

Zipper Geo Associates, LLC
Geotechnical and Environmental Consulting

June 8, 2012

Mill Creek Crossing LLC
22833 Bothell Everett Highway, Suite 207
Bothell, Washington 98021

Attn: Mr. Nicholas Echelbarger

Re: Groundwater Monitoring Report
Marketplace Retail Center
18001 Bothell Everett Highway
Bothell, Snohomish County, Washington
ZGA Project No. 1001.24

Dear Mr. Echelbarger:

Zipper Geo Associates, LLC (ZGA) is pleased to submit three copies of this Groundwater Monitoring Report for the above referenced site. This investigation was performed in accordance with ZGA's Proposal No. P120110, dated April 10, 2012 and includes results for a sampling event completed in May, 2012.

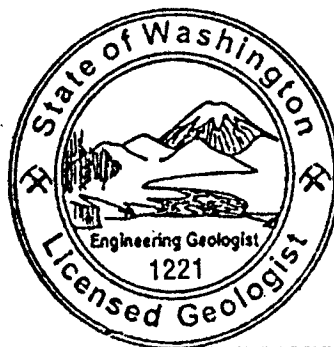
We appreciate the opportunity to perform these services for Mill Creek Crossing LLC. Please contact the undersigned at (425) 582-9928 if you have questions regarding the information provided in the report.

Sincerely,

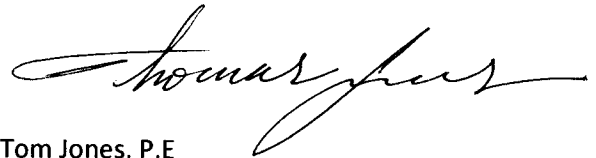
Zipper Geo Associates, LLC



Jon Einarsen, LG
Principal



Jon Marion Einarsen



Tom Jones, P.E.
Principal

Attachments: Figure 1 – Site Plan
Appendix A – Groundwater Sample Collection Form
Appendix B – Laboratory Report

Zipper Geo Associates, LLC

Project No. 1001.24

June 8, 2012

Introduction

This groundwater monitoring report presents a summary of the groundwater monitoring activities conducted at the Marketplace Retail Center in Bothell, Washington during May, 2012. The scope of the monitoring study is to sample five groundwater wells located proximal to current and former dry cleaning facilities located on the southwest corner of the retail center. Results from the monitoring study are used to assess potential trends in concentrations of tetrachloroethylene in groundwater. Groundwater elevations are tabulated in Table 2, and groundwater quality results are tabulated in Table 3 and Table 4. A groundwater contour map is included as Figure 1.

This work was completed in accordance with our proposal (P120110), dated April 10, 2012.

Table 1. Project Information

Site Name	Marketplace Retail Center
Site Location/Address	18001 Bothell-Everett Highway
General Site Description	The site consists of Snohomish County Tax parcel #27051800106300 and comprises approximately 3.15 acres. The site is developed with a L-shaped strip mall, a Key Bank Branch, a coffee shop, and a Plaid Pantry mini-mart/service station. The site includes asphalt-paved parking and landscape areas.
VCP #	NW2571
Sampling Schedule	Quarterly
Sampling Date	May 23-24, 2012
Wells Sounded	MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8
Wells Sampled	MW-1, MW-2, MW-3, MW-4, MW-8
Next Sampling Event	August, 2012

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Project No. 1001.24

June 8, 2012

Groundwater Elevation

Groundwater elevations were measured in all eight wells on May 23, 2012. Groundwater elevations were found to be a little over one foot lower than when last measured in May of 2011. Based on measured groundwater elevations, groundwater in the vicinity of the site flowed in a southeasterly to southerly direction with an approximate gradient of 0.0017 foot/foot during the May 2012 sampling event. These results are similar to previous results.

Table 2. Groundwater Elevations (Feet)

Monitoring Well	Relative Casing Elevation (Feet)	Relative Groundwater Elevation		
		Measurement Date		
		08-25-10	05-09-11	THIS EVENT 05-23-12
MW-1	296.31	271.09	275.13	273.58
MW-2	296.47	270.89	274.86	273.50
MW-3	296.96	270.79	274.75	273.47
MW-4	296.56	270.80	274.79	273.46
MW-5	289.85	271.14	274.89	273.67
MW-6	289.94	271.03	274.88	273.64
MW-7	289.72	270.58	274.50	273.31
MW-8	290.56	Not Installed	274.54	273.35

Groundwater Sampling and Analysis

Groundwater was sampled on May 23 and May 24, 2012. Each groundwater monitoring well was purged using a portable bladder pump equipped with a disposal bladder and tubing. Flow rates were maintained at approximately 0.2 to 1.0 liters per minute. During the purging process, groundwater quality parameters including temperature, electrical conductivity (EC), pH, turbidity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) were measured at regular intervals using a Horiba U-22 water-quality meter equipped with a flow cell. Purging at a given well was considered complete when three consecutive readings for temperature, EC, and pH were observed within 10%. Field data sheets are included in Appendix A. Samples were analyzed by ALS in Everett, Washington.

