	R	
580-23103-B-9	MW-18-112410-W	3005A, 6020	R	
580-23093-H-1			R	
580-23093-H-2			R	
580-23093-H-2~DU			R	
580-23070-B-1			R	
580-23103-B-9~MS	MW-18-112410-W	3005A, 6020	R	
580-23103-B-9~MSD	MW-18-112410-W	3005A, 6020	R	
580-23073-C-1			R	
580-23073-C-2			R	
580-23073-C-3			R	
580-23073-C-4			R	
580-23128-C-1			R	
580-23221-C-1			R	
580-23221-C-2			R	
580-23221-C-3			R	
580-23221-C-4			R	
580-23223-C-1			R	
580-23223-C-2			R	

Metals Worksheet

Batch Number: 580-76906
Method: 3005A
Analyst: Kimura, Evan

Date Open: Dec 07 2010 1:52PM
Batch End: Dec 07 2010 7:00PM

Comments

Lab ID	Client ID	Method Chain	Basis	Analysis comment
580-23223-C-3			R	
580-23223-C-4			R	

Batch Comment: 5005A: 6010B, 6020, EKK IDOCs

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job Number: 580-23103-1

SDG No.:

Project: City of Olympia

Client Sample ID	Lab Sample ID
MW-9-112210-W	580-23103-1
MW-4-112210-W	580-23103-2
MW-17-112210-W	580-23103-3
MW-13-112210-W	580-23103-4
MW-3-112410-W	580-23103-5
MW-8-112410-W	580-23103-6
MW-16-112410-W	580-23103-7
DUP-1-112410-W	580-23103-8
MW-18-112410-W	580-23103-9

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-9-112210-W
Lab Sample ID: 580-23103-1
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/22/2010 13:15
Reporting Basis: WET
Date Received: 11/24/2010 14:40

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	1.9	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-4-112210-W
Lab Sample ID: 580-23103-2
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/22/2010 14:13
Reporting Basis: WET
Date Received: 11/24/2010 14:40

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	3.8	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-17-112210-W
Lab Sample ID: 580-23103-3
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/22/2010 15:21
Reporting Basis: WET
Date Received: 11/24/2010 14:40

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	28	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-13-112210-W
Lab Sample ID: 580-23103-4
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/22/2010 16:53
Reporting Basis: WET
Date Received: 11/24/2010 14:40

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	8.1	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-3-112410-W
Lab Sample ID: 580-23103-5
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/24/2010 10:05
Reporting Basis: WET
Date Received: 11/24/2010 14:40

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	6.6	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-8-112410-W
Lab Sample ID: 580-23103-6
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/24/2010 11:10
Reporting Basis: WET
Date Received: 11/24/2010 14:40

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-16-112410-W
Lab Sample ID: 580-23103-7
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/24/2010 12:08
Reporting Basis: WET
Date Received: 11/24/2010 14:40

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	29	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: DUP-1-112410-W
Lab Sample ID: 580-23103-8
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/24/2010 00:00
Reporting Basis: WET
Date Received: 11/24/2010 14:40

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	28	1.2		mg/L			1	300.0

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-18-112410-W
Lab Sample ID: 580-23103-9
Lab Name: TestAmerica Seattle
Job No.: 580-23103-1
SDG ID.:
Matrix: Water
Date Sampled: 11/24/2010 13:12
Reporting Basis: WET
Date Received: 11/24/2010 14:40

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	38	1.2		mg/L			1	300.0

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Analyst: AM Batch Start Date: 12/07/2010

Reporting Units: mg/L Analytical Batch No.: 76911

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	10:53	Sulfate	14.4	15.0	96	90-110		TAC044 LCS_00002
1	ICB	11:09	Sulfate	ND					
6	CCV	13:37	Sulfate	19.4	20.0	97	90-110		TAC044 CCV_00003
7	CCB	13:53	Sulfate	ND					
21	CCV	16:21	Sulfate	19.6	20.0	98	90-110		TAC044 CCV_00003
22	CCB	16:37	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.: 580-23103-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 76911	Date: 12/07/2010 11:25						
300.0	MB 580-76911/2	Sulfate	ND		mg/L	1.2	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 76911		Date: 12/07/2010 15:48									
300.0	580-23103-9	Sulfate	38		mg/L						
300.0	580-23103-9 MS	Sulfate	75.2		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.: 580-23103-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 76911 Date: 12/07/2010 16:04											
300.0	580-23103-9 MSD	Sulfate	73.4		mg/L	40.0	89	90-110	3	15	F

