



July 17, 2018

Mr. Thomas Beeks
GLAM Commercial Properties I, LLC
6947 Coal Creek Pkwy SE, Suite 212
Newcastle, WA 98059

**Re: 2018 Annual Environmental Compliance Report
Smokey Point Retail Center
Project No. 150294**

Dear Mr. Beeks:

This letter report was prepared on behalf of GLAM Commercial Properties I, LLC (GLAM), and presents the results of annual compliance monitoring completed by Aspect Consulting, LLC (Aspect) at the Smokey Point Retail Center (the Property) in Marysville, Washington. We conducted one annual monitoring event during GLAM's third year of ownership. The purpose of the compliance monitoring was to verify that concentrations of constituents of concern (COCs) in groundwater are stable or decreasing on the Property, as required by the Property's Environmental Covenant (Ecology, 2015). Annual compliance monitoring was conducted according to Sound Earth Strategies, Inc.'s (Sound Earth) "Compliance Monitoring Plan" (CMP; Sound Earth, 2015a), included in the Environmental Covenant.

Pursuant to our scope of work for Year 3, we completed the following work elements:

- Observed protective cap conditions.
- Collected annual groundwater samples in April 2018.
- Performed plume stability analyses for benzene and gasoline.
- Evaluated indoor air compliance based on groundwater data.
- Prepared this report for submittal to Washington State Department of Ecology's (Ecology) Voluntary Cleanup Program (VCP).

The results indicate the protective cap is intact, the groundwater plumes are stable or shrinking, and indoor air at the Property is considered to be in compliance. This report provides a brief description of the Property and its history, describes sampling events, and discusses our monitoring results and conclusions in further detail.



Property Description and History

The Property is located at 2707 171st Place NE in the City of Marysville, Washington, as shown on Figure 1. The Property is in a general commercial area and is developed with two retail buildings and a parking lot.

Based on previous explorations completed by GeoScience Management, Inc., soil on the Property generally consists of gravelly, silty sand to at least 15 feet deep (Sound Earth, 2015b).

The north-adjacent property was developed as a retail gas station in the late 1970s, and contains petroleum-impacted soil and groundwater due to a past release from underground storage tanks (USTs). The Property contains petroleum-impacted groundwater due to groundwater flow from this north-adjacent source property.

The Property was enrolled in the VCP and underwent an investigation and cleanup by Sound Earth. The cleanup action included injection of oxidizer into groundwater and installation of engineering controls, including a vapor barrier beneath both buildings on the Property to mitigate potential soil vapor concerns, and a 4-inch-thick asphalt cap covering most of the Property to mitigate the potential for direct contact with contaminated material (Sound Earth, 2015b).

Sound Earth presented this information to Ecology in a Cleanup Action Report, and the Property was issued a Property-specific No Further Action (NFA) with Environmental Covenant from Ecology.

Protective Cap Condition

The condition of the asphalt cap and concrete slabs was monitored in April 2018, and consisted of walking the Property to look for evidence of cracking, erosion, animal burrows, ponded water, sloughing, seepage, or other potentially damaging conditions. During the April 2018 monitoring, the condition of the cap appeared intact on all areas within the Property boundary. Based on this assessment, the protective cap is still mitigating direct contact with impacted groundwater below the surface.

Groundwater Monitoring

Per the CMP (Sound Earth, 2015a), annual groundwater monitoring is scheduled to take place during the annual period of highest groundwater (typically April). In 2018, groundwater monitoring was completed in April as planned.

Groundwater samples were collected from three existing monitoring wells located within the historical plume area (MW-112, MW-113, and MW-114) and two existing monitoring wells near the downgradient (south) property line (MW-116 and MW-119) (Figure 2). Groundwater sample collection and analysis methods, and analytical results are presented below.

Groundwater Sample Collection and Analysis Methods

Groundwater samples were collected by low-flow sampling techniques, using a peristaltic pump and disposable polyethylene tubing. We measured the static water level in each well prior to well purging and sample collection (Table 1). The field parameters—temperature, pH, electrical conductance (specific conductance), dissolved oxygen, and redox potential—were monitored

during purging. Purging continued until the field parameters stabilized, defined as three successive readings where the parameters varied by less than 10 percent, or by less than 0.5 milligrams per liter (mg/L) dissolved oxygen if the readings were below 5 mg/L.

Once purging was complete, groundwater samples were collected by directly filling laboratory-supplied containers from the pump discharge tubing. Groundwater samples were placed in an iced cooler and delivered to Friedman & Bruya, Inc., in Seattle, Washington, under proper chain-of-custody procedures. Samples from all wells were analyzed for the following:

- Gasoline-range total petroleum hydrocarbons (TPH-G) by Method NWTPH-Gx
- Benzene, toluene, ethylbenzene, and xylene (BTEX) compounds by U.S. Environmental Protection Agency (EPA) Method 8260

The results are presented in Table 2, and laboratory certificates of analysis are included in Attachment A.

Groundwater Elevations and Flow Direction

During Year 3, groundwater elevations ranged from 97.49 to 98.33 feet relative to the Property-specific datum. Groundwater elevation contours are shown on Figure 2. Groundwater flow direction during Year 3 was southwest, which is consistent with historical measurements.

Groundwater Analytical Results

Year 3 groundwater quality results show continued evidence of natural attenuation and a trend toward Property-wide Model Toxics Control Act (MTCA) Method A Cleanup Level compliance. Groundwater quality results are shown in Table 2, and summarized below.

Constituents and areas in compliance with MCTA Method A Cleanup Levels:

- TPH-G was either not detected or was detected at concentrations below the 800 micrograms per liter ($\mu\text{g/L}$) MTCA Method A Cleanup Level for plume wells MW-113 and MW-114 during Year 3 monitoring.
- BTEX was either not detected or was detected at concentrations below the 5 $\mu\text{g/L}$ MTCA Method A cleanup level for the plume wells (MW-112, MW-113, and MW-114) during Year 3 monitoring.
- TPH-G and BTEX were not detected at downgradient sentinel wells MW-116 and MW-119 during Year 3 monitoring.

Results trending towards compliance with MCTA Method A Cleanup Levels:

- The October 2016 result for TPH-G in MW-114 appears to be an anomaly, as this was the only historical result above the MTCA Method A cleanup level for this well. Subsequent sampling results, including the Year 3 result, were below the MTCA Method A cleanup level.

- TPH-G was detected at 3,200 µg/L at monitoring well MW-112, which is above the 800 µg/L MTCA Method A cleanup level. This result is anomalously high compared with historical results.

Plume Stability Analyses

Per CMP (Sound Earth, 2015a), plume stability analyses were performed to evaluate TPH-G and benzene trends in the groundwater plume. A linear regression analysis was used to determine if each plume was expanding, shrinking, or stable. If the linear regression indicated the plume was stable, the stability of the plume was confirmed using a nonparametric statistical analysis (Mann-Kendall Trend Test [MKTT]). These analyses were performed using Ecology's *Natural Attenuation Analysis Tool Package for Petroleum-Contaminated Groundwater* (Ecology, 2007). Module 2 of this tool package is the linear regression, and module 1 of this tool package is the MKTT. Data inputs and analysis outputs for the TPH-G and benzene plumes are included in Attachments B and C, respectively. The results of these analyses are discussed below.

TPH-Gasoline Plume

The TPH-G plume analysis was conducted using groundwater results for samples collected between May 2014 and April 2018. The October 2016 result for MW-114 (discussed in the previous section) was considered an outlier and was not included in the analysis¹. Linear regression analysis of the plume at wells MW-113 and MW-114 indicated the plume is stable. The nonparametric MKTT analysis confirmed the plume is stable at MW-114, and determined the plume is shrinking at MW-113. Linear regression analysis of the plume at well MW-112 came back undetermined. The nonparametric MKTT analysis indicated the plume is shrinking at MW-112.

Benzene Plume

The benzene plume analysis was conducted using groundwater results for samples collected between May 2014 and April 2018. Linear regression analysis of the plume at wells MW-112 and MW-114 indicated the plume is shrinking; therefore, the nonparametric MKTT analysis was not necessary. Linear regression analysis of the plume at well MW-113 came back as undetermined. The nonparametric MKTT analysis indicated the plume is shrinking at MW-113.

Indoor Air Compliance Evaluation

Per the CMP (Sound Earth, 2015a), indoor air compliance is based on the concentrations of TPH-G and benzene at wells MW-113 and MW-114. Section 5.2 of the CMP states, "If the concentrations [...] are greater than two times the historical maximum concentrations for two consecutive sampling events, this will trigger an indoor air sampling event at Building 1." Year 3 results for MW-113 and MW-114 did not have results meeting this criterion; therefore, an indoor air sampling event was not necessary, and the Property is considered to be in compliance.

Conclusions and Recommendations

Annual monitoring results collected during 2018 (Year 3) indicate that the residual TPH-G and BTEX concentrations in groundwater on the Property are consistent with historical results except

¹ When the test was performed including the outlier, the result came back "undetermined."

the TPH-G detection at MW-112, which is above MTCA Method A cleanup levels. However, the nonparametric MKTT analysis indicated the TPH-G plume is still shrinking at MW-112; therefore, the Property is considered to be in compliance. Analysis of the TPH-G plume at wells MW-113 and MW-114 indicate the plume is either shrinking or stable. Analysis of the benzene plume at all plume wells (MW-112, MW-113, and MW-114) indicates the plume is shrinking.

Aspect recommends continuing monitoring in accordance with the CMP in the Environmental Covenant. Year 4 (2018) monitoring will consist of:

- Observing protective cap conditions
- Collecting one round of groundwater samples in April 2019
- Performing plume stability analyses for benzene and gasoline
- Evaluating indoor air compliance based on groundwater data
- Preparing a Year 4 Annual Compliance Report for submittal to Ecology's Voluntary Cleanup Program (VCP)

References

Sound Earth Strategies, Inc. (Sound Earth), 2015a, Compliance Monitoring Plan, Smokey Point Retail Center, November 11, 2015.

Sound Earth Strategies, Inc. (Sound Earth), 2015b, Cleanup Action Report, Smokey Point Retail Center, June 12, 2015.

Washington State Department of Ecology (Ecology), 2007, Natural Attenuation Analysis Tool Package for Petroleum-Contaminated Groundwater, July 2005, updated for Excel version 2007.

Washington State Department of Ecology (Ecology), 2015, Environmental Covenant, 2707 171st Place NE, Marysville, WA, December 4, 2015.

Limitations

Work for this project was performed for the GLAM Commercial Properties I, LLC (Client), and this letter was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This letter does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

Please refer to Attachment D titled “Report Limitations and Guidelines for Use” for additional information governing the use of this report.

Sincerely,

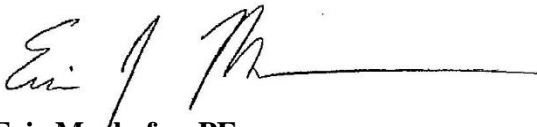
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Attachments

- Table 1 Groundwater Elevation Data
- Table 2 Groundwater Quality Data
- Figure 1 Vicinity Map
- Figure 2 Site Plan
- Attachment A Laboratory Certificates of Analysis
- Attachment B Gasoline Plume Stability Analysis
- Attachment C Benzene Plume Stability Analysis
- Attachment D Report Limitations and Use Guidelines

TABLES

Table 1. Groundwater Elevation Data

Project No.150294, Smokey Point Retail Center
 Marysville, Washington

Well ID	TOC Elevation (feet)	Sample Date	Sampled By	Depth to Water (feet BTOC)	Groundwater Elevation (feet)
MW-111	100.78	9/27/2006	GeoScience	7.69	93.09
		12/6/2008	GeoScience	5.46	95.32
		9/27/2009	GeoScience	7.29	93.49
		4/11/2011	GeoScience	3.50	97.28
		9/14/2012	SoundEarth	4.83	95.95
		4/5/2013	SoundEarth	5.15	95.63
		1/16/2014	SoundEarth	4.19	96.59
		5/20/2015	SoundEarth	6.05	94.73
		4/13/2016	Aspect	--	--
		7/22/2016	Aspect	6.25	94.53
		10/18/2019	Aspect	6.28	94.50
		1/16/2017	Aspect	4.27	96.51
7/31/2017	Aspect	6.54	94.24		
4/17/2018	Aspect	--	--		
MW-112	99.50	12/6/2008	GeoScience	4.21	95.29
		9/27/2009	GeoScience	6.11	93.39
		4/11/2011	GeoScience	2.51	96.99
		9/14/2012	SoundEarth	5.39	94.11
		4/5/2013	SoundEarth	4.02	95.48
		1/16/2014	SoundEarth	3.00	96.50
		5/30/2014	SoundEarth	4.04	95.46
		7/1/2014	SoundEarth	5.00	94.50
		8/7/2014	SoundEarth	5.30	94.20
		5/20/2015	SoundEarth	4.86	94.64
		4/13/2016	Aspect	3.54	95.96
		7/22/2016	Aspect	5.06	94.44
		10/18/2016	Aspect	5.03	94.47
		1/16/2017	Aspect	4.00	95.50
7/31/2017	Aspect	5.37	94.13		
4/17/2018	Aspect	1.37	98.13		
MW-113	100.03	12/6/2008	GeoScience	4.86	95.17
		9/27/2009	GeoScience	6.73	93.30
		4/11/2011	GeoScience	3.18	96.85
		9/14/2012	SoundEarth	5.99	94.04
		4/5/2013	SoundEarth	4.71	95.32
		1/16/2014	SoundEarth	3.58	96.45
		5/30/2014	SoundEarth	4.59	95.44
		8/7/2014	SoundEarth	5.97	94.06
		5/20/2015	SoundEarth	5.46	94.57
		4/13/2016	Aspect	4.12	95.91
		7/22/2016	Aspect	5.68	94.35
		10/18/2016	Aspect	5.65	94.38
		1/16/2017	Aspect	4.61	95.42
		7/31/2017	Aspect	6.03	94.00
4/17/2018	Aspect	1.86	98.17		
MW-114	99.62	12/6/2008	GeoScience	4.71	94.91
		9/27/2009	GeoScience	6.55	93.07
		4/11/2011	GeoScience	3.07	96.55
		9/14/2012	SoundEarth	5.92	93.70
		4/5/2013	SoundEarth	4.65	94.97
		1/16/2014	SoundEarth	3.49	96.13
		5/30/2014	SoundEarth	4.47	95.15
		8/7/2014	SoundEarth	5.83	93.79
		5/20/2015	SoundEarth	5.33	94.29
		4/13/2016	Aspect	4.05	95.57
		7/22/2016	Aspect	5.59	94.03
		10/18/2016	Aspect	5.49	94.13
		1/16/2017	Aspect	4.53	95.09
		7/31/2017	Aspect	5.93	93.69
4/17/2018	Aspect	1.74	97.88		
MW-115	99.9	12/6/2008	GeoScience	4.93	94.97
		9/27/2009	GeoScience	6.49	93.41
		4/11/2011	GeoScience	3.15	96.75
		9/14/2012	SoundEarth	6.08	93.82
		4/5/2013	SoundEarth	4.85	95.05
		1/16/2014	SoundEarth	3.67	96.23
		5/30/2014	SoundEarth	4.65	95.25
		8/7/2014	SoundEarth	6.03	93.87
		5/20/2015	SoundEarth	5.52	94.38
		4/13/2016	Aspect	--	--
		7/22/2016	Aspect	5.79	94.11
		10/18/2016	Aspect	5.70	94.20
		1/16/2017	Aspect	4.74	95.16
		7/31/2017	Aspect	6.11	93.79
4/17/2018	Aspect	1.87	98.03		

