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May 31, 2005
File No. 04203016.02

Mr. Frank Jensen
Griffin & Jensen Tenancy in Common
16027 SE 63rd Street
Bellevue, Washington 98006

COPY

Subject: **Seventh Quarterly Groundwater Monitoring Report: May 10, 2005, Former Sooper Dry Cleaners Site, Normandy Park Shopping Center, Normandy Park, Washington**

Dear Mr. Jensen:

This letter report presents the results of the May 2005 groundwater monitoring event for the former Sooper Dry Cleaners site. This represents the seventh quarterly monitoring event conducted at the site. The project site is located in the Normandy Park Shopping Center at 17835 First Avenue South in Normandy Park, Washington (Figure 1).

BACKGROUND

Historical releases of dry cleaning solvents contaminated the shallow soils beneath the Former Sooper Dry Cleaners and along adjacent utility lines with perchloroethylene (PCE), which subsequently leached PCE into the shallow groundwater. Site cleanup activities were initiated on the property in March 2003. The remedial actions included focused soil excavation to remove suspected sources of PCE soil and groundwater contamination followed by the implementation of engineered and institutional controls to further isolate any remaining residual soil contamination. These independent cleanup activities were completed under the Washington Department of Ecology's Voluntary Cleanup Program. The state identification number for the site is TCP #NW0614.

Following the onsite remedial actions, a five year groundwater program was proposed to assess the effectiveness of the source removal and engineered/institutional control measures to reduce the levels of residual groundwater contamination and minimize potential impacts to human health and the environment. At that time, Ecology suggested that the initial year (i.e. first four quarters) of groundwater monitoring be completed and the resulting field and chemical data be evaluated before proceeding with the remaining portions of the monitoring program. The first year of post-remedial groundwater monitoring was completed between October 2003 and July 2004. Subsequent discussions with Ecology concluded that the continued presence of elevated levels of PCE beneath the shopping center warranted continuing groundwater monitoring at the site through the originally proposed five year period.

MONITORING WELL NETWORK

As illustrated on Figure 1, a total of 11 groundwater monitoring wells (MW-1 through MW-6, MW-8 and MW-10 through MW-12) are currently present on the Normandy Park shopping center. In addition, three offsite monitoring wells are located between 500 and 800 feet hydrologically downgradient (west-southwest) of the property. As detailed in the site remedial plan (SCS Engineers, June 2002), the current groundwater monitoring program incorporates both onsite and offsite groundwater sampling locations.

During the 2003/2004 reporting period, groundwater was regularly observed to be present in only five of the 11 onsite monitoring wells. Due to locally depressed water table conditions, the six remaining onsite wells were dry throughout this period. Based on these observations, the same five monitoring onsite wells (MW-5B, MW-8, MW-10, MW-11 and MW-12) will continue to be monitored during the remaining four years of the groundwater monitoring program to provide coverage within the residual plume of PCE contaminated groundwater and along the western property border. Similarly, all three off-site monitoring wells (MW-13, MW-14 and MW-15) will continue be monitored to provide coverage downgradient of the observed PCE contamination. Quarterly groundwater sampling is anticipated to continue through the second monitoring year, at which time modifications in the well network and/or the sampling frequency may be implemented to enhance the efficiency of the post-remedial monitoring program.

SAMPLING METHODS

The seventh round of quarterly groundwater monitoring was completed at the Normandy Park shopping center on May 10, 2005. Advance notification regarding the monitoring schedule was provided to the current property owner and permission was obtained from the City of Normandy Park prior to sampling the offsite groundwater wells located in Marivista Park.

The depth to the water table was measured in each of the wells in the monitoring network before commencing well purging and groundwater sampling activities. The groundwater elevation was measured to the nearest 0.01 foot using an electronic water level meter. These data were used for calculation of the local groundwater flow direction and gradient.

Well purging and groundwater sampling was performed using a submersible QED bladder pump system and low-flow/low-volume well sampling techniques. Low-flow sampling can control sample turbidity and minimize sample chemistry alteration by pumping at very low flow rates from the well screen zone, avoiding disturbance to the water column in the well and minimizing stress on the surrounding formation. Samples obtained in this manner will best represent the groundwater chemistry at each location beneath the site.

Field measurements for specific conductance, pH, dissolved oxygen, Eh, turbidity, and groundwater temperature were taken throughout all well purging activities to ensure the collection of representative groundwater samples. An accurate record of all sampling activities, field measurements and site observations made during the monitoring event were maintained on separate field sampling forms (see Appendix B).

All non-disposable sampling equipment (bladder pump, water level probe) was thoroughly decontaminated with non-phosphate detergent (TSP-substitute) and clean tap water washes followed by a final distilled water rinse before each use. A new pair of disposable sampling gloves was used during the collection of each sample, and then discarded. Groundwater samples were collected directly from the pump discharge tubing into 40-milliliter (ml) glass VOA vials.

Low flow sampling methods minimized the volume of purge water that was generated during the monitoring event. The small volume of purge water generated during the sampling event was accumulated in a 55-gallon drum currently located on the shopping center property. Water that does not contain detectable PCE concentrations was discharged at the site. Water that contains PCE concentrations in excess of regulatory criteria will be retained at the site until proper disposal can be arranged.

The groundwater samples collected during the May 2005 monitoring event were submitted to a Washington Department of Ecology accredited laboratory (Severn Trent Laboratories, Tacoma, WA) and analyzed for PCE and related volatile organic compounds (VOCs) using EPA Method 8260. The samples were delivered to the laboratory the day after sample collection. Severn Trent performed all analyses within the appropriate holding time (14 days for EPA method 8260). The laboratory also performed method-specific quality control activities, including surrogate recoveries, matrix spike, duplicates, and blanks. One field duplicate was also collected and submitted to the testing laboratory to provide field and analytical quality assurance/quality control.

HYDROLOGICAL RESULTS

The depth to groundwater was measured in each of the monitoring wells sampled during the May 2005 monitoring event. The groundwater elevation in each well was determined by subtracting the measured depth to groundwater from the surveyed elevation of the top of the wellhead (Table 1). The groundwater elevation contours were then plotted on a site map to indicate the local groundwater flow direction, and are illustrated on Figure 1 in Appendix A. As shown on Table 1, six of the 11 onsite groundwater monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5A, and MW-6) were observed to be dry during this event.

TABLE 1

Summary of Water Level Measurements, May 2005

Well Location	Date	Wellhead Elevation[1](ft)	Depth to Groundwater[2] (ft)	Groundwater Elevation (ft)
MW-1	05/10/05	270.49	DRY	--
MW-2	05/10/05	270.78	DRY	--
MW-3	05/10/05	271.67	DRY	--
MW-4	05/10/05	272.01	DRY	--
MW-5A	05/10/05	271.29	DRY	--
MW-5B	05/10/05	271.10	48.55	222.55
MW-6	05/10/05	272.27	DRY	--
MW-8	05/10/05	271.06	48.69	222.37
MW-10	05/10/05	270.58	58.22	212.36
MW-11	05/10/05	271.30	52.82	218.48
MW-12	05/10/05	269.56	46.99	222.57
MW-13	05/10/05	321.72	114.51	207.21
MW-14	05/10/05	316.22	108.80	207.42
MW-15	05/10/05	319.14	110.62	208.52

1 Elevation of the top of the well casing based on the USC&GS datum for geodetic mean sea level.
2 Referenced from the top of wellhead.
– Water table elevation not available.