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.: 580-23103-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 76911	Date: 12/07/2010 15:31							
300.0	MW-18-112410-W	580-23103-9	Sulfate	38	mg/L			
300.0	MW-18-112410-W	580-23103-9 DU	Sulfate	37.7	mg/L	0.05	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.: 580-23103-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 76911	Date: 12/07/2010 11:42										
						LCS Source: TAC044 LCS_00002					
300.0	LCS 580-76911/3	Sulfate	14.4		mg/L	15.0	96	90-110	1	15	

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

FORM VIIA-IN

7A-IN
LAB CONTROL SAMPLE DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job No.: 580-23103-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 76911		Date: 12/07/2010 11:58									
						LCSD Source: TAC044 LCS_00002					
300.0	LCSD 580-76911/4	Sulfate	14.3		mg/L	15.0	96	90-110	1	15	

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: 580-23103-1

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: 580-23103-1

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.: 580-23103-1

SDG No.:

Instrument ID: TAC044 Method: 300.0

Start Date: 12/07/2010 10:53 End Date: 12/07/2010 18:32

Lab Sample ID	D / F	Type	Time	Analytes																				
				SO4																				
ICV 580-76911/8	1		10:53	X																				
ICB 580-76911/1	1		11:09	X																				
MB 580-76911/2	1	T	11:25	X																				
LCS 580-76911/3	1	T	11:42	X																				
LCSD 580-76911/4	1	T	11:58	X																				
ZZZZZZ			12:15																					
580-23103-1	1	T	12:31	X																				
580-23103-2	1	T	12:47	X																				
580-23103-3	1	T	13:04	X																				
580-23103-4	1	T	13:20	X																				
CCV 580-76911/6	1		13:37	X																				
CCB 580-76911/7	1		13:53	X																				
580-23103-5	1	T	14:09	X																				
580-23103-6	1	T	14:26	X																				
580-23103-7	1	T	14:42	X																				
580-23103-8	1	T	14:59	X																				
580-23103-9	1	T	15:15	X																				
580-23103-9 DU	1	T	15:31	X																				
580-23103-9 MS	5	T	15:48	X																				
580-23103-9 MSD	5	T	16:04	X																				
CCV 580-76911/21	1		16:21	X																				
CCB 580-76911/22	1		16:37	X																				
ZZZZZZ			16:54																					
ZZZZZZ			17:10																					
ZZZZZZ			17:26																					
ZZZZZZ			17:43																					
ZZZZZZ			17:59																					
CCV 580-76911/28			18:16																					
CCB 580-76911/29			18:32																					

Prep Types

T = Total/NA

General Chemistry Worksheet

Batch Number: 580-76911
Method: 300.0
Analyst: Mattison, Adam

Date Open: Dec 07 2010 10:53AM
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
ICB~580-76911/1		300.0		5 mL	5 mL			
MB~580-76911/2		300.0		5 mL	5 mL			
LCS~580-76911/3		300.0		5 mL	5 mL		5 mL	
LCSD~580-76911/4		300.0		5 mL	5 mL		5 mL	
580-23253-A-2			T	5 mL	5 mL			
CCV~580-76911/6		300.0		5 mL	5 mL	5 mL		
CCB~580-76911/7		300.0		5 mL	5 mL			
ICV~580-76911/8		300.0		5 mL	5 mL		5 mL	
580-23103-A-1	MW-9-112210-W	300.0	T	5 mL	5 mL			
580-23103-A-2	MW-4-112210-W	300.0	T	5 mL	5 mL			
580-23103-A-3	MW-17-112210-W	300.0	T	5 mL	5 mL			
580-23103-A-4	MW-13-112210-W	300.0	T	5 mL	5 mL			
580-23103-A-5	MW-3-112410-W	300.0	T	5 mL	5 mL			
580-23103-A-6	MW-8-112410-W	300.0	T	5 mL	5 mL			
580-23103-A-7	MW-16-112410-W	300.0	T	5 mL	5 mL			
580-23103-A-8	DUP-1-112410-W	300.0	T	5 mL	5 mL			
580-23103-A-9	MW-18-112410-W	300.0	T	5 mL	5 mL			
580-23103-A-9~DU	MW-18-112410-W	300.0	T	5 mL	5 mL			
580-23103-A-9~MS	MW-18-112410-W	300.0	T	2 mL	2 mL			16 uL
580-23103-A-9~MSD	MW-18-112410-W	300.0	T	2 mL	2 mL			16 uL
CCV~580-76911/21		300.0		5 mL	5 mL	5 mL		
CCB~580-76911/22		300.0		5 mL	5 mL			
580-23273-A-1			T	5 mL	5 mL			
580-23273-A-1~DU			T	5 mL	5 mL			
580-23273-A-1~MS			T	2 mL	2 mL			16 uL

