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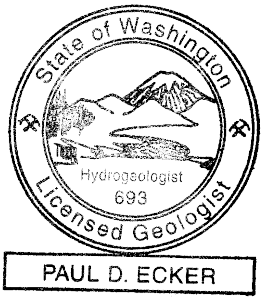
Technical Memorandum

To: Jonathan Polonsky and Brent Chadwick, Plaid Pantries, Inc.

From: Paul Ecker LHG, and Chris Rhea, LG

Date: June 14, 2016

Subject: **Soil Vapor Extraction Monitoring Results**
Plaid Pantry Store #112
1002 West Fourth Plain Boulevard
Vancouver, WA
Ecology VCP Site ID SW1314
UST Facility ID 9158935
EES Project 1179-02



This memorandum provides a summary of soil vapor extraction (SVE) monitoring results and performance through April 2016 for the Plaid Pantries, Inc. (Plaid) convenience market and retail fueling station #112, located at 1002 West Fourth Plain Boulevard in Vancouver, Washington (Figure 1). Plaid operates an SVE system at the subject Property as an interim action to mitigate gasoline impacts associated with prior Site operations (EES, 12/27/2013). Figure 2 illustrates Property features.

SVE OPERATION

The SVE system includes application of vacuum to five well locations in a known gasoline release area near the southern Property margin, and SVE has operated without major problems since fulltime system startup in September 2013. EES turned the SVE system off temporarily in November 2015, in order to evaluate perched groundwater conditions observed during routine monitoring (EES, 3/30/2016). SVE operations were resumed on March 16, 2016, and the system has operated continuously since then.

The temporary SVE shutdown and re-start period enabled radius of influence (ROI) evaluation, preliminary biogenic degradation assessment, and contaminant rebound monitoring. Monitoring data collected through April 2016 is summarized below, presented on Tables 1 and 2, and illustrated on Figures 3 and 4.

WELL INFRASTRUCTURE

Site well infrastructure consists of five active SVE treatment wells (SVE-1 through SVE-5), and seven monitoring wells (B-17, B-18, and S-27 through S-31). The two-inch diameter SVE and related monitoring wells are screened among vadose-zone soils in distinct intervals (see Figure 2 for well locations and Attachment A for construction details):

- Odd-numbered vapor extraction wells SVE-1, SVE-3, and SVE-5 are completed at a total depth of 10 feet below ground surface (bgs), and screened in the "shallow" soil zone between five and 10 feet deep. Three additional shallow monitoring wells (B-17, S-30, and S-31) are located adjacent to the SVE treatment area and are constructed and screened in the same manner.
- Even-numbered "deep" vapor extraction wells SVE-2 and SVE-4 are completed at a total depth of 20 feet bgs, screened in the vadose zone between 15 and 20 feet deep. One additional deep monitoring well (B-18) is located south of the SVE treatment area and is constructed and screened in the same manner.
- Vapor conditions within shallow fill material in various underground utility trenches is also evaluated at three locations near the SVE system, including S-27, S-28, and S-29. These monitoring wells are less than three feet deep, and fitted with six-inch long screens targeting trench fill materials.

AIR FLOW RATES

Since January 2015, the system produced between approximately 88 and 113 cubic feet per minute (CFM) of airflow from the subsurface (see Table 1, "AWS Inlet"). The major source of airflow is obtained from wells SVE-2 and SVE-4, which are screened between 15 and 20 feet depth in relatively coarse-grained soils (sand/gravel), with typical extraction flow rates of approximately 30 to 40 CFM. In comparison, flow rates from the three shallow extraction wells (screened in fine-grained soils between 5 and 10 feet depth) are all individually around 5 to 15 CFM.

RADIUS OF INFLUENCE

Before and after the SVE system's shutdown period (November 2015 - March 2016), EES collected air flow, vacuum, and gross-scale vapor headspace concentration (photoionization detector (PID)) measurements at the site monitoring wells to evaluate the current SVE system's radius of influence and overall performance. Isolated tests were also conducted at wells SVE-2 and SVE-3 to evaluate localized effects of induced vacuum at these wells. Findings include the following:

- Well B-17 (located in the public sidewalk south of the subject Property) is influenced by the SVE system based on induced vacuum, air flow, and decreased PID measurements observed at that location during active SVE operations. Isolated well tests indicate that B-17 is predominantly influenced by operation of shallow treatment well SVE-3.
- Minimal effects have been observed at wells B-18 and S-30, and these two wells appear to define the perimeter of the SVE well array's radius of influence.
- No other site monitoring wells (S-27, S-28, S-29, or S-31) exhibited clear indications of SVE influence. All but one (S-31) of these apparently unaffected wells are screened in shallow utility trench areas.

Based on the 2016 ROI tests, the system's zone of shallow vapor extraction influence generally covers the area of known gasoline impacts at the Property (Figure 3), with measureable influence extending to off-Property sidewalk well B-17. The radius of SVE influence among all SVE wells is estimated at approximately 6 to 10 feet.

BIOGENIC DEGRADATION

In order to help evaluate naturally-occurring conditions which may support biological degradation of subsurface gasoline vapors, EES collected preliminary "baseline" vapor data during the SVE system restarting activities in March - April 2016. Biodegradation indicators including oxygen, carbon dioxide, and methane were collected and measured at various monitoring wells during this timeframe. Initial biogenic monitoring findings are as follows:

- Soil vapor conditions measured around the SVE treatment wells during system restart in mid-March 2016 are interpreted generally to represent stable, baseline conditions. During this startup period in March, levels of oxygen (5-8%), carbon dioxide (7-10%), and methane (1%) measured at monitoring well B-17 appear to indicate subsurface conditions supporting active aerobic biodegradation of petroleum vapors in that area.
- During SVE operating conditions in early April two weeks after system restart, slight changes in biogenic parameters were measured at well B-17, indicating approximately 10% oxygen, 4% carbon dioxide, and 0.3% methane at that location. Based on these observations, it appears that active SVE operation at nearby treatment wells is likely replenishing oxygen to the subsurface near well B-17. The observed aerobic conditions are expected to enhance natural biodegradation of petroleum impacts in this area.
- More highly aerobic subsurface conditions approaching atmospheric oxygen concentrations (19-21%) were observed at perimeter well locations B-18, B-27, and B-30 during this period. Such high oxygen levels may be indicative of depleted or absent contaminant mass in these locations.

Soil vapor biodegradation parameters will continue to be measured at the site well network during future quarterly monitoring activities.

CONTAMINANT CONCENTRATIONS AND MASS REMOVAL

EES collected vapor samples from the five individual SVE treatment wells at various intervals including (1) system restart (March 16, 2016), (2) two weeks following restart (April 1, 2016), and (3) four weeks following restart (April 13, 2016). A routine quarterly SVE exhaust sample was also collected at the four week interval in order to evaluate regulatory compliance criteria for air discharges.

Vapor samples were analyzed to evaluate contaminant mass removal trends and system performance, with a focus on evaluating contaminant rebound after the period of SVE inactivity between late November 2015 and early March 2016. Findings are summarized below, presented in Tables 3 and 4, and illustrated in Figure 4 and Charts 1 through 4. A copy of the laboratory analytical report is presented in Attachment B.

- Within the SVE treatment zone, gasoline and related constituent vapors continue to be removed from the subsurface at concentrations indicating generally diminishing residual impacts (Table 3, Charts 1 and 2). High contaminant concentrations initially observed in vapor samples collected shortly after restarting the SVE system in March 2016 have diminished to pre-shutdown levels, as expected.
- Initial gasoline mass extraction rates at SVE startup in August 2013 were estimated at 1.4 pounds per day, and decreased to approximately 0.3 pounds per day by November 2013.

Since then, gasoline mass extraction rates have fluctuated but generally decreased, and were calculated to be approximately 0.06 pounds per day based on the April 2016 monitoring results. Cumulative mass removal through April 13, 2016 is estimated to be 156 pounds (26 gallons) of gasoline range hydrocarbons (Table 4, Chart 3).

- Non-gasoline chlorinated solvent vapors, primarily tetrachloroethylene (PCE), continue to be removed from the subsurface during SVE operations. Sample data collected on April 13, 2016, from the combined SVE system total ("SVE Blower Inlet") identified PCE at a concentration of 390 ug/m^3. PCE mass extraction rates are very low but have varied since system startup in 2013, particularly at deeper wells SVE-2 and SVE-4. Based upon the past year's SVE trends, PCE mass extraction rates are currently around 0.002 pounds per day. Cumulative PCE mass removal through April 13, 2016 is estimated to be 3.1 pounds (Table 4, Chart 4).
- Per Southwest Washington Clean Air Agency (SWCAA) approval, emissions treatment controls were discontinued on March 28, 2014. Extracted VOC concentrations indicate SVE emissions remain in compliance with agency requirements for untreated exhausts. Both PCE and gasoline-related vapor emissions do not approach the allowable discharge limits (500 and 2,000 pounds/year, respectively) and exhaust treatment is not currently required by SWCAA based solely on gasoline/BTEX vapor exhausts (Table 4).

Routine SVE system monitoring is ongoing and the next quarterly vapor sampling event is scheduled for July 2016.

Note that gasoline impacts in soil extend beyond Property boundaries to the south under the right-of-way, outside of the influence of the current SVE system. Regulatory requirements and potential response actions for the right-of-way area are under evaluation.

ATTACHMENTS

Tables	Table 1: Soil Vapor Extraction Monitoring Data Table 2: Soil Vapor Extraction Radius of Influence Data Table 3: Soil Vapor Analytical Results – Volatile Organic Compounds Table 4: Soil Vapor Extraction Mass Removal
Figures	Figure 1: Vicinity Map Figure 2: Site Features Figure 3: Inferred Zone of Vacuum Influence Figure 4: Contaminated Vapor Concentrations during SVE Operations
Charts	Chart 1: Gasoline Vapor Concentrations during SVE Operations Chart 2: Benzene Vapor Concentrations during SVE Operations Chart 3: Gasoline Mass Extraction Rates and Cumulative Mass Removal Chart 4: PCE Mass Extraction Rates and Cumulative Mass Removal
Attachments	Attachment A: Well Construction Details Attachment B: Laboratory Analytical Data

Tables

TABLE 1
Soil Vapor Extraction Monitoring Data
Plaid Pantry No. 112
Vancouver, Washington

Well ID	Date	Analytical Sampling	Vacuum (inches H_2O)	PID (ppmv)	Velocity (fpm)	Flow (scfm)[a]
SVE-1	2013 Q3 Avg.	-	22	1129	637	8
	2013 Q4 Avg.	-	41	205	1099	9
	2014 Q1 Avg.	-	35	180	919	11
	2014 Q2 Avg.	-	26	101	807	9
	2014 Q3 Avg.	-	23	56	1,079	11
	2014 Q4 Avg.	-	25	17	933	11
	01/22/2015	-	28	0.5	810	7
	02/06/2015	Yes	28	2.4	791	7
	03/06/2015	Yes	28	1.2	736	7
	04/14/2015	--	27	6.2	760	9
	05/14/2015	--	26	-	-	-
	06/05/2015	--	24	3.2	986	9
	06/19/2015	Yes	24	1.6	818	8
	06/29/2015	-	22	12	686	7
	07/24/2015	-	22	2.8	695	7
	08/18/2015	Yes	20	2.1	871	11
	09/11/2015	-	22	12	1,077	13
	10/05/2015	-	20	3.8	709	8
	10/26/2015	-	19	5.0	956	11
	11/20/2015	Yes	24	2.0	863	11
	12/04/2015	-	20	0.7	737	10
	03/16/2016	Yes	23	0.9	581	-
	03/22/2016	-	21	0.6	612	-
	03/28/2016	-	24	1.7	688	-
	04/01/2016	Yes	24	1.4	520	8
	04/08/2016	-	21	24	556	5
	04/13/2016	Yes	22	1.6	634	9
SVE-2	2013 Q3 Avg.	-	7	4	2,470	29
	2013 Q4 Avg.	-	9	4	3,043	32
	2014 Q1 Avg.	-	8	20	1,597	15
	2014 Q2 Avg.	-	12	7	2,664	29
	2014 Q3 Avg.	-	9	1	3,046	32
	2014 Q4 Avg.	-	11	1	2,414	31
	01/22/2015	-	12	0.1	>4000	34
	02/06/2015	Yes	12	0.0	3,000	28
	03/06/2015	Yes	11	0.3	>3,500	34
	04/14/2015	-	10	0.1	3,100	40
	05/14/2015	-	9	-	-	-
	06/05/2015	-	10	0.9	>3,500	33
	06/19/2015	Yes	9	0.5	2,988	30
	06/29/2015	-	8	0.6	>3,500	37
	07/24/2015	-	8	0.3	2,970	31
	08/18/2015	Yes	7	1.1	2,612	32
	09/11/2015	-	8	0.1	3,077	37
	10/05/2015	-	8	0.9	2,346	28
	10/26/2015	-	6	0.6	3,160	38
	11/20/2015	Yes	10	0.5	2,197	27
	12/04/2015	-	10	0.3	2,545	34
	03/16/2016	Yes	10	1.0	2,515	-
	03/22/2016	-	11	0.3	2,636	-
	03/28/2016	-	12	1.2	3,923	-
	04/01/2016	Yes	13	1.0	2,627	41
	04/08/2016	-	9	6.2	4,513	42

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Plaid Pantry No. 112
Vancouver, Washington

Well ID	Date	Analytical Sampling	Vacuum (inches H_2O)	PID (ppmv)	Velocity (fpm)	Flow (scfm)[a]
SVE-2 (cont'd)	04/13/2016	Yes	9	1.2	3,388	48
SVE-3	2013 Q3 Avg.	-	22	27	732	9
	2013 Q4 Avg.	-	39	11	1,077	9
	2014 Q1 Avg.	-	36	18	1,107	9
	2014 Q2 Avg.	-	26	6	808	8
	2014 Q3 Avg.	-	23	1	890	9
	2014 Q4 Avg.	-	26	4	951	11
	01/22/2015	-	28	0.2	756	6
	02/06/2015	Yes	28	7.1	840	8
	03/06/2015	Yes	28	1.6	710	7
	04/14/2015	-	27	0.1	825	9
	05/14/2015	-	24	-	-	-
	06/05/2015	-	24	1.6	789	7
	06/19/2015	Yes	24	1.6	785	8
	06/29/2015	-	22	3.2	654	7
	07/24/2015	-	22	1.1	843	9
	08/18/2015	Yes	20	1.2	642	8
	09/11/2015	-	20	2.2	754	9
	10/05/2015	-	20	1.0	567	7
	10/26/2015	-	20	0.7	679	8
	11/20/2015	Yes	24	1.2	568	7
	12/04/2015	-	20	0.3	537	7
	03/16/2016	Yes	23	18	561	-
	03/22/2016	-	23	0.2	510	-
	03/28/2016	-	24	5.9	749	-
	04/01/2016	Yes	23	2.3	465	7
	04/08/2016	-	21	674	540	5
	04/13/2016	Yes	22	3.6	519	7
SVE-4	2013 Q3 Avg.	-	8	4	2,767	33
	2013 Q4 Avg.	-	13	9	2,743	27
	2014 Q1 Avg.	-	15	9	3,382	32
	2014 Q2 Avg.	-	15	5	3,525	40
	2014 Q3 Avg.	-	9	1	2,940	29
	2014 Q4 Avg.	-	11	3	2,489	32
	01/22/2015	-	12	0.6	>4,000	34
	02/06/2015	Yes	12	8.6	>4,000	37
	03/06/2015	Yes	11	1.1	>3,500	34
	04/14/2015	-	11	1.1	2,920	33
	05/14/2015	-	9	-	-	-
	06/05/2015	-	10	0.6	3,270	31
	06/19/2015	Yes	9	0.3	3,324	34
	06/29/2015	-	8	2.2	>3,500	37
	07/24/2015	-	8	0.4	3,310	34
	08/18/2015	Yes	8	2.2	3,160	39
	09/11/2015	-	9	2.7	2,877	35
	10/05/2015	-	8	1.7	3,934	47
	10/26/2015	-	7	1.2	2,775	33
	11/20/2015	Yes	10	0.9	3,134	38
	12/04/2015	-	9	0.4	2,906	39

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Plaid Pantry No. 112
Vancouver, Washington

Well ID	Date	Analytical Sampling	Vacuum (inches H_2O)	PID (ppmv)	Velocity (fpm)	Flow (scfm)[a]
SVE-4 (cont'd)	03/16/2016	Yes	10	0.5	2,709	-
	03/22/2016	-	14	0.4	3,275	-
	03/28/2016	-	15	2.4	4,766	-
	04/01/2016	Yes	15	1.8	2,531	39
	04/08/2016	-	12	8.3	3,324	31
	04/13/2016	Yes	9	1.7	2,816	40
SVE-5	2013 Q3 Avg.	-	22	7	674	8
	2013 Q4 Avg.	-	39	10	1,079	9
	2014 Q1 Avg.	-	35	18	889	7
	2014 Q2 Avg.	-	26	8	790	9
	2014 Q3 Avg.	-	23	1	886	9
	2014 Q4 Avg.	-	25	3	766	9
	01/22/2015	-	28	0.2	942	8
	02/06/2015	Yes	28	4.7	898	8
	03/06/2015	Yes	28	3.4	746	7
	04/14/2015	-	27	0.3	970	11
	05/14/2015	-	24	-	-	-
	06/05/2015	-	24	0.6	816	8
	06/19/2015	Yes	24	0.3	778	8
	06/29/2015	-	22	1.0	685	7
	07/24/2015	-	21	0.1	675	7
	08/18/2015	Yes	20	1.6	610	7
	09/11/2015	-	21	0.1	1,400	17
	10/05/2015	-	20	0.9	526	6
	10/26/2015	-	19	14	547	7
	11/20/2015	Yes	24	0.6	581	7
	12/04/2015	-	20	0.3	583	8
	03/16/2016	Yes	23	0.9	497	-
	03/22/2016	-	24	0.3	560	-
	03/28/2016	-	23	2.0	487	-
	04/01/2016	Yes	24	1.9	667	10
	04/08/2016	-	20	13	520	5
	04/13/2016	Yes	22	1.9	569	8
AWS Inlet	2013 Q3 Avg.	-	23	-	-	86
	2013 Q4 Avg.	-	42	-	-	65
	2014 Q1 Avg.	-	34	-	-	59
	2014 Q2 Avg.	-	27	-	-	88
	2014 Q3 Avg.	-	25	-	-	90
	2014 Q4 Avg.	-	26	-	-	93
	01/22/2015	-	29	-	-	90
	02/06/2015	Yes	29	-	-	89
	03/06/2015	Yes	29	-	-	88
	04/14/2015	-	28	-	-	97
	05/14/2015	-	26	-	-	-
	06/05/2015	-	27	-	-	88
	06/19/2015	Yes	25	-	-	88
	06/29/2015	-	22	-	-	96
	07/24/2015	-	22	-	-	88
	08/18/2015	Yes	20	-	-	97
	09/11/2015	-	21	-	-	111
	10/05/2015	-	23	-	-	97
	10/26/2015	-	20	-	-	97