The groundwater flow direction and gradient beneath the site were calculated using a standard three-point geometric model. Using the May 2005 elevation data, groundwater flow was calculated to be towards the west-southwest, with an estimated average hydraulic gradient of 0.018 ft/ft. A similar hydraulic gradient (0.019 ft/ft) was calculated for the site using the water table elevation measurements obtained during the

most recent previous (February 2005) groundwater monitoring event. On average, groundwater elevations measured at the site during May 2005 were approximately 0.5 foot lower than those recorded for the February 2005 sampling period.

ANALYTICAL RESULTS

Field parameters were recorded at each monitoring well location before the collection of groundwater samples. Groundwater temperatures measured during the May 2005 sampling event in the onsite wells ranged from 12.1 to 15.2°C. Slightly lower temperatures, ranging from 11.3 to 12.5°C were observed in the three offsite wells. Groundwater pH in the onsite wells was slightly acidic to neutral, ranging between 6.4 to 7.0 standard units. Readings from the three offsite wells were similar, ranging from 6.9 to 7.2 standard units.

Specific conductivity across the site ranged from 143 to 520 µS, with the most elevated readings being measured in onsite well MW-12 (520 µS) and offsite well MW-13 (283 µS). Dissolved oxygen (DO) levels in the onsite wells were generally high (ranging from 5.4 to 8.5 mg/L) with the exception of well MW-12 which had an anomalously low DO of 0.24 mg/L. Lower DO levels were observed at the offsite monitoring wells, ranging between 0.44 to 2.1 mg/L.

The measured field parameters generally remained consistent with measurements obtained during the previous monitoring events. All of the current field parameter data collected from the groundwater monitoring wells are recorded on the Groundwater Sampling Data Sheets in Appendix B.

The analytical results for the May 2005 quarterly groundwater monitoring event are summarized below on Table 2.

TABLE 2

Summary of Analytical Data for Halogenated and Aromatic VOCs in Groundwater May 2005 Groundwater Sampling Event

Sample Location	Sampling Date	EPA Method 8260 Analytes (µg/L)	
		PCE	TCE
MW-5B*	05/10/05	**183**	ND
MW-8	05/10/05	**46.3**	ND
MW-10	05/10/05	**1040**	ND
MW-11	05/10/05	2.34	ND
MW-12	05/10/05	ND	ND
MW-13	05/10/05	ND	ND
MW-14	05/10/05	ND	ND
MW-15	05/10/05	ND	ND
MTCA Method A GW Standard		**5**	**5**

Bold Analytical results exceed the Model Toxics Control Act Method A standard for this compound.
PCE Tetrachloroethylene
TCE Trichloroethene;.
ND Analyte not detected.

Detectable PCE concentrations were reported in four (MW-5B, MW-8, MW-10 and MW-11) of the eight groundwater monitoring wells sampled during the May 2005 quarterly event. As shown on Table 2, these PCE concentrations ranged from 2.34 to 1,040 µg/L, with three onsite wells (MW-5B, MW-8 and MW-10) exceeding the 5 µg/L MTCA Method A groundwater standard.

The most elevated PCE levels (1,040 µg/L at MW-10 and 183 µg/L at MW-5B) continue to be observed near the western property border in the area immediately downgradient of the former dry cleaner tenant space. The PCE concentration in onsite well MW-11 (2.34 µg/L) remained below the MTCA Method A groundwater standard. PCE was not detected the remaining onsite monitoring well MW-12 or in any of the three offsite (MW-13, MW-14 and MW-15) monitoring wells. The PCE concentrations reported for the May 2005 monitoring event are illustrated on Figure 2 (in Appendix A).

None of the monitoring wells sampled during the May 2005 event were reported to contain chlorinated compounds (trichloroethene (TCE), dichloroethene (DCE) and vinyl chloride) associated with the PCE breakdown processes. Low, but detectable, concentrations of TCE and DCE were previously reported in MW-5B and MW-10 during the November 2004 monitoring event.

The PCE concentrations detected in the groundwater samples collected from the former Sooper Cleaners site during the current monitoring period are lower than those reported for February 2005. The May 2005 PCE levels in onsite wells MW-11, MW-8, MW-5B and MW-10 were 2.34, 46.3, 183 and 1,040 µg/L, respectively. During February 2005, these same wells were reported to contain 2.84, 60.4, 263 and 1,460 µg/L, respectively. The May 2005 results are similar to those (2.51, 53.8, 184 and 1,020 µg/L, respectively) reported during the November 2004 monitoring event. The current PCE groundwater concentrations also continue to remain well below the pre-remedial levels. Offsite wells MW-13 through MW-15 continue to report non-detects for all the contaminants of concern.

DISCUSSION

The results of the May 2005 groundwater monitoring at the Former Sooper Dry Cleaners are generally consistent with the field and chemical data previously reported for the site. Local groundwater flow was towards the west-southwest with a gradient of approximately 0.018 ft/ft.

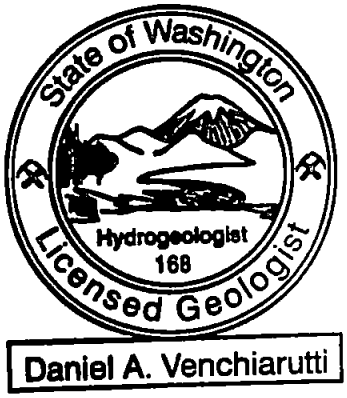
As illustrated on Figure 2, PCE levels in excess of the 5 µg/L MTCA Method A groundwater standard continue to be reported in onsite monitoring wells MW-5B, MW-8 and MW-10. However, the PCE concentrations at the site continue to remain significantly reduced from their pre-remedial levels. These reductions are likely related to the source removals and engineered-control infrastructure completed at the site during 2003.

In addition, neither PCE nor any of its associated breakdown products were detected in any of the offsite monitoring wells (MW-13, MW-14, or MW-15) located downgradient of the shopping center property. The latter results continue to suggest that the plume of residual PCE groundwater contamination has not migrated a significant distance downgradient (i.e. west-southwest) of the western border of the shopping center property.

The next quarterly monitoring event for the site is scheduled for August 2005.

Thank you for the opportunity to continue to provide our services. If you have any questions about the information presented above, please do not hesitate to call.