General Chemistry Worksheet

Batch Number: 580-76911
Method: 300.0
Analyst: Mattison, Adam

Date Open: Dec 07 2010 10:53AM
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
580-23273-A-1~MSD			T	2 mL	2 mL			16 uL
580-23273-A-2			T	5 mL	5 mL			
CCV~580-76911/28				5 mL	5 mL	5 mL		
CCB~580-76911/29				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	11-24-10	8882
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1101 S. FAWCETT AVE	253-383-4940	23103	
City / **State** / **Zip Code**	**Sampler**	**Lab Contact**	**Analysis (Attach list if more space is needed)**
TACOMA / WA / 98402	NICK ROTHBACH	CURTIS ARMSTRONG	
Project Name and Location (State)	**Billing Contact**		
318 STATE AVE NE	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	SULFATE EPA 300.0	ARSENIC EPA 6020	VOCs EPA 8260 B	BENZENE	Special Instructions/ Conditions of Receipt
1 MW-9-112210-W	11-22-10	1:15PM		X			X		X	X			X	X	X	X	* REPORTING LIMITS,
2 MW-4-112210-W	"	2:13PM															ANALYTE LIST,
3 MW-17-112210-W	"	3:21PM															QA/QC TO BE
4 MW-13-112210-W	"	4:53PM															ACHIEVED: SEE
5 MW-3-112410-W	11-24-10	10:05AM															TABLES B-1
6 MW-8-112410-W	"	11:10AM															THROUGH B-4 OF
7 MW-16-112410-W	"	12:08PM															COMPLIANCE
8 DUP-1-112410-W	"	—															MONITORING
9 MW-18-112410-W	"	1:12PM															PLAN
MS-112410-W	"	—															
MSD-112410-W	"	—															
10 TRIP BLANK	"	—															

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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)

1. Relinquished By Sign/Print	Date	Time	1. Received By Sign/Print	Date	Time
Nick Rothbach	11-24-10	2:40PM	K Presley	11/24/10	1440
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Receive	Date	Time

Cooler/TB Dig IR cor 5.2 unc 5.5
Cooler Dsc Lg RW @ Lab
Wet/Packs Packing Bubble

Comments

12/10/2010

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

TAL-8274-580 (0210)

Login Sample Receipt Check List

Client: GeoEngineers Inc

Job Number: 580-23103-1

Login Number: 23103

List Source: TestAmerica Seattle

Creator: Presley, Kim

List Number: 1

Question	T / F/ NA	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.	True	
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)
580-23103-1	**MW-9-112210-W, MW-4-112210-W, MW-17-112210-W, MW-13-112210-W, MW-3-112410, MW-8-112410, MW-16-112410, DUP-1-112410, MW-18-112410-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 (as referenced in the laboratory case narrative)

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 the review, qualification of the laboratory data was performed in association with the difference between field duplicates and the interference check sample results.

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.

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.

All Samples: A sulfate matrix spike/matrix spike duplicate was performed on Sample MW-18-112410-W. The matrix spike duplicate percent recovery (%R) value was less than the control limits. However, the %R value for sulfate was within the control limits. No qualifiers were required.

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-1-112410-W: This sample was a field duplicate of Sample MW-16-112410-W. Arsenic was detected in Sample MW-16-112410-W, but not in Sample DUP-1-112410-W. As the absolute difference between the positive result and the minimum reporting limit was greater than the reporting limit, the positive results and reporting limits for all associated samples were qualified as estimated (J/UJ).

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.

All Samples: The laboratory found that the first solution described above exhibited trace amounts of contamination for arsenic. The percent recovery (%R) of the second solution was within the control limits for all analytical batches. The positive results and reporting limits for arsenic were qualified as estimated (J/UJ) to signify a potential bias in the data.

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, with the exceptions mentioned above.

Data were qualified as estimated because of field duplicate and interference check standard outliers.

In general, the data are acceptable for use as qualified.