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Plaid Pantry No. 112
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Well ID	Date	Analytical Sampling	Vacuum (inches H_2O)	PID (ppmv)	Velocity (fpm)	Flow (scfm)[a]
AWS Inlet	11/20/2015	-	24	-	-	89
(cont'd)	12/04/2015	-	20	-	-	99
	03/16/2016	-	24	-	-	-
	03/22/2016	-	21	-	-	-
	03/28/2016	-	22	-	-	-
	04/01/2016	-	23	-	-	106
	04/08/2016	-	22	-	-	89
	04/13/2016	-	23	-	-	113
SVE Blower Inlet	2013 Q3 Avg.	-	24	37	1744	80
	2013 Q4 Avg.	-	43	21	1643	76
	2014 Q1 Avg.	-	35	10	1686	79
	2014 Q2 Avg.	-	28	4	1918	88
	2014 Q3 Avg.	-	25	3	1777	82
	2014 Q4 Avg.	-	27	2	1874	86
	01/22/2015	-	30	0.3	2,331	107
	02/06/2015	Yes	30	3.3	2,215	102
	03/06/2015	-	30	0.5	2,512	116
	04/14/2015	-	30	0.2	1,980	91
	05/14/2015	-	28	-	-	-
	06/05/2015	-	25	0.8	2,261	104
	06/19/2015	Yes	26	0.5	2,412	111
	06/29/2015	-	24	0.8	2,160	99
	07/24/2015	-	23	0.3	2,170	100
	08/18/2015	Yes	22	2.5	2,190	101
	09/11/2015	-	23	2.7	2,780	128
	10/05/2015	-	20	1.3	1,984	91
	10/26/2015	-	21	0.8	2,766	127
	11/20/2015	Yes	24	0.9	1,060	49
	12/04/2015	-	21	0.4	3,081	142
	03/16/2016	-	28	1.7	2,910	134
	03/22/2016	-	22	0.4	1,310	60
	03/28/2016	-	23	2.0	1,730	80
	04/01/2016	-	26	2.2	2,436	112
	04/08/2016	-	23	107	3,420	157
	04/13/2016	Yes	24	1.5	1,259	58
GAC #1	2013 Q3 Avg.	-	-	76	-	-
	2013 Q4 Avg.	-	-	24	-	-
	2014 Q1 Avg.	-	9	25	-	-
	2014 Q2 Avg.	-	0.4	6	-	-
	2014 Q3 Avg.	-	0.4	6	-	-
	2014 Q4 Avg.	-	0.4	4	-	-
	01/22/2015	-	0.3	0.4	-	-
	02/06/2015	-	0.4	4.8	-	-
	03/06/2015	-	0.3	0.6	-	-
	04/15/2015	-	0.2	0.2	-	-
	05/14/2015	-	-	-	-	-
	06/05/2015	-	0.3	0.8	-	-
	06/19/2015	-	0.3	0.5	-	-
	06/29/2015	-	0.3	1.2	-	-
	07/24/2015	-	0.3	0.4	-	-
	08/18/2015	-	0.5	2.9	-	-
	09/11/2015	-	0.5	2.8	-	-
	10/05/2015	-	0.4	1.6	-	-

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Plaid Pantry No. 112
Vancouver, Washington

Well ID	Date	Analytical Sampling	Vacuum (inches H_2O)	PID (ppmv)	Velocity (fpm)	Flow (scfm)[a]
GAC #1 (cont'd)	10/26/2015	-	0.4	2.4	-	-
	11/20/2015	-	0.3	2.1	-	-
	12/04/2015	-	0.3	0.8	-	-
	03/16/2016	-	0.3	5.9	-	-
	03/22/2016	-	0.1	0.5	-	-
	03/28/2016	-	0.3	2.4	-	-
	04/01/2016	-	0.5	1.4	-	-
	04/08/2016	-	0.5	110	-	-
	04/13/2016	-	0.4	1.2	-	-
GAC #2	2013 Q3 Avg.	-	-	0.0	-	-
	2013 Q4 Avg.	-	-	1	-	-
	2014 Q1 Avg.	-	-	3	-	-
	2014 Q2 Avg.	-	-	1	-	-
Post GAC	2013 Q3 Avg.	-	-	0.0	-	-
	2013 Q4 Avg.	-	-	0.0	-	-
	2014 Q1 Avg.	-	0.2	1	-	-
	2014 Q2 Avg.	-	0.1	3	-	-
	2014 Q3 Avg.	-	0.1	5	-	-
	2014 Q4 Avg.	-	0.1	-	-	-
	01/22/2015	-	0.05	-	-	-
	02/06/2015	-	0.12	-	-	-

Notes:

[a] Flow reported in standard cubic feet per minute (scfm); correction factor used for individual well flowrates to account for variability in process stream moisture content (AWS inlet flow / sum of individual flow rates).
Avg. = average
AWS = Air/water separator
cfm = Cubic feet per minute
cont'd = continued
fpm = Feet per minute
ppmv = Parts per million vapor
- = Not measured
*background

TABLE 2
Soil Vapor Extraction Radius of Influence Data
Plaid Pantry No. 112
Vancouver, Washington

Well ID	Date	Vacuum (inches H_2O)	Flow (lpm)[a]	PID (ppmv)	CH_4 (%)	CO_2 (%)	O_2 (%)
B-17	11/20/2015	0.30	-	-	-	-	-
	11/23/2015	0.22	0.01	123	-	-	-
	11/24/2015	*0.02*	-	*307*	-	-	-
	12/11/2015	0.21	-	1,210	-	-	-
	3/16/2016	*0.00*	-	*287*	-	-	-
	3/16/2016[1]	0.01	-	1,469	1.3	7.1	8.2
	3/16/2016[2]	0.03	-	359	0.6	9.5	5.4
	3/22/2016	1.5	-	-	-	-	-
	3/28/2016	0.25	-	-	-	-	-
	4/1/2016	0.24	0.02	315	0.3	4.0	15.4
	4/8/2016	0.24	-	-	-	-	-
	4/13/2016	0.25	-	-	-	-	-
B-18	11/20/2015	0.05	-	-	-	-	-
	11/23/2015	0.08	0.002	28	-	-	-
	11/24/2015	*0.00*	-	*0.6*	-	-	-
	12/11/2015	0.03	-	0.9	-	-	-
	3/16/2016	*0.00*	-	*1.3*	-	-	-
	3/16/2016[1]	0.02	-	1.4	0.1	0.9	20.1
	3/16/2016[2]	+0.04	-	1.5	0.1	1.6	19.3
	3/22/2016	0.09	-	-	-	-	-
	3/28/2016	0.07	-	-	-	-	-
	4/1/2016	0.06	0.002	1.3	0.0	1.7	18.8
	4/8/2016	0.05	-	-	-	-	-
	4/13/2016	0.06	-	-	-	-	-
S-27	11/20/2015	0.02	-	-	-	-	-
	11/23/2015	0.01	No Flow	5.5	-	-	-
	11/24/2015	*0.00*	-	*0.8*	-	-	-
	12/11/2015	0.10	-	0.5	-	-	-
	03/16/2016	*0.00*	-	*1.3*	-	-	-
	3/16/2016[1]	0.00	-	1.4	0.0	0.5	19.8
	3/16/2016[2]	0.00	-	1.9	0.1	0.9	18.9
	3/22/2016	0.02	-	-	-	-	-
	3/28/2016	0.02	-	-	-	-	-
	04/01/2016	0.02	0.003	0.9	0.0	0.2	20.7
	04/08/2016	0.02	-	-	-	-	-
	04/13/2016	0.03	-	-	-	-	-
S-28	11/20/2015	0.03	-	-	-	-	-
	11/23/2015	0.00	No Flow	0.8	-	-	-
	11/24/2015	*+0.75*	-	*1.0*	-	-	-
	12/11/2015	3.40	-	-	-	-	-
	03/16/2016	*+0.04*	-	-	-	-	-
S-29	11/20/2015	0.02	-	-	-	-	-
	11/23/2015	0.00	0.003	2.6	-	-	-
	11/24/2015	*0.00*	-	*1.0*	-	-	-
	12/11/2015	0.09	-	0.4	-	-	-
	03/16/2016	*0.02*	-	-	-	-	-
S-30	11/20/2015	0.00	-	-	-	-	-
	11/23/2015	0.00	0.004	1.0	-	-	-
	11/24/2015	*0.02*	-	*0.8*	-	-	-
	12/11/2015	0.08	-	0.5	-	-	-
	03/16/2016	*0.00*	-	-	-	-	-
	04/01/2016	0.05	0.01	1.0	0.0	1.2	20.2
	04/08/2016	0.08	-	-	-	-	-

TABLE 2
Soil Vapor Extraction Radius of Influence Data
Plaid Pantry No. 112
Vancouver, Washington

Well ID	Date	Vacuum (inches H_2O)	Flow (lpm)[a]	PID (ppmv)	CH_4 (%)	CO_2 (%)	O_2 (%)
S-30 (cont'd)	04/13/2016	0.06	-	-	-	-	-
S-31	11/20/2015	0.02	-	-	-	-	-
	11/23/2015	0.03	0.003	3.6	-	-	-
	11/24/2015	*0.00*	-	*0.9*	-	-	-
	12/11/2015	0.05	-	0.5	-	-	-
	03/16/2016	*0.04*	-	-	-	-	-

Notes:
[a] Calculated using 1-liter Tedlar bag deflation test; volumes used for calculation that were less than 1 liter were estimated.
[1] Measurements taken while only SVE-2 open at SVE manifold.
[2] Measurements taken while only SVE-3 open at SVE manifold.
Italics indicate the measurements were taken while the SVE system was off.
lpm = liters per minute
ppmv = Parts per million vapor
- = Not measured

TABLE 3

Soil Vapor Analytical Results - Volatile Organic Compounds (µg/m^3)

Plaid Pantry No. 112

Vancouver, Washington

Location	Date	Sample Depth (feet bgs)	PID	Gasoline	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	EDB	EDC	MTBE	Naphthalene	PCE	TCE	2-Butanone	Carbon Tetrachloride	1,1,1-Trichloroethane
Soil Gas Screening Levels MTCA Method B[1]				NA	10.7/32.1	76,200/229,000	15,200/45,700	1,520/4,570[2]	1,520/4,570	0.139/0.417	3.21/9.62	321/962	2.45/7.35	321/962	12.3/37	NA	13.9/41.7	76,200/229,000
August 2012 Soil Vapor Sampling																		
S-1	08/14/2012	5		-	6.1	50	9.6	37	12	*1.3 U*	0.68 U	0.60 U	**4.4**	3.7	0.90 U	30	3.8	0.92 U
S-2	08/15/2012	5		-	8.7	72	31	120	43	*1.2 U*	0.65 U	0.58 U	**4.4**	32	0.86 U	52	10	0.88 U
S-3	08/15/2012	5		-	3.8	18	2.6	8.2	3.3	*1.2 U*	0.62 U	0.55 U	**4.4**	28	0.82 U	16	8.4	0.83 U
S-4	08/14/2012	5		-	10	130	49	180	66	*1.2 U*	0.63 U	0.56 U	**6.2**	2.5	0.83 U	38	0.98 U	0.84 U
S-5/SVE-3	08/17/2012	5-10		-	**82,000**	**860,000**	**210,000**	**900,000**	**340,000**	*2,000 U*	*1,100 U*	*950 U*	*5,500 U*	**2,200**	*1,400 U*	3,100 U	*1,600 U*	1,400 U
S-6	08/14/2012	5		-	2.9	11	2.0	6.6	2.6	*1.4 U*	0.74 U	0.66 U	*4.8 U*	1.7	0.98 U	33	1.2 U	1.0 U
S-7	08/16/2012	5		-	7.7	14	3.1	9.0	5.0	*1.3 U*	0.71 U	0.63 U	**19**	2.0	0.94 U	32	1.1 U	0.95 U
S-8/SVE-5	08/17/2012	5-10		-	**7,900**	**220,000**	**86,000**	**340,000**	**160,000**	*1,000 U*	*530 U*	*470 U*	**7,700**	**2,500**	*710 U*	1,600 U	*830 U*	720 U
S-9	08/15/2012	5		-	2.1	8.1	1.7	6.0	2.5	*1.3 U*	0.66 U	0.59 U	*4.3 U*	6.8	0.88 U	16	1.2	0.89 U
S-10	08/14/2012	5		-	1.7	7.0	1.8	7.1	2.6	*1.1 U*	0.59 U	0.53 U	**6.4**	22	0.78 U	19	0.92 U	0.80 U
S-11	08/14/2012	15		-	1.3	9.7	2.2	6.6	2.1	*1.3 U*	0.69 U	0.62 U	4.5 U	100	0.92 U	12	3.5	1.1
S-12/SVE-2	08/20/2012	15-20		-	**3,900**	22,000	1,400	**25,000**	**17,000**	*120 U*	*65 U*	75	*340 U*	130	17 U	47 U	20 U	17 U
S-13	08/15/2012	15		-	1.1	11	0.71	3.1	1.2	*1.2 U*	0.65 U	0.58 U	4.2 U	230	0.86 U	5.9	**52**	0.88 U
SVE-4	08/17/2012	15-20		-	**560**	12,000	4,800	**22,000**	**9,300**	*130 U*	*66 U*	59 U	**620**	170	*88 U*	190 U	*100 U*	89 U
October 2012 SVE Pilot Test																		
SVE-1 START	10/04/2012	5-10		59,000,000	**240,000**	**2,100,000**	**200,000**	**1,100,000**	**380,000**	*14,000 U*	*7,300 U*	*6,500 U*	-	*12,000 U*	*9,700 U*	21,000 U	*11,000 U*	9,800 U
SVE-1 STOP	10/04/2012	5-10		74,000,000	**330,000**	**3,400,000**	**490,000**	**2,800,000**	**1,000,000**	*19,000 U*	*10,000 U*	*8,900 U*	-	*17,000 U*	*13,000 U*	29,000 U	*16,000 U*	13,000 U
SVE-2 START	10/05/2012	5-10		20,000	**50**	1,100	230	1,200	460	*91 U*	*48 U*	43 U	-	120	*64 U*	140 U	*75 U*	65 U
SVE-2 STOP	10/05/2012	5-10		42,000	**36**	1,300	410	**3,000**	1,200	*18 U*	*9.3 U*	8.3 U	-	130	12 U	27 U	**18**	12 U
SVE System Monitoring																		
SVE-1	08/22/2013	5-10		11,000,000	**97,000**	**350,000**	15,000	**82,000**	**25,000**	*2,400 U*	*1,200 U*	*1,100 U*	-	*2,100 U*	*1,600 U*	6,900	*1,900 U*	1,700 U
	12/04/2013	5-10		2,000,000	*360 U*	2,000	2,200	**62,000**	**31,000**	*860 U*	*450 U*	*400 U*	-	*760 U*	*600 U*	1,300 U	*700 U*	610 U
	02/10/2014	5-10		1,600,000	**710**	3,300	3,600	**38,000**	**15,000**	*710 U*	*370 U*	*330 U*	-	*630 U*	*500 U*	1,100 U	*580 U*	500 U
	05/08/2014	5-10		2,100,000	**220**	1,100	3,400	**60,000**	**34,000**	*460 U*	*240 U*	220 U	-	*410 U*	*320 U*	710 U	*380 U*	330 U
	08/08/2014	5-10		420,000	*40 U*	96	77	**3,700**	**3,300**	*95 U*	*50 U*	45 U	-	**620**	**73**	150 U	*78 U*	68 U
	11/14/2014	5-10		460,000 [a]	**65**	44 U	50 U	50 U	50 U	*90 U*	*47 U*	42 U	-	79 U	*63 U*	140 U	*73 U*	64 U
	02/06/2015	5-10	2.4	65,000	*77 U*	91 U	100 U	100 U	100 U	*190 U*	*98 U*	87 U	*510 U*	160 U	*130 U*	290 U	*150 U*	130 U
	03/06/2015	5-10	1.2	660	3.8 U	13	5.2	11	5.2 U	*9.2 U*	*4.8 U*	4.3 U	*25 U*	**580**	6.4 U	14 U	7.6 U	6.5 U
	06/19/2015	5-10	1.6	3,300	4.2 U	8.0	5.8 U	5.8 U	5.8 U	*10 U*	*5.4 U*	4.8 U	*14 U*	67	7.1 U	17	8.3 U	7.2 U
	08/18/2015	5-10	2.1	8,600	**19**	71	6.8	27	11	*10 U*	*5.5 U*	4.9 U	*14 U*	160	7.3 U	24	8.6 U	7.4 U
	11/20/2015	5-10	2.0	140,000	**140**	100 U	120 U	120 U	120 U	-	-	-	*570 U*	-	-	-	-	-
	03/16/2016	5-10	0.9	3,200	**12**	14 U	16 U	16 U	16 U	-	-	-	*39 U*	-	-	-	-	-
	04/01/2016	5-10	1.4	780 U	6.0 U	7.1 U	8.2 U	8.2 U	8.2 U	-	-	-	*40 U*	-	-	-	-	-
	04/13/2016	5-10	1.6	1,800	4.2 U	5.0 U	5.7 U	5.7 U	5.7 U	-	-	-	*14 U*	-	-	-	-	-
SVE-2	08/22/2013	15-20		250 U	3.9 U	4.6 U	5.3 U	5.3 U	5.3 U	*9.4 U*	5.0 U	4.4 U	-	14	6.6 U	290	7.7 U	6.7 U
	03/07/2014	15-20		560	4.0 U	4.7 U	5.4 U	5.6	5.4 U	*9.6 U*	5.1 U	4.5 U	-	94	6.7 U	86	7.9 U	6.8 U
	05/08/2014	15-20		1,600 U	26 U	30 U	35 U	35 U	35 U	*62 U*	*32 U*	29 U	-	87	*43 U*	95 U	*51 U*	44 U
	08/08/2014	15-20		1,700	3.9 U	17	5.3 U	16	6.6	*9.3 U*	4.9 U	4.4 U	-	170	20	28	7.6 U	6.6 U
	11/14/2014	15-20		240 U	3.8 U	4.5 U	5.2 U	6.7	5.2 U	*9.1 U*	4.8 U	4.3 U	-	26	6.4 U	14	7.5 U	6.5 U
	02/06/2015	15-20	0.0	520 U	4.0 U	4.8	5.5 U	5.5 U	5.5 U	*9.7 U*	5.1 U	4.5 U	*26 U*	23	6.8 U	15 U	7.9 U	6.9 U
	03/06/2015	15-20	0.3	510 U	4.0 U	4.8	5.4 U	5.9	5.4 U	*9.6 U*	5.0 U	4.5 U	*26 U*	98	6.7 U	15 U	7.9 U	6.8 U
	06/19/2015	15-20	0.5	530 U	4.2 U	4.9 U	5.6 U	5.6 U	5.6 U	*10 U*	5.3 U	4.7 U	*14 U*	20	7.0 U	15 U	8.2 U	7.1 U
	08/18/2015	15-20	1.1	550 U	4.3 U	5.1 U	5.9 U	5.9 U	5.9 U	*10 U*	5.5 U	4.9 U	*14 U*	64	7.2 U	16 U	8.5 U	7.4 U
	11/20/2015	15-20	0.5	540 U	4.2 U	4.9 U	5.7 U	5.7 U	5.7 U	-	-	-	*27 U*	-	-	-	-	-
	03/16/2016	15-20	1.0	940 U	7.4 U	8.7 U	10 U	10 U	10 U	-	-	-	*24 U*	-	-	-	-	-
	04/01/2016	15-20	1.0	550 U	4.3 U	5.1 U	5.9 U	5.9 U	5.9 U	-	-	-	*28 U*	-	-	-	-	-
	04/13/2016	15-20	1.2	580 U	4.5 U	5.3 U	6.1 U	6.1 U	6.1 U	-	-	-	*15 U*	-	-	-	-	-
SVE-3	08/22/2013	5-10		16,000	**55**	15	5.3 U	8.3	5.3 U	*9.4 U*	*4.9 U*	4.4 U	-	8.3 U	6.6 U	1,600 E	7.7 U	6.6 U
	12/04/2013	5-10		160,000	**72**	720	57	730	360	*9.1 U*	*4.8 U*	4.3 U	-	8.1 U	6.4 U	38	7.5 U	6.5 U
	02/10/2014	5-10		91,000	**36**	130	30	240	150	*35 U*	*19 U*	16 U	-	31 U	*25 U*	54 U	*29 U*	25 U
	05/08/2014	5-10		1,300 U	*20 U*	24 U	27 U	27 U	27 U	*48 U*	*25 U*	23 U	-	43 U	*34 U*	74 U	*40 U*	34 U