Very truly yours,



Daniel A. Venchiarutti, P.G.
Project Manager
SCS ENGINEERS

Gregory D. Helland, P.G.
Project Director
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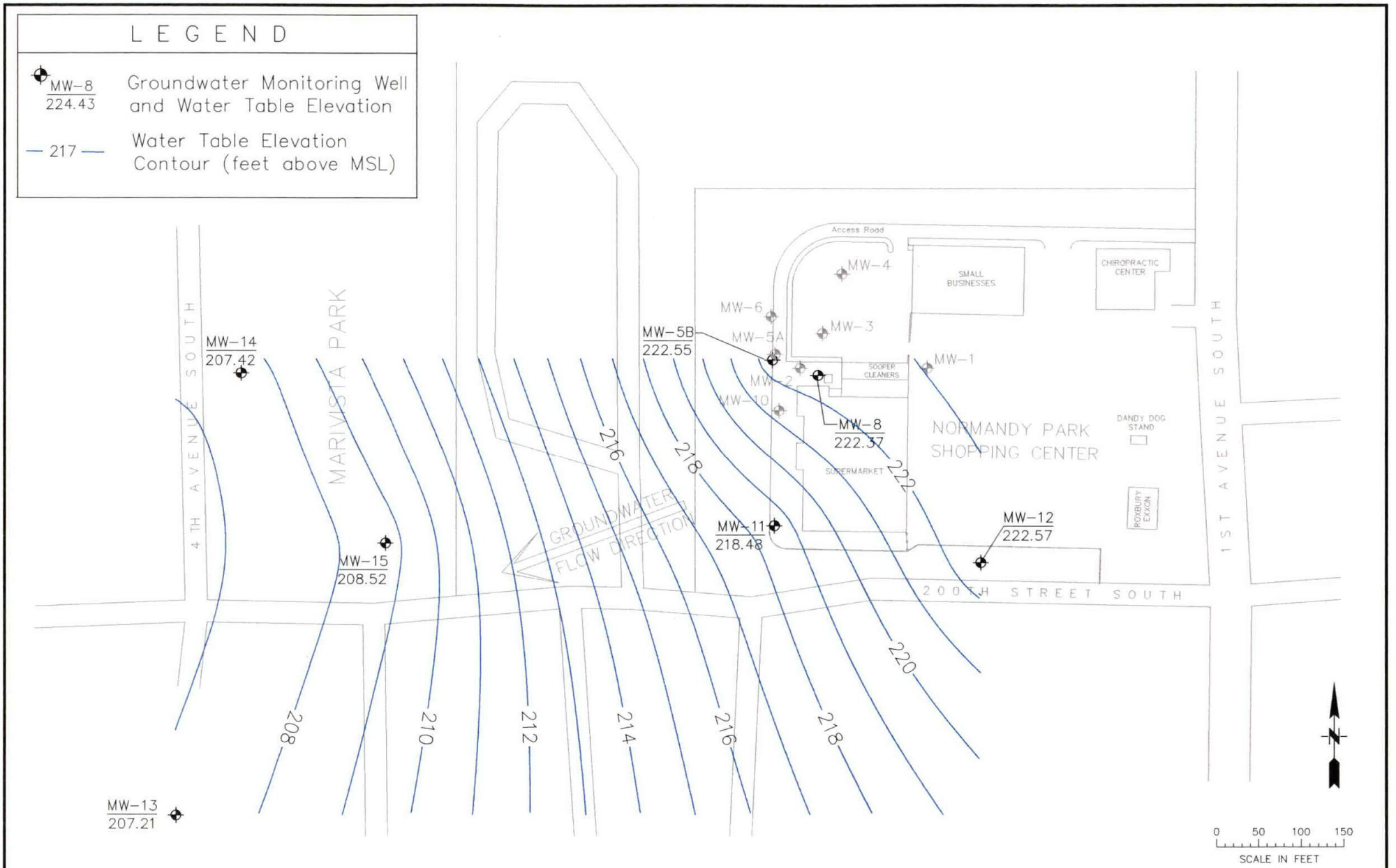
Attachments

CC: Agnes Griffin, Griffin & Jensen Tenancy in Common
Bradley Helland, Washington Department of Ecology
Mark Schuster, The Schuster Group

APPENDIX A

SITE FIGURES



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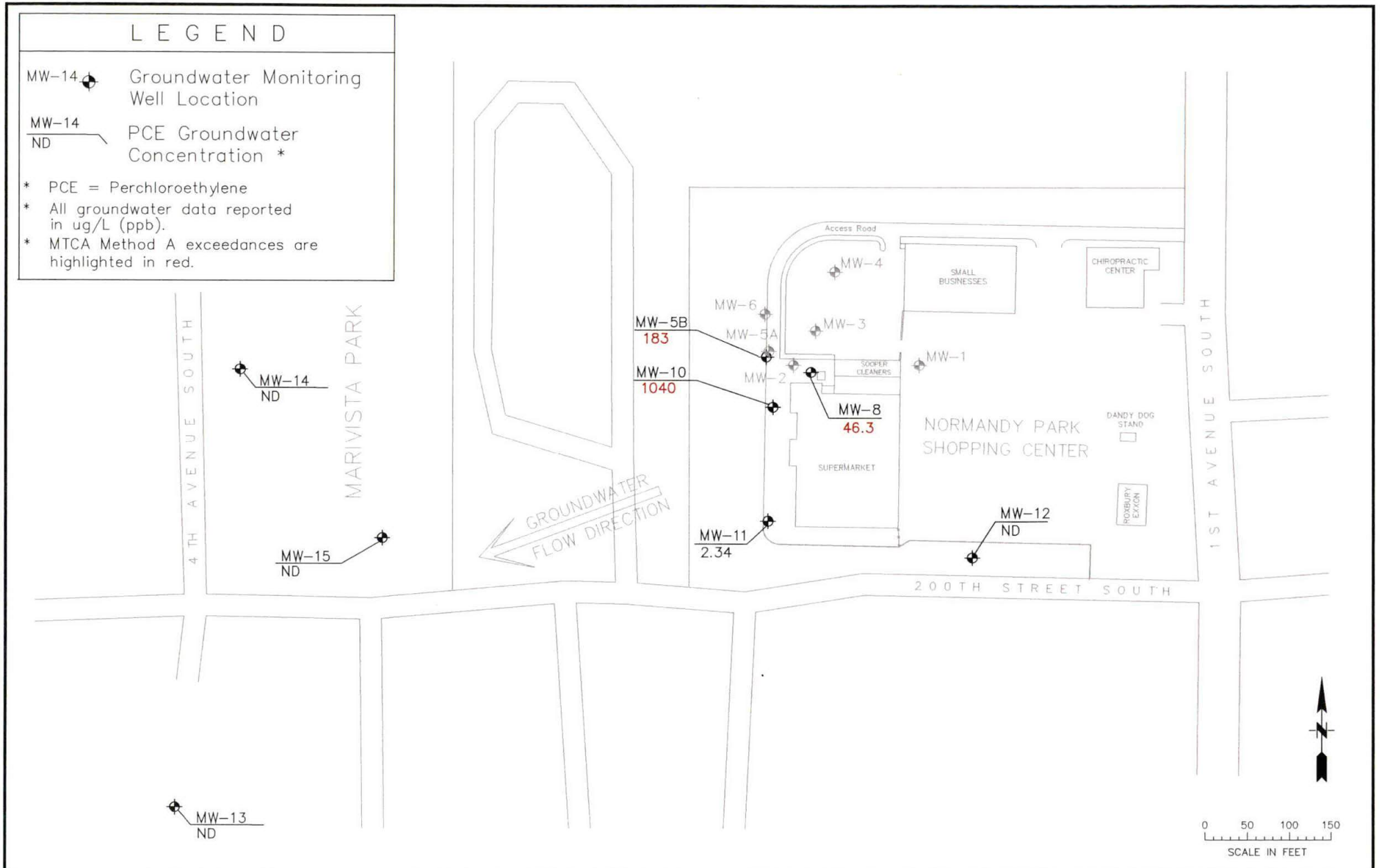
PROJECT NO. 04203016.02	DES BY E.D.
SCALE AS SHOWN	CHK BY D.V.
CAD FILE Figrue 1	APP BY G.H.