Based on the laboratory testing results, tetrachlorethylene (PCE) was not detected above laboratory reporting limits in MW-1 and MW-2. PCE was reported in concentrations of 15 ug/L, 140 ug/L and 36 ug/L in MW-3, MW-4, and MW-8 respectively. These concentrations exceed the Model Toxics Control Act (WAC 173-340) Method A cleanup level (5 ug/L) and are slightly higher than concentrations measured the last time the wells were sampled (May, 2011). No other volatile organic compounds were detected above laboratory reporting limits. The laboratory report is included in Appendix B.

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Table 3. Summarized Analytical Results (Groundwater)

Monitoring Well	Date	Volatile Organic Compounds (ug/L)													
		PCE	TCE	Cis-1,2-DCE	Benzene	Ethylbenzene	Isopropyl benzene	p-Isopropyl toluene	Naphthalene	n-Propyl benzene	Toluene	1,2,4-Trimethyl benzene	1,2,3-Trimethyl benzene	1,3,5-Trimethyl benzene	Xylenes
MW-1	6-17-09	12	ND<1	4.8	1.7	1.1	ND<1	ND<1	ND<5	ND<1	6.9	1.2	ND<1	ND<1	5.6
	8-10-10	ND<1	3.2	1.4	ND<1	ND<1	ND<1	ND<1	ND<5	ND<1	ND<5	ND<1	ND<1	ND<1	ND<3
	5-10-11	1.3	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
	5-23-12	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<4
MW-2	6-16-09	ND<1	ND<1	ND<1	27*	35*	1.8*	ND<1	9.5*	7.7*	190*	48*	10*	13*	210*
	8-12-10	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<5	ND<1	ND<5	ND<1	ND<1	ND<1	ND<3
	5-10-11	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
	5-24-12	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<4
MW-3	6-17-09	6.6	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<5	ND<1	ND<5	ND<1	ND<1	ND<1	ND<3
	8-12-10	6.4	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<5	ND<1	ND<5	ND<1	ND<1	ND<1	ND<3
	5-10-11	9.3	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
	5-24-12	15	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<4
MW-4	6-16-09	170	ND<1	ND<1	8.1*	11*	ND<1	ND<1	ND<5	2.8*	55*	12*	2.6*	3.6*	63*
	8-12-10	140	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<5	ND<1	ND<5	ND<1	ND<1	ND<1	ND<3
	5-10-11	110	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
	5-24-12	140	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<4
MW-5	8-10-10	0.61	ND<1	ND<1	1.4	ND<1	ND<1	ND<1	ND<5	ND<1	ND<5	ND<1	ND<1	ND<1	ND<3
	5-09-11	0.60	ND<1	ND<1	0.61	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
MTCA Method A Cleanup Level		5	5	NE	5	700	NE	NE	160	NE	1,000	NE	NE	NE	1,000

ug/L: micrograms per liter (parts-per-billion); ND<: Not detected above indicated laboratory reported detection limit; NE: Not established; Shaded values exceed MTCA Method A cleanup levels. Please refer to Appendix C for the complete set of analytes and analytical results for VOC.

* Cross-contamination, as described in *Limited Site Investigation* (prepared by Terracon, 2009).

Zipper Geo Associates, LLC

Project No. 1001.24

June 8, 2012

Table 3. Summarized Analytical Results (Groundwater, Continued)

Monitoring Well	Date	Volatile Organic Compounds (ug/L)													
		PCE	TCE	Cis-1,2-DCE	Benzene	Ethylbenzene	Isopropyl benzene	p-Isopropyl toluene	Naphthalene	n-Propyl benzene	Toluene	1,2,4-Trimethyl benzene	1,2,3-Trimethyl benzene	1,3,5-Trimethyl benzene	Xylenes
MW-6	8-10-10	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<5	ND<1	ND<5	ND<1	ND<1	ND<1	ND<1
	5-09-11	2.2	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
MW-7	8-10-10	0.55	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<5	ND<1	ND<5	ND<1	ND<1	ND<1	ND<3
	5-09-11	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
MW-8	5-10-11	22	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
	5-24-12	36	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<4
MTCA Method A Cleanup Level		5	5	NE	5	700	NE	NE	160	NE	1,000	NE	NE	NE	1,000

ug/L: micrograms per liter (parts-per-billion); ND<: Not detected above indicated laboratory reported detection limit; NE: Not established; Shaded values exceed MTCA Method A cleanup levels. Please refer to Appendix C for the complete set of analytes and analytical results for VOC.