TABLE 3
Soil Vapor Analytical Results - Volatile Organic Compounds (µg/m^3)
Plaid Pantry No. 112
Vancouver, Washington

Location	Date	Sample Depth (feet bgs)	PID	Gasoline	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	EDB	EDC	MTBE	Naphthalene	PCE	TCE	2-Butanone	Carbon Tetrachloride	1,1,1-Trichloroethane
Soil Gas Screening Levels MTCA Method B[1]				NA	10.7/32.1	76,200/229,000	15,200/45,700	1,520/4,570[2]	1,520/4,570	0.139/0.417	3.21/9.62	321/962	2.45/7.35	321/962	12.3/37	NA	13.9/41.7	76,200/229,000
SVE-3 (cont'd)	08/08/2014	5-10		1,600	4.0 U	17	5.5 U	16	6.7	*9.8 U*	*5.1 U*	4.6 U	-	8.6 U	6.8 U	25	8.0 U	6.9 U
	11/14/2014	5-10		240 U	3.7 U	4.4 U	5.0 U	5.0 U	5.0 U	*8.9 U*	*4.7 U*	4.2 U	-	8.8	6.2 U	14 U	7.3 U	6.3 U
	02/06/2015	5-10	7.1	380,000	*80 U*	95 U	110 U	110 U	110 U	*190 U*	*100 U*	91 U	*530 U*	170 U	*140 U*	300 U	*160 U*	140 U
	03/06/2015	5-10	1.6	25,000	4.0 U	5.7	5.4 U	5.9	5.4 U	*9.6 U*	*5.1 U*	4.5 U	*26 U*	8.5 U	6.7 U	15 U	7.9 U	6.8 U
	06/19/2015	5-10	1.6	1,000	4.2 U	5.4	5.8 U	5.8 U	5.8 U	*10 U*	*5.4 U*	4.8 U	*14 U*	9.0 U	7.1 U	16 U	8.4 U	7.2 U
	08/18/2015	5-10	1.2	3,600	4.3 U	5.1 U	5.9 U	5.9 U	5.9 U	*10 U*	*5.5 U*	4.9 U	*14 U*	9.2 U	7.3 U	23	8.6 U	7.4 U
	11/20/2015	5-10	1.2	2,000	3.8 U	12	5.2 U	5.2 U	5.2 U	-	-	-	*25 U*	-	-	-	-	-
	03/16/2016	5-10	17.8	99,000	**700**	7,800	360	1,300	510	-	-	-	*54 U*	-	-	-	-	-
	04/01/2016	5-10	2.3	1,600	4.4 U	5.2 U	6.0 U	6.0 U	6.0 U	-	-	-	*29 U*	-	-	-	-	-
	04/13/2016	5-10	3.6	5,300	**12**	160	17	74	97	-	-	-	*14 U*	-	-	-	-	-
SVE-4	08/22/2013	15-20		250 U	3.9 U	4.6 U	5.3 U	5.3 U	5.3 U	*9.4 U*	5.0 U	4.4 U	-	8.5	6.6 U	450	7.7 U	6.7 U
	12/04/2013	15-20		53,000	15 U	460	21 U	21 U	21 U	*36 U*	*19 U*	17 U	-	**3,600**	26 U	56 U	30 U	26 U
	03/07/2014	15-20		670	4.0 U	4.7 U	5.4 U	6.5	5.4 U	*9.5 U*	5.0 U	4.5 U	-	**1,200**	6.7 U	21	7.8 U	6.8 U
	05/08/2014	15-20		950 U	15 U	18 U	20 U	20 U	20 U	*36 U*	*19 U*	17 U	-	**2,700**	25 U	55 U	29 U	25 U
	08/08/2014	15-20		2,700	4.0 U	35	6.7	24	8.7	*9.6 U*	5.0 U	4.5 U	-	**3,200**	6.7 U	46	7.9 U	6.8 U
	11/14/2014	15-20		240 U	3.8 U	4.5 U	5.2 U	6.0	5.2 U	*9.2 U*	4.8 U	4.3 U	-	130	6.4 U	14 U	7.5 U	6.5 U
	02/06/2015	15-20	8.6	140,000	*79 U*	93 U	110 U	110 U	110 U	*190 U*	*100 U*	89 U	*520 U*	220	*130 U*	290 U	*160 U*	130 U
	03/06/2015	15-20	1.1	520 U	4.0 U	4.7 U	5.5 U	5.5 U	5.5 U	*9.7 U*	5.1 U	4.5 U	*26 U*	**2,500**	6.8 U	15 U	7.9 U	6.9 U
	06/19/2015	15-20	0.3	540 U	4.2 U	5.0	5.7 U	5.7 U	5.7 U	*10 U*	5.3 U	4.8 U	*14 U*	400	7.1 U	16 U	8.3 U	7.2 U
	08/18/2015	15-20	2.2	520 U	4.1 U	4.8 U	5.6 U	5.6 U	5.6 U	*9.9 U*	5.2 U	4.6 U	*13 U*	19	6.9 U	15 U	8.1 U	7.0 U
	11/20/2015	15-20	0.9	510 U	4.0 U	5.0	5.4 U	5.4 U	5.4 U	-	-	-	*26 U*	-	-	-	-	-
	03/16/2016	15-20	0.5	530 U	4.2 U	4.9 U	5.7 U	5.7 U	5.7 U	-	-	-	*14 U*	-	-	-	-	-
	04/01/2016	15-20	1.8	550 U	4.3 U	5.1 U	5.9 U	5.9 U	5.9 U	-	-	-	*28 U*	-	-	-	-	-
	04/13/2016	15-20	1.7	980	4.3 U	5.1 U	5.9 U	5.9 U	5.9 U	-	-	-	*14 U*	-	-	-	-	-
SVE-5	08/22/2013	5-10		8,600	*17 U*	20 U	23 U	23 U	23 U	*41 U*	*21 U*	19 U	-	36 U	*28 U*	4,500	*33 U*	29 U
	12/04/2013	5-10		8,100	**19**	640	53	180	92	*8.8 U*	*4.6 U*	4.1 U	-	18	6.2 U	20	7.2 U	6.2 U
	02/10/2014	5-10		110,000	**4,000**	8,400	810	**2,800**	970	*71 U*	*38 U*	34 U	-	63 U	*50 U*	110 U	*58 U*	51 U
	05/08/2014	5-10		3,200 U	*51 U*	60 U	69 U	69 U	69 U	*120 U*	*64 U*	57 U	-	280	*85 U*	200	*100 U*	86 U
	08/08/2014	5-10		2,000	4.1 U	18	5.6 U	18	7.8	*9.8 U*	*5.2 U*	4.6 U	-	8.7 U	6.9 U	37	8.0 U	7.0 U
	11/14/2014	5-10		230 U	3.6 U	4.3 U	5.0 U	13	5.0 U	*8.8 U*	*4.6 U*	4.1 U	-	87	6.2 U	14 U	7.2 U	6.2 U
	02/06/2015	5-10	4.7	74,000	*41 U*	49 U	56 U	56 U	56 U	*99 U*	*52 U*	46 U	*270 U*	88 U	*69 U*	150 U	*81 U*	70 U
	03/06/2015	5-10	3.4	41,000	**13**	990	69	760	330	*14 U*	*7.6 U*	6.8 U	*39 U*	13 U	10 U	22 U	12 U	10 U
	06/19/2015	5-10	0.3	560 U	4.3 U	5.1 U	5.9 U	5.9 U	5.9 U	*10 U*	*5.5 U*	4.9 U	*14 U*	9.2 U	7.3 U	18	8.6 U	7.4 U
	08/18/2015	5-10	1.6	530 U	4.1 U	4.9 U	5.6 U	5.6 U	5.6 U	*9.9 U*	*5.2 U*	4.6 U	*14 U*	8.8 U	6.9 U	21	8.1 U	7.0 U
	11/20/2015	5-10	0.6	510 U	4.0 U	4.7 U	5.4 U	5.4 U	5.4 U	-	-	-	*26 U*	-	-	-	-	-
	03/16/2016	5-10	0.9	1,300 U	9.8 U	12 U	13 U	13 U	13 U	-	-	-	*32 U*	-	-	-	-	-
	04/01/2016	5-10	1.9	37,000	**760**	1,200	40	170	67	-	-	-	*26 U*	-	-	-	-	-
	04/13/2016	5-10	1.9	1,900	4.4 U	5.2	6.0 U	82	100	-	-	-	*14 U*	-	-	-	-	-
SVE Blower Inlet	08/22/2013	NA		160,000	**2,100**	2,100	65	290	85	*92 U*	*48 U*	43 U	-	81 U	*64 U*	140 U	*76 U*	65 U
	09/27/2013	NA		24,000	**95**	92	5.2	18	5.2 U	*9.2 U*	*4.8 U*	4.3 U	-	8.1 U	6.4 U	14 U	7.5 U	6.5 U
	11/01/2013	NA		68,000	**200**	1,200	450	**2,200**	630	*18 U*	*9.7 U*	8.6 U	-	300	*13 U*	28 U	*15 U*	13 U
	12/04/2013	NA		26,000	**12**	1,500	16	130	52	*8.8 U*	*4.6 U*	4.1 U	-	**1,200**	6.2 U	14 U	7.2 U	6.2 U
	12/18/2013	NA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	03/07/2014	NA		50,000	8.3	65	70	1,100	470	*18 U*	*9.7 U*	8.6 U	-	**410**	*13 U*	28 U	*15 U*	13 U
	05/08/2014	NA		24,000	*39 U*	46 U	54 U	510	290	*95 U*	*50 U*	44 U	-	**1,200**	*66 U*	140 U	*78 U*	67 U
	08/08/2014	NA		25,000	3.8 U	35	8.3	130	100	*9.1 U*	*4.8 U*	4.2 U	-	**1,200**	9.4	21	7.4 U	6.4 U
	11/14/2014	NA		19,000 [a]	*36 U*	43 U	49 U	50 U	50 U	*88 U*	*46 U*	41 U	-	77 U	*61 U*	130 U	*72 U*	62 U
	02/06/2015	NA	3.3	94,000	*79 U*	93 U	110 U	110 U	110 U	*190 U*	*100 U*	89 U	*520 U*	170 U	**150**	290 U	*160 U*	140 U
	06/19/2015	NA	0.5	590 U	4.6 U	5.4 U	6.2 U	6.2 U	6.2 U	*11 U*	*5.8 U*	5.2 U	*15 U*	38	7.7 U	17 U	9.1 U	7.8 U
	08/18/2015	NA	2.5	540 U	4.2 U	5.0 U	5.8 U	5.8 U	5.8 U	*10 U*	*5.4 U*	4.8 U	*14 U*	26	7.1 U	16 U	8.3 U	7.2 U
	11/20/2015	NA	0.9	13,000	10 U	12 U	14 U	14 U	14 U	*24 U*	*13 U*	11 U	*33 U*	90	*17 U*	37 U	*20 U*	17 U
	04/13/2016	NA	1.5	540 U	4.2 U	10	5.7 U	5.7 U	5.7 U	*10 U*	*5.3 U*	4.7 U	*14 U*	**390**	7.1 U	16 U	8.3 U	7.2 U

TABLE 3

Soil Vapor Analytical Results - Volatile Organic Compounds (µg/m^3)

Plaid Pantry No. 112

Vancouver, Washington

Location	Date	Sample Depth (feet bgs)	PID	Gasoline	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	EDB	EDC	MTBE	Naphthalene	PCE	TCE	2-Butanone	Carbon Tetrachloride	1,1,1-Trichloroethane
Soil Gas Screening Levels																		
MTCA Method B[1]				NA	10.7/32.1	76,200/229,000	15,200/45,700	1,520/4,570[2]	1,520/4,570	0.139/0.417	3.21/9.62	321/962	2.45/7.35	321/962	12.3/37	NA	13.9/41.7	76,200/229,000
Post-GAC	08/22/2013	NA		230 U	3.6 U	4.3 U	4.9 U	4.9 U	4.9 U	*8.7 U*	*4.6 U*	4.1 U	-	7.7 U	6.1 U	13	7.1 U	6.2 U
	09/27/2013	NA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/01/2013	NA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/04/2013	NA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/18/2013	NA		1,900	3.8 U	5.4	5.2 U	5.2 U	5.2 U	*9.2 U*	*4.8 U*	4.3 U	-	8.1 U	6.4 U	14 U	7.6 U	6.5 U
	03/07/2014	NA		43,000	*37 U*	44 U	51 U	51 U	51 U	*90 U*	*47 U*	42 U	-	79 U	*63 U*	140 U	*74 U*	64 U
	05/08/2014[b]	NA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

[1] Washington Department of Ecology (WDOE) Soil Vapor Intrusion DRAFT Guidance, Method B Soil Gas Screening Levels (WDOE, October 2009). Updated based on CLARC database values (August 2015).
The numerator value is the screening level for sub-slab (<15 foot depth) soil gas measurements; the denominator value is for deep (>=15 foot depth) soil gas measurements.

[2] Screening levels for m-xylene

[a] The hydrocarbon profile present did not resemble that of commercial gasoline. Results calculated using the response factor derived from the gasoline calibration.

[b] Carbon treatment for system exhaust discontinued on March 28, 2014.

[c] Reporting limits were raised due to high levels of non-target analytes

Volatiles by EPA Method TO-15

MTBE = Methyl tert-butyl ether

EDB = 1,2-Dibromoethane

EDC = 1,2-Dichloroethane

PCE = Tetrachloroethene

TCE = Trichloroethene

µg/m^3 = Micrograms per cubic meter

Bold values indicate concentrations exceed the Method B soil gas screening level for representative sample depth.

Italics indicate analytical reporting limits exceeds Method B soil gas screening level for representative sample depth.

U = Undetected at method reporting limit shown

NA = Not Applicable/Not Available

E = Estimated concentration. Result exceeds calibration range for the instrument.

- = not analyzed for this parameter

TABLE 4
Soil Vapor Extraction Mass Removal
Plaid Pantry No. 112
Vancouver, Washington

Date	Cumulative Operating Days	Total System Flow (ft^3/min)	Pre-Treatment Lab Analysis (mg/m^3)		Estimated Mass Removal Rate Per Cycle (Pounds/Day)[a]		Estimated Cumulative Mass Removed (Pounds)		Estimated Cumulative Discharge Emissions (Pounds)[b]	
			Gasoline	PCE	Gasoline	PCE	Gasoline	PCE	Gasoline	PCE
08/22/2013	0.25	96	160	0.0810 U	1.4	0.00070	0.34	0.00017	0.00050	0.000017
09/27/2013	23	79	24	0.0081 U	0.73	0.00035	17	0.0082	0.042	0.0014
11/01/2013	57	55	68	0.3000	0.28	0.00093	26	0.039	0.089	0.0030
12/04/2013	89	99	26	1.2000	0.32	0.0052	37	0.21	0.32	0.0047
03/07/2014	160	55	50	0.4100	0.26	0.0056	55	0.60	11	0.026
05/09/2014	223	89	24	1.2000	0.24	0.0052	70	0.93	25	0.28
08/08/2014	314	88	25	1.2000	0.19	0.0095	88	1.8	43	1.2
11/14/2014	412	98	19	0.0770 U	0.18	0.0053	106	2.3	61	1.7
02/06/2015	475	89	94	0.1700 U	0.47	0.0010	136	2.4	90	1.7
03/06/2015	503	88	2.5 [e]	1.01 [e]	0.38	0.0047	147	2.5	101	1.9
06/19/2015	607	88	0.59 U	0.038	0.012	0.0042	148	2.9	103	2.3
08/18/2015	667	97	0.54 U	0.026	0.0047	0.00027	148	3.0	103	2.3
11/20/2015	758	89	13	0.090	0.0567	0.00049	153	3.0	108	2.4
04/13/2016	803	113	0.54 U	0.390	0.0616	0.00218	156	3.1	111	2.5
							Estimated Emissions During Last 12 Months (Pounds/Year):		9	0.6
							Annual Emissions Threshold (Pounds/Year):		2,000[c]	500[d]

Notes:

[a] Concentrations are averaged between start and end of each time period

[b] Granular activated carbon used to treat emissions prior to discharge between 8/22/13 and 3/28/14. Emissions treatment discontinued on 3/28/14.

[c] Small Quantity Emissions Rate (SQER), per SWCAA 400, General Regulations for Air Pollution Sources, dated 11/15/09.

[d] Registration exemption threshold for criteria pollutants and VOCs, per Chapter 173-460 WAC, Controls for New Sources of Toxic Air Pollutants, dated 8/21/98.