Table 1. Groundwater Elevation Data

Project No.150294, Smokey Point Retail Center
 Marysville, Washington

Well ID	TOC Elevation (feet)	Sample Date	Sampled By	Depth to Water (feet BTOC)	Groundwater Elevation (feet)
MW-116	100.17	12/6/2008	GeoScience	5.30	94.87
		9/27/2009	GeoScience	7.17	93.00
		4/11/2011	GeoScience	3.75	96.42
		9/14/2012	SoundEarth	6.53	93.64
		4/5/2013	SoundEarth	5.28	94.89
		1/16/2014	SoundEarth	4.06	96.11
		5/30/2014	SoundEarth	5.02	95.15
		8/7/2014	SoundEarth	6.42	93.75
		5/20/2015	SoundEarth	5.90	94.27
		4/13/2016	Aspect	4.63	95.54
		7/22/2016	Aspect	6.19	93.98
		10/18/2019	Aspect	6.03	94.14
		1/16/2017	Aspect	5.15	95.02
		7/31/2017	Aspect	6.54	93.63
4/17/2018	Aspect	2.26	97.91		
MW-117	100.65	12/6/2008	GeoScience	5.59	95.06
		9/27/2009	GeoScience	7.45	93.20
		4/11/2011	GeoScience	3.78	96.87
		9/14/2012	SoundEarth	6.78	93.87
		4/5/2013	SoundEarth	5.50	95.15
		1/16/2014	SoundEarth	4.30	96.35
		5/30/2014	SoundEarth	5.27	95.38
		8/7/2014	SoundEarth	6.69	93.96
		5/20/2015	SoundEarth	6.16	94.49
		4/13/2016	Aspect	--	--
		7/22/2016	Aspect	6.44	94.21
		10/18/2016	Aspect	6.36	94.29
		1/16/2017	Aspect	5.39	95.26
		7/31/2017	Aspect	6.78	93.87
4/17/2018	Aspect	2.50	98.15		
MW-118	100.2	12/6/2008	GeoScience	4.91	95.29
		9/27/2009	GeoScience	6.78	93.42
		4/11/2011	GeoScience	3.19	97.01
		9/14/2012	SoundEarth	6.00	94.20
		4/5/2013	SoundEarth	4.74	95.46
		1/16/2014	SoundEarth	3.61	96.59
		5/30/2014	SoundEarth	4.62	95.58
		8/7/2014	SoundEarth	6.00	94.20
		5/20/2015	SoundEarth	5.50	94.70
		4/13/2016	Aspect	--	--
		7/22/2016	Aspect	5.73	94.47
		10/18/2016	Aspect	5.72	94.48
		1/16/2017	Aspect	4.65	95.55
		7/31/2017	Aspect	6.63	93.57
4/17/2018	Aspect	1.87	98.33		
MW-119	98.76	5/20/2015	SoundEarth	4.67	94.09
		4/13/2016	Aspect	3.46	95.30
		7/22/2016	Aspect	4.96	93.80
		10/18/2016	Aspect	4.82	93.94
		1/16/2017	Aspect	3.93	94.83
		7/31/2017	Aspect	5.31	93.45
		4/17/2018	Aspect	1.27	97.49

Notes
 Elevations are relative to an arbitrarily chosen site datum.
 BTOC = Below top of casing
 -- = Not measured
 TOC = Top of casing

Table 2. Groundwater Quality Data

Project No.150294, Smokey Point Retail Center
 Marysville, Washington

Well ID	Sample Date	Sampled by	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
MTCA Method A Groundwater Cleanup Level (µg/L)			800 ⁽¹⁾	5	1,000	700	1,000
MW-111	9/27/2006	GeoScience	ND	ND	ND	ND	ND
	12/6/2008	GeoScience	ND	ND	ND	ND	ND
	9/27/2009	GeoScience	ND	1	1	ND	ND
	4/11/2011	GeoScience	4,500	6.9	45	220	130
	9/14/2012	SoundEarth	ND	ND	ND	ND	ND
	4/5/2013	SoundEarth	ND	ND	ND	ND	ND
MW-112	12/6/2008	GeoScience	ND	1.5	1.2	ND	ND
	9/27/2009	GeoScience	ND	ND	ND	ND	ND
	4/11/2011	GeoScience	700	140	54	35	67
	9/14/2012	SoundEarth	180	21	1.6	3.4	5.6
	4/5/2013	SoundEarth	63	25.6	ND	ND	3
	1/16/2014	SoundEarth	ND	ND	ND	ND	ND
	5/30/2014	SoundEarth	4,100	570	280	270	260
	7/1/2014	SoundEarth	1,300	56	22	30	120
	8/7/2014	SoundEarth	5,800	140	97	190	1,000
	5/20/2015	SoundEarth	990	24	10	92	110
	4/13/2016	Aspect	630	2.2	ND	7.1	2.7
	7/22/2016	Aspect	ND	0.79	ND	ND	ND
	10/18/2016	Aspect	ND	ND	ND	ND	ND
	1/16/2017	Aspect	240	17	ND	ND	ND
7/31/2017	Aspect	120	1	ND	ND	ND	
4/17/2018	Aspect	3,200	4.3	73	110	370	
MW-113	12/6/2008	GeoScience	250	50	1.8	6.9	ND
	9/27/2009	GeoScience	130	29	4.7	5.6	7.2
	4/11/2011	GeoScience	4,000	70	110	110	260
	9/14/2012	SoundEarth	180	17	20	3.7	17
	4/5/2013	SoundEarth	4,510	118	209	147	792
	1/16/2014	SoundEarth	140	1.9	2.3	4.8	14
	5/30/2014	SoundEarth	ND	1.8	6.5	2.2	5.1
	8/7/2014	SoundEarth	380	16	13	18	48
	5/20/2015	SoundEarth	210	11	16	7	32
	4/13/2016	Aspect	340	3	1.2	ND	22.3
	7/22/2016	Aspect	ND	ND	ND	ND	ND
	10/18/2016	Aspect	160	1.6	ND	2.6	ND
	1/16/2017	Aspect	ND	0.44	ND	ND	ND
7/31/2017	Aspect	130	13	ND	1.4	11.3	
4/17/2018	Aspect	100	ND	1.3	ND	4.0	
MW-114	12/6/2008	GeoScience	250	28	ND	ND	ND
	9/27/2009	GeoScience	160	15	1.9	1.3	ND
	4/11/2011	GeoScience	ND	9.2	ND	4.5	8.3
	9/14/2012	SoundEarth	120	21	1.1	4.1	ND
	4/5/2013	SoundEarth	288	59	ND	13	2.5
	1/16/2014	SoundEarth	100	1.8	2.4	6.6	6.9
	5/30/2014	SoundEarth	190	25	2.2	7	ND
	8/7/2014	SoundEarth	300	43	2.6	23	ND
	5/20/2015	SoundEarth	ND	5.4	2	ND	ND
	4/13/2016	Aspect	ND	12	ND	ND	ND
	7/22/2016	Aspect	170	10	ND	ND	ND
	10/18/2016	Aspect	1,400	37	9.5	71	41.5
	1/16/2017	Aspect	140	11	ND	4.5	ND
7/31/2017	Aspect	310	8.3	ND	6.9	ND	
4/17/2018	Aspect	ND	ND	ND	ND	ND	
MW-115	12/6/2008	GeoScience	540	120	1.1	14	ND
	9/27/2009	GeoScience	ND	180	ND	10	ND
	4/11/2011	GeoScience	ND	ND	ND	ND	ND
	9/14/2012	SoundEarth	ND	5.2	1.3	ND	ND
	4/5/2013	SoundEarth	ND	5.75	ND	5.34	ND
	1/16/2014	SoundEarth	390	18	5.6	10	16
	5/30/2014	SoundEarth	ND	ND	ND	ND	ND
	8/7/2014	SoundEarth	ND	1.8	ND	ND	ND
5/20/2015	SoundEarth	ND	1.3	ND	ND	ND	

Table 2. Groundwater Quality Data

Project No.150294, Smokey Point Retail Center
Marysville, Washington

Well ID	Sample Date	Sampled by	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
MTCA Method A Groundwater Cleanup Level (µg/L)			800 ⁽¹⁾	5	1,000	700	1,000
MW-116	12/6/2008	GeoScience	380	49	ND	ND	ND
	9/27/2009	GeoScience	ND	32	ND	1.2	ND
	4/11/2011	GeoScience	ND	ND	ND	ND	ND
	9/14/2012	SoundEarth	ND	1.1	ND	ND	ND
	4/5/2013	SoundEarth	ND	ND	ND	ND	ND
	1/16/2014	SoundEarth	ND	ND	ND	ND	ND
	5/30/2014	SoundEarth	ND	ND	ND	ND	ND
	8/7/2014	SoundEarth	ND	ND	ND	ND	ND
	5/20/2015	SoundEarth	ND	ND	ND	ND	ND
	4/13/2016	Aspect	ND	ND	ND	ND	ND
	7/22/2016	Aspect	ND	0.44	ND	ND	ND
	10/18/2016	Aspect	ND	1	ND	ND	ND
	1/16/2017	Aspect	ND	ND	ND	ND	ND
7/31/2017	Aspect	ND	0.58	ND	ND	ND	
4/17/2018	Aspect	ND	ND	ND	ND	ND	
MW-117	12/6/2008	GeoScience	100	12	1.6	ND	ND
	9/27/2009	GeoScience	ND	1.4	1	ND	ND
	4/11/2011	GeoScience	ND	ND	ND	ND	ND
	9/14/2012	SoundEarth	ND	ND	ND	ND	ND
	4/5/2013	SoundEarth	ND	ND	ND	ND	ND
	8/7/2014	SoundEarth	ND	ND	ND	ND	ND
MW-118	12/6/2008	GeoScience	2,400	290	3	20	5.1
	9/27/2009	GeoScience	ND	4.1	21	2	14
	4/11/2011	GeoScience	ND	1.1	3.1	1.9	5.8
	9/14/2012	SoundEarth	ND	ND	ND	ND	ND
	4/5/2013	SoundEarth	ND	ND	ND	ND	ND
	5/30/2014	SoundEarth	ND	ND	ND	ND	ND
MW-119	5/20/2015	SoundEarth	ND	ND	1.1	ND	ND
	4/13/2016	Aspect	ND	ND	ND	ND	ND
	7/22/2016	Aspect	310	1.7	ND	ND	ND
	10/18/2016	Aspect	140	ND	ND	ND	ND
	1/16/2017	Aspect	110	1.7	ND	ND	ND
	7/31/2017	Aspect	ND	ND	ND	ND	ND
	4/17/2018	Aspect	ND	ND	ND	ND	ND

Notes

Bold values exceed MTCA Method A Groundwater Cleanup Levels for Unrestricted Land Use.

(1) Cleanup level for gasoline with benzene present.

ND = Not detected above laboratory reporting limit.

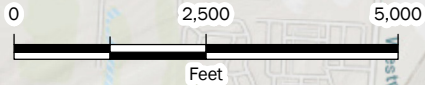
NS = Not sampled.

TPH = Total petroleum hydrocarbons

ve = value exceeded instrument calibration range. The value reported is an estimate.

µg/L = micrograms/liter

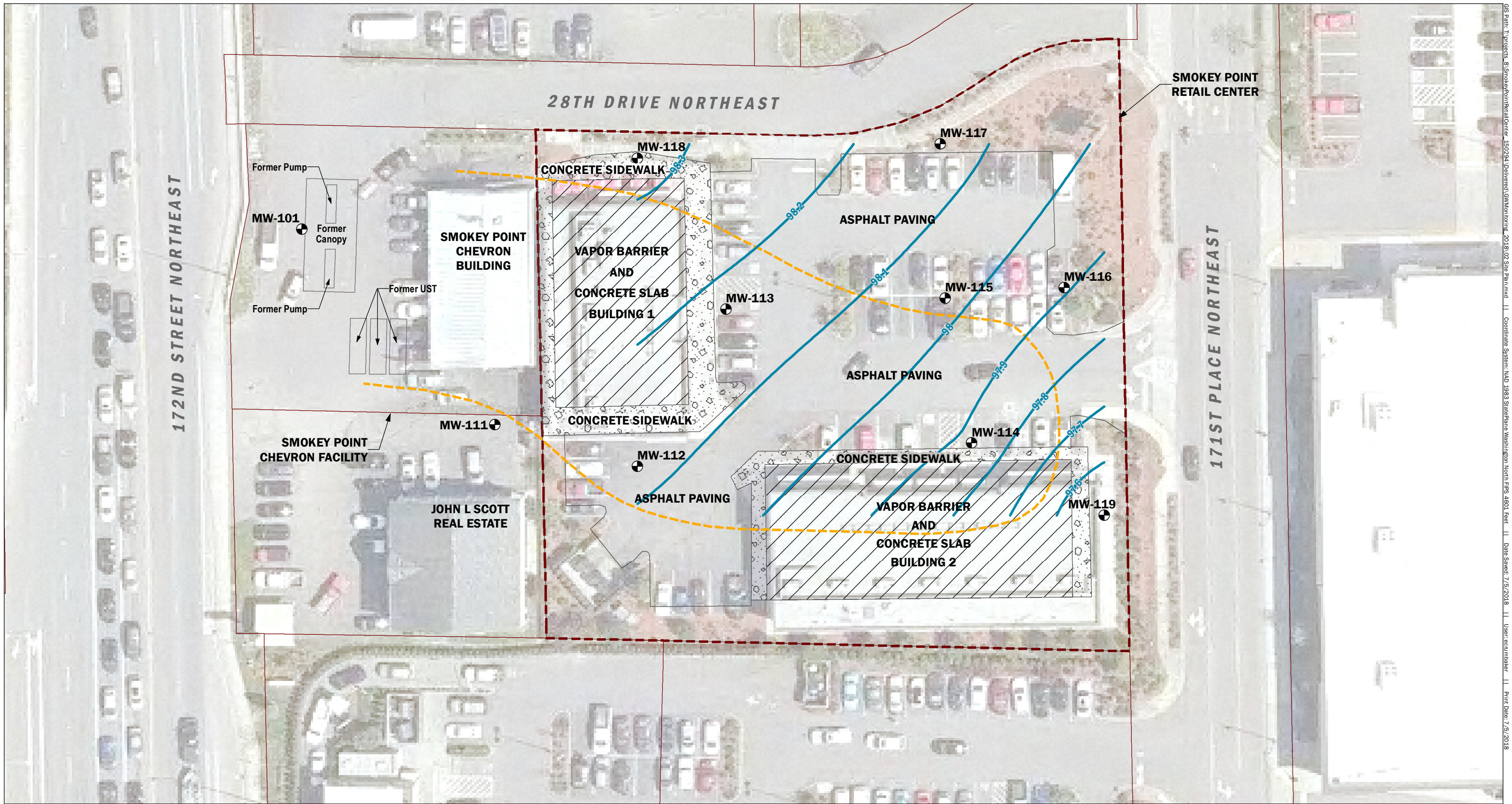
FIGURES









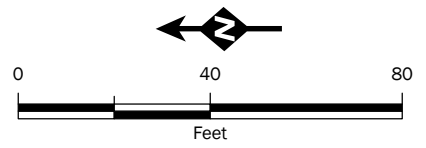
Vicinity Map
 Groundwater Monitoring Report
 Smokey Point Retail Center
 Marysville, Washington