Zipper Geo Associates, LLC

Project No. 1001.24

June 8, 2012

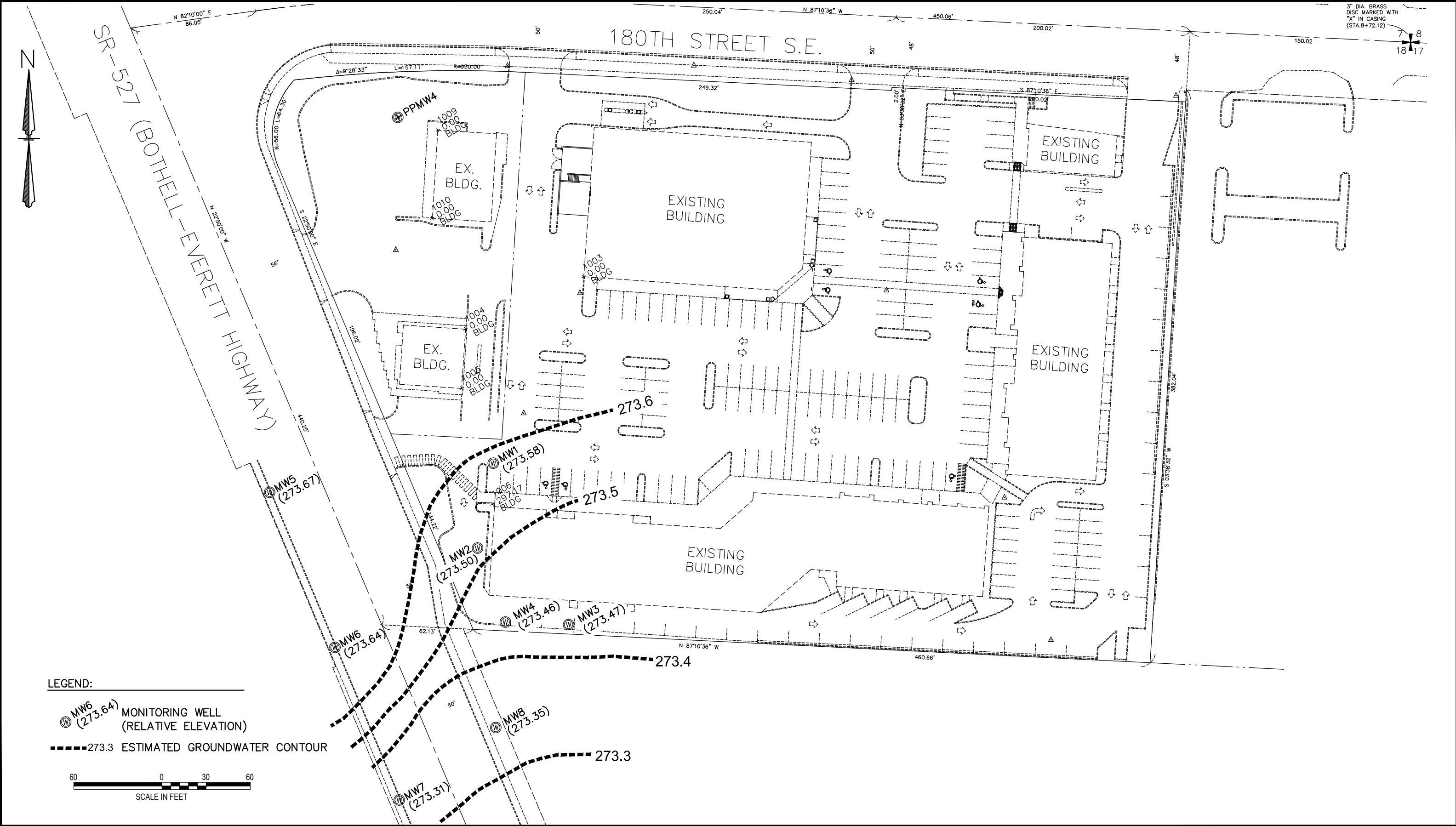
Table 4. Geochemical Parameters

Monitoring Well	Date	DO	ORP	pH	Nitrate (mg/L)	Ferrous Iron (mg/L)	Manganese (mg/L)	Sulfate (mg/L)
MW-1	6-17-09	1.3	212	5.24	4.0	0.1	0.93	54
	8-10-10	2.25	-55	5.34				
	5-10-11	7.11	292	5.32				
	5-23-12	2.55	318	5.06				
MW-2	6-16-09	1.5	97	6.08	1.3	ND	0.73	43
	8-12-10	3.75	329	5.79				
	5-10-11	2.04	226	5.97				
	5-24-12	1.03	236	6.10				
MW-3	6-17-09	2.3	186	5.86	18	0.2	0.79	33
	8-12-10	4.64	326	5.89				
	5-10-11	5.34	275	5.97				
	5-24-12	5.01	247	5.93				
MW-4	6-16-09	2.6	211	5.63	16	0.2	0.20	52
	8-12-10	6.48	400	5.75				
	5-10-11	6.10	291	5.83				
	5-24-12	5.86	244	5.88				
MW-5	8-10-10	3.56	-49	5.41				
	5-09-11	1.87	204	5.27				
MW-6	8-10-10	3.85	-14	5.86				
	5-09-11	2.96	276	5.64				
MW-7	8-10-10	4.10	13	5.86				
	5-09-11	5.80	285	5.94				
MW-8	5-10-11	3.39	180	6.21				
	5-24-12	5.24	244	5.79				

Based on field parameters measured during the May, 2012 sampling event, groundwater in the vicinity of MW-1, MW-2, MW-3, MW-4 and MW-8 is in an aerobic condition. These results are consistent with previous results.

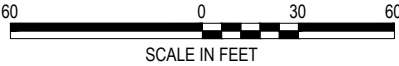
Conclusions

PCE was not detected in the up gradient (MW-1) and cross gradient (MW-2) wells. The reported concentrations of PCE in the down gradient wells (MW-3, MW-4, and MW-8) were all above MTCA Method A cleanup levels and slightly higher than when these wells were last sampled in May of 2011. While these results do not support a shrinking plume, they may be consistent with a stable plume (i.e., the plume may not be expanding). Additional groundwater sampling and analysis will be used to further document the plume dynamics.