GROUNDWATER ELEVATION CONTOUR MAP
MAY 10, 2005
NORMANDY PARK SHOPPING CENTER
NORMANDY PARK, WA

DATE MAY 2005

FIGURE 1



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PROJECT NO. 04203016.02	DES BY E.D.	PCE GROUNDWATER MONITORING RESULTS MAY 10, 2005 NORMANDY PARK SHOPPING CENTER NORMANDY PARK, WA	DATE MAY 2005
SCALE AS SHOWN	CHK BY D.V.		FIGURE 2
CAD FILE Figrue 2	APP BY G.H.		

APPENDIX B

GROUNDWATER SAMPLING DATA SHEETS

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Groundwater Sampling Data Sheet

SITE: Normandy Park
WELL ID: MW-13
DATE: 5/10/05
WEATHER: overcast

114.51 DTW
185 TOS
187.5 Intake
190 BOS

CONTROL SETTINGS:
Refill 6.5
Discharge 13.5
Pressure 105

Well Location
7
13
105
35 ml/min
93 mins

494 ml/liter
±0.2 mg/L DO
±0.2 units pH
±.5°C temp
±5% Sp. Cond.
10% or 10 NTU turb.

WELL CONDITIONS: Locked? (Y) N Water in Protector? Y (N) Damage? Y (N)
Comments:
SAMPLE CONTAINERS: 5 VOAs/HCl/HNO3 by 8260B

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q
821	start	purge						
837	114.62	11.49	0.291	3.85	6.18	179	489	215
	air hose	blew out,	pulled pump,	replaced	grab	plate, res	tarted purge	
846	start	purge						
850	114.68	11.51	0.284	4.00	6.94	147	327	300
909	114.74	11.19	0.280	0.97	7.23	101	431	330
919	114.75	11.10	0.286	0.33	7.19	105	198	"
929	114.76	11.14	0.285	1.38	7.19	108	115	"
939	114.74	11.13	0.285	1.55	7.17	116	61.5	"
952	114.85	11.10	0.284	1.63	7.14	113	48.9	"
954	114.85	11.13	0.283	1.71	7.15	113	31.9	"

Observations (color, odor, anomalies, etc)

sampled/time constraints

SAMPLER: Elaine Dilley
Printed Name

Elaine Dilley
Signature

SCS ENGINEERS

Groundwater Sampling Data Sheet

SITE: Normandy Park
WELL ID: MW-14
DATE: 5-10-05
WEATHER: Overcast

108.50 DTW
175 TOS
177.5 Intake
180 BOS

CONTROL SETTINGS:
Refill 7.5
Discharge 12.5
Pressure 10

Well Location

7.5
12.5
105
330 ml/min
480-79.96
L/hr

± 0.3 mg/L
± 0.2 pH
0.5°C
5% Sat
10% or 5NTU

WELL CONDITIONS: Locked? (Y) N Water in Protector? Y N Damage? Y (N)

Comments:

SAMPLE CONTAINERS: 3 VOAS - HCL - Hal, 8260

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q
1014	Start	Purge						
1019	109.19	12.48	0.188	2.50	7.34	154	784	330
1023	109.22	12.06	0.190	0.88	7.19	133	953	"
1036	109.22	11.90	0.190	0.51	7.01	103	449	"
1046	"	11.88	0.191	0.53	6.94	97	570	"
1056	"	11.92	0.191	0.40	6.93	90	434	"
1106	"	11.87	0.192	0.35	6.91	84	12.0	"
1109	"	11.94	0.192	0.50	6.91	85	13.3	"
1112	109.18	11.94	0.191	0.39	6.92	84	12.0	"
1115	109.22	11.96	0.191	0.43	6.92	84	14.7	"
1118	109.22	11.88	0.191	0.44	6.92	83	14.6	"

Observations (color, odor, anomalies, etc)

SAMPLER: Hayley Brown
Printed Name

Hayley Brown
Signature

SCS ENGINEERS

Groundwater Sampling Data Sheet

SITE: Commander Park
WELL ID: MW-15
DATE: 5-10-05
WEATHER: overcast

110.07 DTW
140 TOS
142.5 Intake
145 BOS

CONTROL SETTINGS:
Refill 9
Discharge 11
Pressure 90

Well Location

WELL CONDITIONS: Locked? (Y) N Water in Protector? Y (N) Damage? Y (N)

Comments:

SAMPLE CONTAINERS: 3 VOAs / HCl / HVOCs by 8260B

9
11
90
240 ml/min
5 mins
71000 - 30.5

±0.1 units pH
±0.2 mg/L DO
±0.5°C temp
±5% mS/cm Spc
±10% or 210 NTU

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q
1150	110.10	12.25	0.272	3.14	7.41	153	71000	320
1155	Start purge					ions		
1200	110.10	12.97	0.270	1.86	7.22	144	71000	"
1210	110.10	12.07	0.275	2.12	7.10	148	237	"
1220	110.10	12.09	0.275	1.98	7.02	146	73.8	"
1230	110.10	12.14	0.274	2.02	6.98	146	39.9	"
1240	110.10	12.45	0.274	1.97	6.99	147	14.9	"
1242	110.10	12.36	0.274	1.98	6.97	146	12.0	"
1244	110.10	12.30	0.273	2.04	6.98	147	13.3	"
1246	110.10	12.53	0.262	2.12	6.99	147	13.2	"

Observations (color, odor, anomalies, etc)

SAMPLER: Elaine Dilley
Printed Name

Elaine Dilley
Signature

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Groundwater Sampling Data Sheet

SITE: Normandy Park
WELL ID: MW-17
DATE: 5-10-05
WEATHER: Partly Cloudy
WELL CONDITIONS: Locked? (Y) N Water in Protector? (Y) N Damage? Y (N)
SAMPLE CONTAINERS: 3 VOAs - HCl - 8260 (Halogenated)

46.99 DTW
45.00 TOS
48.5 Intake
50.00 BOS

CONTROL SETTINGS:
Refill 12
Discharge 8
Pressure 40

Well Location

12	± 0.2 psi
8	± 0.2 gpm
40	± 0.5°C then
300 ml/min	5% then
pH 6-9.0	5% or ± 10 mV
1 hr 10 mins	

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q
1220	Start	pump						
1320	47.05	14.01	0.508	1.52	6.46	164	>1000	300
1330	"	13.64	0.518	0.37	6.46	124	163	"
1340	47.08	13.55	0.520	0.28	6.47	112	81.9	"
1358	47.06	13.49	0.521	0.28	6.47	106	39.7	"
1408	"	13.54	0.520	0.25	6.47	101	15.9	"
1411	"	13.54	0.521	0.23	6.46	99	11.2	"
1414	"	13.56	0.520	0.24	6.47	98	10.3	"

Observations (color, odor, anomalies, etc)

distinct petroleum-like odor in water

OK to sample regardless of turbidity from this well on per Dan.