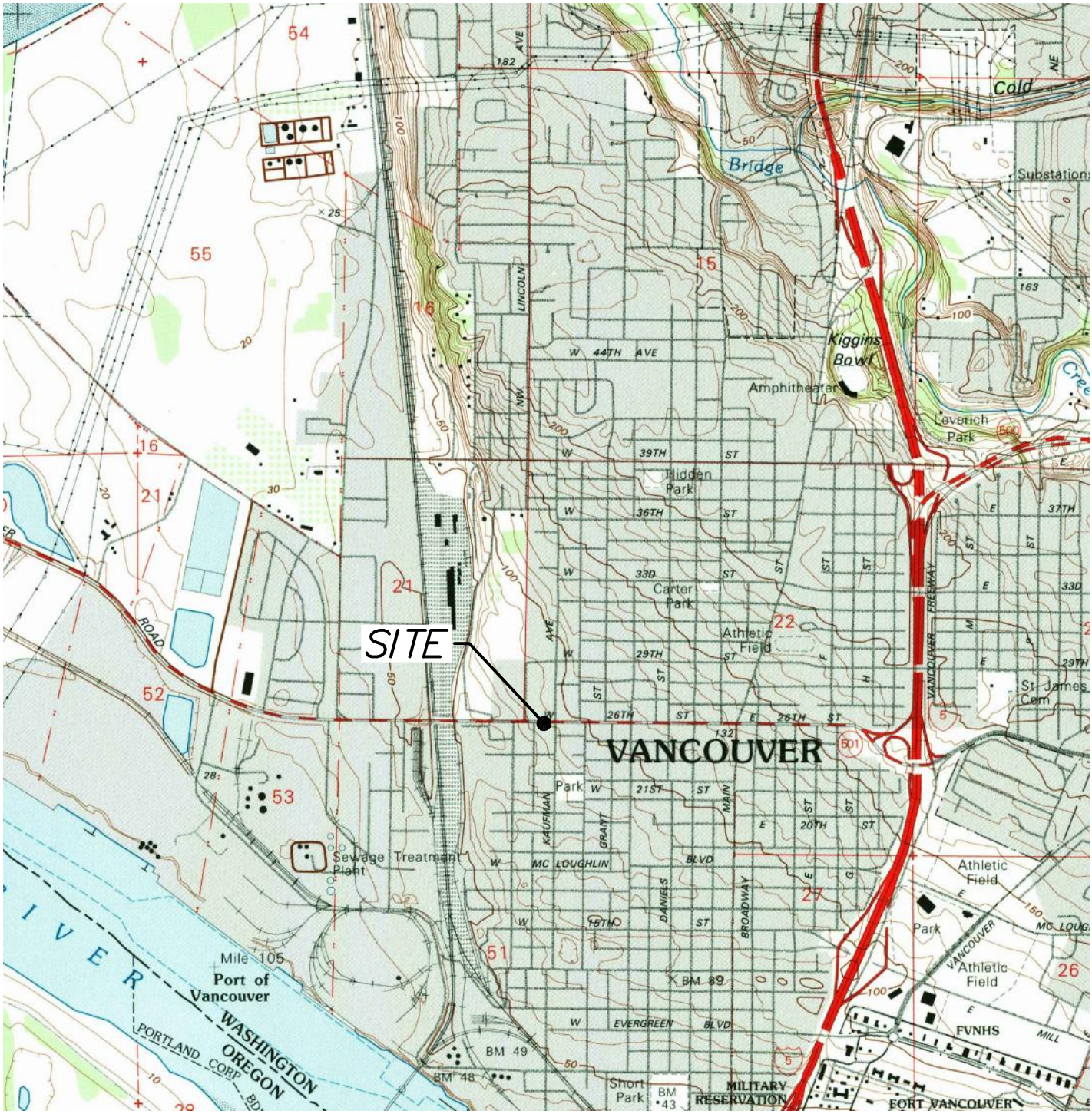
[e] Estimated mass based upon historic data trends.

ft^3/min = Cubic feet per minute

mg/m^3 = Milligrams per cubic meter

- = Not measured

Figures



SOURCE:
USGS, VANCOUVER QUADRANGLE
WASHINGTON–OREGON
7.5 MINUTE SERIES (TOPOGRAPHIC)

APPROXIMATE SCALE IN FEET

0 1000 2000 4000

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VICINITY MAP

PLAID PANTRY #112
1002 W. FOURTH PLAIN BLVD.
VANCOUVER, WA.

DATE:	7–14–15	PROJECT NO.
FILE:	1179–02	1179–02
DRAWN:	JJT	FIGURE NO.
APPROVED:	AG	1

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C:\Users\Josh\Desktop\Autocad Backup\EES-Autocad\1179-01 Plaid Pantry #112\1179-01_Base-Master\1179-01_Base-Master-073015.dwg 12.19.2014

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PLAID PANTRY #112
1002 W. FOURTH PLAIN BLVD.
VANCOUVER, WA.

SITE FEATURES

DATE:	7-30-15	PROJECT NO.	
FILE:	1179-01	1179-01	
DRAWN:	JJT	FIGURE NO.	
APPROVED:	AG	2	

LEGEND

- Property Boundary
- Roadway Centerline
- Catch Basin
- Dry Well
- Vault
- SVE–1 — Shallow SVE Well (Screened 5–10' bgs)
- SVE–2 — Deep SVE Well (Screened 15–20' bgs)
- S–28 — Utility Vapor Monitoring Well (Screened at Various Shallow Depths in Trench Backfill)
- B–17 — Shallow Vapor Monitoring Well (Screened 5–10' bgs)
- B–18 — Deep Vapor Monitoring Well (Screened 15–20' bgs)
- SVE — SVE Piping
- W — Water Line
- SS — Sanitary Sewer & Flow Direction
- STRM — Storm Sewer & Flow Direction
- P — Power
- GAS — Natural Gas
- UNK — Unknown Utility
- Arrows Indicate Flow Direction Where Known

Approximate Utility Depths Indicated Where Known (Feet)

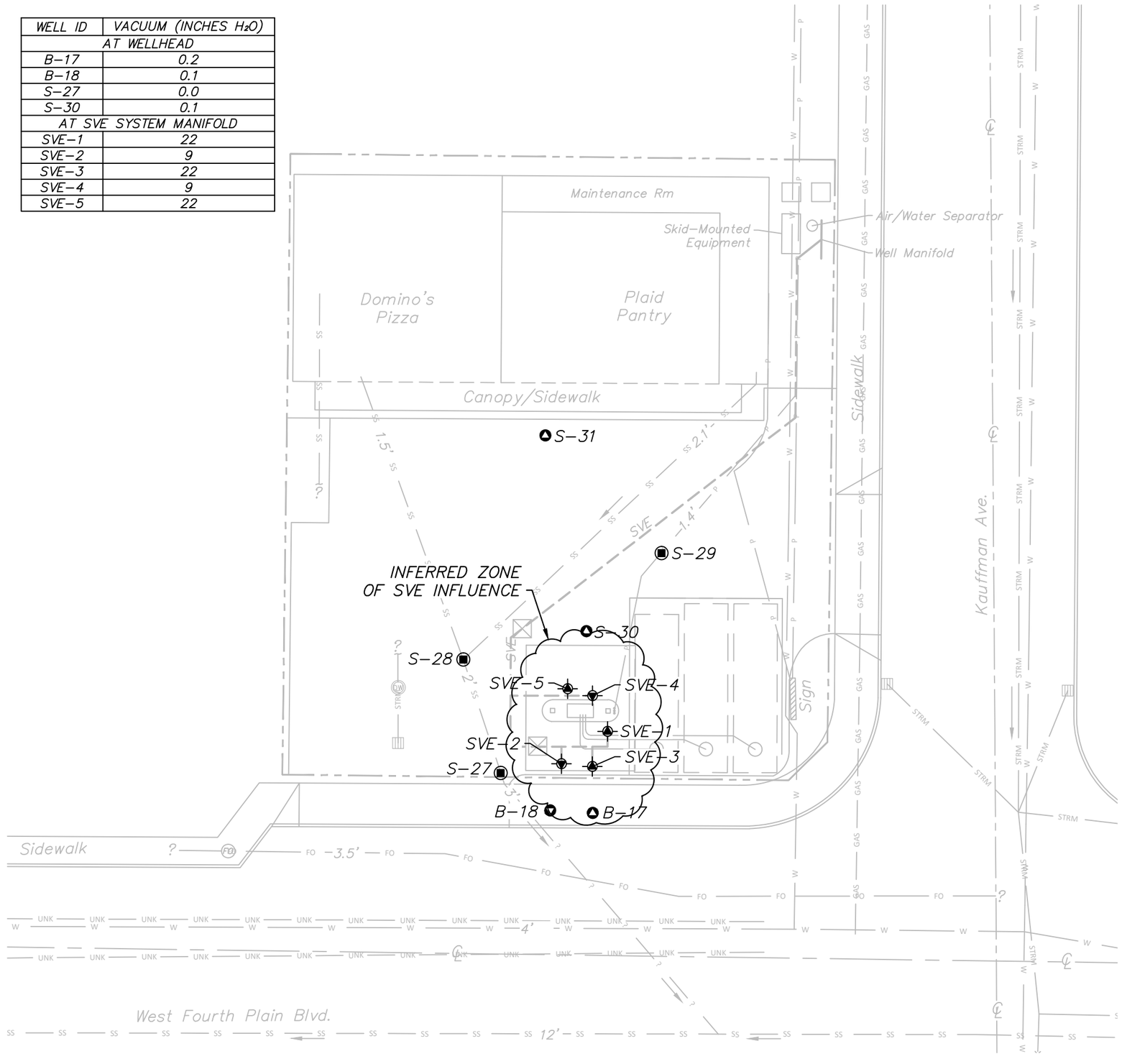
SITE FEATURES ARE APPROXIMATE.

APPROXIMATE SCALE IN FEET

0 10 20 40

N

WELL ID	VACUUM (INCHES H_2O)
AT WELLHEAD	
B–17	0.2
B–18	0.1
S–27	0.0
S–30	0.1
AT SVE SYSTEM MANIFOLD	
SVE–1	22
SVE–2	9
SVE–3	22
SVE–4	9
SVE–5	22



PROJECT NO. 1179–01 | FIGURE NO. 3
DATE: 5–25–16
FILE: 1179–01
DRAWN: JJT
APPROVED: DBP

INFERRED SVE RADIUS OF INFLUENCE (4/13/2016)

PLAID PANTRY #112
1002 W. FOURTH PLAIN BLVD.
VANCOUVER, WA.

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LEGEND

- Property Boundary
- Catch Basin
- Dry Well
- Bollards
- Vault
- SVE-1 — Shallow SVE test well (screened 5–10' bgs)
- SVE-2 — Deep SVE test well (screened 15–20' bgs)
- Fiber Optic Manhole
- Water Valves
- Signal Control
- SS — Sanitary Sewer
- STRM — Storm
- W — Water
- FO — Fiber Optic
- P — Power
- SVE Piping

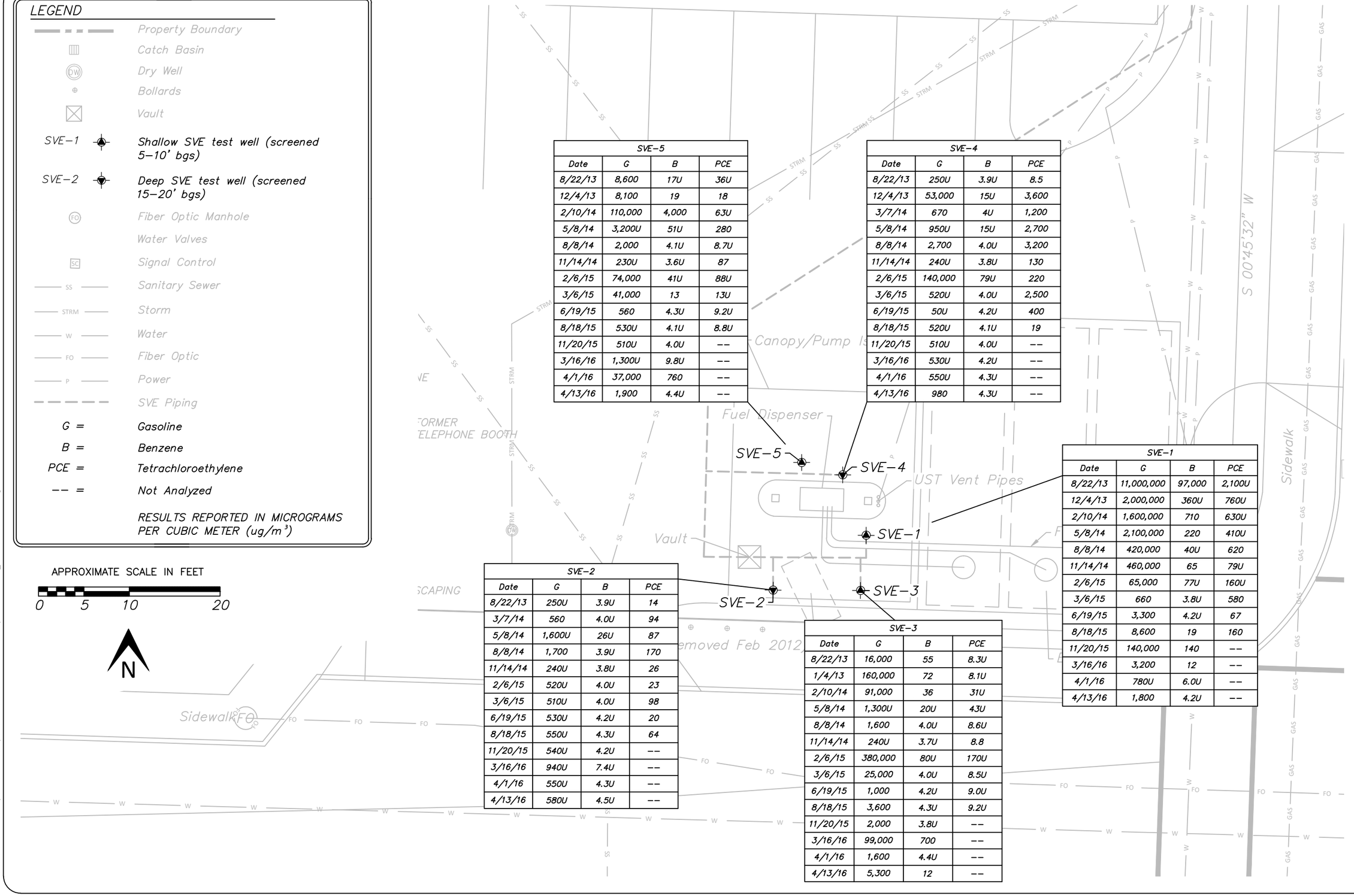
G = Gasoline
B = Benzene
PCE = Tetrachloroethylene
-- = Not Analyzed

RESULTS REPORTED IN MICROGRAMS PER CUBIC METER (ug/m³)

APPROXIMATE SCALE IN FEET

0 5 10 20

N



SVE-5			
Date	G	B	PCE
8/22/13	8,600	17U	36U
12/4/13	8,100	19	18
2/10/14	110,000	4,000	63U
5/8/14	3,200U	51U	280
8/8/14	2,000	4.1U	8.7U
11/14/14	230U	3.6U	87
2/6/15	74,000	41U	88U
3/6/15	41,000	13	13U
6/19/15	560	4.3U	9.2U
8/18/15	530U	4.1U	8.8U
11/20/15	510U	4.0U	--
3/16/16	1,300U	9.8U	--
4/1/16	37,000	760	--
4/13/16	1,900	4.4U	--

SVE-4			
Date	G	B	PCE
8/22/13	250U	3.9U	8.5
12/4/13	53,000	15U	3,600
3/7/14	670	4U	1,200
5/8/14	950U	15U	2,700
8/8/14	2,700	4.0U	3,200
11/14/14	240U	3.8U	130
2/6/15	140,000	79U	220
3/6/15	520U	4.0U	2,500
6/19/15	50U	4.2U	400
8/18/15	520U	4.1U	19
11/20/15	510U	4.0U	--
3/16/16	530U	4.2U	--
4/1/16	550U	4.3U	--
4/13/16	980	4.3U	--

SVE-1			
Date	G	B	PCE
8/22/13	11,000,000	97,000	2,100U
12/4/13	2,000,000	360U	760U
2/10/14	1,600,000	710	630U
5/8/14	2,100,000	220	410U
8/8/14	420,000	40U	620
11/14/14	460,000	65	79U
2/6/15	65,000	77U	160U
3/6/15	660	3.8U	580
6/19/15	3,300	4.2U	67
8/18/15	8,600	19	160
11/20/15	140,000	140	--
3/16/16	3,200	12	--
4/1/16	780U	6.0U	--
4/13/16	1,800	4.2U	--

SVE-2			
Date	G	B	PCE
8/22/13	250U	3.9U	14
3/7/14	560	4.0U	94
5/8/14	1,600U	26U	87
8/8/14	1,700	3.9U	170
11/14/14	240U	3.8U	26
2/6/15	520U	4.0U	23
3/6/15	510U	4.0U	98
6/19/15	530U	4.2U	20
8/18/15	550U	4.3U	64
11/20/15	540U	4.2U	--
3/16/16	940U	7.4U	--
4/1/16	550U	4.3U	--
4/13/16	580U	4.5U	--

SVE-3			
Date	G	B	PCE
8/22/13	16,000	55	8.3U
1/4/13	160,000	72	8.1U
2/10/14	91,000	36	31U
5/8/14	1,300U	20U	43U
8/8/14	1,600	4.0U	8.6U
11/14/14	240U	3.7U	8.8
2/6/15	380,000	80U	170U
3/6/15	25,000	4.0U	8.5U
6/19/15	1,000	4.2U	9.0U
8/18/15	3,600	4.3U	9.2U
11/20/15	2,000	3.8U	--
3/16/16	99,000	700	--
4/1/16	1,600	4.4U	--
4/13/16	5,300	12	--

DATE:	5-12-16	PROJECT NO.	1179-02
FILE:	1179-02	FIGURE NO.	4
DRAWN:	JJT		
APPROVED:	DBP		

CONTAMINANT VAPOR CONCENTRATIONS DURING SVE OPERATIONS

PLAID PANTRY #112
1002 W. FOURTH PLAIN BLVD.
VANCOUVER, WASHINGTON

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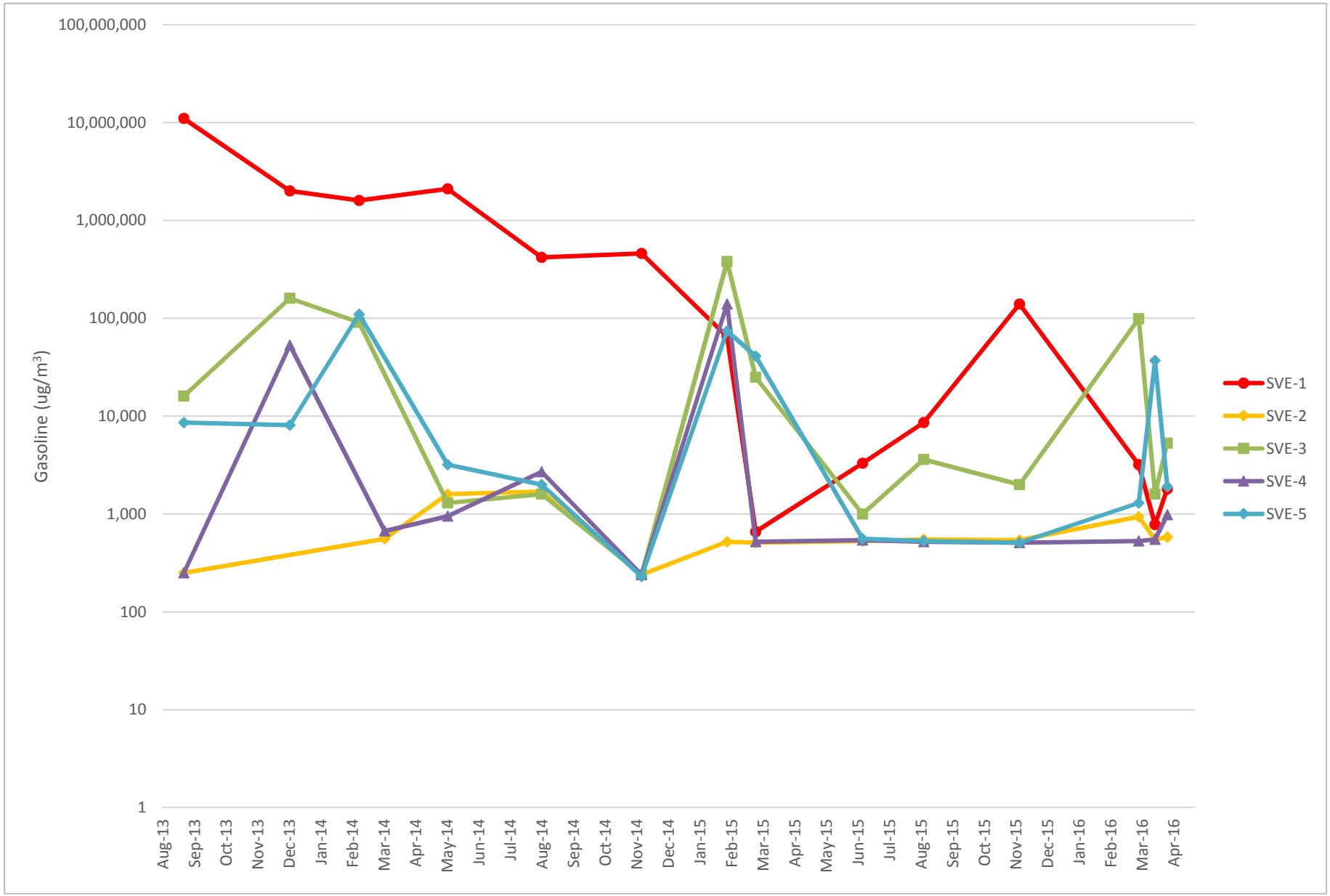
Charts