LEGEND:

- Ⓜ MW6 (273.64) MONITORING WELL (RELATIVE ELEVATION)
- 273.3 ESTIMATED GROUNDWATER CONTOUR



SUBMITTAL RECORD			
NO.	DATE	BY	DESCRIPTION

DESIGNED:	JME
DRAWN:	RAR
CHECKED:	JME
SCALE:	AS SHOWN
DATE:	06/06/212
JOB NO.	1001.24
PLOT DATE:	6/7/12
LAST EDIT:	Base Station

ZGA Zipper Geo Associates, LLC
Geotechnical and Environmental Consultants

19023 36th Avenue West, Suite D | Lynnwood, WA 98036
PH: (425) 582-9928 | Fax: (425) 582-9930 | www.zippergeo.com

MARKETPLACE RETAIL CENTER
18001 BOTHELL EVERETT HIGHWAY
BOTHELL, WASHINGTON

SITE PLAN

DRAWING
FIGURE 1
SHEET
1
OF
1

APPENDIX A

Groundwater Sample Collection Forms

ZIPPER GEO ASSOCIATES, LLC
GROUNDWATER SAMPLE COLLECTION FORM

Well ID MW-1 Project Name Mn. Setplace Detail
 Sample No. MW-1 Project No. 1001.24
 Date 5-23-12 Sampling Personnel JME

Well Condition

Monument ☒ Good ☐ Needs Repair Comments _____
 Well Cap ☒ Good ☐ Needs Repair Comments _____
 Lock ☐ Good ☒ Replaced
 Elevation Mark ☐ No ☐ Yes Where? _____

Purge Information

Total Well Depth 22.73 ft. Depth to Product _____ ft.
 Depth to Water 22.73 ft.
 Casing Volume _____ ft. x _____ gal/ft. = _____ x3 = _____ gallons for 3 well volumes
 Casing Volumes: $\frac{3}{4}$ "=0.02 gpf 1"=0.04 gpf 2"=0.16 gpf 4"=0.65 gpf 6"=1.47 gpf

Pump Type ☐ Peristaltic ☒ Bladder ☐ Submersible Other _____
 Bailer Type ☐ Disposable ☐ PVC ☐ Teflon ☐ Stainless

Purge Start Time: 1511 Purge Stop Time: 1536 Gallons/Liters Purged _____

Field Parameters

Meter ☒ Horiba ☐ QED Other _____
 Flow Cell ☒ Yes ☐ No

Time	Temp	Conductivity	DO	pH	Turbidity	ORP	Comments
1511	13.32	0.412	4.68	5.26	13.32	331	
16	13.18	.369	3.04	5.20	13.18	328	
21	13.12	.350	2.64	5.11	13.12	321	
30	12.95	.334	3.23	5.09	12.95	319	
35	12.87	.334	2.55	5.06	12.87	318	

Containers

Number	Type	Preservative	Filtered?	Microns
3	☒ VOA ☐ Amber	☐ Poly ☐ None ☒ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☒ No ☐ Yes	
	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	
	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	
	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	

Comments: _____

Samplers Signature _____

ZIPPER GEO ASSOCIATES, LLC
GROUNDWATER SAMPLE COLLECTION FORM

Well ID <u>MW-2</u>	Project Name <u>Marketplace Retail</u>
Sample No. <u>MW-2</u>	Project No. <u>1001.24</u>
Date <u>5/24/12</u>	Sampling Personnel <u>JME</u>

Well Condition

Monument	☒ Good	☐ Needs Repair	Comments _____
Well Cap	☒ Good	☐ Needs Repair	Comments _____
Lock	☐ Good	☒ Replaced	
Elevation Mark	☐ No	☐ Yes	Where? _____

Purge Information

Total Well Depth 22.97 ft. Depth to Product _____ ft.

Depth to Water 22.97 ft.

Casing Volume _____ ft. x _____ gal/ft. = _____ x3 = _____ gallons for 3 well volumes

Casing Volumes: ¾"=0.02 gpf 1"=0.04 gpf 2"=0.16 gpf 4"=0.65 gpf 6"=1.47 gpf

Pump Type ☐ Peristaltic ☒ Bladder ☐ Submersible Other _____

Bailer Type ☐ Disposable ☐ PVC ☐ Teflon ☐ Stainless

Purge Start Time: 0955 Purge Stop Time: 1011 Gallons/Liters Purged _____

Field Parameters

Meter ☒ Horiba ☐ QED Other _____

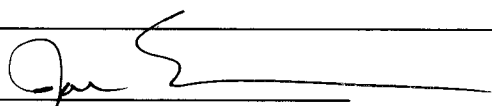
Flow Cell ☒ Yes ☐ No

Time	Temp	Conductivity	DO	pH	Turbidity	ORP	Comments
<u>0955</u>	<u>13.51</u>	<u>0.330</u>	<u>1.51</u>	<u>6.34</u>		<u>255</u>	
<u>1000</u>	<u>13.55</u>	<u>.327</u>	<u>1.13</u>	<u>6.16</u>		<u>253</u>	
<u>05</u>	<u>13.57</u>	<u>.326</u>	<u>1.05</u>	<u>6.12</u>	<u>582</u>	<u>247</u>	
<u>10</u>	<u>13.62</u>	<u>.324</u>	<u>1.03</u>	<u>6.10</u>	<u>305</u>	<u>236</u>	