SAMPLER: Hayley Brown
Printed Name

Signature

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Groundwater Sampling Data Sheet

SITE: Normandy Park
WELL ID: MW-11
DATE: 5/10/05
WEATHER: partly cloudy

52.82 DTW
55 TOS
57.5 Intake
60 BOS

CONTROL SETTINGS:
Refill 9.5
Discharge 10.5
Pressure 4.0

WELL CONDITIONS: Locked? (Y), N Water in Protector? Y (N) Damage? Y (N)

Comments:

SAMPLE CONTAINERS: 3 VOAs / HCl / HOCs by 8260B

Well Location

9.5
10.5
4.0
200 mL/min
12 mins
pH 7-7.47 units
±0.2 units pH
±0.2 mg/L DO
±52 mV Sp C
±0.5°C temp

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q
1437	STAT	PURGE						
1441	53.31	12.89	0.147	9.32	6.87	194	133	200
1443	53.33	12.36	0.143	8.81	6.53	200	76.7	"
1444	53.33	12.23	0.143	8.71	6.47	207	38.5	"
1446	53.35	12.13	0.143	8.66	6.36	213	8.00	"

Observations (color, odor, anomalies, etc)

SAMPLER: Elaine Dilley
Printed Name

Elaine Dilley
Signature

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Groundwater Sampling Data Sheet

SITE: Normandy Park
WELL ID: MW-5B
DATE: 5-10-05
WEATHER: partly cloudy

48.55 DTW
55 TOS
~57.5 Intake
100 BOS

CONTROL SETTINGS:
Refill 9.5
Discharge 10.5
Pressure 40

Well Location
95 ±0.0 mg/L
105 ±0.0 pH
40 ±0.5°C
±5% Spc
No turb. stab. parameter required.

WELL CONDITIONS: Locked? (Y) N — Water in Protector? (Y) N — Damage? (Y) N

Comments: missing one screw

SAMPLE CONTAINERS: 6 VOAS - HCl - Halogenated VOCs

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q
1504	Start purge							
1506	48.65	14.13	0.232	9.15	6.74	210	>1000	300
1508	48.65	13.51	0.236	8.40	6.86	212	597	"
1510	48.64	13.32	0.235	8.22	6.90	212	446	"
1512	"	13.26	0.234	8.13	6.94	212	171	"
1514	48.65	13.22	0.234	8.08	6.94	212	170	"
1516	48.65	13.21	0.232	8.07	6.95	212	87.4	"

Observations (color, odor, anomalies, etc)

collected @ time = 1520

SAMPLER: Hayley Brown
Printed Name

Signature

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Groundwater Sampling Data Sheet

SITE: Normandy Park
WELL ID: MW-8
DATE: 5/10/05
WEATHER: mostly cloudy

48.69 DTW
85 TOS
81.5' Intake
90 BOS

CONTROL SETTINGS:
Refill 9.5
Discharge 10.5
Pressure 60

WELL CONDITIONS: Locked? Y/N — Y; Water in Protector? Y N — N; Damage? Y N — N
Comments:
SAMPLE CONTAINERS: 3 VOAs / HCl / HVOCs by 8260B

Well Location
9.5 577-1721 nta ±0.2 units
10.5 ±0.2 mg/L
60 ±0.5°C
350 ml/min ±5 mV
69 mins no turbidity required

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q
1545	start	purge						
1550	48.72	15.58	0.202	6.17	6.83	210	349	315
1552	48.75	15.29	0.200	5.52	6.70	211	225	"
1554	48.75	15.14	0.200	5.48	6.66	213	138	"
1556	48.74	15.75	0.202	5.40	6.63	214	68.0	"

Observations (color, odor, anomalies, etc)

SAMPLER: Elaine Dilley
Printed Name

Elaine Dilley
Signature

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Groundwater Sampling Data Sheet

SITE: Normandy Park
WELL ID: MW-10
DATE: 5.10.05
WEATHER: Partly cloudy
WELL CONDITIONS: Locked? (Y) N Water in Protector? (Y) N Damage? (Y) N
Comments: 2 screws don't fasten
SAMPLE CONTAINERS: 3 VOAs - HCl - Halogenated VOCs

58.72 DTW
62.5 TOS
65 Intake
67.50 BOS

CONTROL SETTINGS:
Refill 11.5
Discharge 8.5
Pressure 55

Well Location

11.5	±0.200
8.5	±0.3 pH
55	±0.5°C
300 mL/min	5% Sp.

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q
1615	start purge							
1618	58.32	14.33	0.168	8.95	6.93	205	123	330
1620	58.31	13.82	0.170	8.66	6.91	208	153	"
1622	58.31	13.69	0.170	8.58	6.89	213	121	"
1624	"	13.69	0.168	8.52	6.97	213	795	"

Observations (color, odor, anomalies, etc)

SAMPLER: Hayley Brown
Printed Name

Hayley Brown
Signature

SCS ENGINEERS **GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM**

	Conductivity	pH 7	pH 4	DO	Turbidity	Comments/Exceptions
Date	5/10/05	→	→	→	→	
Time	903	759	801	808	813	
Weather (sky or precip, temp)	overcast	→	→	→	→	
Barometric Pressure (*)	NM	→	→	745	NM	
Type of Calibration	standard solution	buffer solution	→	saturated air	several dilution standards	
Standard Value	445	7.00	4.01	100%	5.49 53.7 533	
Pre-Cal Reading	453	6.99	4.32	100%	5.75 54.7 540	
Post Cal Reading	445	7.00	4.01	100% 9.97	5.75 54.7 540	
Descrepancy	0	0	0	0	0.26 1.0 7	
Calib. Successful?	YES	→	→	→	→	
Calibration by	ESD	→	→	→	→	
Instrument Type, ID	M720	→	→	→	HACH 2100P	
Calibration Location	Field (MW-13)	→	→	→	→	

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

APPENDIX C

ANALYTICAL LABORATORY REPORTS

SEVERN TRENT STL

STL Seattle
5755 8th Street East
Tacoma, WA 98424

Tel: 253 922 2310
Fax: 253 922 5047
www.stl-inc.com

TRANSMITTAL MEMORANDUM

DATE: May 20, 2005

TO: Daniel Venchiarutti
SCS Engineers
2405 140th Ave. N. E., Suite 107
Bellevue, WA 98005

PROJECT:

REPORT NUMBER: 127778

TOTAL NUMBER OF PAGES: 23

Enclosed are the test results for nine samples received at STL Seattle on May 11, 2005.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

for Darla Powell
Project Manager

STL Seattle

Sample Identification:

Lab. No.	Client ID	Date/Time Sampled	Matrix
127778-1	MW-13	05-10-05 09:54	Liquid
127778-2	MW-14	05-10-05 11:18	Liquid
127778-3	MW-15	05-10-05 12:46	Liquid
127778-4	MW-12	05-10-05 14:14	Liquid
127778-5	MW-11	05-10-05 14:46	Liquid
127778-6	MW-5B	05-10-05 15:16	Liquid
127778-7	MW-8	05-10-05 15:56	Liquid
127778-8	MW-10	05-10-05 16:24	Liquid
127778-9	Dup	05-10-05 15:20	Liquid

STL Seattle

Client Name:	SCS Engineers
Client ID:	MW-13
Lab ID:	127778-01
Date Received:	5/11/2005
Date Prepared:	5/13/2005
Date Analyzed:	5/13/2005
% Solids	-
Dilution Factor	1