Chart 1

Gasoline Vapor Concentrations During SVE Operations (ug/m^3)

Plaid Pantry No. 112

Vancouver, Washington



1179_SVE Tracking Tables 05 2016

05/10/2016

Chart 2

Benzene Concentrations During SVE Operations (ug/m^3)

Plaid Pantry No. 112

Vancouver, Washington

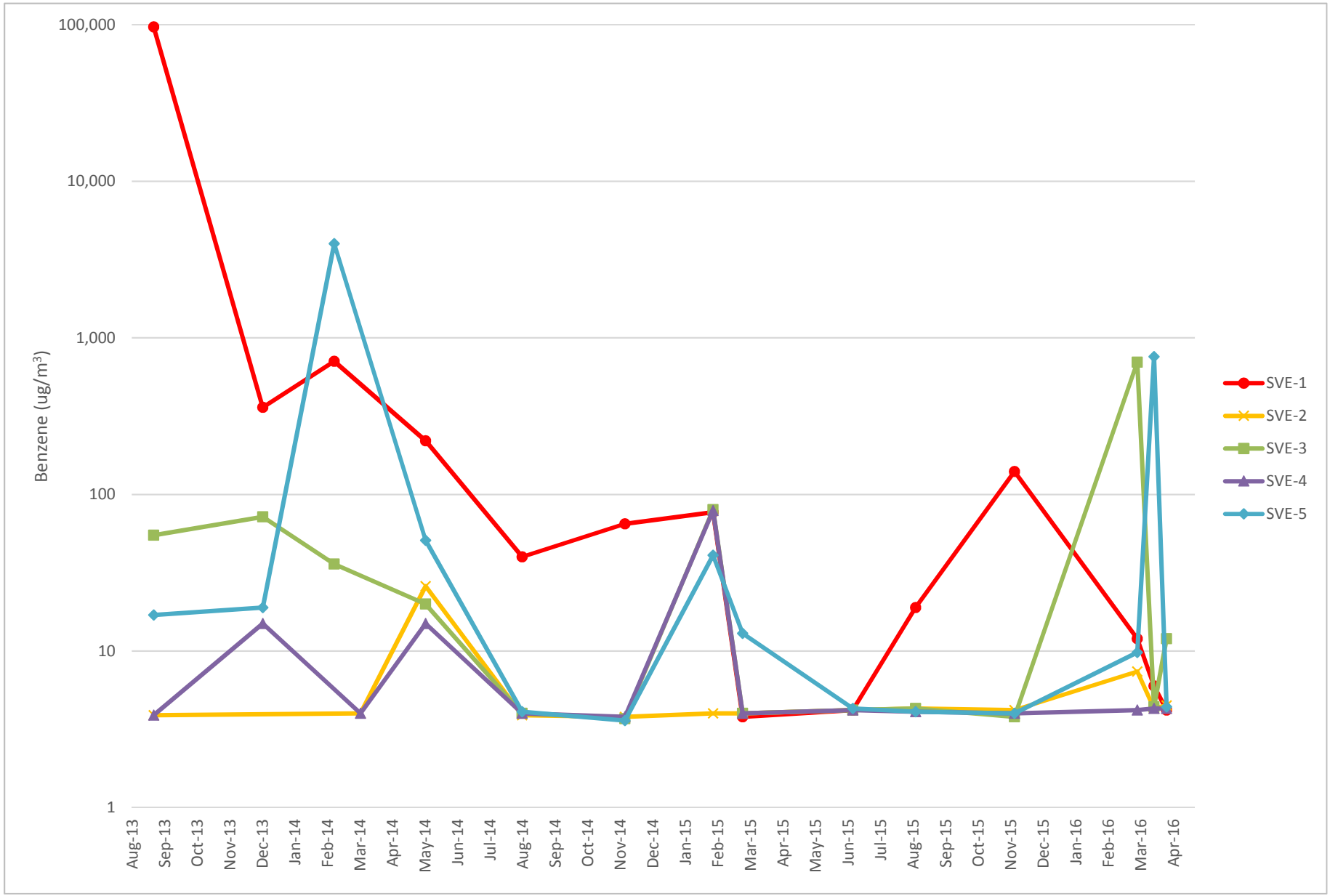


Chart 3

Gasoline Mass Extraction Rates and Cumulative Mass Removal

Plaid Pantry No. 112

Vancouver, Washington

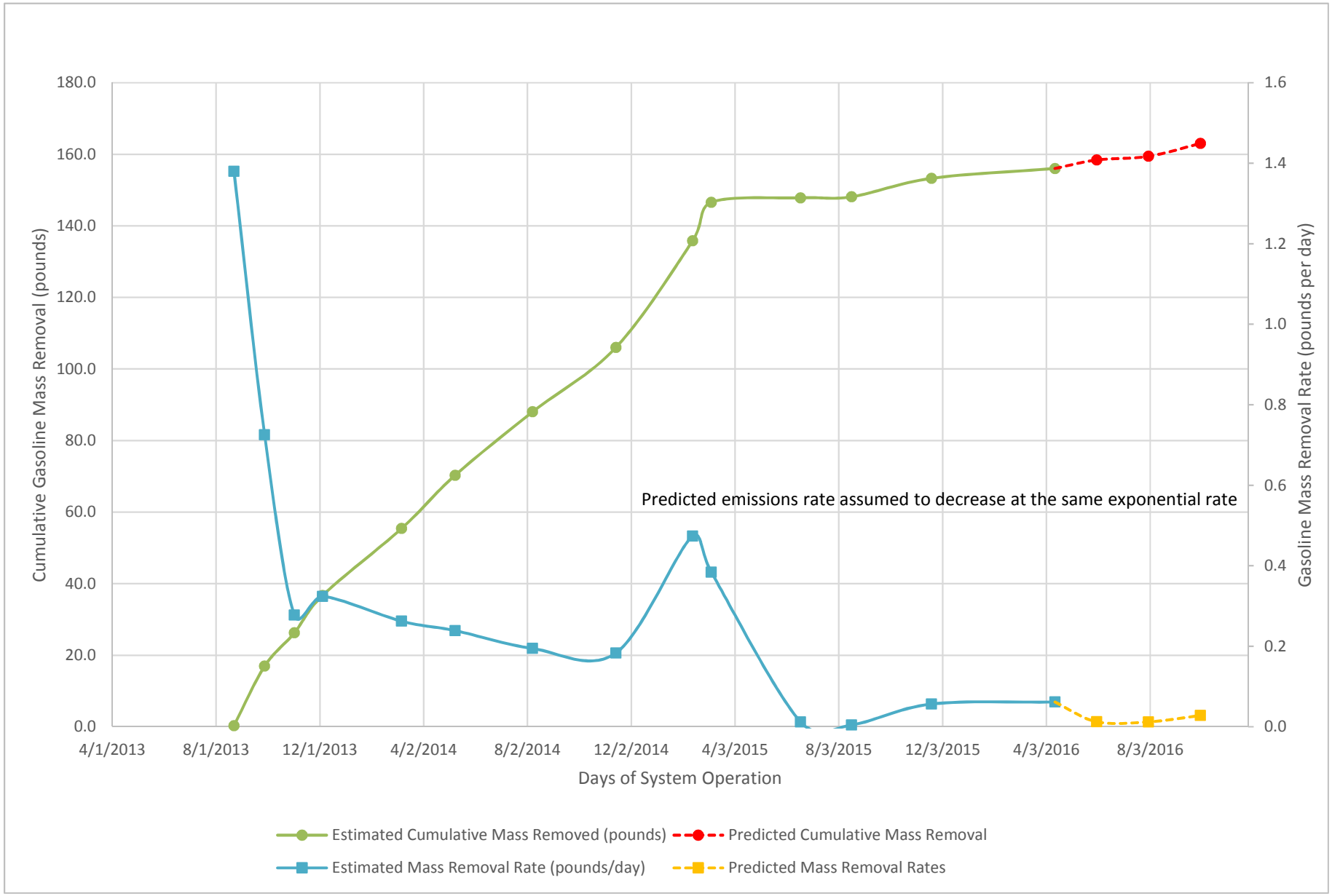
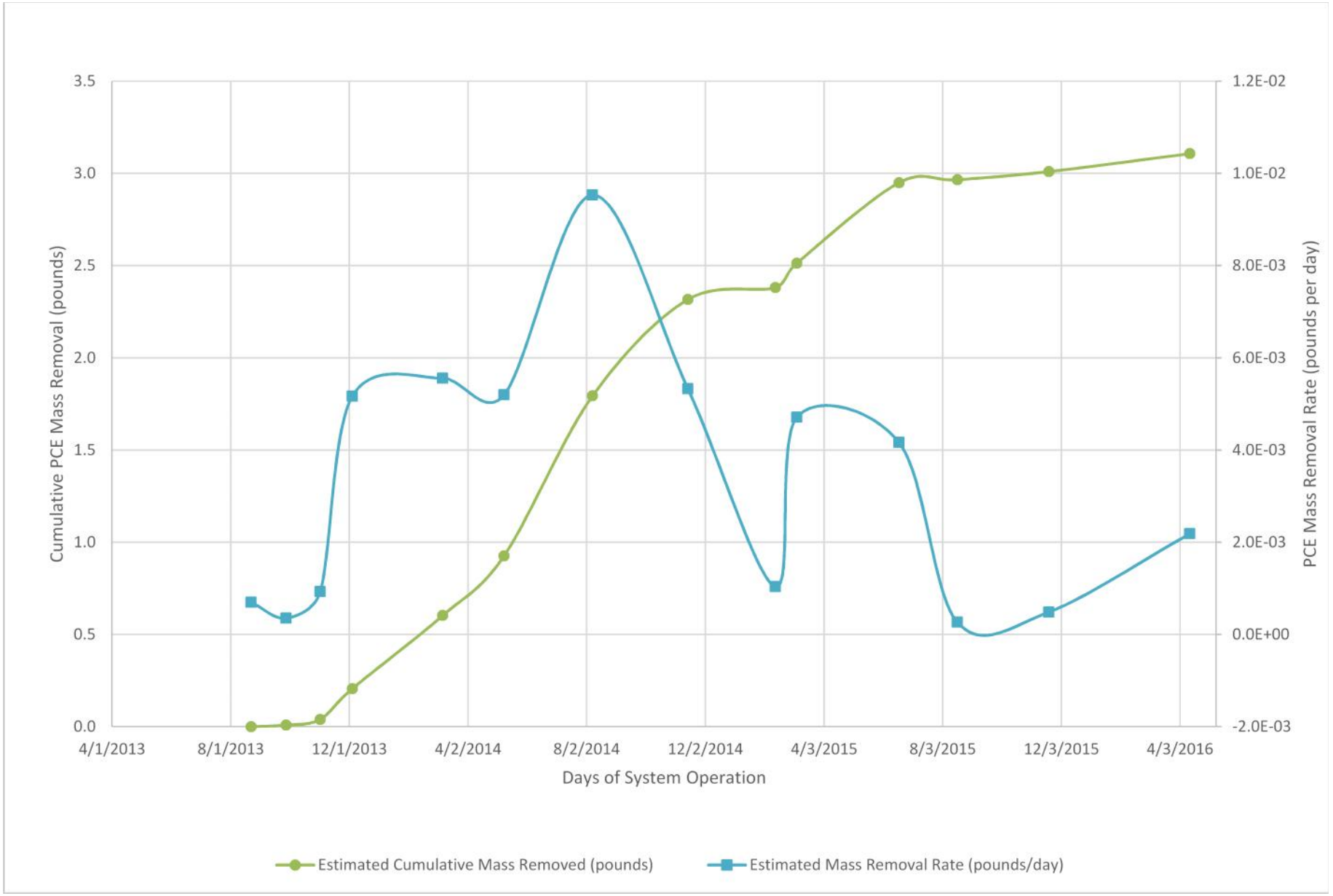


Chart 4

PCE Mass Extraction Rates and Cumulative Mass Removal

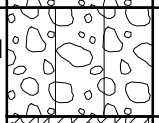
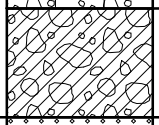
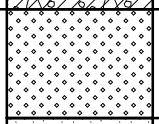
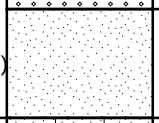
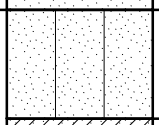
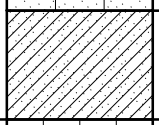
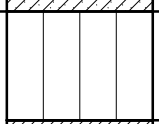
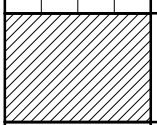
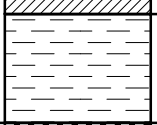
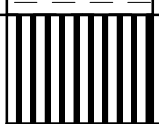
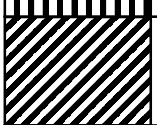
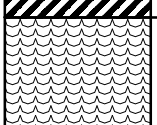
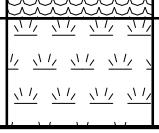
Plaid Pantry No. 112

Vancouver, Washington

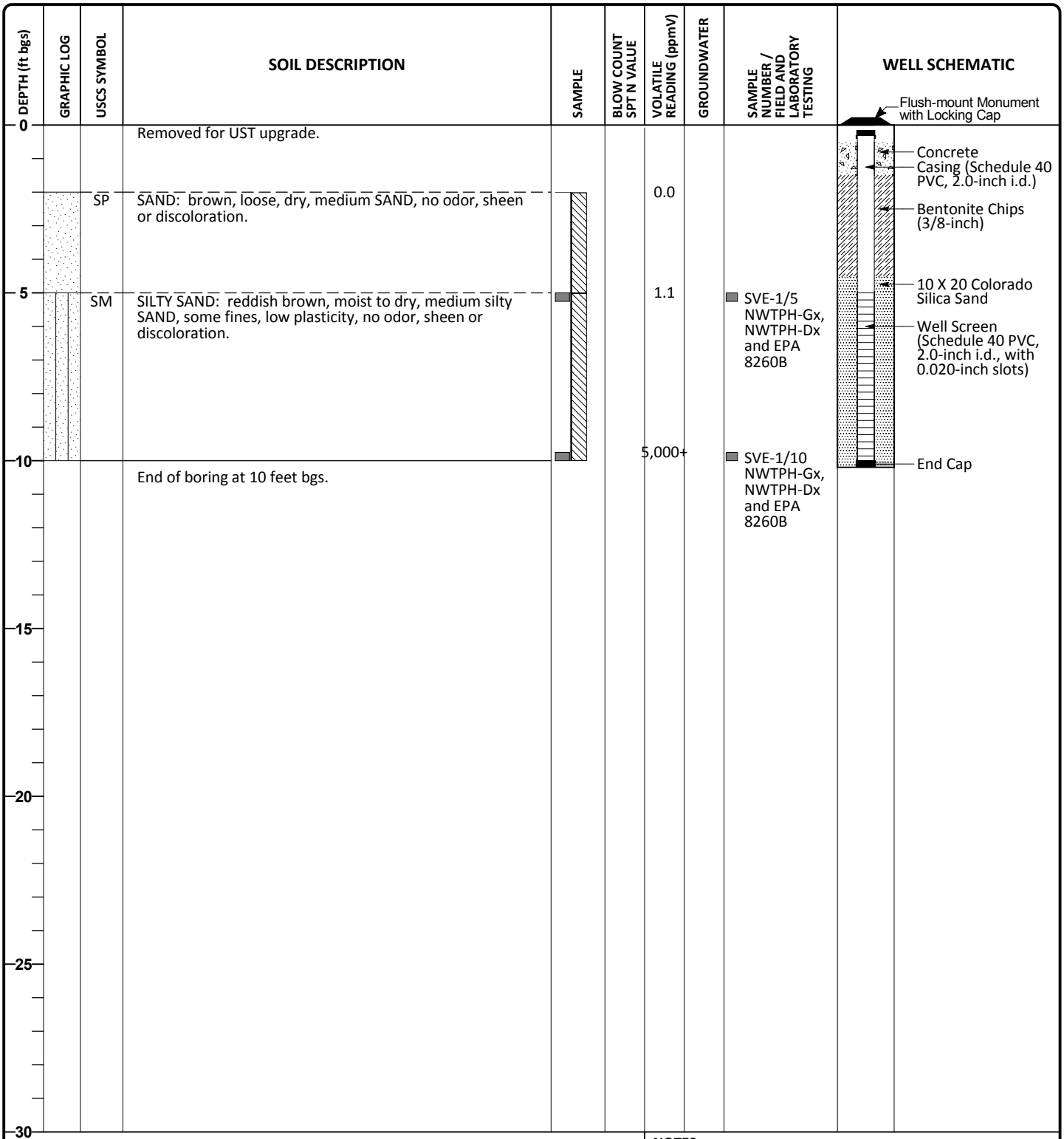


Attachment A

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS



BORING METHOD: Direct Push
BOREHOLE DIAMETER:
DRILL RIG: NA
CONTRACTOR: Major Drilling/KV
LOGGED BY/REVIEWED BY: JG/LF

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: NA
DRILLING DATES: 2/3/2012 - 2/3/2012