	JUL-2018	BY: AET / RAP	FIGURE NO. 1
	<small>PROJECT NO. 150294</small>	<small>REVISED BY: EAC</small>	


GIS Path: I:\Projects_8\SmokePointRetailCenter_150294\Delivered\GWMonitoring_2018\01_Vicinity Map.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4901 Feet || Date Saved: 7/5/2018 || User: acumrbaker || Print Date: 7/5/2018



-  Monitoring Well
-  Groundwater Elevation Contour (April 2018)
-  Historical Extent of Petroleum Benzene Contaminated Groundwater Plume Based on 5µg/L MTCA Method A Groundwater Cleanup Level.
-  Vapor Barrier
-  Property Boundary
-  Snohomish County Parcels



Site Plan
Groundwater Monitoring Report
Smokey Point Retail Center
Marysville, Washington

	JUL-2018	BY: AET / EAC	FIGURE NO. 2
	PROJECT NO. 150294	REVISED BY: AET/EAC	

GIS Path: T:\projects_8\SmokeyPointRetailCenter_150294\Deliverables\GIMonitoring_2018_02_SitePlan.mxd | Coordinate System: NAD 1983 StatePlane Washington North FIPS 4901 Feet | Date Saved: 7/5/2018 | User: ecumshaker | Print Date: 7/5/2018

ATTACHMENT A

Laboratory Certificates of Analysis

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

June 13, 2018

Amy Tice, Project Manager
Aspect Consulting, LLC
401 2nd Ave S, Suite 201
Seattle, WA 98104

Dear Ms Tice:

Included is the amended report from the testing of material submitted on April 17, 2018 from the Smokey Point 150294, F&BI 804301 project. The additional NWTPH-Gx result for sample MW-113-041718 was removed.

We apologize for the inconvenience hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures

c: data@aspectconsulting.com
ASP0426R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

April 26, 2018

Amy Tice, Project Manager
Aspect Consulting, LLC
401 2nd Ave S, Suite 201
Seattle, WA 98104

Dear Ms Tice:

Included are the results from the testing of material submitted on April 17, 2018 from the Smokey Point 150294, F&BI 804301 project. There are 12 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures

c: data@aspectconsulting.com

ASP0426R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 17, 2018 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Smokey Point 150294, F&BI 804301 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
804301-01	MW-112-041718
804301-02	MW-113-041718
804301-03	MW-114-041718
804301-04	MW-116-041718
804301-05	MW-119-041718

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/26/18
Date Received: 04/17/18
Project: Smokey Point 150294, F&BI 804301
Date Extracted: 04/18/18
Date Analyzed: 04/18/18 and 04/19/18

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
USING METHOD NWTPH-Gx**
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
MW-112-041718 804301-01	3,200	101
MW-113-041718 804301-02	100	94
MW-114-041718 804301-03	<100	97
MW-116-041718 804301-04	<100	97
MW-119-041718 804301-05	<100	93
Method Blank 08-789 MB	<100	99

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-112-041718	Client:	Aspect Consulting, LLC
Date Received:	04/17/18	Project:	Smokey Point 150294, F&BI 804301
Date Extracted:	04/19/18	Lab ID:	804301-01
Date Analyzed:	04/20/18	Data File:	041946.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	4.3
Toluene	73
Ethylbenzene	110
m,p-Xylene	220
o-Xylene	160 ve

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-112-041718	Client:	Aspect Consulting, LLC
Date Received:	04/17/18	Project:	Smokey Point 150294, F&BI 804301
Date Extracted:	04/19/18	Lab ID:	804301-01 1/10
Date Analyzed:	04/20/18	Data File:	042010.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
o-Xylene	150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-113-041718	Client:	Aspect Consulting, LLC
Date Received:	04/17/18	Project:	Smokey Point 150294, F&BI 804301
Date Extracted:	04/19/18	Lab ID:	804301-02
Date Analyzed:	04/23/18	Data File:	042315.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	1.3
Ethylbenzene	<1
m,p-Xylene	2.8
o-Xylene	1.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-114-041718	Client:	Aspect Consulting, LLC
Date Received:	04/17/18	Project:	Smokey Point 150294, F&BI 804301
Date Extracted:	04/19/18	Lab ID:	804301-03
Date Analyzed:	04/20/18	Data File:	041948.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-116-041718	Client:	Aspect Consulting, LLC
Date Received:	04/17/18	Project:	Smokey Point 150294, F&BI 804301
Date Extracted:	04/19/18	Lab ID:	804301-04
Date Analyzed:	04/20/18	Data File:	041949.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-119-041718	Client:	Aspect Consulting, LLC
Date Received:	04/17/18	Project:	Smokey Point 150294, F&BI 804301
Date Extracted:	04/19/18	Lab ID:	804301-05
Date Analyzed:	04/20/18	Data File:	041950.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Smokey Point 150294, F&BI 804301
Date Extracted:	04/19/18	Lab ID:	08-0836 mb
Date Analyzed:	04/19/18	Data File:	041929.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/26/18

Date Received: 04/17/18

Project: Smokey Point 150294, F&BI 804301

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR TPH AS GASOLINE
USING METHOD NWTPH-Gx**

Laboratory Code: 804302-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	107	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/26/18

Date Received: 04/17/18

Project: Smokey Point 150294, F&BI 804301

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 804282-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Benzene	ug/L (ppb)	50	<0.35	98	76-125
Toluene	ug/L (ppb)	50	<1	96	76-122
Ethylbenzene	ug/L (ppb)	50	<1	99	69-135
m,p-Xylene	ug/L (ppb)	100	<2	99	69-135
o-Xylene	ug/L (ppb)	50	<1	100	60-140

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benzene	ug/L (ppb)	50	99	101	69-134	2
Toluene	ug/L (ppb)	50	96	98	72-122	2
Ethylbenzene	ug/L (ppb)	50	99	101	77-124	2
m,p-Xylene	ug/L (ppb)	100	99	100	83-125	1
o-Xylene	ug/L (ppb)	50	100	101	81-121	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c - The presence of the analyte may be due to carryover from previous sample injections.
- cf - The sample was centrifuged prior to analysis.
- d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv - Insufficient sample volume was available to achieve normal reporting limits.
- f - The sample was laboratory filtered prior to analysis.
- fb - The analyte was detected in the method blank.
- fc - The compound is a common laboratory and field contaminant.
- hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs - Headspace was present in the container used for analysis.
- ht - The analysis was performed outside the method or client-specified holding time requirement.
- ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc - The presence of the analyte is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

804301

SAMPLE CHAIN OF CUSTODY

ME 4/17/18

VW 4

Report To Aspect Consulting

Company Amy Tice

Address 401 2nd Ave S. #201

City, State, ZIP Seattle WA 98104

Phone _____ Email atice@aspectconsulting.com

SAMPLERS (signature) <u>Breeyn Greer</u>	
PROJECT NAME <u>Smokey Point</u>	PO # <u>150294</u>
REMARKS <u>Thanks!</u>	INVOICE TO <u>AT</u>

Page # 1 of 1

TURNAROUND TIME

Standard Turnaround
 RUSH
 Rush charges authorized by: _____

SAMPLE DISPOSAL

Dispose after 30 days
 Archive Samples
 Other _____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	
MW-112-041718	01 A-F	4.17.18	1045	W	6			X				X	
MW-113-041718	02		1205					X				X	
MW-114-041718	03		1125					X				X	
MW-116-041718	04		1300					X				X	
MW-119-041718	05		1350					X				X	

Friedman & Bruya, Inc.
 3012 16th Avenue West
 Seattle, WA 98119-2029
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>Breeyn Greer</u>	<u>Breeyn Greer</u>	<u>Aspect</u>	<u>4.17.18</u>	<u>1805</u>
Received by: <u>Jon Shimazy</u>	<u>Jon Shimazy</u>	<u>FBI</u>	<u>4/17/18</u>	<u>1805</u>
Relinquished by: _____	_____	_____	_____	_____
Received by: _____	_____	Samples received at <u>4</u> oc	_____	_____

ATTACHMENT B

Gasoline Plume Stability Analysis

Module1: Mann-Kendall Trend Test for Plume Stability (Non-parametric Statistical Test)

Site Name: Smokey Point Retail Center

Site Address: Marysville, WA

Additional Description:

Well (Sampling) Location? **MW112**

Level of Confidence (Decision Criteria)? **85%**

1. Monitoring Well Information: Contaminant Concentration at a well: Quarterly sampling recommended.

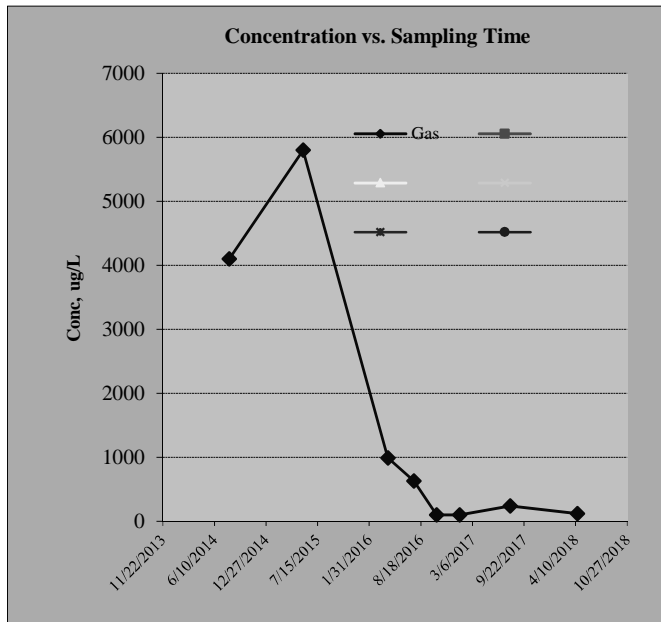
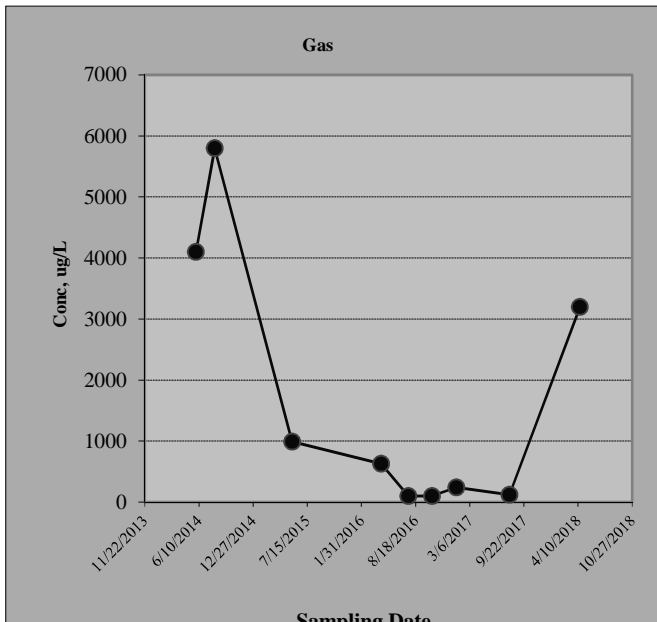
		Hazardous Substances (unit is ug/L)				
Sampling Event	Date Sampled	Gas				
#1	5/30/2014	4100				
#2	8/7/2014	5800				
#3	5/20/2015	990				
#4	4/13/2016	630				
#5	7/22/2016	100				
#6	10/18/2016	100				
#7	1/16/2017	240				
#8	7/31/2017	120				
#9	4/17/2018	3200				
#10						
#11						
#12						
#13						
#14						
#15						
#16						

2. Mann-Kendall Non-parametric Statistical Test Results

Hazardous Substance?	Gas					
Confidence Level Calculated?	87.00%	NA	NA	NA	NA	NA
Plume Stability?	Shrinking	NA	NA	NA	NA	NA
Coefficient of Variation?		n<4	n<4	n<4	n<4	n<4
Mann-Kendall Statistic "S" value?	-13	0	0	0	0	0
Number of Sampling Rounds?	9	0	0	0	0	0
Average Concentration?	1697.78	NA	NA	NA	NA	NA
Standard Deviation?	2127.70	NA	NA	NA	NA	NA
Coefficient of Variation?	1.25	NA	NA	NA	NA	NA
Blank if No Errors found		n<4	n<4	n<4	n<4	n<4

3. Temporal Trend: Plot of Concentration vs. Sampling Time

Hazardous substance? **Gas**
 Plume Stability? **Shrinking**



Sampling Date

Sampling Date

Module1: Mann-Kendall Trend Test for Plume Stability (Non-parametric Statistical Test)