Halogenated Volatile Organics by USEPA Method 5035\8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Dibromofluoromethane	105		80	120
Fluorobenzene	103		80	120
Toluene-D8	98.9		80	120
Ethylbenzene-d10	97.8		80	120
Bromofluorobenzene	93		80	120
Trifluorotoluene	110		80	120

Analyte	**Result (ug/L)**	**RL**	**Flags**
Chloromethane	ND	1	
Vinyl chloride	ND	0.2	
Bromomethane	ND	1	
Chloroethane	ND	1	
Trichlorofluoromethane	ND	1	
1,1-Dichloroethene	ND	1	
Methylene chloride	ND	1	
trans-1,2-Dichloroethene	ND	1	
1,1-Dichloroethane	ND	1	
cis-1,2-Dichloroethene	ND	1	
Chloroform	ND	1	
1,1,1-Trichloroethane	ND	1	
Carbon Tetrachloride	ND	1	
1,2-Dichloroethane	ND	1	
Trichloroethene	ND	1	
1,2-Dichloropropane	ND	1	
Bromodichloromethane	ND	1	
cis-1,3-Dichloropropene	ND	1	
trans-1,3-Dichloropropene	ND	1	
1,1,2-Trichloroethane	ND	1	
Tetrachloroethene	ND	1	
Dibromochloromethane	ND	1	
Chlorobenzene	ND	1	
Bromoform	ND	1	
1,1,2,2-Tetrachloroethane	ND	1	
1,3-Dichlorobenzene	ND	1	

STL Seattle

Halogenated Volatile Organics by USEPA Method 5035\8260B data for 127778-01 continued...

Analyte	Result (ug/L)	RL	Flags
1,4-Dichlorobenzene	ND	1	
1,2-Dichlorobenzene	ND	1	

STL Seattle

Client Name:	SCS Engineers
Client ID:	MW-14
Lab ID:	127778-02
Date Received:	5/11/2005
Date Prepared:	5/13/2005
Date Analyzed:	5/13/2005
% Solids	-
Dilution Factor	1

Halogenated Volatile Organics by USEPA Method 5035\8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Dibromofluoromethane	103		80	120
Fluorobenzene	103		80	120
Toluene-D8	99		80	120
Ethylbenzene-d10	97.2		80	120
Bromofluorobenzene	94.8		80	120
Trifluorotoluene	110		80	120

Analyte	**Result (ug/L)**	**RL**	**Flags**
Chloromethane	ND	1	
Vinyl chloride	ND	0.2	
Bromomethane	ND	1	
Chloroethane	ND	1	
Trichlorofluoromethane	ND	1	
1,1-Dichloroethene	ND	1	
Methylene chloride	ND	1	
trans-1,2-Dichloroethene	ND	1	
1,1-Dichloroethane	ND	1	
cis-1,2-Dichloroethene	ND	1	
Chloroform	ND	1	
1,1,1-Trichloroethane	ND	1	
Carbon Tetrachloride	ND	1	
1,2-Dichloroethane	ND	1	
Trichloroethene	ND	1	
1,2-Dichloropropane	ND	1	
Bromodichloromethane	ND	1	
cis-1,3-Dichloropropene	ND	1	
trans-1,3-Dichloropropene	ND	1	
1,1,2-Trichloroethane	ND	1	
Tetrachloroethene	ND	1	
Dibromochloromethane	ND	1	
Chlorobenzene	ND	1	
Bromoform	ND	1	
1,1,2,2-Tetrachloroethane	ND	1	
1,3-Dichlorobenzene	ND	1	

STL Seattle

Halogenated Volatile Organics by USEPA Method 5035\8260B data for 127778-02 continued...

Analyte		Result (ug/L)	RL	Flags
1,4-Dichlorobenzene	ND		1	
1,2-Dichlorobenzene	ND		1	

STL Seattle

Client Name:	SCS Engineers
Client ID:	MW-15
Lab ID:	127778-03
Date Received:	5/11/2005
Date Prepared:	5/13/2005
Date Analyzed:	5/13/2005
% Solids	-
Dilution Factor	1

Halogenated Volatile Organics by USEPA Method 5035\8260B

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Dibromofluoromethane	102		80	120
Fluorobenzene	102		80	120
Toluene-D8	98.8		80	120
Ethylbenzene-d10	97.9		80	120
Bromofluorobenzene	94.2		80	120
Trifluorotoluene	109		80	120

Analyte	Result (ug/L)	RL	Flags
Chloromethane	ND	1	
Vinyl chloride	ND	0.2	
Bromomethane	ND	1	
Chloroethane	ND	1	
Trichlorofluoromethane	ND	1	
1,1-Dichloroethene	ND	1	
Methylene chloride	ND	1	
trans-1,2-Dichloroethene	ND	1	
1,1-Dichloroethane	ND	1	
cis-1,2-Dichloroethene	ND	1	
Chloroform	ND	1	
1,1,1-Trichloroethane	ND	1	
Carbon Tetrachloride	ND	1	
1,2-Dichloroethane	ND	1	
Trichloroethene	ND	1	
1,2-Dichloropropane	ND	1	
Bromodichloromethane	ND	1	
cis-1,3-Dichloropropene	ND	1	
trans-1,3-Dichloropropene	ND	1	
1,1,2-Trichloroethane	ND	1	
Tetrachloroethene	ND	1	
Dibromochloromethane	ND	1	
Chlorobenzene	ND	1	
Bromoform	ND	1	
1,1,2,2-Tetrachloroethane	ND	1	
1,3-Dichlorobenzene	ND	1	

STL Seattle

Halogenated Volatile Organics by USEPA Method 5035\8260B data for 127778-03 continued...

Analyte		Result (ug/L)	RL	Flags
1,4-Dichlorobenzene	ND		1	
1,2-Dichlorobenzene	ND		1	

STL Seattle

Client Name:	SCS Engineers
Client ID:	MW-12
Lab ID:	127778-04
Date Received:	5/11/2005
Date Prepared:	5/13/2005
Date Analyzed:	5/13/2005
% Solids	-
Dilution Factor	5

Halogenated Volatile Organics by USEPA Method 5035\8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Dibromofluoromethane	102		80	120
Fluorobenzene	104		80	120
Toluene-D8	100		80	120
Ethylbenzene-d10	99.6		80	120
Bromofluorobenzene	93.4		80	120
Trifluorotoluene	108		80	120

Analyte	**Result (ug/L)**	**RL**	**Flags**
Chloromethane	ND	5	
Vinyl chloride	ND	1	
Bromomethane	ND	5	
Chloroethane	ND	5	
Trichlorofluoromethane	ND	5	
1,1-Dichloroethene	ND	5	
Methylene chloride	ND	5	
trans-1,2-Dichloroethene	ND	5	
1,1-Dichloroethane	ND	5	
cis-1,2-Dichloroethene	ND	5	
Chloroform	ND	5	
1,1,1-Trichloroethane	ND	5	
Carbon Tetrachloride	ND	5	
1,2-Dichloroethane	ND	5	
Trichloroethene	ND	5	
1,2-Dichloropropane	ND	5	
Bromodichloromethane	ND	5	
cis-1,3-Dichloropropene	ND	5	
trans-1,3-Dichloropropene	ND	5	
1,1,2-Trichloroethane	ND	5	
Tetrachloroethene	ND	5	
Dibromochloromethane	ND	5	
Chlorobenzene	ND	5	
Bromoform	ND	5	
1,1,2,2-Tetrachloroethane	ND	5	
1,3-Dichlorobenzene	ND	5	

STL Seattle

Halogenated Volatile Organics by USEPA Method 5035\8260B data for 127778-04 continued...