Containers

Number	Type	Preservative	Filtered?	Microns
<u>3</u>	☒ VOA ☐ Amber	☐ Poly ☐ None ☒ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☒ No ☐ Yes	_____
_____	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	_____
_____	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	_____
_____	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	_____

Comments: _____

Samplers Signature 

ZIPPER GEO ASSOCIATES, LLC
GROUNDWATER SAMPLE COLLECTION FORM

Well ID MW-3 Project Name Marketplace Retail
 Sample No. MW-3 Project No. 1001.24
 Date 5/24/12 Sampling Personnel JME

Well Condition

Monument ☒ Good ☐ Needs Repair Comments _____
 Well Cap ☒ Good ☐ Needs Repair Comments _____
 Lock ☐ Good ☒ Replaced
 Elevation Mark ☐ No ☐ Yes Where? _____

Purge Information

Total Well Depth 23.49 ft. Depth to Product _____ ft.
 Depth to Water 23.49 ft.
 Casing Volume _____ ft. x _____ gal/ft. = _____ x3 = _____ gallons for 3 well volumes
 Casing Volumes: ¾"=0.02 gpf 1"=0.04 gpf 2"=0.16 gpf 4"=0.65 gpf 6"=1.47 gpf

Pump Type ☐ Peristaltic ☒ Bladder ☐ Submersible Other _____
 Bailer Type ☐ Disposable ☐ PVC ☐ Teflon ☐ Stainless

Purge Start Time: 1115 Purge Stop Time: 1133 Gallons/Liters Purged _____

Field Parameters

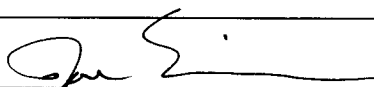
Meter ☒ Horiba ☐ QED Other _____
 Flow Cell ☒ Yes ☐ No

Time	Temp	Conductivity	DO	pH	Turbidity	ORP	Comments
<u>1115</u>	<u>14.00</u>	<u>0.297</u>	<u>5.16</u>	<u>5.98</u>	<u>816</u>	<u>255</u>	
<u>23</u>	<u>13.95</u>	<u>.297</u>	<u>5.08</u>	<u>5.96</u>	<u>546</u>	<u>250</u>	
<u>28</u>	<u>13.96</u>	<u>.297</u>	<u>5.04</u>	<u>5.93</u>	<u>426</u>	<u>249</u>	
<u>33</u>	<u>13.99</u>	<u>.298</u>	<u>5.01</u>	<u>5.93</u>	<u>290</u>	<u>247</u>	

Containers

Number	Type	Preservative	Filtered?	Microns
<u>3</u>	☒ VOA ☐ Amber	☐ Poly ☐ None ☒ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☒ No ☐ Yes	_____
_____	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	_____
_____	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	_____
_____	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	_____

Comments: _____

Samplers Signature 

ZIPPER GEO ASSOCIATES, LLC
GROUNDWATER SAMPLE COLLECTION FORM

Well ID MW-4 Project Name Marketplace Retail
Sample No. MW-4 Project No. 1001-24
Date 5/24/12 Sampling Personnel JME

Well Condition

Monument ☒ Good ☐ Needs Repair Comments _____
Well Cap ☐ Good ☒ Needs Repair Comments needs replacement
Lock ☐ Good ☒ Replaced
Elevation Mark ☐ No ☐ Yes Where? _____

Purge Information

Total Well Depth 23.46 ft. Depth to Product _____ ft.
Depth to Water 23.10 ft.
Casing Volume _____ ft. x _____ gal/ft. = _____ x3 = _____ gallons for 3 well volumes
Casing Volumes: $\frac{3}{4}$ "=0.02 gpf 1"=0.04 gpf 2"=0.16 gpf 4"=0.65 gpf 6"=1.47 gpf

Pump Type ☐ Peristaltic ☒ Bladder ☐ Submersible Other _____
Bailer Type ☐ Disposable ☐ PVC ☐ Teflon ☐ Stainless

Purge Start Time: 1247 Purge Stop Time: 1306 Gallons/Liters Purged _____

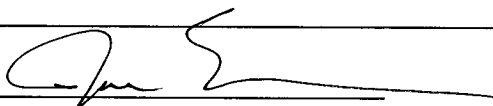
Field Parameters

Meter ☒ Horiba ☐ QED Other _____
Flow Cell ☒ Yes ☐ No
Time Temp Conductivity DO pH Turbidity ORP Comments
1247 14.05 0.290 8.02 6.08 14.05 244 255
52 13.77 .283 6.14 6.01 13.77 31 246
56 13.71 .284 5.90 5.95 13.71 0 243
1301 13.60 .283 5.89 5.91 13.6 3 243
06 13.73 .285 5.86 5.88 13.7 0 244

Containers

Number	Type	Preservative	Filtered?	Microns
<u>3</u>	☒ VOA ☐ Amber	☐ Poly ☐ None ☒ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☒ No ☐ Yes	_____
_____	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	_____
_____	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	_____
_____	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	_____