Site Name: Smokey Point Retail Center

Site Address: Marysville, WA

Additional Description:

Well (Sampling) Location? **MW113**

Level of Confidence (Decision Criteria)? **85%**

1. Monitoring Well Information: Contaminant Concentration at a well: Quarterly sampling recommended.

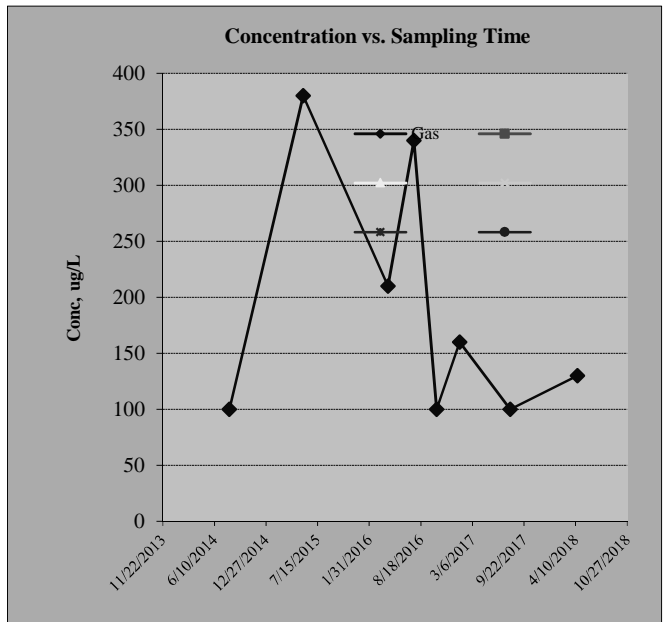
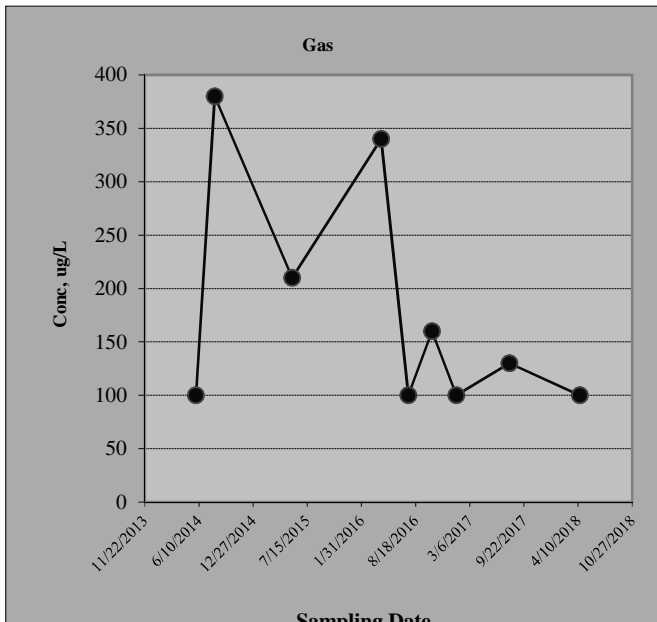
		Hazardous Substances (unit is ug/L)				
Sampling Event	Date Sampled	Gas				
#1	5/30/2014	100				
#2	8/7/2014	380				
#3	5/20/2015	210				
#4	4/13/2016	340				
#5	7/22/2016	100				
#6	10/18/2016	160				
#7	1/16/2017	100				
#8	7/31/2017	130				
#9	4/17/2018	100				
#10						
#11						
#12						
#13						
#14						
#15						
#16						

2. Mann-Kendall Non-parametric Statistical Test Results

Hazardous Substance?	Gas					
Confidence Level Calculated?	87.00%	NA	NA	NA	NA	NA
Plume Stability?	Shrinking	NA	NA	NA	NA	NA
Coefficient of Variation?		n<4	n<4	n<4	n<4	n<4
Mann-Kendall Statistic "S" value?	-12	0	0	0	0	0
Number of Sampling Rounds?	9	0	0	0	0	0
Average Concentration?	180.00	NA	NA	NA	NA	NA
Standard Deviation?	108.97	NA	NA	NA	NA	NA
Coefficient of Variation?	0.61	NA	NA	NA	NA	NA
Blank if No Errors found		n<4	n<4	n<4	n<4	n<4

3. Temporal Trend: Plot of Concentration vs. Sampling Time

Hazardous substance? **Gas**
 Plume Stability? **Shrinking**



Sampling Date

Sampling Date

Module1: Mann-Kendall Trend Test for Plume Stability (Non-parametric Statistical Test)

Site Name: Smokey Point Retail Center

Site Address: Marysville, WA

Additional Description:

Well (Sampling) Location? **MW114**

Level of Confidence (Decision Criteria)? **85%**

1. Monitoring Well Information: Contaminant Concentration at a well: Quarterly sampling recommended.

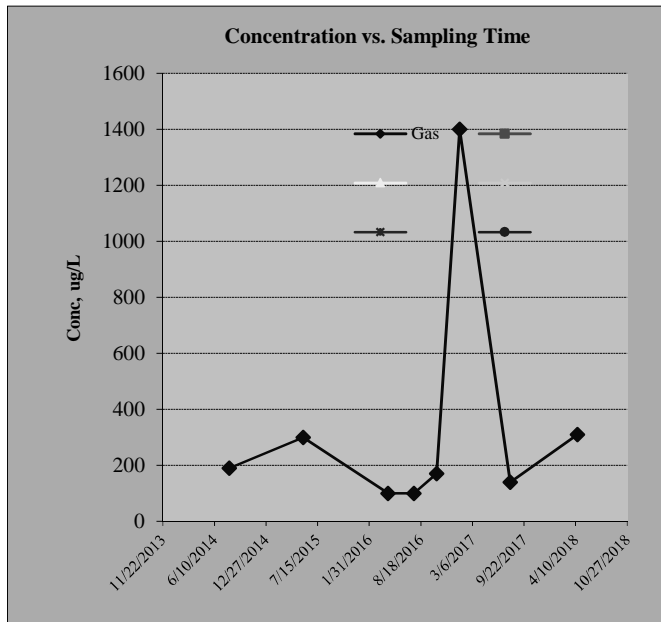
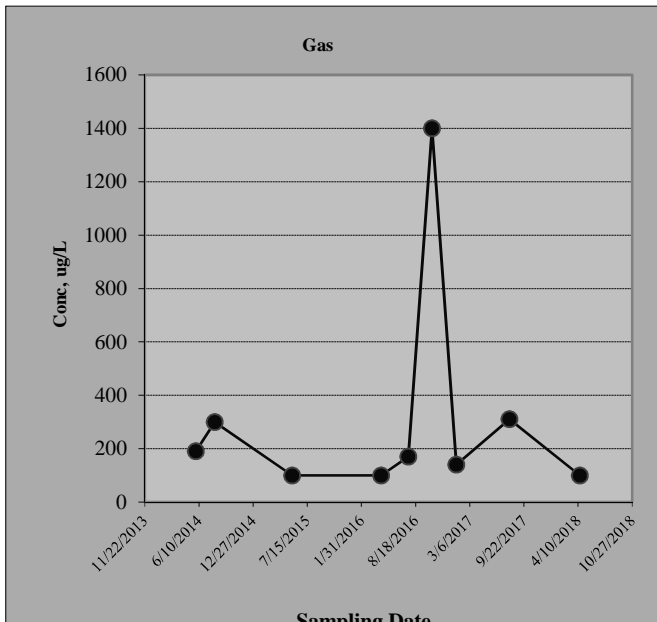
		Hazardous Substances (unit is ug/L)				
Sampling Event	Date Sampled	Gas				
#1	5/30/2014	190				
#2	8/7/2014	300				
#3	5/20/2015	100				
#4	4/13/2016	100				
#5	7/22/2016	170				
#6	10/18/2016	1400				
#7	1/16/2017	140				
#8	7/31/2017	310				
#9	4/17/2018	100				
#10						
#11						
#12						
#13						
#14						
#15						
#16						

2. Mann-Kendall Non-parametric Statistical Test Results

Hazardous Substance?	Gas					
Confidence Level Calculated?	46.00%	NA	NA	NA	NA	NA
Plume Stability?	Undetermined	NA	NA	NA	NA	NA
Coefficient of Variation?	CV > 1	n<4	n<4	n<4	n<4	n<4
Mann-Kendall Statistic "S" value?	-1	0	0	0	0	0
Number of Sampling Rounds?	9	0	0	0	0	0
Average Concentration?	312.22	NA	NA	NA	NA	NA
Standard Deviation?	415.84	NA	NA	NA	NA	NA
Coefficient of Variation?	1.33	NA	NA	NA	NA	NA
Blank if No Errors found		n<4	n<4	n<4	n<4	n<4

3. Temporal Trend: Plot of Concentration vs. Sampling Time

Hazardous substance? **Gas**
 Plume Stability? **Undetermined**



Sampling Date

Sampling Date

Module1: Mann-Kendall Trend Test for Plume Stability (Non-parametric Statistical Test)

Site Name: Smokey Point Retail Center

Site Address: Marysville, WA

Additional Description:

Well (Sampling) Location? **MW114**

Level of Confidence (Decision Criteria)? **85%**

1. Monitoring Well Information: Contaminant Concentration at a well: Quarterly sampling recommended.

		Hazardous Substances (unit is ug/L)				
Sampling Event	Date Sampled	Gas				
#1	5/30/2014	190				
#2	8/7/2014	300				
#3	5/20/2015	100				
#4	4/13/2016	100				
#5	7/22/2016	170				
#6	1/16/2017	140				
#7	7/31/2017	310				
#8	4/17/2018	100				
#9						
#10						
#11						
#12						
#13						
#14						
#15						
#16						

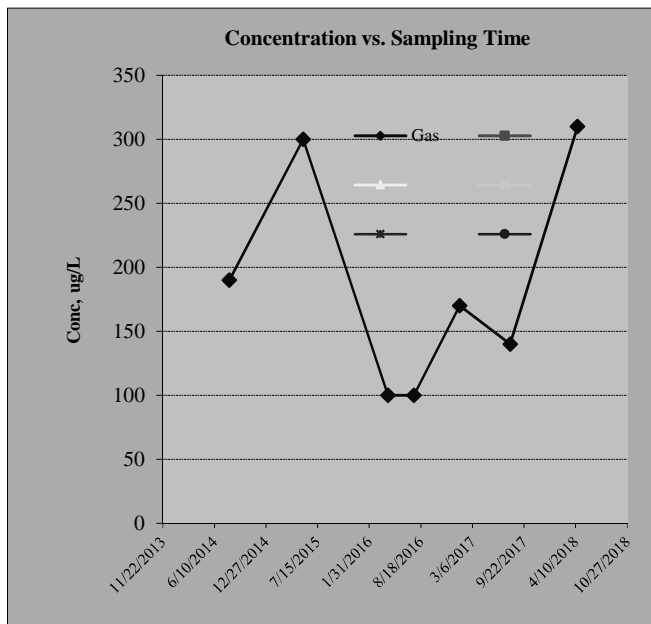
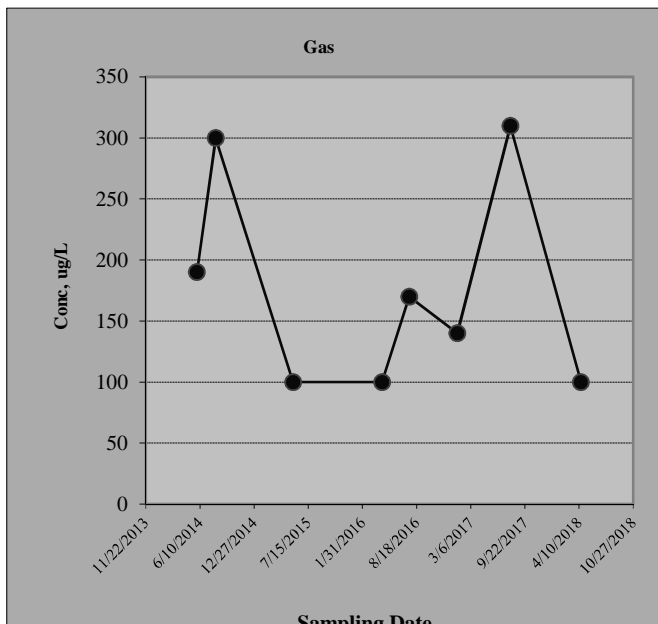
2. Mann-Kendall Non-parametric Statistical Test Results

Hazardous Substance?	Gas					
Confidence Level Calculated?	54.80%	NA	NA	NA	NA	NA
Plume Stability?	Stable	NA	NA	NA	NA	NA
Coefficient of Variation?	CV <= 1	n<4	n<4	n<4	n<4	n<4
Mann-Kendall Statistic "S" value?	-3	0	0	0	0	0
Number of Sampling Rounds?	8	0	0	0	0	0
Average Concentration?	176.25	NA	NA	NA	NA	NA
Standard Deviation?	86.34	NA	NA	NA	NA	NA
Coefficient of Variation?	0.49	NA	NA	NA	NA	NA
Blank if No Errors found		n<4	n<4	n<4	n<4	n<4

3. Temporal Trend: Plot of Concentration vs. Sampling Time

Hazardous substance? Gas

Plume Stability? Stable



Sampling Date

Sampling Date

Module 2: Graphical Presentation of Historical Ground Water Data: (Well to Well Analysis)