Analyte		Result (ug/L)	RL	Flags
1,4-Dichlorobenzene	ND		5	
1,2-Dichlorobenzene	ND		5	

STL Seattle

Client Name:	SCS Engineers
Client ID:	MW-11
Lab ID:	127778-05
Date Received:	5/11/2005
Date Prepared:	5/13/2005
Date Analyzed:	5/13/2005
% Solids	-
Dilution Factor	1

Halogenated Volatile Organics by USEPA Method 5035\8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Dibromofluoromethane	104		80	120
Fluorobenzene	103		80	120
Toluene-D8	99.5		80	120
Ethylbenzene-d10	100		80	120
Bromofluorobenzene	95.4		80	120
Trifluorotoluene	111		80	120

Analyte	**Result (ug/L)**	**RL**	**Flags**
Chloromethane	ND	1	
Vinyl chloride	ND	0.2	
Bromomethane	ND	1	
Chloroethane	ND	1	
Trichlorofluoromethane	ND	1	
1,1-Dichloroethene	ND	1	
Methylene chloride	ND	1	
trans-1,2-Dichloroethene	ND	1	
1,1-Dichloroethane	ND	1	
cis-1,2-Dichloroethene	ND	1	
Chloroform	ND	1	
1,1,1-Trichloroethane	ND	1	
Carbon Tetrachloride	ND	1	
1,2-Dichloroethane	ND	1	
Trichloroethene	ND	1	
1,2-Dichloropropane	ND	1	
Bromodichloromethane	ND	1	
cis-1,3-Dichloropropene	ND	1	
trans-1,3-Dichloropropene	ND	1	
1,1,2-Trichloroethane	ND	1	
Tetrachloroethene	2.34	1	
Dibromochloromethane	ND	1	
Chlorobenzene	ND	1	
Bromoform	ND	1	
1,1,2,2-Tetrachloroethane	ND	1	
1,3-Dichlorobenzene	ND	1	

STL Seattle

Halogenated Volatile Organics by USEPA Method 5035\8260B data for 127778-05 continued...

Analyte		Result (ug/L)	RL	Flags
1,4-Dichlorobenzene	ND		1	
1,2-Dichlorobenzene	ND		1	

STL Seattle

Client Name:	SCS Engineers
Client ID:	MW-5B
Lab ID:	127778-06
Date Received:	5/11/2005
Date Prepared:	5/13/2005
Date Analyzed:	5/13/2005
% Solids	-
Dilution Factor	5

Halogenated Volatile Organics by USEPA Method 5035\8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Dibromofluoromethane	104		80	120
Fluorobenzene	104		80	120
Toluene-D8	98.4		80	120
Ethylbenzene-d10	98.6		80	120
Bromofluorobenzene	95.6		80	120
Trifluorotoluene	107		80	120

Analyte		**Result (ug/L)**	**RL**	**Flags**
Chloromethane	ND		5	
Vinyl chloride	ND		1	
Bromomethane	ND		5	
Chloroethane	ND		5	
Trichlorofluoromethane	ND		5	
1,1-Dichloroethene	ND		5	
Methylene chloride	ND		5	
trans-1,2-Dichloroethene	ND		5	
1,1-Dichloroethane	ND		5	
cis-1,2-Dichloroethene	ND		5	
Chloroform	ND		5	
1,1,1-Trichloroethane	ND		5	
Carbon Tetrachloride	ND		5	
1,2-Dichloroethane	ND		5	
Trichloroethene	ND		5	
1,2-Dichloropropane	ND		5	
Bromodichloromethane	ND		5	
cis-1,3-Dichloropropene	ND		5	
trans-1,3-Dichloropropene	ND		5	
1,1,2-Trichloroethane	ND		5	
Tetrachloroethene		183	5	
Dibromochloromethane	ND		5	
Chlorobenzene	ND		5	
Bromoform	ND		5	
1,1,2,2-Tetrachloroethane	ND		5	
1,3-Dichlorobenzene	ND		5	

STL Seattle

Halogenated Volatile Organics by USEPA Method 5035\8260B data for 127778-06 continued...

Analyte	Result (ug/L)	RL	Flags
1,4-Dichlorobenzene	ND	5	
1,2-Dichlorobenzene	ND	5	

STL Seattle

Client Name:	SCS Engineers
Client ID:	MW-8
Lab ID:	127778-07
Date Received:	5/11/2005
Date Prepared:	5/13/2005
Date Analyzed:	5/13/2005
% Solids	-
Dilution Factor	1

Halogenated Volatile Organics by USEPA Method 5035\8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Dibromofluoromethane	103		80	120
Fluorobenzene	104		80	120
Toluene-D8	99		80	120
Ethylbenzene-d10	98.5		80	120
Bromofluorobenzene	95		80	120
Trifluorotoluene	109		80	120

Analyte		**Result (ug/L)**	**RL**	**Flags**
Chloromethane	ND		1	
Vinyl chloride	ND		0.2	
Bromomethane	ND		1	
Chloroethane	ND		1	
Trichlorofluoromethane	ND		1	
1,1-Dichloroethene	ND		1	
Methylene chloride	ND		1	
trans-1,2-Dichloroethene	ND		1	
1,1-Dichloroethane	ND		1	
cis-1,2-Dichloroethene	ND		1	
Chloroform	ND		1	
1,1,1-Trichloroethane	ND		1	
Carbon Tetrachloride	ND		1	
1,2-Dichloroethane	ND		1	
Trichloroethene	ND		1	
1,2-Dichloropropane	ND		1	
Bromodichloromethane	ND		1	
cis-1,3-Dichloropropene	ND		1	
trans-1,3-Dichloropropene	ND		1	
1,1,2-Trichloroethane	ND		1	
Tetrachloroethene		46.3	1	
Dibromochloromethane	ND		1	
Chlorobenzene	ND		1	
Bromoform	ND		1	
1,1,2,2-Tetrachloroethane	ND		1	
1,3-Dichlorobenzene	ND		1	

STL Seattle

Halogenated Volatile Organics by USEPA Method 5035\8260B data for 127778-07 continued...