Comments: _____

Samplers Signature 

ZIPPER GEO ASSOCIATES, LLC
GROUNDWATER SAMPLE COLLECTION FORM

Well ID MW-8 Project Name Marketplace Retail
 Sample No. MW-8 Project No. 1001.24
 Date 5/24/12 Sampling Personnel JME

Well Condition

Monument ☒ Good ☐ Needs Repair Comments _____
 Well Cap ☒ Good ☐ Needs Repair Comments _____
 Lock ☐ Good ☒ Replaced _____
 Elevation Mark ☐ No ☐ Yes Where? _____

Purge Information

Total Well Depth _____ ft. Depth to Product _____ ft.
 Depth to Water 17.21 ft.
 Casing Volume _____ ft. x _____ gal/ft. = _____ x3 = _____ gallons for 3 well volumes
 Casing Volumes: $\frac{3}{4}$ "=0.02 gpf 1"=0.04 gpf 2"=0.16 gpf 4"=0.65 gpf 6"=1.47 gpf
 Pump Type ☐ Peristaltic ☒ Bladder ☐ Submersible Other _____
 Bailer Type ☐ Disposable ☐ PVC ☐ Teflon ☐ Stainless
 Purge Start Time: 1202 Purge Stop Time: 1217 Gallons/Liters Purged _____

Field Parameters

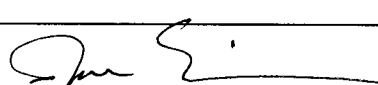
Meter ☒ Horiba ☐ QED Other _____
 Flow Cell ☒ Yes ☐ No

Time	Temp	Conductivity	DO	pH	Turbidity	ORP	Comments
1202	13.03	0.351	5.54	5.89	41	255	
07	13.22	.341	5.23	5.84	9	243	
12	13.16	.341	5.24	5.79	2	243	
17	13.21	.340	5.24	5.79	1	244	

Containers

Number	Type	Preservative	Filtered?	Microns
3	☒ VOA ☐ Amber	☐ Poly ☐ None ☒ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☒ No ☐ Yes	_____
_____	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	_____
_____	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	_____
_____	☐ VOA ☐ Amber	☐ Poly ☐ None ☐ HCL ☐ Nitric ☐ Sulfuric ☐ Other	☐ No ☐ Yes	_____

Comments: _____

 Samplers Signature 

Appendix B

Laboratory Report



May 29, 2012

Mr. Jon Einarsen
Zipper Geo Associates
19023 - 36th Ave W., Suite D
Lynnwood, WA 98036-

Dear Mr. Einarsen,

On May 24th, 5 samples were received by our laboratory and assigned our laboratory project number EV12050154. The project was identified as your 1011.23. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director



CERTIFICATE OF ANALYSIS

CLIENT: Zipper Geo Associates
19023 - 36th Ave W., Suite D
Lynnwood, WA 98036-
CLIENT CONTACT: Jon Einarsen
CLIENT PROJECT: 1011.23
CLIENT SAMPLE ID: MW-1

DATE: 5/29/2012
ALS JOB#: EV12050154
ALS SAMPLE#: -01
DATE RECEIVED: 5/24/2012
COLLECTION DATE: 5/23/2012 3:45:00 PM
WDOE ACCREDITATION: C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	05/25/2012	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Acetone	EPA-8260	U	25	1	UG/L	05/25/2012	GAP
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	05/25/2012	GAP
Acrylonitrile	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Butanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Toluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Hexanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	05/25/2012	GAP



CERTIFICATE OF ANALYSIS

CLIENT:	Zipper Geo Associates 19023 - 36th Ave W., Suite D Lynnwood, WA 98036-	DATE:	5/29/2012
CLIENT CONTACT:	Jon Einarsen	ALS JOB#:	EV12050154
CLIENT PROJECT:	1011.23	ALS SAMPLE#:	-01
CLIENT SAMPLE ID	MW-1	DATE RECEIVED:	5/24/2012
		COLLECTION DATE:	5/23/2012 3:45:00 PM
		WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	05/25/2012	GAP
Styrene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
o-Xylene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,3 Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Naphthalene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	106	05/25/2012	GAP
Toluene-d8	EPA-8260	100	05/25/2012	GAP
4-Bromofluorobenzene	EPA-8260	98.0	05/25/2012	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Zipper Geo Associates
19023 - 36th Ave W., Suite D
Lynnwood, WA 98036-
DATE: 5/29/2012
ALS JOB#: EV12050154
ALS SAMPLE#: -02
CLIENT CONTACT: Jon Einarsen
CLIENT PROJECT: 1011.23
DATE RECEIVED: 5/24/2012
COLLECTION DATE: 5/24/2012 10:11:00 AM
CLIENT SAMPLE ID: MW-2
WDOE ACCREDITATION: C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	05/25/2012	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Acetone	EPA-8260	U	25	1	UG/L	05/25/2012	GAP
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	05/25/2012	GAP
Acrylonitrile	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Butanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Toluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Hexanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	05/25/2012	GAP