Site Name: *Smokey Point Retail Center*

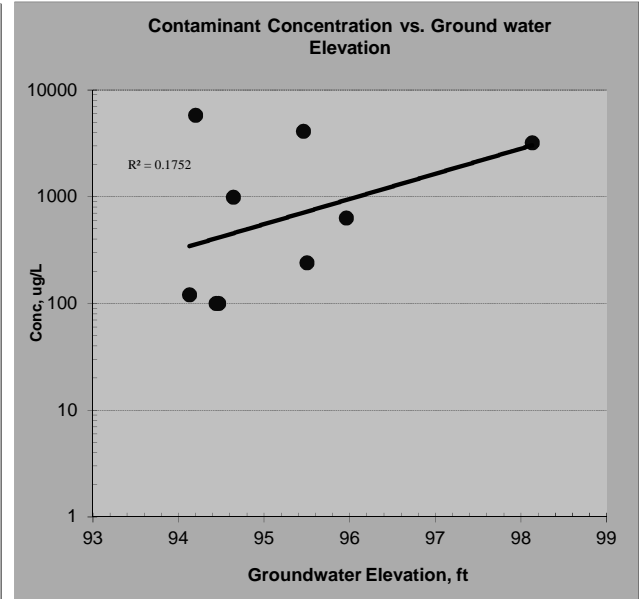
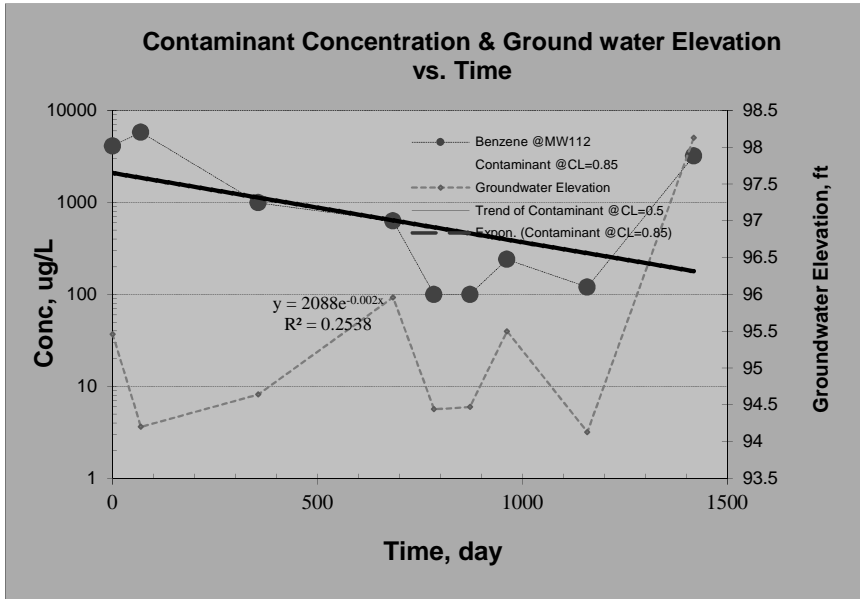
Site Address: *Marysville, WA*

Additional Description: *0*

Hazardous Substance: *Benzene*

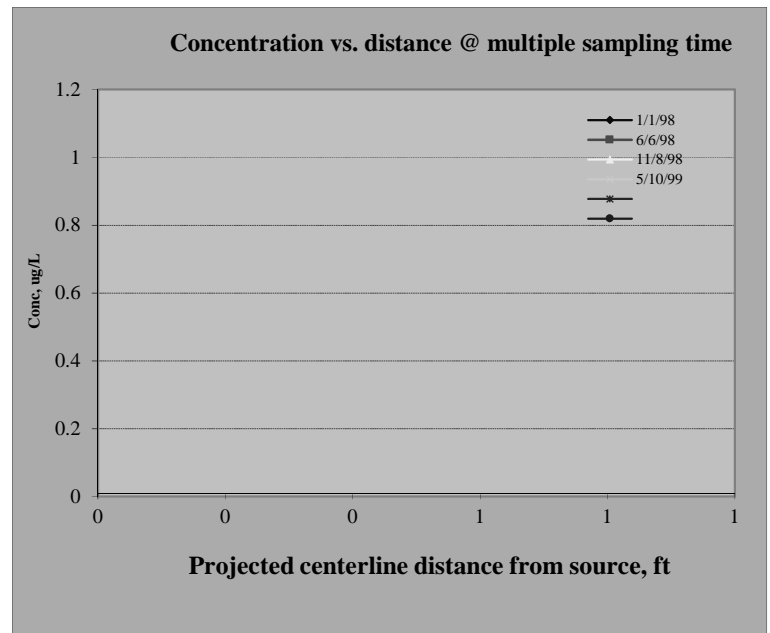
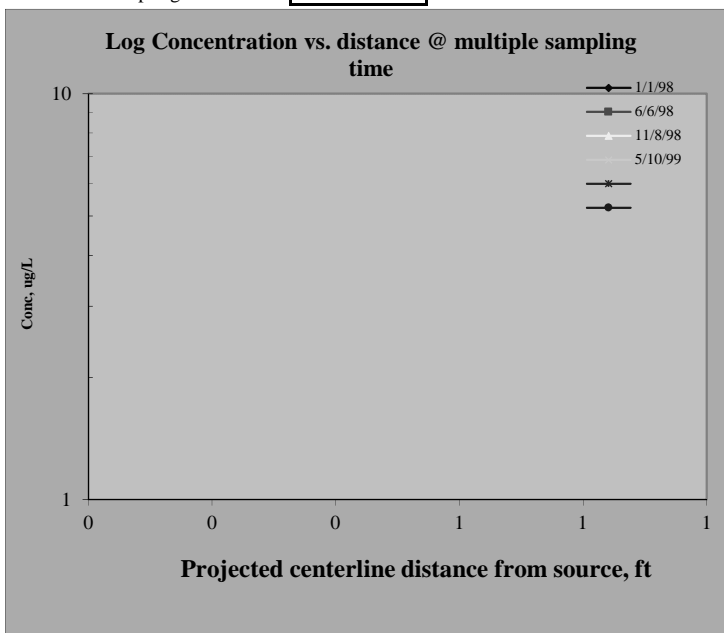
1. Temporal Trend at a Well (Concentration vs. Time & Groundwater Elevation : well-to-well analysis)

Name of Sampling Well?	MW112	Confidence Level (Decision Criteria)?	85.0%
Confidence Level calculated with log-linear regression is?	83.328%		
Plume Stability?	UD	; Decision Criteria is 85%.	
Slope: Point decay rate constant (k_{point}), yr ⁻¹	NA	@50% C.L.;	NA @85% C.L.
Half Life for k_{point} , yr	NA	@50% C.L.;	NA @85% C.L.



2. Spatial and Temporal Trend along Overall Plume Length for Multiple Wells:

Plot #1: Sampling date #1	1-Jan-98
Plot #2: Sampling date #2	6-Jun-98
Plot #3: Sampling date #3	8-Nov-98
Plot #4: Sampling date #4	10-May-99
Plot #5: Sampling date #5	
Plot #6: Sampling date #6	



Module 2: Graphical Presentation of Historical Ground Water Data: (Well to Well Analysis)

Site Name: *Smokey Point Retail Center*

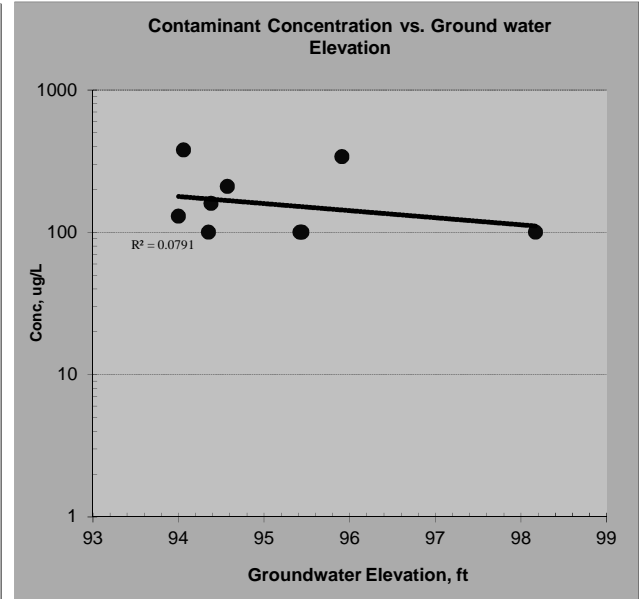
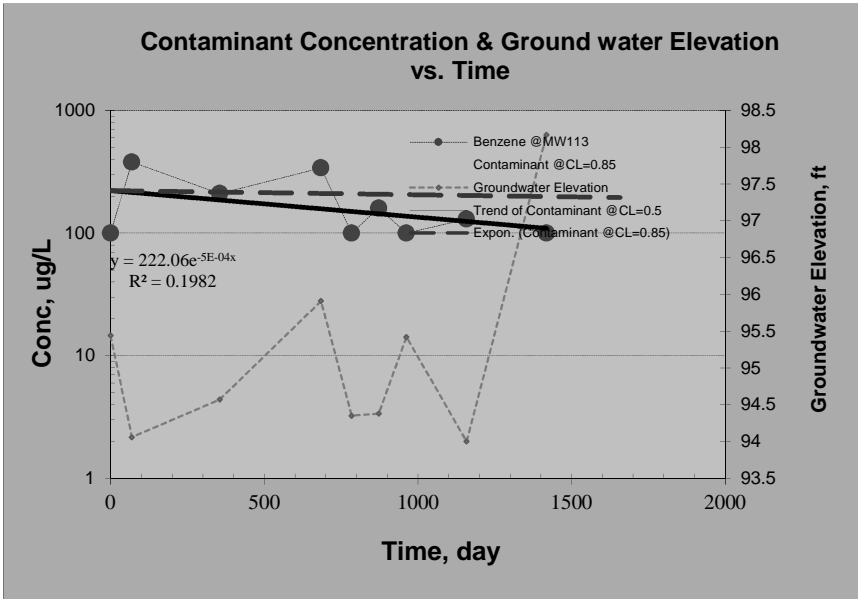
Site Address: *Marysville, WA*

Additional Description: *0*

Hazardous Substance: *Benzene*

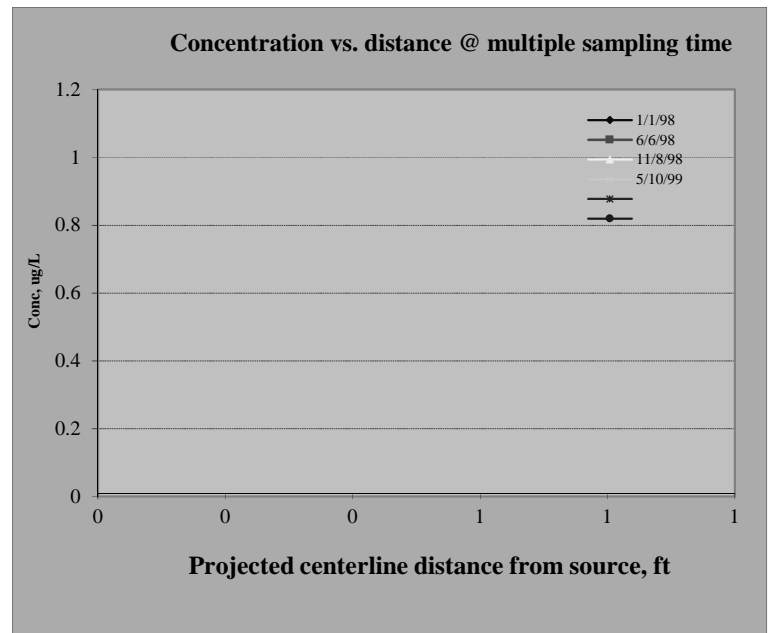
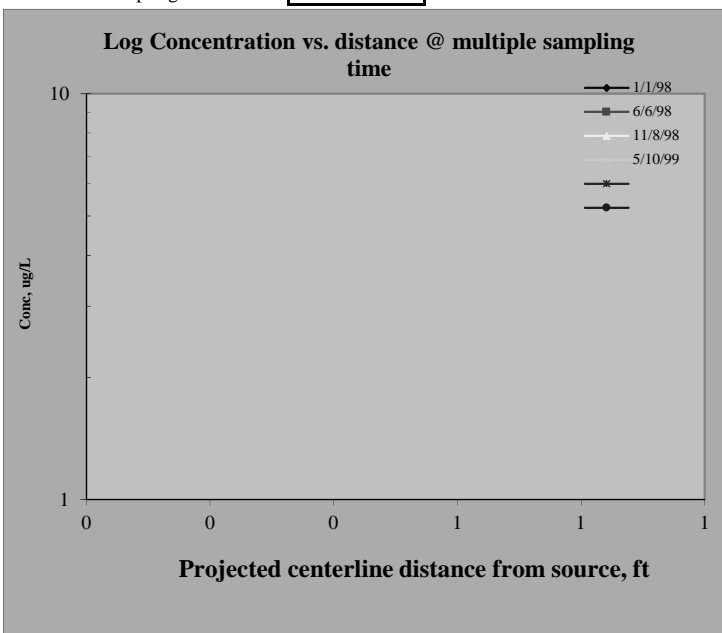
1. Temporal Trend at a Well (Concentration vs. Time & Groundwater Elevation : well-to-well analysis)

Name of Sampling Well?	MW113	Confidence Level (Decision Criteria)?	85.0%
Confidence Level calculated with log-linear regression is?	77.015%		
Plume Stability?	Stable	; Decision Criteria is 85%.	
Slope: Point decay rate constant (k_{point}), yr ⁻¹	0.182 @50% C.L.;	0.029 @85% C.L.	
Half Life for k_{point} , yr	3.803 @50% C.L.;	24.145 @85% C.L.	