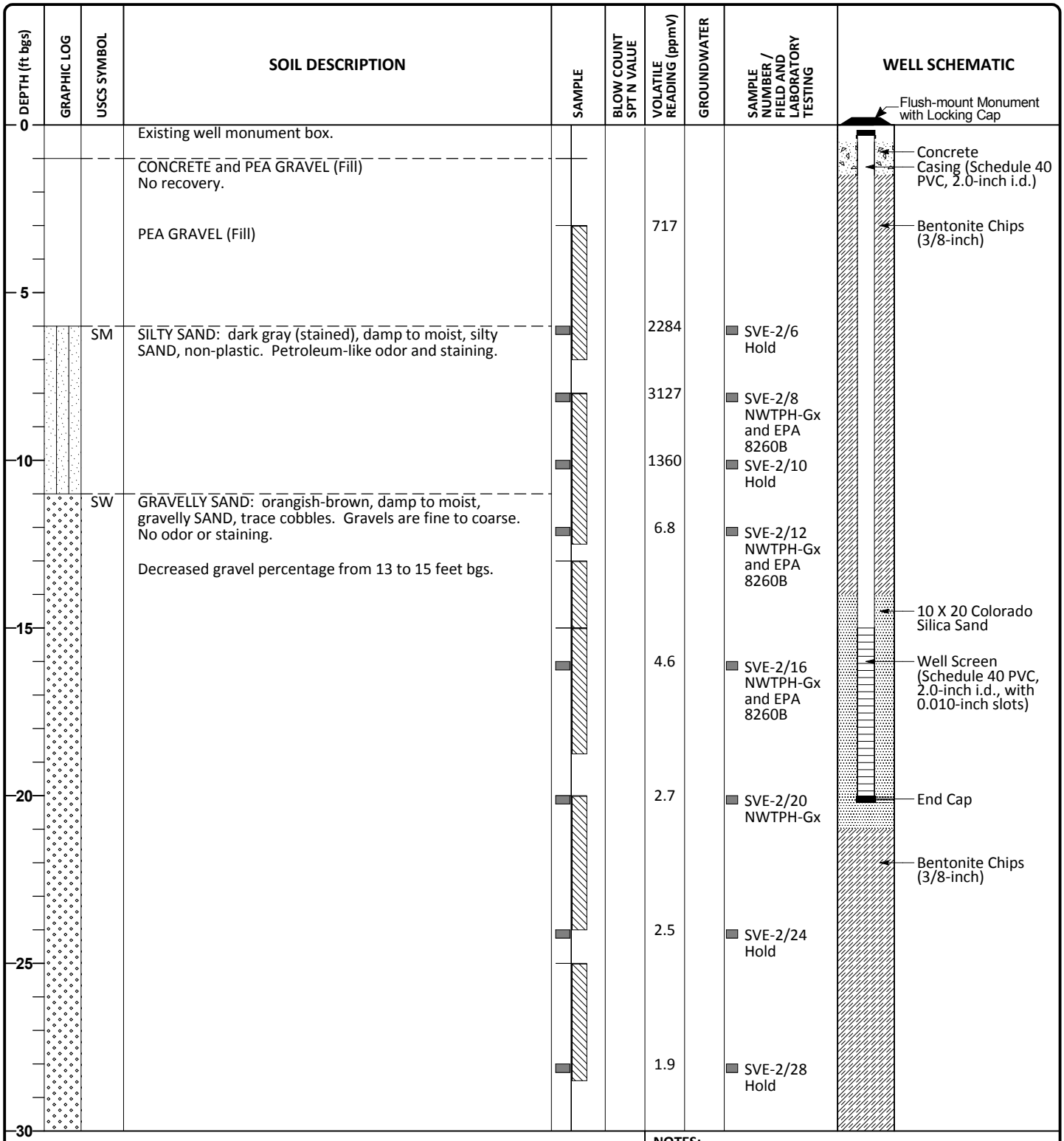
NOTES:

Plaid Pantry #112
1002 W. Fourth Plain Blvd
Vancouver, WA

E-1179-01

EES Environmental Consulting, Inc.
240 N Broadway, Suite 115
Portland, Oregon 97227
Tel (503) 847-2740

LOG OF BORING SVE-1



BORING METHOD: Direct Push
BOREHOLE DIAMETER:
DRILL RIG: NA
CONTRACTOR: Pacific Soil & Water/NK
LOGGED BY/REVIEWED BY: AC/LF

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: NA
DRILLING DATES: 8/17/2012 - 8/17/2012

NOTES:

Plaid Pantry #112
1002 W. Fourth Plain Blvd
Vancouver, WA

E-1179-01

EES Environmental Consulting, Inc.
240 N Broadway, Suite 115
Portland, Oregon 97227
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LOG OF BORING SVE-2

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppmV)	GROUNDWATER	SAMPLE NUMBER / FIELD AND LABORATORY TESTING	WELL SCHEMATIC
30		SW							
		SP	SAND: light brown, dry to damp, fine SAND, trace fines.			1.7		SVE-2/32 Hold	Bentonite Chips (3/8-inch)
35			No recovery. Sample liner melted in sampler.						
			End of boring at 39 feet bgs due to refusal.						
40									
45									
50									
55									
60									

BORING METHOD: Direct Push
BOREHOLE DIAMETER:
DRILL RIG: NA
CONTRACTOR: Pacific Soil & Water/NK
LOGGED BY/REVIEWED BY: AC/LF

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: NA
DRILLING DATES: 8/17/2012 - 8/17/2012

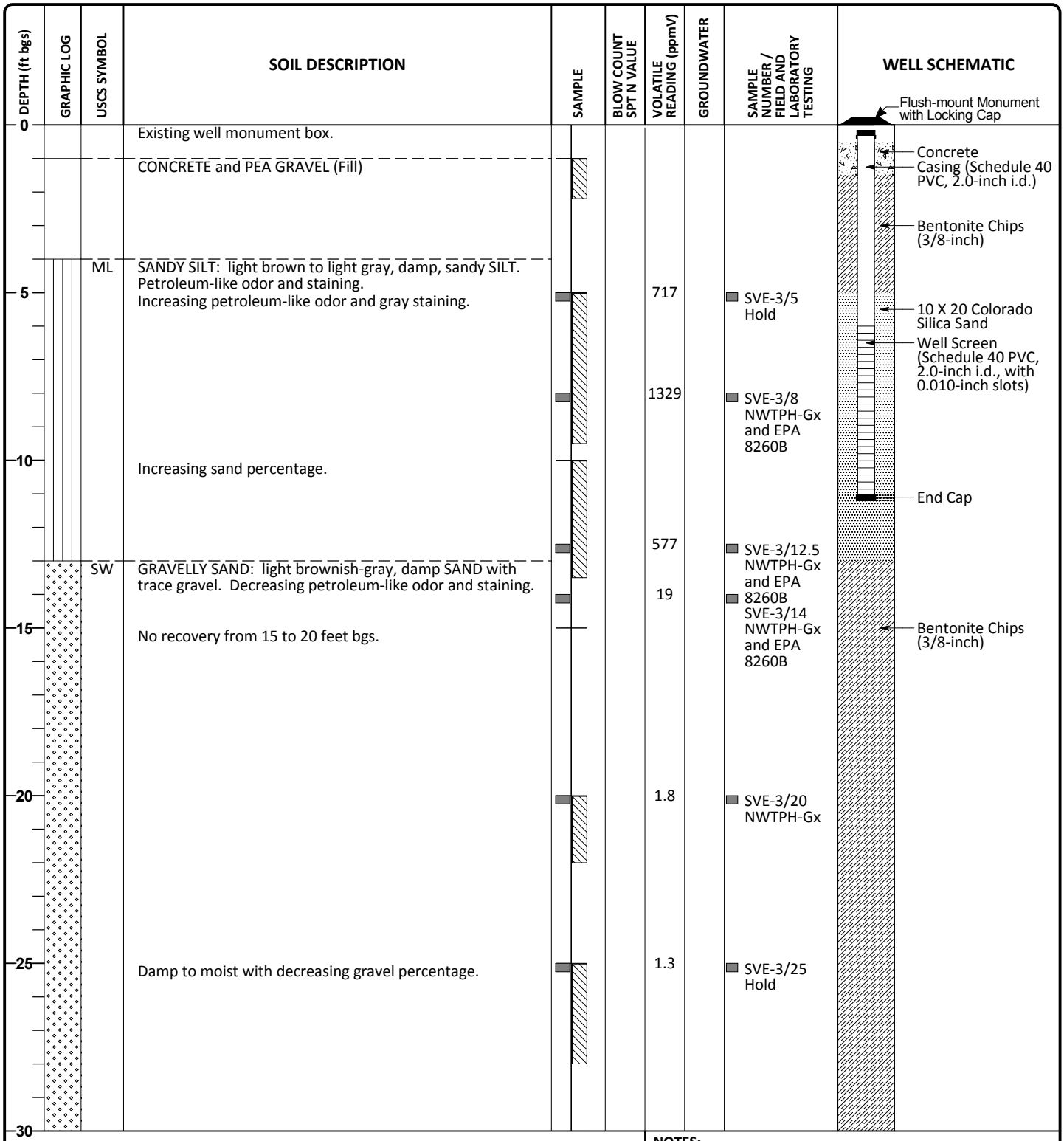
NOTES:

Plaid Pantry #112
1002 W. Fourth Plain Blvd
Vancouver, WA

E-1179-01

EES Environmental Consulting, Inc.
240 N Broadway, Suite 115
Portland, Oregon 97227
Tel (503) 847-2740

LOG OF BORING SVE-2



BORING METHOD: Direct Push
BOREHOLE DIAMETER:
DRILL RIG: NA
CONTRACTOR: Pacific Soil & Water/NK
LOGGED BY/REVIEWED BY: AC/LF

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: NA
DRILLING DATES: 8/16/2012 - 8/16/2012

NOTES:

Plaid Pantry #112
1002 W. Fourth Plain Blvd
Vancouver, WA

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240 N Broadway, Suite 115
Portland, Oregon 97227
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LOG OF BORING SVE-3

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppmV)	GROUNDWATER	SAMPLE NUMBER / FIELD AND LABORATORY TESTING	WELL SCHEMATIC
30		SW				17		SVE-3/31 Hold	Bentonite Chips (3/8-inch)
35			Increased grain-size up to coarse and trace fine subrounded gravel.			3.7		SVE-3/37 Hold	
40			End of boring at 40 feet bgs due to refusal.						
45									
50									
55									
60									

BORING METHOD: Direct Push
BOREHOLE DIAMETER:
DRILL RIG: NA
CONTRACTOR: Pacific Soil & Water/NK
LOGGED BY/REVIEWED BY: AC/LF

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: NA
DRILLING DATES: 8/16/2012 - 8/16/2012

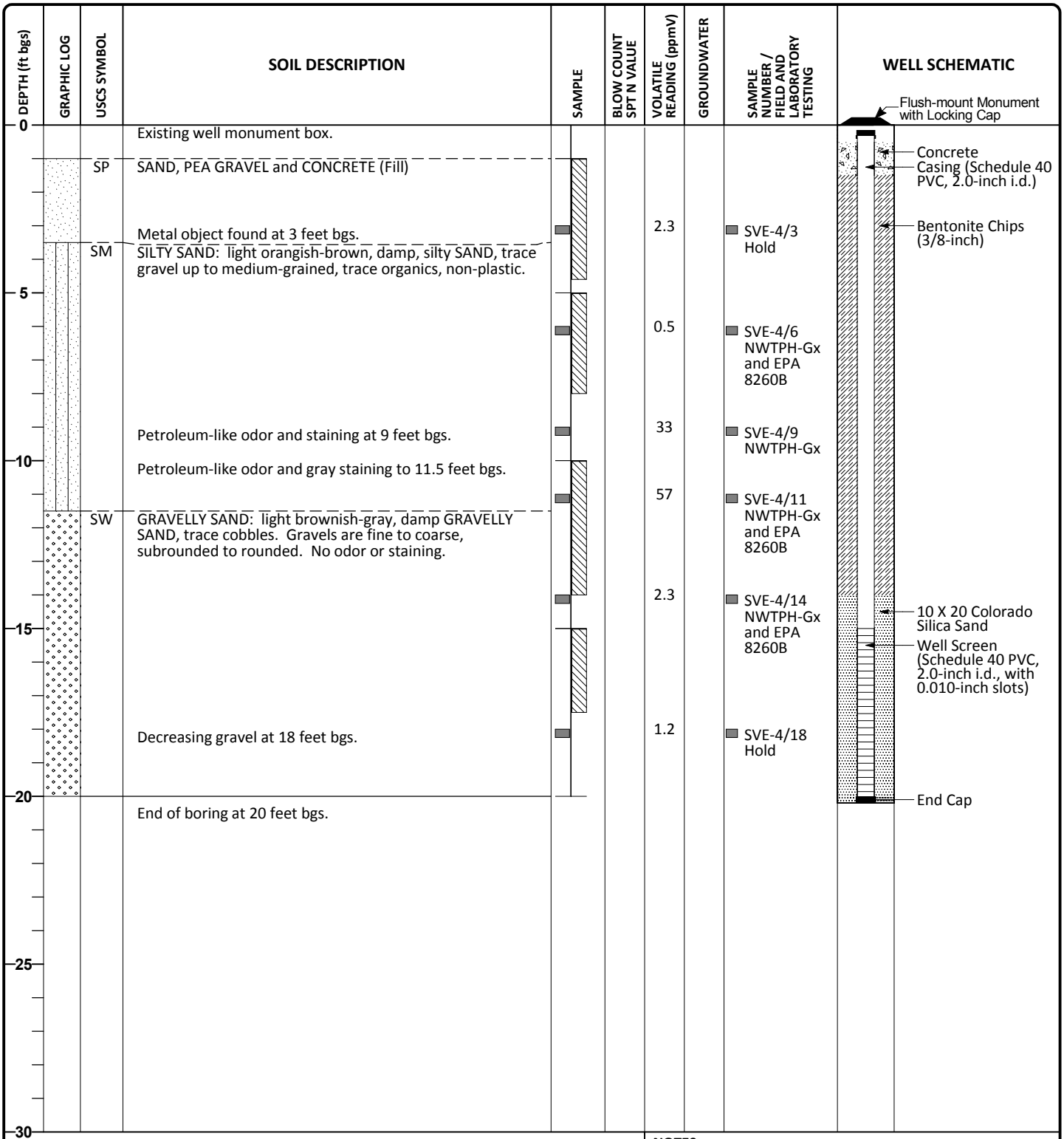
NOTES:

Plaid Pantry #112
1002 W. Fourth Plain Blvd
Vancouver, WA

E-1179-01

EES Environmental Consulting, Inc.
240 N Broadway, Suite 115
Portland, Oregon 97227
Tel (503) 847-2740

LOG OF BORING SVE-3



BORING METHOD: Direct Push
BOREHOLE DIAMETER:
DRILL RIG: NA
CONTRACTOR: Pacific Soil & Water/NK
LOGGED BY/REVIEWED BY: AC/LF

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: NA
DRILLING DATES: 8/17/2012 - 8/17/2012

NOTES:

Plaid Pantry #112
1002 W. Fourth Plain Blvd
Vancouver, WA

E-1179-01

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240 N Broadway, Suite 115
Portland, Oregon 97227
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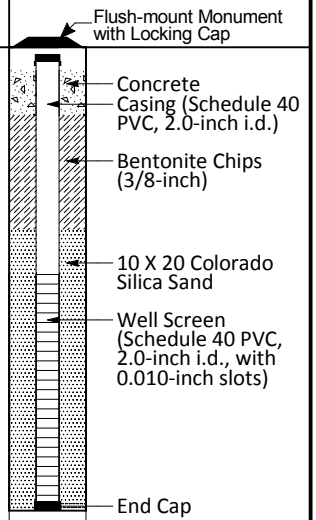
LOG OF BORING SVE-4

DEPTH (ft bgs)	USCS SYMBOL	SOIL DESCRIPTION	VOLATILE READING (ppmV)	SAMPLE NUMBER / FIELD AND LABORATORY TESTING
0		Existing well monument box.		
	ML	SANDY SILT: light brown, damp, sandy SILT, low plasticity. Poor recovery.		
5		Petroleum-like odor and gray staining at 6 feet bgs.	12	SVE-5/5 NWTPH-Gx and EPA 8260B
			1379	SVE-5/7.5 NWTPH-Gx and EPA 8260B
	SM	SILTY SAND: gray, damp, silty SAND, non-plastic.		
10		End of boring at 10 feet bgs.	323	
15				
20				
25				
30				



BORING METHOD: Direct Push
BOREHOLE DIAMETER:
DRILL RIG: NA
CONTRACTOR: Pacific Soil & Water/d
LOGGED BY/REVIEWED BY: AC/LF

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: NA
DRILLING DATES: 8/16/2012 - 8/16/2012

NOTES:

Plaid Pantry #112
1002 W. Fourth Plain Blvd
Vancouver, WA

E-1179-01

EES Environmental Consulting, Inc.
240 N Broadway, Suite 115
Portland, Oregon 97227
Tel (503) 847-2740

LOG OF BORING SVE-5

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **B-17** PAGE **1** OF **1**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03**
LOGGED BY **AG**

START CARD
COORDINATES
SURFACE ELEVATION
WELL ID **B-17**
DATUM

DEPTH FEET	LAB SAMPLE ID	pH	PID (ppmV)	SHEEN	RECOVERY %	STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
							Concrete: 4 inches.		
							Brown sandy SILT (ML); moist.	Well sealed at the surface with concrete, a flush-mounted traffic-rated steel monument, and locking cap.	
	B-17(3)		29.5	No	100		Brown silty SAND (SM); moist. Sand is fine.		
5									
	B-17(6)		225	No			Moderate hydrocarbon odor. Becomes dark brown.	Well constructed using two-inch diameter threaded schedule-40 PVC casing and screened with machine-cut 0.020-inch slots. Filter media consists of #10/20 sand.	
				No	100				
	B-17(9)		1,436	No			Becomes dark gray, with strong hydrocarbon odor.		
10			31.5	No					
							Becomes moist to wet.		
	B-17(12)		0.4	No					
					100		Brown to gray sandy GRAVEL (GP); moist.		
15								Backfilled bottom of borehole with cement.	
			0.3	No	100				
20							Boring complete at 20 feet.		
							Installed soil vapor monitoring well.		

DRILLING CONTRACTOR **Cascade Drilling**
DRILLING METHOD **Hand Auger/Direct-Push**
DRILLING EQUIPMENT **Geoprobe 7720DT**
DRILLING STARTED **9/2/15** ENDED **9/3/15**

REMARKS **Boring advanced 0-10 feet bgs using hand auger, then advanced to terminal depth using direct-push tooling.**

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **B-18** PAGE **1** OF **1**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03**
LOGGED BY **AG**

START CARD
COORDINATES
SURFACE ELEVATION
WELL ID **B-18**
DATUM

DEPTH FEET	LAB SAMPLE ID	pH	PID (ppmV)	SHEEN	RECOVERY %	STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
							Concrete: 4 inches.	Well sealed at the surface with concrete, a flush-mounted traffic-rated steel monument, and locking cap.	
							Dark brown to gray silty SAND (SM); moist. Strong hydrocarbon odor.		
	B-18(3)		4,837	Slight	100				
5									
	B-18(6)		1,468	No			Becomes dark brown to gray, with strong hydrocarbon odor.		
					100				
	B-18(9)		5,664	No			Becomes dark gray, with strong hydrocarbon odor.		
10									
							Thin (3-inch) moist to wet silt interval encountered between 11-11.5 ft bgs.		
	B-18(12)		0.6	No			Brown to gray sandy GRAVEL (GP); moist.		
					100				
15			0.4	No			No hydrocarbon odor.	Well constructed using two-inch diameter threaded schedule-40 PVC casing and screened with machine-cut 0.020-inch slots. Filter media consists of #10/20 sand.	
					100				
			0.2	No					
20							Boring complete at 20 feet.		
							Installed soil vapor monitoring well.		

DRILLING CONTRACTOR **Cascade Drilling**
DRILLING METHOD **Hand Auger/Direct-Push**
DRILLING EQUIPMENT **Geoprobe 7720DT**
DRILLING STARTED **9/3/15** ENDED **9/4/15**

REMARKS **Boring advanced 0-10 feet bgs using hand auger, then advanced to terminal depth using direct-push tooling.**

See key sheet for symbols and abbreviations used above.