CERTIFICATE OF ANALYSIS

CLIENT:	Zipper Geo Associates	DATE:	5/29/2012
	19023 - 36th Ave W., Suite D	ALS JOB#:	EV12050154
	Lynnwood, WA 98036-	ALS SAMPLE#:	-02
CLIENT CONTACT:	Jon Einarsen	DATE RECEIVED:	5/24/2012
CLIENT PROJECT:	1011.23	COLLECTION DATE:	5/24/2012 10:11:00 AM
CLIENT SAMPLE ID	MW-2	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	05/25/2012	GAP
Styrene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
o-Xylene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,3 Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Naphthalene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	106	05/25/2012	GAP
Toluene-d8	EPA-8260	100	05/25/2012	GAP
4-Bromofluorobenzene	EPA-8260	97.8	05/25/2012	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Zipper Geo Associates
19023 - 36th Ave W., Suite D
Lynnwood, WA 98036-
DATE: 5/29/2012
ALS JOB#: EV12050154
ALS SAMPLE#: -03
CLIENT CONTACT: Jon Einarsen
CLIENT PROJECT: 1011.23
DATE RECEIVED: 5/24/2012
COLLECTION DATE: 5/24/2012 11:35:00 AM
CLIENT SAMPLE ID: MW-3
WDOE ACCREDITATION: C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	05/25/2012	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Acetone	EPA-8260	U	25	1	UG/L	05/25/2012	GAP
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	05/25/2012	GAP
Acrylonitrile	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Butanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Toluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Hexanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Tetrachloroethylene	EPA-8260	15	2.0	1	UG/L	05/25/2012	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	05/25/2012	GAP



CERTIFICATE OF ANALYSIS

CLIENT:	Zipper Geo Associates 19023 - 36th Ave W., Suite D Lynnwood, WA 98036-	DATE:	5/29/2012
		ALS JOB#:	EV12050154
CLIENT CONTACT:	Jon Einarsen	ALS SAMPLE#:	-03
CLIENT PROJECT:	1011.23	DATE RECEIVED:	5/24/2012
CLIENT SAMPLE ID	MW-3	COLLECTION DATE:	5/24/2012 11:35:00 AM
		WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	05/25/2012	GAP
Styrene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
o-Xylene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,3 Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Naphthalene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	108	05/25/2012	GAP
Toluene-d8	EPA-8260	101	05/25/2012	GAP
4-Bromofluorobenzene	EPA-8260	98.4	05/25/2012	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Zipper Geo Associates	DATE:	5/29/2012
	19023 - 36th Ave W., Suite D	ALS JOB#:	EV12050154
	Lynnwood, WA 98036-	ALS SAMPLE#:	-04
CLIENT CONTACT:	Jon Einarsen	DATE RECEIVED:	5/24/2012
CLIENT PROJECT:	1011.23	COLLECTION DATE:	5/24/2012 2:30:00 PM
CLIENT SAMPLE ID	MW-4	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	05/25/2012	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Acetone	EPA-8260	U	25	1	UG/L	05/25/2012	GAP
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	05/25/2012	GAP
Acrylonitrile	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Butanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Toluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Hexanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Tetrachloroethylene	EPA-8260	140	20	10	UG/L	05/29/2012	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	05/25/2012	GAP



CERTIFICATE OF ANALYSIS

CLIENT:	Zipper Geo Associates 19023 - 36th Ave W., Suite D Lynnwood, WA 98036-	DATE:	5/29/2012
		ALS JOB#:	EV12050154
		ALS SAMPLE#:	-04
CLIENT CONTACT:	Jon Einarsen	DATE RECEIVED:	5/24/2012
CLIENT PROJECT:	1011.23	COLLECTION DATE:	5/24/2012 2:30:00 PM
CLIENT SAMPLE ID	MW-4	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	05/25/2012	GAP
Styrene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
o-Xylene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,3 Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Naphthalene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	109	05/25/2012	GAP
1,2-Dichloroethane-d4 10X Dilution	EPA-8260	106	05/29/2012	GAP
Toluene-d8	EPA-8260	101	05/25/2012	GAP
Toluene-d8 10X Dilution	EPA-8260	101	05/29/2012	GAP
4-Bromofluorobenzene	EPA-8260	93.9	05/25/2012	GAP
4-Bromofluorobenzene 10X Dilution	EPA-8260	95.0	05/29/2012	GAP



CERTIFICATE OF ANALYSIS

CLIENT:	Zipper Geo Associates 19023 - 36th Ave W., Suite D Lynnwood, WA 98036-	DATE:	5/29/2012
		ALS JOB#:	EV12050154
		ALS SAMPLE#:	-04
CLIENT CONTACT:	Jon Einarsen	DATE RECEIVED:	5/24/2012
CLIENT PROJECT:	1011.23	COLLECTION DATE:	5/24/2012 2:30:00 PM
CLIENT SAMPLE ID	MW-4	WDOE ACCREDITATION:	C601

DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
U - Analyte analyzed for but not detected at level above reporting limit.				