2. Spatial and Temporal Trend along Overall Plume Length for Multiple Wells:

Plot #1: Sampling date #1	1-Jan-98
Plot #2: Sampling date #2	6-Jun-98
Plot #3: Sampling date #3	8-Nov-98
Plot #4: Sampling date #4	10-May-99
Plot #5: Sampling date #5	
Plot #6: Sampling date #6	

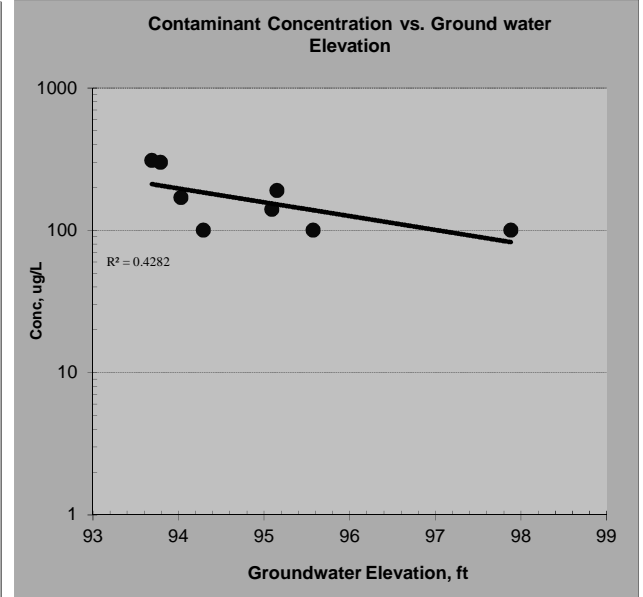
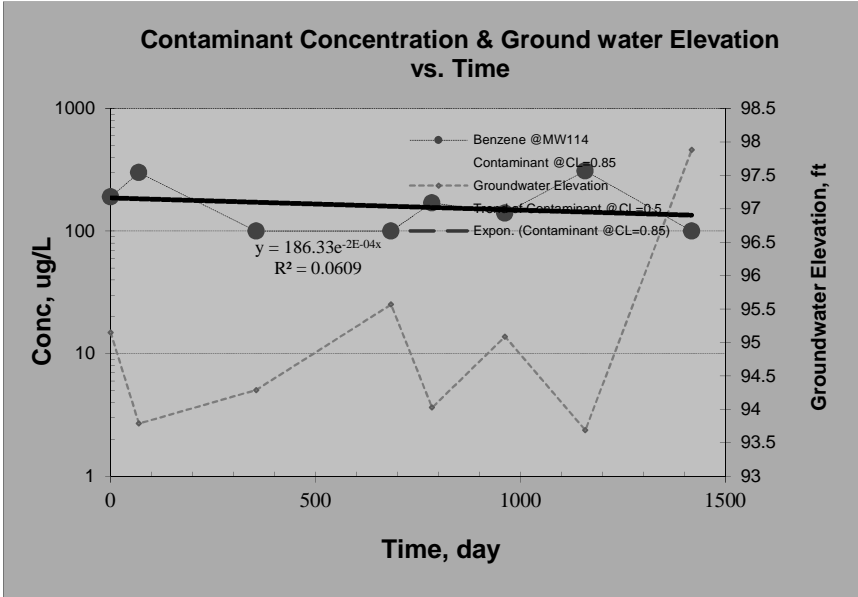


Module 2: Graphical Presentation of Historical Ground Water Data: (Well to Well Analysis)

Site Name: *Smokey Point Retail Center*
 Site Address: *Marysville, WA*
 Additional Description: *0*
 Hazardous Substance: *Benzene*

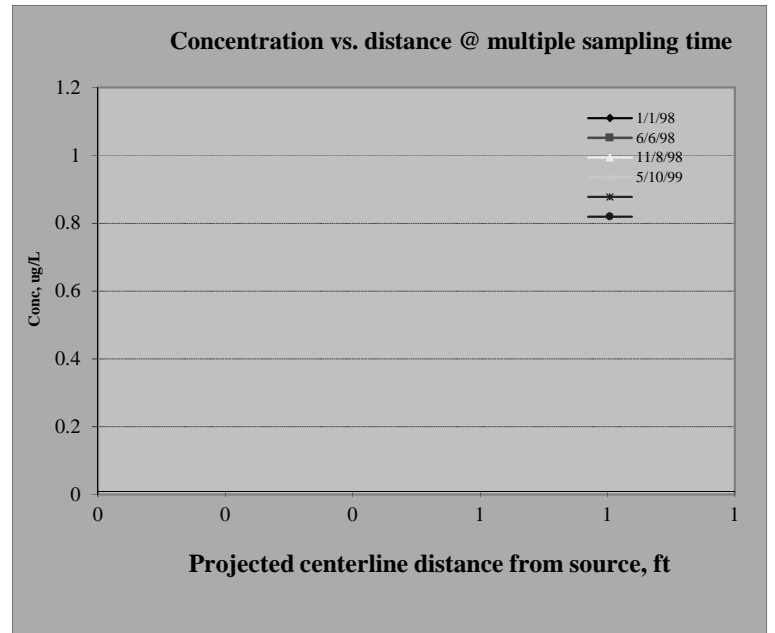
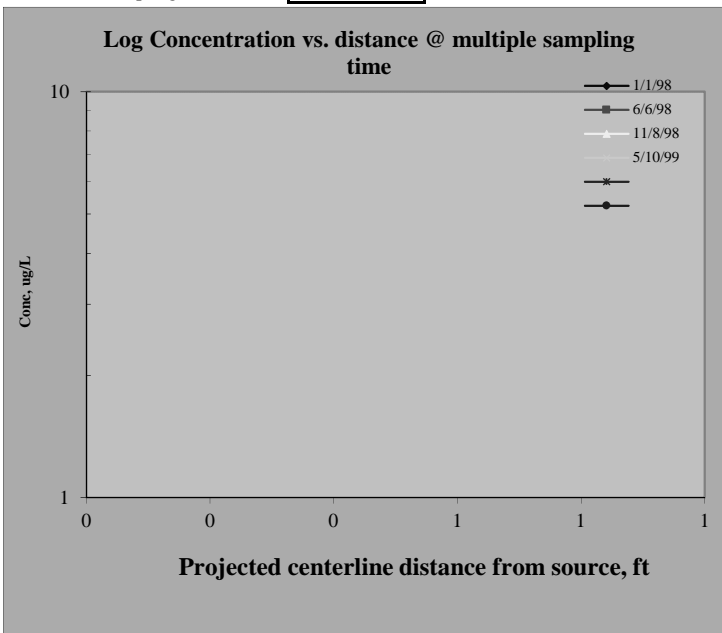
1. Temporal Trend at a Well (Concentration vs. Time & Groundwater Elevation : well-to-well analysis)

Name of Sampling Well?	MW114	Confidence Level (Decision Criteria)?	85.0%
Confidence Level calculated with log-linear regression is?	44.417%		
Plume Stability?	Stable	; Decision Criteria is 85%.	
Slope: Point decay rate constant (k_{point}), yr ⁻¹	0.083 @ 50% C.L.;	NA @ 85% C.L.	
Half Life for k_{point} , yr	8.316 @ 50% C.L.;	NA @ 85% C.L.	



2. Spatial and Temporal Trend along Overall Plume Length for Multiple Wells:

Plot #1: Sampling date #1	1-Jan-98
Plot #2: Sampling date #2	6-Jun-98
Plot #3: Sampling date #3	8-Nov-98
Plot #4: Sampling date #4	10-May-99
Plot #5: Sampling date #5	
Plot #6: Sampling date #6	



Module 2: Graphical Presentation of Historical Ground Water Data: (Well to Well Analysis)

Site Name: *Smokey Point Retail Center*

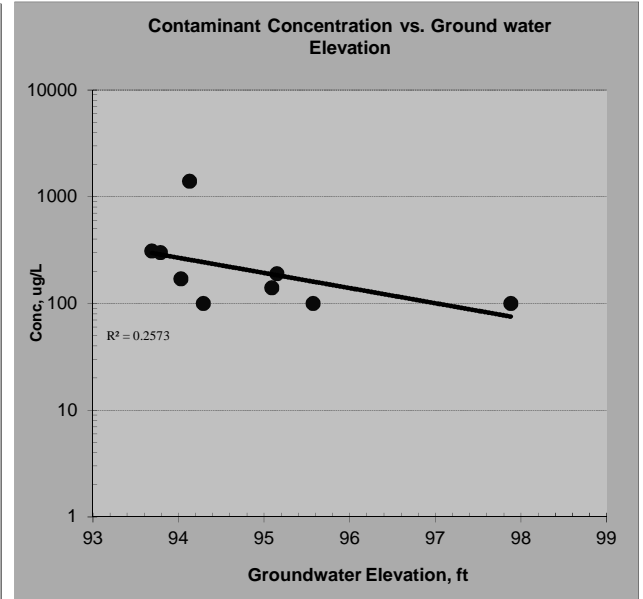
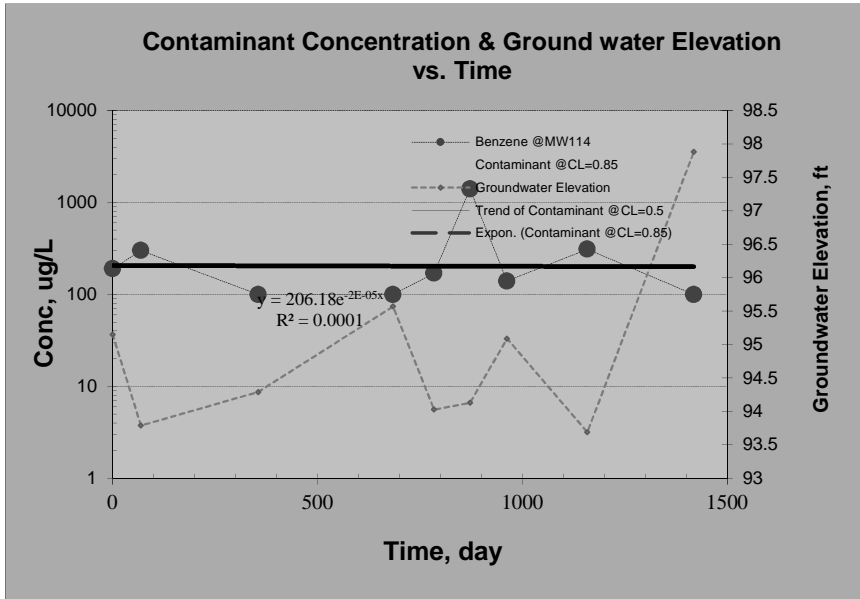
Site Address: *Marysville, WA*

Additional Description: *0*

Hazardous Substance: *Benzene*

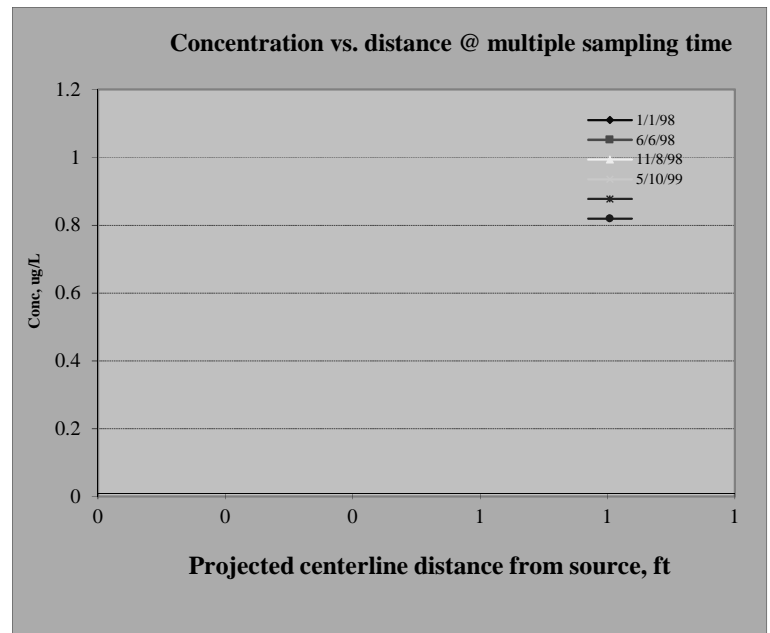
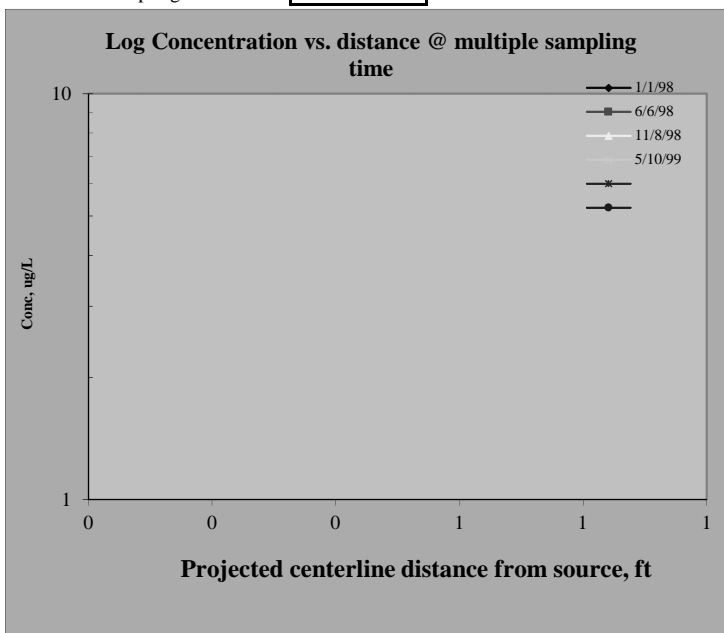
1. Temporal Trend at a Well (Concentration vs. Time & Groundwater Elevation : well-to-well analysis)

Name of Sampling Well?	MW114	Confidence Level (Decision Criteria)?	85.0%
Confidence Level calculated with log-linear regression is?	2.453%		
Plume Stability?	UD	; Decision Criteria is 85%.	
Slope: Point decay rate constant (k_{point}), yr^{-1}	NA @50% C.L.;	NA @85% C.L.	
Half Life for k_{point} , yr	NA @50% C.L.;	NA @85% C.L.	