EES LOG WITH WELL & SHEEN - LOG A EWNN03.GDT - 3/30/16 15:37 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\1179-01 & -03 BORING LOGS 020116.GPJ

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **S-27**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03**
LOGGED BY **AG**

START CARD
COORDINATES
SURFACE ELEVATION

WELL ID **S-27**
DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	pH	PID (ppmV)	SHEEN	RECOVERY %				
			0.3	No	100		Asphalt (AC): 2 inches. Brown silty SAND (SM); moist. Encountered 4 inch diameter ABS sanitary sewer line between 2.4 and 2.8 feet bgs. Boring complete at 2.9 ft bgs. Installed soil vapor monitoring well approximately 2 inches from sanitary sewer pipe.	Well sealed at the surface with concrete, a flush-mounted traffic-rated steel monument, and locking cap. Well constructed using two-inch diameter threaded schedule-40 PVC casing and screened with machine-cut 0.020-inch slots. Filter media consists of pea gravel.	

DRILLING CONTRACTOR **Cascade Drilling**
DRILLING METHOD **Air Knife/Hand Auger**
DRILLING EQUIPMENT **--**
DRILLING STARTED **9/4/15** ENDED **9/4/15**

REMARKS

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **S-28**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03**
LOGGED BY **AG**

START CARD
COORDINATES
SURFACE ELEVATION

WELL ID **S-28**
DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	pH	PID (ppmV)	SHEEN	RECOVERY %				
			0.3	No	100		Asphalt (AC): 2 inches. Brown silty SAND (SM); moist. Encountered 4 inch diameter ABS sanitary sewer line between 1.6 and 2.0 feet bgs. Boring complete at 2.2 ft bgs. Installed soil vapor monitoring well approximately 2 inches from sanitary sewer pipe.	Well sealed at the surface with concrete, a flush-mounted traffic-rated steel monument, and locking cap. Well constructed using two-inch diameter threaded schedule-40 PVC casing and screened with machine-cut 0.020-inch slots. Filter media consists of pea gravel.	

DRILLING CONTRACTOR **Cascade Drilling**
DRILLING METHOD **Air Knife/Hand Auger**
DRILLING EQUIPMENT **--**
DRILLING STARTED **9/4/15** ENDED **9/4/15**

REMARKS

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **S-29**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03**
LOGGED BY **AG**

START CARD
COORDINATES
SURFACE ELEVATION

WELL ID **S-29**
DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	pH	PID (ppmV)	SHEEN	RECOVERY %				
			0.2	No	100		Asphalt (AC): 2 inches. Brown silty SAND (SM); moist. Encountered 1 inch electrical conduit at 1.3 feet bgs. Boring complete at 2.0 ft bgs. Installed soil vapor monitoring well approximately 2 inches from electrical conduit.	Well sealed at the surface with concrete, a flush-mounted traffic-rated steel monument, and locking cap. Well constructed using two-inch diameter threaded schedule-40 PVC casing and screened with machine-cut 0.020-inch slots. Filter media consists of pea gravel.	

DRILLING CONTRACTOR **Cascade Drilling**
DRILLING METHOD **Air Knife/Hand Auger**
DRILLING EQUIPMENT **--**
DRILLING STARTED **9/4/15** ENDED **9/4/15**

REMARKS

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **S-30**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03**
LOGGED BY **AG**

START CARD
COORDINATES
SURFACE ELEVATION
WELL ID **S30**
DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	pH	PID (ppmV)	SHEEN	RECOVERY %				
					100		Asphalt: 2 inches. Brown to gray GRAVEL (GP) with sand, trace silt; moist. Brown sandy SILT (ML); moist.	Well sealed at the surface with concrete, a flush-mounted traffic-rated steel monument, and locking cap.	
			0.0	No					
5			0.1	No				Well constructed using two-inch diameter threaded schedule-40 PVC casing and screened with machine-cut 0.020-inch slots. Filter media consists of #10/20 sand.	
					100				
			0.0	No					
10							Boring complete at 10 feet. Installed soil vapor monitoring well.		

DRILLING CONTRACTOR **Cascade Drilling**
DRILLING METHOD **Air Knife/Hand Auger**
DRILLING EQUIPMENT **--**
DRILLING STARTED **9/4/15** ENDED **9/4/15**

REMARKS

See key sheet for symbols and abbreviations used above.

EES Environmental Consulting Inc.
240 N. Broadway #203
Portland, OR 97227
Telephone: 503.847.2740

BORING NO. **S-31**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03**
LOGGED BY **AG**

START CARD
COORDINATES
SURFACE ELEVATION
WELL ID **S-31**
DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	pH	PID (ppmV)	SHEEN	RECOVERY %				
			0.0	No	100		Asphalt: 3 inches. Brown sandy SILT (ML); moist.	Well sealed at the surface with concrete, a flush-mounted traffic-rated steel monument, and locking cap.	
5		6.55	0.0	No			Brown silty SAND (SM); moist.	Well constructed using two-inch diameter threaded schedule-40 PVC casing and screened with machine-cut 0.020-inch slots. Filter media consists of #10/20 sand.	
			0.0	No	100				
10							Boring complete at 10 feet. Installed soil vapor monitoring well.		

DRILLING CONTRACTOR **Cascade Drilling**
DRILLING METHOD **Air Knife/Hand Auger**
DRILLING EQUIPMENT **--**
DRILLING STARTED **9/1/15** ENDED **9/1/15**

REMARKS

See key sheet for symbols and abbreviations used above.

Attachment B

eurofins | Air Toxics

4/1/2016
Mr. Chris Rhea
EES Environmental Consulting, Inc.
240 N Broadway
Suite 203
Portland OR 97227

Project Name: PLAID #112
Project #: 1179-02
Workorder #: 1603395

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 3/21/2016 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1603395

Work Order Summary

CLIENT:	Mr. Chris Rhea EES Environmental Consulting, Inc. 240 N Broadway Suite 203 Portland, OR 97227	**BILL TO:**	Mr. Chris Rhea EES Environmental Consulting, Inc. 240 N Broadway Suite 203 Portland, OR 97227
PHONE:	530-847-2740	**P.O. #**	
FAX:		**PROJECT #**	1179-02 PLAID #112
DATE RECEIVED:	03/21/2016	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/01/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SVE-3	TO-15	6.9 "Hg	14.7 psi
02A	SVE-4	TO-15	7.1 "Hg	14.6 psi
03A	SVE-5	TO-15	5.7 "Hg	14.7 psi
04A	SVE-1	TO-15	9.6 "Hg	15.1 psi
05A	SVE-2	TO-15	3.9 "Hg	14.8 psi
06A	Lab Blank	TO-15	NA	NA
07A	CCV	TO-15	NA	NA
08A	LCS	TO-15	NA	NA
08AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 04/01/16

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
EES Environmental Consulting, Inc.
Workorder# 1603395

Five 1 Liter Summa Canister samples were received on March 21, 2016. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

Dilution was performed on sample SVE-3 due to the presence of high level target species.

Dilution was performed on samples SVE-5, SVE-1, and SVE-2 due to the presence of high level non-target species.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVE-3

Lab ID#: 1603395-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	5.2	220	17	700
Ethyl Benzene	5.2	82	22	360
Toluene	5.2	2100	20	7800
m,p-Xylene	5.2	290	22	1300
o-Xylene	5.2	120	22	510
TPH ref. to Gasoline (MW=100)	520	24000	2100	99000

Client Sample ID: SVE-4

Lab ID#: 1603395-02A

No Detections Were Found.

Client Sample ID: SVE-5

Lab ID#: 1603395-03A

No Detections Were Found.

Client Sample ID: SVE-1

Lab ID#: 1603395-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	3.7	3.7	12	12
TPH ref. to Gasoline (MW=100)	370	770	1500	3200

Client Sample ID: SVE-2

Lab ID#: 1603395-05A

No Detections Were Found.

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Client Sample ID: SVE-3

Lab ID#: 1603395-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3032621**	**Date of Collection: 3/16/16 4:34:00 PM**	
Dil. Factor:	**10.4**	**Date of Analysis: 3/26/16 09:19 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	5.2	220	17	700
Ethyl Benzene	5.2	82	22	360
Toluene	5.2	2100	20	7800
m,p-Xylene	5.2	290	22	1300
o-Xylene	5.2	120	22	510
Naphthalene	10	Not Detected	54	Not Detected
TPH ref. to Gasoline (MW=100)	520	24000	2100	99000

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	125	70-130
4-Bromofluorobenzene	77	70-130

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Client Sample ID: SVE-4

Lab ID#: 1603395-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3032622**	**Date of Collection: 3/16/16 4:55:00 PM**	
Dil. Factor:	**2.61**	**Date of Analysis: 3/26/16 09:45 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.3	Not Detected	4.2	Not Detected
Ethyl Benzene	1.3	Not Detected	5.7	Not Detected
Toluene	1.3	Not Detected	4.9	Not Detected
m,p-Xylene	1.3	Not Detected	5.7	Not Detected
o-Xylene	1.3	Not Detected	5.7	Not Detected
Naphthalene	2.6	Not Detected	14	Not Detected
TPH ref. to Gasoline (MW=100)	130	Not Detected	530	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: SVE-5

Lab ID#: 1603395-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3032623**	**Date of Collection: 3/16/16 5:05:00 PM**	
Dil. Factor:	**6.17**	**Date of Analysis: 3/26/16 10:09 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	3.1	Not Detected	9.8	Not Detected
Ethyl Benzene	3.1	Not Detected	13	Not Detected
Toluene	3.1	Not Detected	12	Not Detected
m,p-Xylene	3.1	Not Detected	13	Not Detected
o-Xylene	3.1	Not Detected	13	Not Detected
Naphthalene	6.2	Not Detected	32	Not Detected
TPH ref. to Gasoline (MW=100)	310	Not Detected	1300	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: SVE-1

Lab ID#: 1603395-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3032624**	**Date of Collection: 3/16/16 5:27:00 PM**	
Dil. Factor:	**7.45**	**Date of Analysis: 3/26/16 10:33 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	3.7	3.7	12	12
Ethyl Benzene	3.7	Not Detected	16	Not Detected
Toluene	3.7	Not Detected	14	Not Detected
m,p-Xylene	3.7	Not Detected	16	Not Detected
o-Xylene	3.7	Not Detected	16	Not Detected
Naphthalene	7.4	Not Detected	39	Not Detected
TPH ref. to Gasoline (MW=100)	370	770	1500	3200

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	89	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: SVE-2

Lab ID#: 1603395-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3032625**	**Date of Collection: 3/16/16 5:46:00 PM**	
Dil. Factor:	**4.61**	**Date of Analysis: 3/26/16 10:57 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	2.3	Not Detected	7.4	Not Detected
Ethyl Benzene	2.3	Not Detected	10	Not Detected
Toluene	2.3	Not Detected	8.7	Not Detected
m,p-Xylene	2.3	Not Detected	10	Not Detected
o-Xylene	2.3	Not Detected	10	Not Detected
Naphthalene	4.6	Not Detected	24	Not Detected
TPH ref. to Gasoline (MW=100)	230	Not Detected	940	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1603395-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3032607**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/26/16 11:37 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	Not Detected	1.6	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Naphthalene	1.0	Not Detected	5.2	Not Detected
TPH ref. to Gasoline (MW=100)	50	Not Detected	200	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: CCV

Lab ID#: 1603395-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3032602**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/26/16 08:38 AM**	

Compound	%Recovery
Benzene	112
Ethyl Benzene	94
Toluene	98
m,p-Xylene	96
o-Xylene	94
Naphthalene	102
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCS

Lab ID#: 1603395-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3032604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/26/16 09:31 AM**	

Compound	%Recovery	Method Limits
Benzene	92	70-130
Ethyl Benzene	91	70-130
Toluene	82	70-130
m,p-Xylene	92	70-130
o-Xylene	92	70-130
Naphthalene	91	60-140
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: LCSD

Lab ID#: 1603395-08AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3032605**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/26/16 10:14 AM**	

Compound	%Recovery	Method Limits
Benzene	97	70-130
Ethyl Benzene	92	70-130
Toluene	96	70-130
m,p-Xylene	93	70-130
o-Xylene	95	70-130
Naphthalene	97	60-140
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	100	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager CHRIS RHEA
Collected by: (Print and Sign) DANIELE PETERS Daniele Peters
Company EES ENVIRONMENTAL Email CHRIS@EES-ENV.COM
Address 240 N. BROADWAY #203 City PORTLAND State OR Zip 97227
Phone (503) 847-2740 Fax —

Project Info:
P.O. # —
Project # 1179-02
Project Name PLAID #112

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01a	SVE-3	373953	3/16/16	1634	TO-15	29	8		
02a	SVE-4	13350		1655		30	8		
03a	SVE-5	~~17803~~ 17834		1705		30	8		
04a	SVE-1	IL1647		1727		26	8		
05a	SVE-2	1367		1746		730	8		

Relinquished by: (signature) Date/Time
Daniele Peters 3/16/16 1845
Relinquished by: (signature) Date/Time
Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time
Received by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:
Please confirm analyses with Chris. Email above.

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		NA	Good	Yes No (None)	1603396

Form 1293 rev.11

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4/18/2016
Mr. Chris Rhea
EES Environmental Consulting, Inc.
240 N Broadway
Suite 203
Portland OR 97227

Project Name: Plaid 112
Project #: 1179-02
Workorder #: 1604132

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 4/5/2016 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1604132

Work Order Summary

CLIENT:	Mr. Chris Rhea EES Environmental Consulting, Inc. 240 N Broadway Suite 203 Portland, OR 97227	**BILL TO:**	Mr. Chris Rhea EES Environmental Consulting, Inc. 240 N Broadway Suite 203 Portland, OR 97227
PHONE:	530-847-2740	**P.O. #**	
FAX:		**PROJECT #**	1179-02 Plaid 112
DATE RECEIVED:	04/05/2016	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/18/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SVE-2	TO-15	7.6 "Hg	15 psi
02A	SVE-3	TO-15	8.2 "Hg	14.7 psi
03A	SVE-1	TO-15	14.1 "Hg	14.8 psi
04A	SVE-4	TO-15	7.6 "Hg	14.9 psi
05A	SVE-5	TO-15	5.7 "Hg	14.9 psi
06A	Lab Blank	TO-15	NA	NA
07A	CCV	TO-15	NA	NA
08A	LCS	TO-15	NA	NA
08AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 04/18/16

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
EPA Method TO-15
EES Environmental Consulting, Inc.
Workorder# 1604132

Five 1 Liter Summa Canister samples were received on April 05, 2016. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVE-2

Lab ID#: 1604132-01A

No Detections Were Found.

Client Sample ID: SVE-3

Lab ID#: 1604132-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
TPH ref. to Gasoline (MW=100)	140	380	560	1600

Client Sample ID: SVE-1

Lab ID#: 1604132-03A

No Detections Were Found.

Client Sample ID: SVE-4

Lab ID#: 1604132-04A

No Detections Were Found.

Client Sample ID: SVE-5

Lab ID#: 1604132-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.2	240	4.0	760
Ethyl Benzene	1.2	9.2	5.4	40
Toluene	1.2	320	4.7	1200
m,p-Xylene	1.2	39	5.4	170
o-Xylene	1.2	16	5.4	67
TPH ref. to Gasoline (MW=100)	120	9000	510	37000

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Client Sample ID: SVE-2

Lab ID#: 1604132-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041316**	**Date of Collection: 4/1/16 3:13:00 PM**	
Dil. Factor:	**2.70**	**Date of Analysis: 4/13/16 08:39 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.4	Not Detected	4.3	Not Detected
Ethyl Benzene	1.4	Not Detected	5.9	Not Detected
Toluene	1.4	Not Detected	5.1	Not Detected
m,p-Xylene	1.4	Not Detected	5.9	Not Detected
o-Xylene	1.4	Not Detected	5.9	Not Detected
Naphthalene	5.4	Not Detected	28	Not Detected
TPH ref. to Gasoline (MW=100)	140	Not Detected	550	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: SVE-3

Lab ID#: 1604132-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041317**	**Date of Collection: 4/1/16 3:19:00 PM**	
Dil. Factor:	**2.75**	**Date of Analysis: 4/13/16 09:06 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.4	Not Detected	4.4	Not Detected
Ethyl Benzene	1.4	Not Detected	6.0	Not Detected
Toluene	1.4	Not Detected	5.2	Not Detected
m,p-Xylene	1.4	Not Detected	6.0	Not Detected
o-Xylene	1.4	Not Detected	6.0	Not Detected
Naphthalene	5.5	Not Detected	29	Not Detected
TPH ref. to Gasoline (MW=100)	140	380	560	1600

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: SVE-1

Lab ID#: 1604132-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041318**	**Date of Collection: 4/1/16 3:53:00 PM**	
Dil. Factor:	**3.79**	**Date of Analysis: 4/13/16 09:32 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.9	Not Detected	6.0	Not Detected
Ethyl Benzene	1.9	Not Detected	8.2	Not Detected
Toluene	1.9	Not Detected	7.1	Not Detected
m,p-Xylene	1.9	Not Detected	8.2	Not Detected
o-Xylene	1.9	Not Detected	8.2	Not Detected
Naphthalene	7.6	Not Detected	40	Not Detected
TPH ref. to Gasoline (MW=100)	190	Not Detected	780	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: SVE-4

Lab ID#: 1604132-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041319**	**Date of Collection: 4/1/16 3:33:00 PM**	
Dil. Factor:	**2.70**	**Date of Analysis: 4/13/16 09:59 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.4	Not Detected	4.3	Not Detected
Ethyl Benzene	1.4	Not Detected	5.9	Not Detected
Toluene	1.4	Not Detected	5.1	Not Detected
m,p-Xylene	1.4	Not Detected	5.9	Not Detected
o-Xylene	1.4	Not Detected	5.9	Not Detected
Naphthalene	5.4	Not Detected	28	Not Detected
TPH ref. to Gasoline (MW=100)	140	Not Detected	550	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: SVE-5

Lab ID#: 1604132-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041320**	**Date of Collection: 4/1/16 3:43:00 PM**	
Dil. Factor:	**2.48**	**Date of Analysis: 4/13/16 10:26 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.2	240	4.0	760
Ethyl Benzene	1.2	9.2	5.4	40
Toluene	1.2	320	4.7	1200
m,p-Xylene	1.2	39	5.4	170
o-Xylene	1.2	16	5.4	67
Naphthalene	5.0	Not Detected	26	Not Detected
TPH ref. to Gasoline (MW=100)	120	9000	510	37000

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	119	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1604132-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041307**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/13/16 11:59 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	Not Detected	1.6	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Naphthalene	2.0	Not Detected	10	Not Detected
TPH ref. to Gasoline (MW=100)	50	Not Detected	200	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: CCV

Lab ID#: 1604132-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/13/16 09:14 AM**	

Compound	%Recovery
Benzene	89
Ethyl Benzene	76
Toluene	86
m,p-Xylene	77
o-Xylene	79
Naphthalene	75
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: LCS

Lab ID#: 1604132-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/13/16 09:41 AM**	

Compound	%Recovery	Method Limits
Benzene	88	70-130
Ethyl Benzene	75	70-130
Toluene	87	70-130
m,p-Xylene	77	70-130
o-Xylene	79	70-130
Naphthalene	84	60-140
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: LCSD

Lab ID#: 1604132-08AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/13/16 10:07 AM**	

Compound	%Recovery	Method Limits
Benzene	86	70-130
Ethyl Benzene	76	70-130
Toluene	85	70-130
m,p-Xylene	76	70-130
o-Xylene	80	70-130
Naphthalene	88	60-140
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	116	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager CHRIS RHEA

Collected by: (Print and Sign) DANIELE PETERS Daniele B Peters

Company EES Email

Address 240 N BROADWAY #203 City PORTLAND State OR Zip 97227

Phone (503) 847-2740 Fax —

Project Info:
P.O. # —
Project # 1179-02
Project Name PLAID 112

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01a	SVE-2	36429	4-1-16	1513	TO-15	30	8		
02a	SVE-3	35636		1519		29.5	8		
03a	SVE-1	30492		1553		30	14.5		
04a	SVE-4	37735		1533		29.5	8		
05a	SVE-5	IL1790		1543		30	8		

Relinquished by: (signature) Date/Time
Daniele Peters 4-1-16 1645

Received by: (signature) Date/Time
Andrea Augustine EATL 4/5/16 1055

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time

Notes:
PLEASE CONFIRM ANALYSES WITH PM, CHRIS RHEA

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	UPS		NA	Good	Yes No (None)	1604132

Form 1293 rev.11

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4/28/2016
Mr. Chris Rhea
EES Environmental Consulting, Inc.
240 N Broadway
Suite 203
Portland OR 97227

Project Name: PLAID PANTRY#112
Project #: -
Workorder #: 1604360

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 4/15/2016 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1604360

Work Order Summary

CLIENT:	Mr. Chris Rhea EES Environmental Consulting, Inc. 240 N Broadway Suite 203 Portland, OR 97227	**BILL TO:**	Mr. Chris Rhea EES Environmental Consulting, Inc. 240 N Broadway Suite 203 Portland, OR 97227
PHONE:	530-847-2740	**P.O. #**	1179-02
FAX:		**PROJECT #**	- PLAID PANTRY#112
DATE RECEIVED:	04/15/2016	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/28/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SVE-2	TO-15	8.5 "Hg	15 psi
02A	SVE-3	TO-15	6.9 "Hg	14.9 psi
03A	SVE-4	TO-15	7.8 "Hg	14.9 psi
04A	SVE-5	TO-15	8 "Hg	15.1 psi
05A	SVE-1	TO-15	7.1 "Hg	14.9 psi
06A	SVE BLOWER INLET	TO-15	6.7 "Hg	15.3 psi
07A	Lab Blank	TO-15	NA	NA
08A	CCV	TO-15	NA	NA
09A	LCS	TO-15	NA	NA
09AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 04/28/16

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
EES Environmental Consulting, Inc.
Workorder# 1604360

Six 1 Liter Summa Canister samples were received on April 15, 2016. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVE-2

Lab ID#: 1604360-01A

No Detections Were Found.