CERTIFICATE OF ANALYSIS

CLIENT: Zipper Geo Associates
19023 - 36th Ave W., Suite D
Lynnwood, WA 98036-

DATE: 5/29/2012

ALS JOB#: EV12050154

ALS SAMPLE#: -05

CLIENT CONTACT: Jon Einarsen

DATE RECEIVED: 5/24/2012

CLIENT PROJECT: 1011.23

COLLECTION DATE: 5/24/2012 2:00:00 PM

CLIENT SAMPLE ID MW-8

WDOE ACCREDITATION: C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	05/25/2012	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Acetone	EPA-8260	U	25	1	UG/L	05/25/2012	GAP
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	05/25/2012	GAP
Acrylonitrile	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Butanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Toluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Hexanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Tetrachloroethylene	EPA-8260	36	2.0	1	UG/L	05/25/2012	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	05/25/2012	GAP



CERTIFICATE OF ANALYSIS

CLIENT:	Zipper Geo Associates 19023 - 36th Ave W., Suite D Lynnwood, WA 98036-	DATE:	5/29/2012
		ALS JOB#:	EV12050154
CLIENT CONTACT:	Jon Einarsen	ALS SAMPLE#:	-05
CLIENT PROJECT:	1011.23	DATE RECEIVED:	5/24/2012
CLIENT SAMPLE ID	MW-8	COLLECTION DATE:	5/24/2012 2:00:00 PM
		WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	05/25/2012	GAP
Styrene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
o-Xylene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,3 Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Naphthalene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	109	05/25/2012	GAP
Toluene-d8	EPA-8260	102	05/25/2012	GAP
4-Bromofluorobenzene	EPA-8260	96.4	05/25/2012	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Zipper Geo Associates
19023 - 36th Ave W., Suite D
Lynnwood, WA 98036-
CLIENT CONTACT: Jon Einarsen
CLIENT PROJECT: 1011.23

DATE: 5/29/2012
ALS SDG#: EV12050154
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-052512W - Batch 2805 - Water by EPA-8260

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	05/25/2012	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Acetone	EPA-8260	U	25	1	UG/L	05/25/2012	GAP
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	05/25/2012	GAP
Acrylonitrile	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Butanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trichloroethene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
Toluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Hexanone	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	05/25/2012	GAP



CERTIFICATE OF ANALYSIS

CLIENT: Zipper Geo Associates
19023 - 36th Ave W., Suite D
Lynnwood, WA 98036-

CLIENT CONTACT: Jon Einarsen
CLIENT PROJECT: 1011.23

DATE: 5/29/2012
ALS SDG#: EV12050154
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-052512W - Batch 2805 - Water by EPA-8260

Chlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	05/25/2012	GAP
Styrene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
o-Xylene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,3 Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	05/25/2012	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
Naphthalene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	05/25/2012	GAP

CERTIFICATE OF ANALYSIS

CLIENT:	Zipper Geo Associates 19023 - 36th Ave W., Suite D Lynnwood, WA 98036-	DATE:	5/29/2012
		ALS SDG#:	EV12050154
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Jon Einarsen		
CLIENT PROJECT:	1011.23		

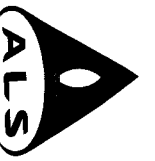
LABORATORY CONTROL SAMPLE RESULTS
ALS Test Batch ID: 2805 - Water by EPA-8260

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
1,1-Dichloroethene - BS	EPA-8260	107			05/25/2012	GAP
1,1-Dichloroethene - BSD	EPA-8260	102	5		05/25/2012	GAP
Benzene - BS	EPA-8260	101			05/25/2012	GAP
Benzene - BSD	EPA-8260	96.0	5		05/25/2012	GAP
Trichloroethene - BS	EPA-8260	113			05/25/2012	GAP
Trichloroethene - BSD	EPA-8260	108	5		05/25/2012	GAP
Toluene - BS	EPA-8260	107			05/25/2012	GAP
Toluene - BSD	EPA-8260	102	5		05/25/2012	GAP
Chlorobenzene - BS	EPA-8260	106			05/25/2012	GAP
Chlorobenzene - BSD	EPA-8260	101	4		05/25/2012	GAP

APPROVED BY



Laboratory Director



ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
(425) 356-2626 Fax
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS 00007
CV12050154

Date 4/24/12 Page 1 of 1

PROJECT ID: 1011.23					ANALYSIS REQUESTED										OTHER (Specify)									
REPORT TO COMPANY: ZGA																								
PROJECT MANAGER: Gen Einarson																								
ADDRESS: 19023 36th Ave W #D Apartment 104 98036																								
PHONE: 425.582.9928 FAX:																								
P.O. NUMBER: 1011.23 E-MAIL: gen@einarson.com																								
INVOICE TO COMPANY:																								
ATTENTION:																								
ADDRESS:																								
SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA-8021	MTBE by EPA-8021 ☐ EPA-8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA-8270 SIM ☐	PCB ☐ Pesticides ☐ by EPA 8081/8082	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?			
1. MW-1	5/23	1545	H ₂ O	1																				
2. MW-2	5/24	1011		2																				
3. MW-3		1135		3																				
4. MW-4		1430		4																				
5. MW-8		1400		5																				
6.																								
7.																								
8.																								
9.																								
10.																								

SPECIAL INSTRUCTIONS don't use MW-1 "YUK" unless you have to.

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Gen Einarson 264/S-24-12/1600

Received By: Phil Dyer 425 5/24/12 4:00

2. Relinquished By:

Received By:

TURNAROUND REQUESTED in Business Days*
OTHER:

Specify:

Organic, Metals & Inorganic Analysis
☒ Standard ☐ 5 ☐ 3 ☐ 2 ☐ 1 ☐ SAME DAY
Fuels & Hydrocarbon Analysis
☐ 5 ☐ 3 ☐ 1 ☐ SAME DAY

* Turnaround request less than standard may incur Rush Charges

LABORATORY COPY