2. Spatial and Temporal Trend along Overall Plume Length for Multiple Wells:

Plot #1: Sampling date #1	1-Jan-98
Plot #2: Sampling date #2	6-Jun-98
Plot #3: Sampling date #3	8-Nov-98
Plot #4: Sampling date #4	10-May-99
Plot #5: Sampling date #5	
Plot #6: Sampling date #6	



ATTACHMENT C

Benzene Plume Stability Analysis

Module1: Mann-Kendall Trend Test for Plume Stability (Non-parametric Statistical Test)

Site Name: Smokey Point Retail Center

Site Address: Marysville, WA

Additional Description:

Well (Sampling) Location? **MW113**

Level of Confidence (Decision Criteria)? **85%**

1. Monitoring Well Information: Contaminant Concentration at a well: Quarterly sampling recommended.

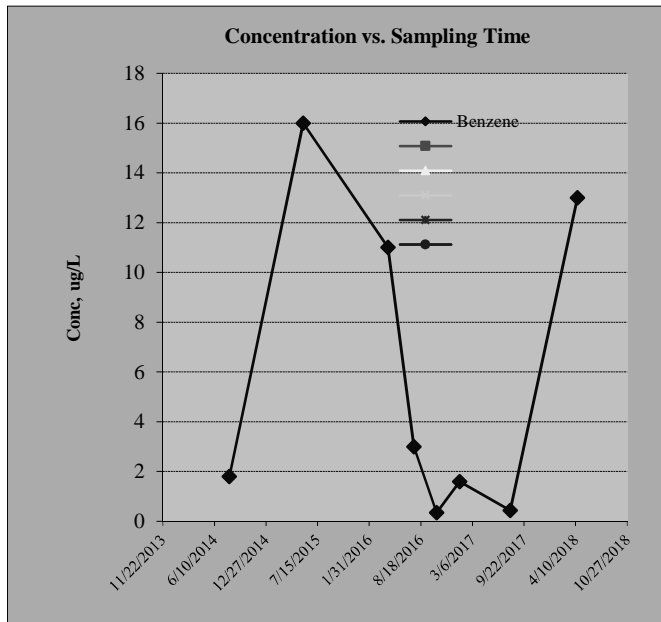
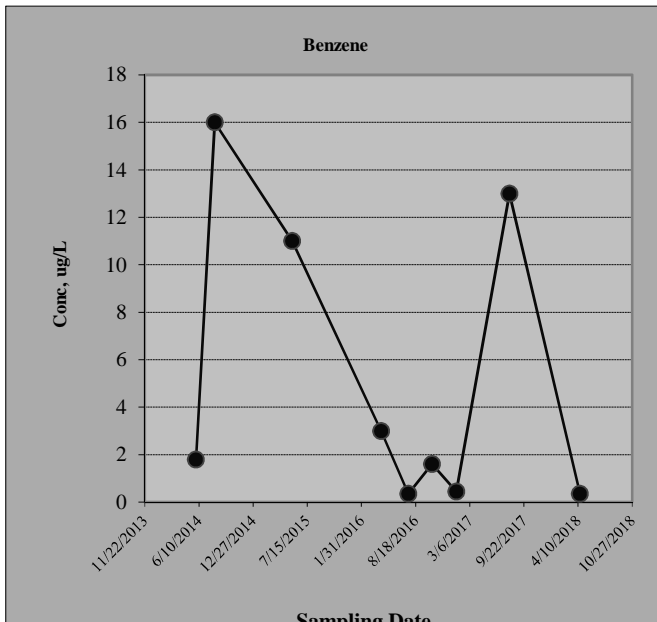
		Hazardous Substances (unit is ug/L)				
Sampling Event	Date Sampled	Benzene				
#1	5/30/2014	1.8				
#2	8/7/2014	16				
#3	5/20/2015	11				
#4	4/13/2016	3				
#5	7/22/2016	0.35				
#6	10/18/2016	1.6				
#7	1/16/2017	0.44				
#8	7/31/2017	13				
#9	4/17/2018	0.35				
#10						
#11						
#12						
#13						
#14						
#15						
#16						

2. Mann-Kendall Non-parametric Statistical Test Results

Hazardous Substance?	Benzene					
Confidence Level Calculated?	87.00%	NA	NA	NA	NA	NA
Plume Stability?	Shrinking	NA	NA	NA	NA	NA
Coefficient of Variation?		n<4	n<4	n<4	n<4	n<4
Mann-Kendall Statistic "S" value?	-13	0	0	0	0	0
Number of Sampling Rounds?	9	0	0	0	0	0
Average Concentration?	5.28	NA	NA	NA	NA	NA
Standard Deviation?	6.23	NA	NA	NA	NA	NA
Coefficient of Variation?	1.18	NA	NA	NA	NA	NA
Blank if No Errors found		n<4	n<4	n<4	n<4	n<4

3. Temporal Trend: Plot of Concentration vs. Sampling Time

Hazardous substance? **Benzene**
 Plume Stability? **Shrinking**



Sampling Date

Sampling Date

Module 2: Graphical Presentation of Historical Ground Water Data: (Well to Well Analysis)

Site Name: *Smokey Point Retail Center*

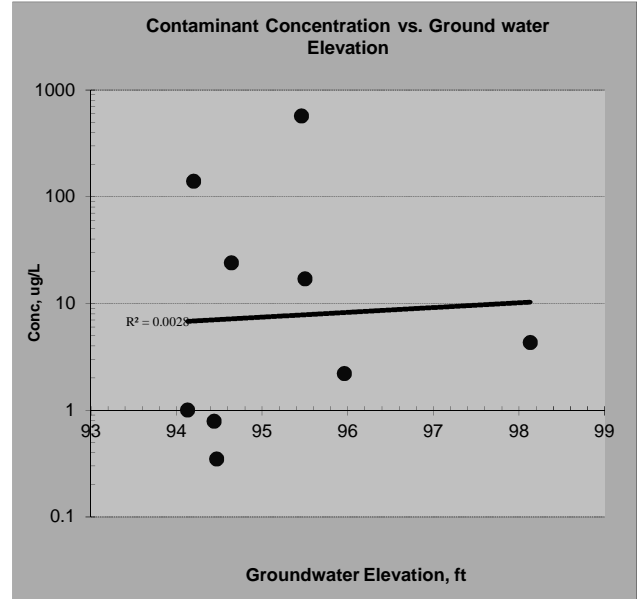
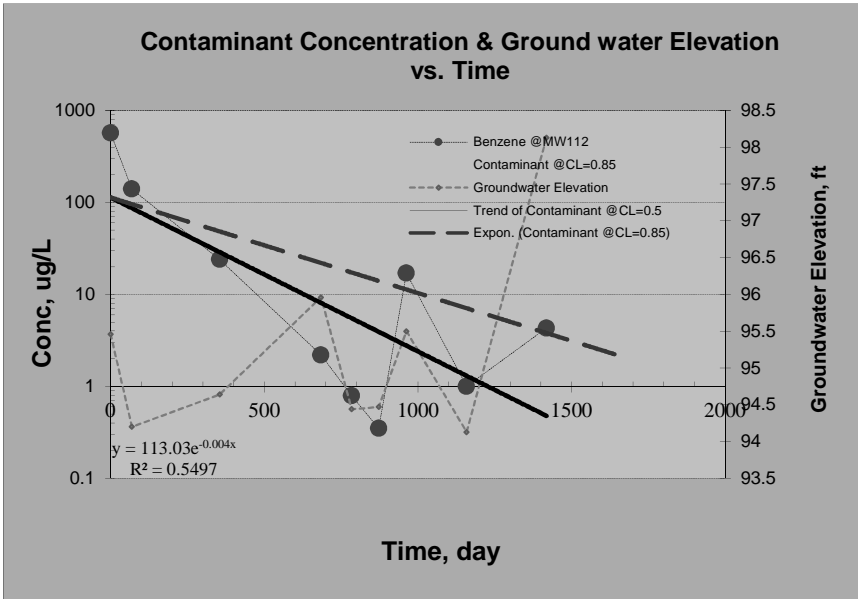
Site Address: *Marysville, WA*

Additional Description: *0*

Hazardous Substance: *Benzene*

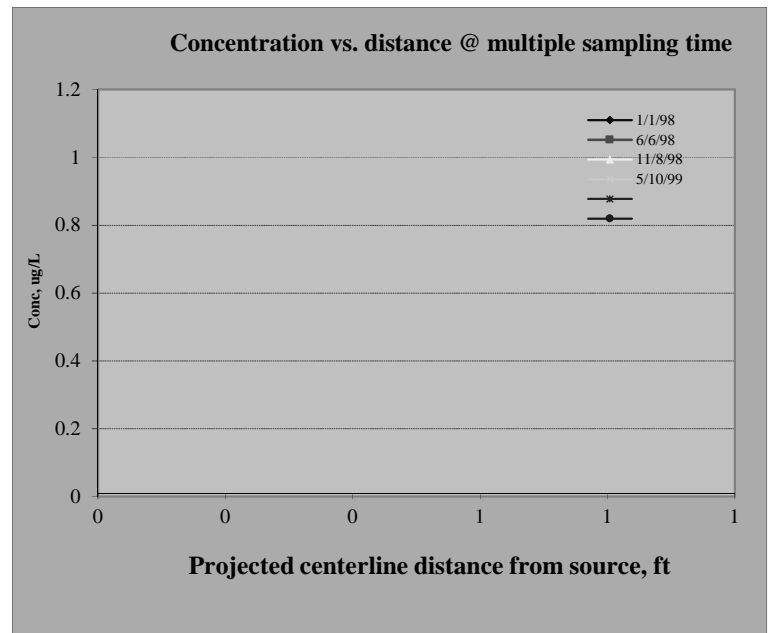
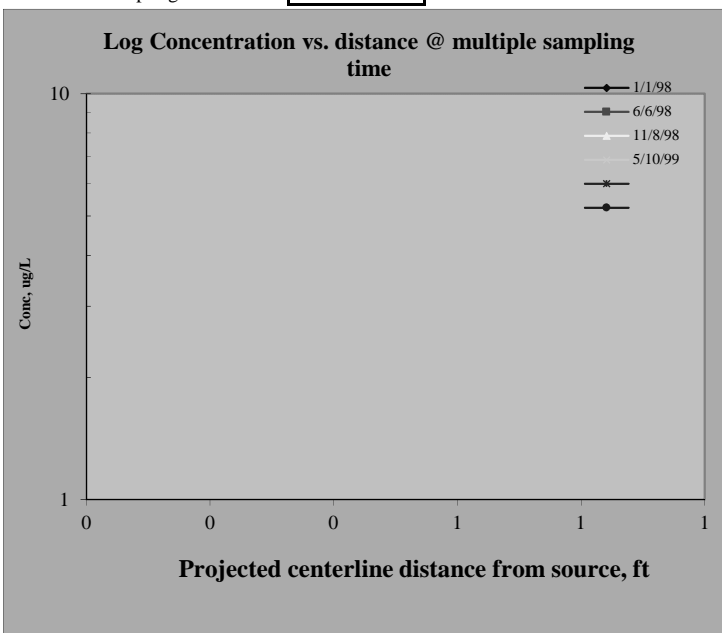
1. Temporal Trend at a Well (Concentration vs. Time & Groundwater Elevation : well-to-well analysis)

Name of Sampling Well?	MW112	Confidence Level (Decision Criteria)?	85.0%
Confidence Level calculated with log-linear regression is?	97.775%		
Plume Stability?	Shrinking ; Decision Criteria is 85%.		
Slope: Point decay rate constant (k_{point}), yr ⁻¹	1.407 @50% C.L.;	0.873 @85% C.L.	
Half Life for k_{point} , yr	0.493 @50% C.L.;	0.794 @85% C.L.	



2. Spatial and Temporal Trend along Overall Plume Length for Multiple Wells:

Plot #1: Sampling date #1	1-Jan-98
Plot #2: Sampling date #2	6-Jun-98
Plot #3: Sampling date #3	8-Nov-98
Plot #4: Sampling date #4	10-May-99
Plot #5: Sampling date #5	
Plot #6: Sampling date #6	



Module 2: Graphical Presentation of Historical Ground Water Data: (Well to Well Analysis)

Site Name: *Smokey Point Retail Center*

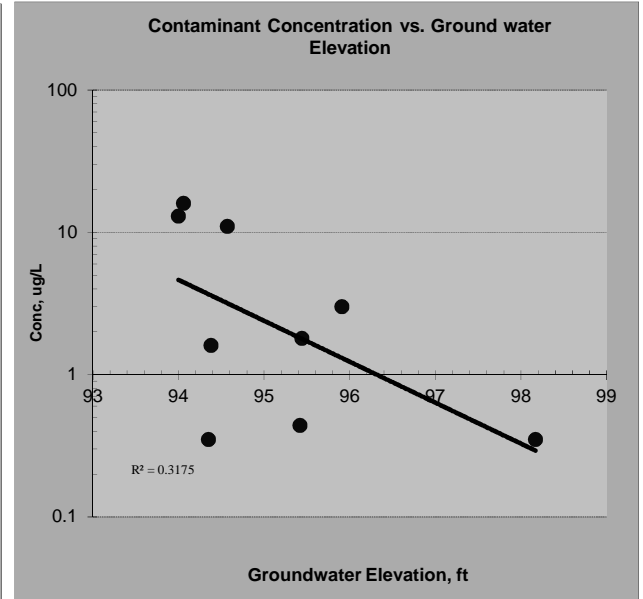
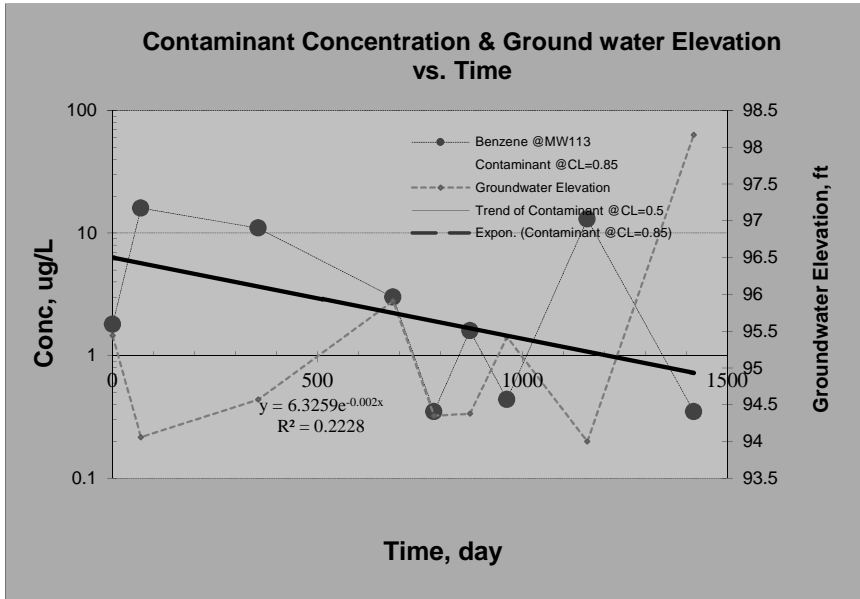
Site Address: *Marysville, WA*