Analyte	Result (ug/L)	RL	Flags
1,4-Dichlorobenzene	ND	1	
1,2-Dichlorobenzene	ND	1	

STL Seattle

Client Name:	SCS Engineers
Client ID:	MW-10
Lab ID:	127778-08
Date Received:	5/11/2005
Date Prepared:	5/13/2005
Date Analyzed:	5/13/2005
% Solids	-
Dilution Factor	20

Halogenated Volatile Organics by USEPA Method 5035\8260B

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Dibromofluoromethane	105		80	120
Fluorobenzene	103		80	120
Toluene-D8	98.5		80	120
Ethylbenzene-d10	96.6		80	120
Bromofluorobenzene	92.4		80	120
Trifluorotoluene	108		80	120

Analyte	Result (ug/L)	RL	Flags
Chloromethane	ND	20	
Vinyl chloride	ND	4	
Bromomethane	ND	20	
Chloroethane	ND	20	
Trichlorofluoromethane	ND	20	
1,1-Dichloroethene	ND	20	
Methylene chloride	ND	20	
trans-1,2-Dichloroethene	ND	20	
1,1-Dichloroethane	ND	20	
cis-1,2-Dichloroethene	ND	20	
Chloroform	ND	20	
1,1,1-Trichloroethane	ND	20	
Carbon Tetrachloride	ND	20	
1,2-Dichloroethane	ND	20	
Trichloroethene	ND	20	
1,2-Dichloropropane	ND	20	
Bromodichloromethane	ND	20	
cis-1,3-Dichloropropene	ND	20	
trans-1,3-Dichloropropene	ND	20	
1,1,2-Trichloroethane	ND	20	
Tetrachloroethene	1040	20	
Dibromochloromethane	ND	20	
Chlorobenzene	ND	20	
Bromoform	ND	20	
1,1,2,2-Tetrachloroethane	ND	20	
1,3-Dichlorobenzene	ND	20	

STL Seattle

Halogenated Volatile Organics by USEPA Method 5035\8260B data for 127778-08 continued...

Analyte	Result (ug/L)	RL	Flags
1,4-Dichlorobenzene	ND	20	
1,2-Dichlorobenzene	ND	20	

STL Seattle

Lab ID:	Method Blank - VOA1306
Date Received:	-
Date Prepared:	5/13/2005
Date Analyzed:	5/13/2005
% Solids	-
Dilution Factor	1

Halogenated Volatile Organics by USEPA Method 5035\8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Dibromofluoromethane	105		80	120
Fluorobenzene	104		80	120
Toluene-D8	99.6		80	120
Ethylbenzene-d10	99.3		80	120
Bromofluorobenzene	95.5		80	120
Trifluorotoluene	95.5		80	120

Analyte	**Result (ug/L)**	**RL**	**Flags**
Chloromethane	ND	1	
Vinyl chloride	ND	0.2	
Bromomethane	ND	1	
Chloroethane	ND	1	
Trichlorofluoromethane	ND	1	
1,1-Dichloroethene	ND	1	
Methylene chloride	ND	1	
trans-1,2-Dichloroethene	ND	1	
1,1-Dichloroethane	ND	1	
cis-1,2-Dichloroethene	ND	1	
Chloroform	ND	1	
1,1,1-Trichloroethane	ND	1	
Carbon Tetrachloride	ND	1	
1,2-Dichloroethane	ND	1	
Trichloroethene	ND	1	
1,2-Dichloropropane	ND	1	
Bromodichloromethane	ND	1	
cis-1,3-Dichloropropene	ND	1	
trans-1,3-Dichloropropene	ND	1	
1,1,2-Trichloroethane	ND	1	
Tetrachloroethene	ND	1	
Dibromochloromethane	ND	1	
Chlorobenzene	ND	1	
Bromoform	ND	1	
1,1,2,2-Tetrachloroethane	ND	1	
1,3-Dichlorobenzene	ND	1	

STL Seattle

Halogenated Volatile Organics by USEPA Method 5035\8260B data for VOA1306 continued...

Analyte		Result (ug/L)	RL	Flags
1,4-Dichlorobenzene	ND		1	
1,2-Dichlorobenzene	ND		1	

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	VOA1306
Date Prepared:	5/13/2005
Date Analyzed:	5/13/2005
QC Batch ID:	VOA1306

Halogenated Volatile Organics by USEPA Method 5035\8260B

Compound Name	Blank Result (ug/L)	Spike Amount (ug/L)	BS Result (ug/L)	BS % Rec.	BSD Result (ug/L)	BSD % Rec.	RPD	Flag
1,1-Dichloroethene	0	5	5.18	104	5.16	103	-0.97	
Benzene	0	5	5.26	105	5.28	106	0.95	
Trichloroethene	0	5	5.09	102	5.01	100	-2	
Toluene	0	5	5.02	100	4.98	99.6	-0.4	
Chlorobenzene	0	5	4.99	99.8	4.93	98.6	-1.2	

SEVERN TRENT STL

STL Seattle
5755 8th Street East
Tacoma, WA 98424

Tel: 253 922 2310
Fax 253 922 5047
www.stl-inc.com

DATA QUALIFIERS AND ABBREVIATIONS

B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).

B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).

C1: Second column confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be < 40%.

C2: Second column confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 40%. The higher result was reported unless anomalies were noted.

C3: Second analysis confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be ≤ 30%.

C4: Second analysis confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 30%. The original analysis was reported unless anomalies were noted.

M: GC/MS confirmation was performed. The result derived from the original analysis was reported.

D: The reported result for this analyte was calculated based on a secondary dilution factor.

E: The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated quantity.

J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.

MCL: Maximum Contaminant Level

MDL: Method Detection Limit

RL: Reporting Limit

N: See analytical narrative

ND: Not Detected

X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____.

X2: Contaminant does not appear to be "typical" product.

X3: Identification and quantitation of the analyte or surrogate was complicated by matrix interference.

X4: RPD for duplicates was outside advisory QC limits. The sample was re-analyzed with similar results. The sample matrix may be nonhomogeneous.

X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.

X5: Matrix spike recovery was not determined due to the required dilution.

X6: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Sample was re-analyzed with similar results.

X7: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Matrix interference may be indicated based on acceptable blank spike recovery and/or RPD.

X7a: Recovery and/or RPD values for this spiked analyte outside advisory QC limits due to high concentration of the analyte in the original sample.

X8: Surrogate recovery was not determined due to the required dilution.

X9: Surrogate recovery outside advisory QC limits due to matrix interference.

00022

[redacted]

Chain of Custody Record

STL-8274 (0102)

Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

TRENT SERVICES **Severn Trent Laboratories, Inc.**

Client	SCS Engineers
Project Manager	Dan Venchiarutti
Date	5/11/05
Chain of Custody Number	1391
Address	2405 140th Ave NE Ste. 107
Telephone Number (Area Code)/Fax Number	(425)746-4600 / (425)746-6747
Lab Number	
Page	1 of 1
City	Bellevue
State	WA
Zip Code	98005
Site Contact	Elaine Dilley
Lab Contact	Dayla Powell
Project Name and Location (State)	Normandy Park, WA
Carrier/Waybill Number	
Contract/Purchase Order/Quote No.	

Matrix: Air, Aqueous, Sed., Soil — Containers & Preservatives: Unpres., H2SO4, HNO3, HCl, NaOH, ZnAc/NaOH — Analysis (Attach list if more space is needed) — Special Instructions/Conditions of Receipt

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Halogenated VOCs 8260B	Archive
MW-13	5/10/05	954	X	
MW-14		1118	↓	
MW-15		1246	↓	
MW-12		1414	↓	
MW-11		1446	↓	
MW-5B		1516	↓	
MW-8		1556	↓	
MW-10		1624	↓	
Dup		1520		X

Cooler ☐ Yes ☐ No Cooler Temp: ______

Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days) ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other ______

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Elaine Dilley	5/11/05		1. Received By: [signature] STL	5/11/05	10:47
2. Relinquished By: [signature]	5/11/05	13:45	2. Received By: [signature]	5/11/05	13:45
3. Relinquished By			3. Received By		

Comments

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