Additional Description: *0*

Hazardous Substance: *Benzene*

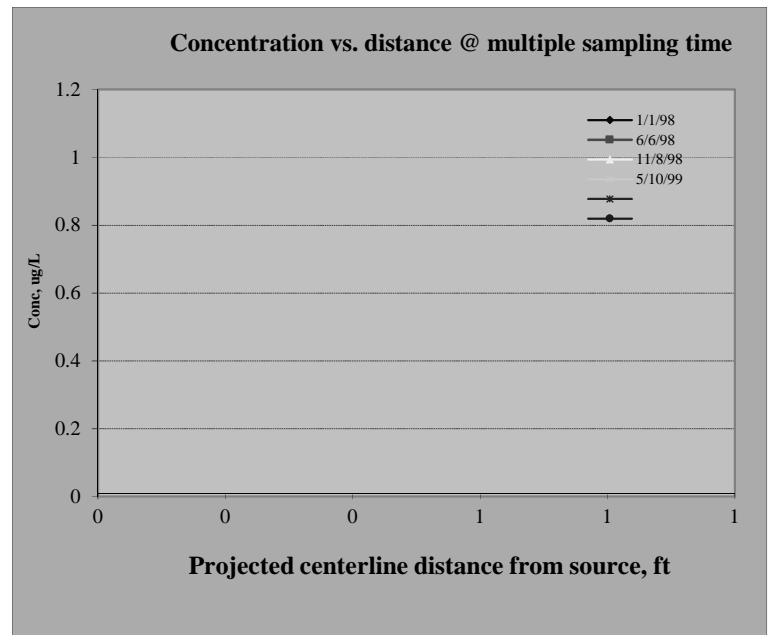
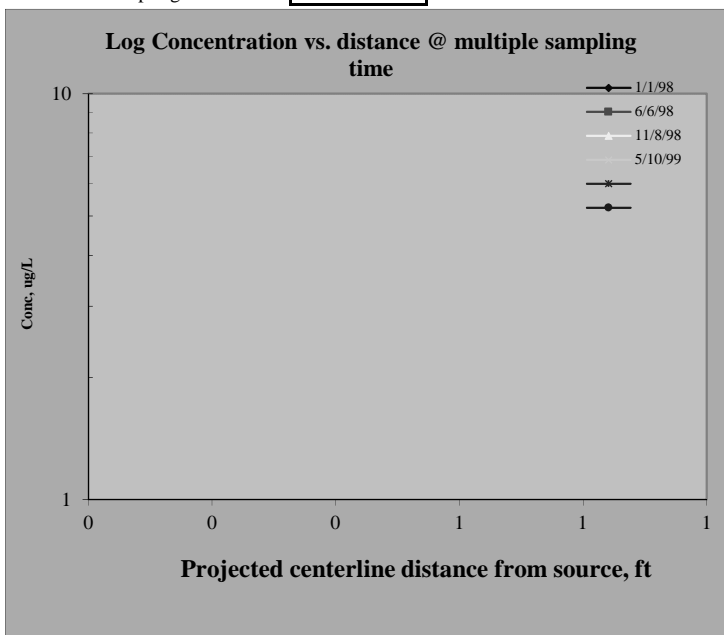
1. Temporal Trend at a Well (Concentration vs. Time & Groundwater Elevation : well-to-well analysis)

Name of Sampling Well?	MW113	Confidence Level (Decision Criteria)?	85.0%
Confidence Level calculated with log-linear regression is?	80.043%		
Plume Stability?	UD	; Decision Criteria is 85%.	
Slope: Point decay rate constant (k_{point}), yr ⁻¹	NA @50% C.L.;	NA @85% C.L.	
Half Life for k_{point} , yr	NA @50% C.L.;	NA @85% C.L.	



2. Spatial and Temporal Trend along Overall Plume Length for Multiple Wells:

Plot #1: Sampling date #1	1-Jan-98
Plot #2: Sampling date #2	6-Jun-98
Plot #3: Sampling date #3	8-Nov-98
Plot #4: Sampling date #4	10-May-99
Plot #5: Sampling date #5	
Plot #6: Sampling date #6	



Module 2: Graphical Presentation of Historical Ground Water Data: (Well to Well Analysis)

Site Name: *Smokey Point Retail Center*

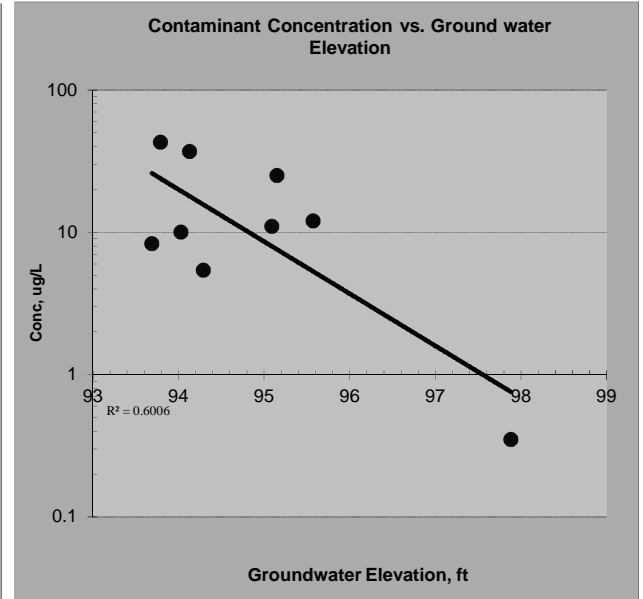
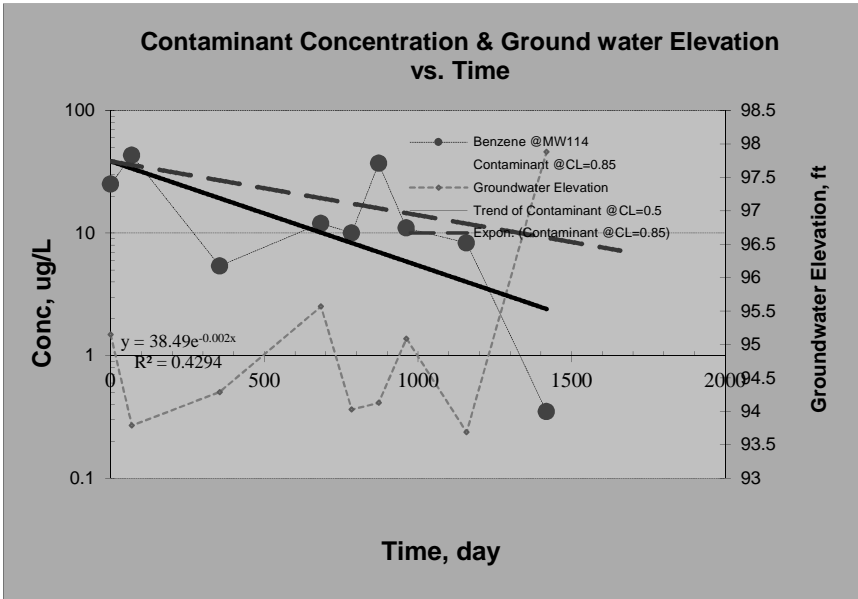
Site Address: *Marysville, WA*

Additional Description: *0*

Hazardous Substance: *Benzene*

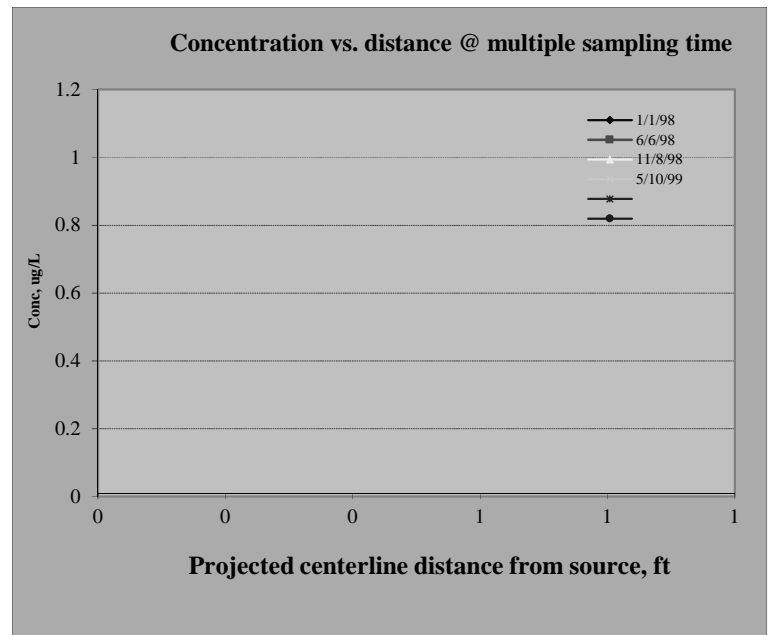
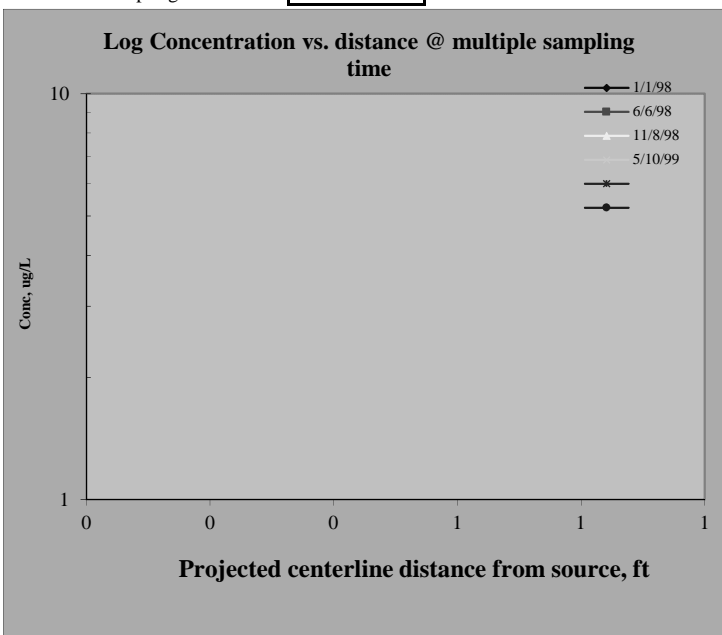
1. Temporal Trend at a Well (Concentration vs. Time & Groundwater Elevation : well-to-well analysis)

Name of Sampling Well?	MW114	Confidence Level (Decision Criteria)?	85.0%
Confidence Level calculated with log-linear regression is?	94.462%		
Plume Stability?	Shrinking ; Decision Criteria is 85%.		
Slope: Point decay rate constant (k_{point}), yr^{-1}	0.714 @50% C.L.;	0.369 @85% C.L.	
Half Life for k_{point} , yr	0.971 @50% C.L.;	1.878 @85% C.L.	



2. Spatial and Temporal Trend along Overall Plume Length for Multiple Wells:

Plot #1: Sampling date #1	1-Jan-98
Plot #2: Sampling date #2	6-Jun-98
Plot #3: Sampling date #3	8-Nov-98
Plot #4: Sampling date #4	10-May-99
Plot #5: Sampling date #5	
Plot #6: Sampling date #6	



ATTACHMENT D

Report Limitations and Use Guidelines

REPORT LIMITATIONS AND USE GUIDELINES

Reliance Conditions for Third Parties

This report was prepared for the exclusive use of the Client. No other party may rely on this report or the product of our services without the express written consent of Aspect Consulting, LLC (Aspect). This limitation is to provide our firm with reasonable protection against liability claims by third parties with whom there would otherwise be no contractual conditions or limitations and guidelines governing their use of the report. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and recognized standards of professionals in the same locality and involving similar conditions.

Services for Specific Purposes, Persons and Projects

Aspect has performed the services in general accordance with the scope and limitations of our Agreement. This report has been prepared for the exclusive use of the Client and their authorized third parties, approved in writing by Aspect. This report is not intended for use by others, and the information contained herein is not applicable to other properties.

This report is not, and should not, be construed as a warranty or guarantee regarding the presence or absence of hazardous substances or petroleum products that may affect the subject property. The report is not intended to make any representation concerning title or ownership to the subject property. If real property records were reviewed, they were reviewed for the sole purpose of determining the subject property's historical uses. All findings, conclusions, and recommendations stated in this report are based on the data and information provided to Aspect, current use of the subject property, and observations and conditions that existed on the date and time of the report.

Aspect structures its services to meet the specific needs of our clients. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and subject property. This report should not be applied for any purpose or project except the purpose described in the Agreement.

This Report Is Project-Specific

Aspect considered a number of unique, project-specific factors when establishing the Scope of Work for this project and report. You should not rely on this report if it was:

- Not prepared for you
- Not prepared for the specific purpose identified in the Agreement
- Not prepared for the specific real property assessed
- Completed before important changes occurred concerning the subject property, project or governmental regulatory actions

If changes are made to the project or subject property after the date of this report, Aspect should be retained to assess the impact of the changes with respect to the conclusions contained in the report.

Geoscience Interpretations

The geoscience practices (geotechnical engineering, geology, and environmental science) require interpretation of spatial information that can make them less exact than other engineering and natural science disciplines. It is important to recognize this limitation in evaluating the content of the report. If you are unclear how these "Report Limitations and Use Guidelines" apply to your project or site, you should contact Aspect.

Discipline-Specific Reports Are Not Interchangeable

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually address any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding the subject property.

Environmental Regulations Are Not Static

Some hazardous substances or petroleum products may be present near the subject property in quantities or under conditions that may have led, or may lead, to contamination of the subject property, but are not included in current local, state or federal regulatory definitions of hazardous substances or petroleum products or do not otherwise present potential liability. Changes may occur in the standards for appropriate inquiry or regulatory definitions of hazardous substance and petroleum products; therefore, this report has a limited useful life.

Property Conditions Change Over Time

This report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time (for example, Phase I ESA reports are applicable for 180 days), by events such as a change in property use or occupancy, or by natural events, such as floods, earthquakes, slope failure or groundwater fluctuations. If more than six months have passed since issuance of our report, or if any of the described events may have occurred following the issuance of the report, you should contact Aspect so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Phase I ESAs – Uncertainty Remains After Completion

Aspect has performed the services in general accordance with the scope and limitations of our Agreement and the current version of the “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process”, ASTM E1527, and U.S. Environmental Protection Agency (EPA)'s Federal Standard 40 CFR Part 312 "Innocent Landowners, Standards for Conducting All Appropriate Inquiries".

No ESA can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with subject property. Performance of an ESA study is intended to reduce, but not eliminate, uncertainty regarding the potential for environmental conditions affecting the subject property. There is always a potential that areas with contamination that were not identified during this ESA exist at the subject property or in the study area. Further evaluation of such potential would require additional research, subsurface exploration, sampling and/or testing.

Historical Information Provided by Others

Aspect has relied upon information provided by others in our description of historical conditions and in our review of regulatory databases and files. The available data does not provide definitive information with regard to all past uses, operations or incidents affecting the subject property or adjacent properties. Aspect makes no warranties or guarantees regarding the accuracy or completeness of information provided or compiled by others.

Exclusion of Mold, Fungus, Radon, Lead, and HBM

Aspect's services do not include the investigation, detection, prevention or assessment of the presence of molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. Accordingly, this report does not include any interpretations, recommendations, findings, or conclusions regarding the detection, assessment, prevention or abatement of molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. Aspect's services also do not include the investigation or assessment of hazardous building materials (HBM) such as asbestos, polychlorinated biphenyls (PCBs) in light ballasts, lead based paint, asbestos-containing building materials, urea-formaldehyde insulation in on-site structures or debris or any other HBMs. Aspect's services do not include an evaluation of radon or lead in drinking water, unless specifically requested.