Client Sample ID: SVE-3

Lab ID#: 1604360-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.3	3.9	4.2	12
Ethyl Benzene	1.3	4.0	5.7	17
Toluene	1.3	41	4.9	160
m,p-Xylene	1.3	17	5.7	74
o-Xylene	1.3	22	5.7	97
TPH ref. to Gasoline (MW=100)	130	1300	540	5300

Client Sample ID: SVE-4

Lab ID#: 1604360-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
TPH ref. to Gasoline (MW=100)	140	240	560	980

Client Sample ID: SVE-5

Lab ID#: 1604360-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Toluene	1.4	1.4	5.2	5.2
m,p-Xylene	1.4	19	6.0	82
o-Xylene	1.4	23	6.0	100
TPH ref. to Gasoline (MW=100)	140	460	560	1900

Client Sample ID: SVE-1

Lab ID#: 1604360-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
TPH ref. to Gasoline (MW=100)	130	430	540	1800

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVE BLOWER INLET

Lab ID#: 1604360-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	1.7	6.5	8.6
Freon 11	1.3	1.4	7.4	8.1
Ethanol	5.3	29	9.9	56
2-Propanol	5.3	7.3	13	18
Tetrahydrofuran	1.3	3.0	3.9	8.8
Cyclohexane	1.3	1.4	4.5	5.0
2,2,4-Trimethylpentane	1.3	3.6	6.1	17
Toluene	1.3	2.7	5.0	10
Tetrachloroethene	1.3	58	8.9	390

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Client Sample ID: SVE-2

Lab ID#: 1604360-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042309**	**Date of Collection: 4/13/16 11:44:00 AM**	
Dil. Factor:	**2.82**	**Date of Analysis: 4/23/16 10:58 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.4	Not Detected	4.5	Not Detected
Ethyl Benzene	1.4	Not Detected	6.1	Not Detected
Toluene	1.4	Not Detected	5.3	Not Detected
m,p-Xylene	1.4	Not Detected	6.1	Not Detected
o-Xylene	1.4	Not Detected	6.1	Not Detected
Naphthalene	2.8	Not Detected	15	Not Detected
TPH ref. to Gasoline (MW=100)	140	Not Detected	580	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: SVE-3

Lab ID#: 1604360-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042310**	**Date of Collection: 4/13/16 11:53:00 AM**	
Dil. Factor:	**2.62**	**Date of Analysis: 4/23/16 11:24 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.3	3.9	4.2	12
Ethyl Benzene	1.3	4.0	5.7	17
Toluene	1.3	41	4.9	160
m,p-Xylene	1.3	17	5.7	74
o-Xylene	1.3	22	5.7	97
Naphthalene	2.6	Not Detected	14	Not Detected
TPH ref. to Gasoline (MW=100)	130	1300	540	5300

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: SVE-4

Lab ID#: 1604360-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042311**	**Date of Collection: 4/13/16 12:07:00 PM**	
Dil. Factor:	**2.72**	**Date of Analysis: 4/23/16 11:51 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.4	Not Detected	4.3	Not Detected
Ethyl Benzene	1.4	Not Detected	5.9	Not Detected
Toluene	1.4	Not Detected	5.1	Not Detected
m,p-Xylene	1.4	Not Detected	5.9	Not Detected
o-Xylene	1.4	Not Detected	5.9	Not Detected
Naphthalene	2.7	Not Detected	14	Not Detected
TPH ref. to Gasoline (MW=100)	140	240	560	980

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: SVE-5

Lab ID#: 1604360-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042312**	**Date of Collection: 4/13/16 12:20:00 PM**	
Dil. Factor:	**2.76**	**Date of Analysis: 4/23/16 12:18 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.4	Not Detected	4.4	Not Detected
Ethyl Benzene	1.4	Not Detected	6.0	Not Detected
Toluene	1.4	1.4	5.2	5.2
m,p-Xylene	1.4	19	6.0	82
o-Xylene	1.4	23	6.0	100
Naphthalene	2.8	Not Detected	14	Not Detected
TPH ref. to Gasoline (MW=100)	140	460	560	1900

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: SVE-1

Lab ID#: 1604360-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042313**	**Date of Collection: 4/13/16 12:27:00 PM**	
Dil. Factor:	**2.64**	**Date of Analysis: 4/23/16 12:45 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.3	Not Detected	4.2	Not Detected
Ethyl Benzene	1.3	Not Detected	5.7	Not Detected
Toluene	1.3	Not Detected	5.0	Not Detected
m,p-Xylene	1.3	Not Detected	5.7	Not Detected
o-Xylene	1.3	Not Detected	5.7	Not Detected
Naphthalene	2.6	Not Detected	14	Not Detected
TPH ref. to Gasoline (MW=100)	130	430	540	1800

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: SVE BLOWER INLET

Lab ID#: 1604360-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042314**	**Date of Collection:**	**4/13/16 12:42:00 PM**
Dil. Factor:	**2.63**	**Date of Analysis:**	**4/23/16 01:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	1.7	6.5	8.6
Freon 114	1.3	Not Detected	9.2	Not Detected
Chloromethane	13	Not Detected	27	Not Detected
Vinyl Chloride	1.3	Not Detected	3.4	Not Detected
1,3-Butadiene	1.3	Not Detected	2.9	Not Detected
Bromomethane	13	Not Detected	51	Not Detected
Chloroethane	5.3	Not Detected	14	Not Detected
Freon 11	1.3	1.4	7.4	8.1
Ethanol	5.3	29	9.9	56
Freon 113	1.3	Not Detected	10	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.2	Not Detected
Acetone	13	Not Detected	31	Not Detected
2-Propanol	5.3	7.3	13	18
Carbon Disulfide	5.3	Not Detected	16	Not Detected
3-Chloropropene	5.3	Not Detected	16	Not Detected
Methylene Chloride	13	Not Detected	46	Not Detected
Methyl tert-butyl ether	1.3	Not Detected	4.7	Not Detected
trans-1,2-Dichloroethene	1.3	Not Detected	5.2	Not Detected
Hexane	1.3	Not Detected	4.6	Not Detected
1,1-Dichloroethane	1.3	Not Detected	5.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.3	Not Detected	16	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.2	Not Detected
Tetrahydrofuran	1.3	3.0	3.9	8.8
Chloroform	1.3	Not Detected	6.4	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.2	Not Detected
Cyclohexane	1.3	1.4	4.5	5.0
Carbon Tetrachloride	1.3	Not Detected	8.3	Not Detected
2,2,4-Trimethylpentane	1.3	3.6	6.1	17
Benzene	1.3	Not Detected	4.2	Not Detected
1,2-Dichloroethane	1.3	Not Detected	5.3	Not Detected
Heptane	1.3	Not Detected	5.4	Not Detected
Trichloroethene	1.3	Not Detected	7.1	Not Detected
1,2-Dichloropropane	1.3	Not Detected	6.1	Not Detected
1,4-Dioxane	5.3	Not Detected	19	Not Detected
Bromodichloromethane	1.3	Not Detected	8.8	Not Detected
cis-1,3-Dichloropropene	1.3	Not Detected	6.0	Not Detected
4-Methyl-2-pentanone	1.3	Not Detected	5.4	Not Detected
Toluene	1.3	2.7	5.0	10
trans-1,3-Dichloropropene	1.3	Not Detected	6.0	Not Detected
1,1,2-Trichloroethane	1.3	Not Detected	7.2	Not Detected
Tetrachloroethene	1.3	58	8.9	390
2-Hexanone	5.3	Not Detected	22	Not Detected

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Client Sample ID: SVE BLOWER INLET

Lab ID#: 1604360-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042314**	**Date of Collection:**	**4/13/16 12:42:00 PM**
Dil. Factor:	**2.63**	**Date of Analysis:**	**4/23/16 01:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	10	Not Detected
Chlorobenzene	1.3	Not Detected	6.0	Not Detected
Ethyl Benzene	1.3	Not Detected	5.7	Not Detected
m,p-Xylene	1.3	Not Detected	5.7	Not Detected
o-Xylene	1.3	Not Detected	5.7	Not Detected
Styrene	1.3	Not Detected	5.6	Not Detected
Bromoform	1.3	Not Detected	14	Not Detected
Cumene	1.3	Not Detected	6.5	Not Detected
1,1,2,2-Tetrachloroethane	1.3	Not Detected	9.0	Not Detected
Propylbenzene	1.3	Not Detected	6.5	Not Detected
4-Ethyltoluene	1.3	Not Detected	6.5	Not Detected
1,3,5-Trimethylbenzene	1.3	Not Detected	6.5	Not Detected
1,2,4-Trimethylbenzene	1.3	Not Detected	6.5	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.9	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.9	Not Detected
alpha-Chlorotoluene	1.3	Not Detected	6.8	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.9	Not Detected
1,2,4-Trichlorobenzene	5.3	Not Detected	39	Not Detected
Hexachlorobutadiene	5.3	Not Detected	56	Not Detected
Naphthalene	2.6	Not Detected	14	Not Detected
TPH ref. to Gasoline (MW=100)	130	Not Detected	540	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1604360-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042306**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/16 09:08 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

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Client Sample ID: Lab Blank

Lab ID#: 1604360-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042306**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/16 09:08 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Naphthalene	1.0	Not Detected	5.2	Not Detected
TPH ref. to Gasoline (MW=100)	50	Not Detected	200	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: CCV

Lab ID#: 1604360-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/16 07:19 AM**	

Compound	%Recovery
Freon 12	96
Freon 114	94
Chloromethane	84
Vinyl Chloride	99
1,3-Butadiene	89
Bromomethane	100
Chloroethane	96
Freon 11	88
Ethanol	79
Freon 113	91
1,1-Dichloroethene	99
Acetone	92
2-Propanol	81
Carbon Disulfide	96
3-Chloropropene	95
Methylene Chloride	85
Methyl tert-butyl ether	94
trans-1,2-Dichloroethene	96
Hexane	89
1,1-Dichloroethane	90
2-Butanone (Methyl Ethyl Ketone)	94
cis-1,2-Dichloroethene	95
Tetrahydrofuran	80
Chloroform	90
1,1,1-Trichloroethane	85
Cyclohexane	92
Carbon Tetrachloride	84
2,2,4-Trimethylpentane	92
Benzene	94
1,2-Dichloroethane	86
Heptane	96
Trichloroethene	92
1,2-Dichloropropane	86
1,4-Dioxane	89
Bromodichloromethane	89
cis-1,3-Dichloropropene	90
4-Methyl-2-pentanone	84
Toluene	90
trans-1,3-Dichloropropene	84
1,1,2-Trichloroethane	82
Tetrachloroethene	84
2-Hexanone	73

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Client Sample ID: CCV

Lab ID#: 1604360-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/16 07:19 AM**	

Compound	%Recovery
Dibromochloromethane	80
1,2-Dibromoethane (EDB)	82
Chlorobenzene	83
Ethyl Benzene	82
m,p-Xylene	83
o-Xylene	87
Styrene	81
Bromoform	83
Cumene	83
1,1,2,2-Tetrachloroethane	78
Propylbenzene	81
4-Ethyltoluene	86
1,3,5-Trimethylbenzene	79
1,2,4-Trimethylbenzene	83
1,3-Dichlorobenzene	81
1,4-Dichlorobenzene	81
alpha-Chlorotoluene	79
1,2-Dichlorobenzene	82
1,2,4-Trichlorobenzene	79
Hexachlorobutadiene	81
Naphthalene	72
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: LCS

Lab ID#: 1604360-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/16 07:45 AM**	

Compound	%Recovery	Method Limits
Freon 12	99	70-130
Freon 114	101	70-130
Chloromethane	86	70-130
Vinyl Chloride	102	70-130
1,3-Butadiene	88	70-130
Bromomethane	105	70-130
Chloroethane	100	70-130
Freon 11	93	70-130
Ethanol	85	70-130
Freon 113	94	70-130
1,1-Dichloroethene	101	70-130
Acetone	89	70-130
2-Propanol	89	70-130
Carbon Disulfide	86	70-130
3-Chloropropene	93	70-130
Methylene Chloride	86	70-130
Methyl tert-butyl ether	95	70-130
trans-1,2-Dichloroethene	97	70-130
Hexane	90	70-130
1,1-Dichloroethane	94	70-130
2-Butanone (Methyl Ethyl Ketone)	94	70-130
cis-1,2-Dichloroethene	95	70-130
Tetrahydrofuran	82	70-130
Chloroform	93	70-130
1,1,1-Trichloroethane	88	70-130
Cyclohexane	94	70-130
Carbon Tetrachloride	85	70-130
2,2,4-Trimethylpentane	94	70-130
Benzene	90	70-130
1,2-Dichloroethane	84	70-130
Heptane	95	70-130
Trichloroethene	91	70-130
1,2-Dichloropropane	84	70-130
1,4-Dioxane	85	70-130
Bromodichloromethane	89	70-130
cis-1,3-Dichloropropene	85	70-130
4-Methyl-2-pentanone	85	70-130
Toluene	87	70-130
trans-1,3-Dichloropropene	78	70-130
1,1,2-Trichloroethane	79	70-130
Tetrachloroethene	82	70-130
2-Hexanone	79	70-130

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Client Sample ID: LCS

Lab ID#: 1604360-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/16 07:45 AM**	

Compound	%Recovery	Method Limits
Dibromochloromethane	78	70-130
1,2-Dibromoethane (EDB)	79	70-130
Chlorobenzene	79	70-130
Ethyl Benzene	79	70-130
m,p-Xylene	80	70-130
o-Xylene	84	70-130
Styrene	82	70-130
Bromoform	83	70-130
Cumene	80	70-130
1,1,2,2-Tetrachloroethane	76	70-130
Propylbenzene	81	70-130
4-Ethyltoluene	84	70-130
1,3,5-Trimethylbenzene	78	70-130
1,2,4-Trimethylbenzene	80	70-130
1,3-Dichlorobenzene	79	70-130
1,4-Dichlorobenzene	79	70-130
alpha-Chlorotoluene	81	70-130
1,2-Dichlorobenzene	80	70-130
1,2,4-Trichlorobenzene	86	70-130
Hexachlorobutadiene	86	70-130
Naphthalene	86	60-140
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCSD

Lab ID#: 1604360-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/16 08:12 AM**	

Compound	%Recovery	Method Limits
Freon 12	97	70-130
Freon 114	99	70-130
Chloromethane	85	70-130
Vinyl Chloride	101	70-130
1,3-Butadiene	88	70-130
Bromomethane	104	70-130
Chloroethane	97	70-130
Freon 11	92	70-130
Ethanol	82	70-130
Freon 113	92	70-130
1,1-Dichloroethene	98	70-130
Acetone	90	70-130
2-Propanol	88	70-130
Carbon Disulfide	83	70-130
3-Chloropropene	91	70-130
Methylene Chloride	84	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	96	70-130
Hexane	89	70-130
1,1-Dichloroethane	92	70-130
2-Butanone (Methyl Ethyl Ketone)	94	70-130
cis-1,2-Dichloroethene	96	70-130
Tetrahydrofuran	79	70-130
Chloroform	91	70-130
1,1,1-Trichloroethane	87	70-130
Cyclohexane	94	70-130
Carbon Tetrachloride	84	70-130
2,2,4-Trimethylpentane	92	70-130
Benzene	91	70-130
1,2-Dichloroethane	86	70-130
Heptane	97	70-130
Trichloroethene	91	70-130
1,2-Dichloropropane	84	70-130
1,4-Dioxane	85	70-130
Bromodichloromethane	88	70-130
cis-1,3-Dichloropropene	83	70-130
4-Methyl-2-pentanone	86	70-130
Toluene	87	70-130
trans-1,3-Dichloropropene	78	70-130
1,1,2-Trichloroethane	80	70-130
Tetrachloroethene	81	70-130
2-Hexanone	79	70-130

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Client Sample ID: LCSD

Lab ID#: 1604360-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a042304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/23/16 08:12 AM**	

Compound	%Recovery	Method Limits
Dibromochloromethane	77	70-130
1,2-Dibromoethane (EDB)	78	70-130
Chlorobenzene	78	70-130
Ethyl Benzene	79	70-130
m,p-Xylene	80	70-130
o-Xylene	83	70-130
Styrene	81	70-130
Bromoform	81	70-130
Cumene	80	70-130
1,1,2,2-Tetrachloroethane	76	70-130
Propylbenzene	80	70-130
4-Ethyltoluene	79	70-130
1,3,5-Trimethylbenzene	82	70-130
1,2,4-Trimethylbenzene	81	70-130
1,3-Dichlorobenzene	79	70-130
1,4-Dichlorobenzene	78	70-130
alpha-Chlorotoluene	81	70-130
1,2-Dichlorobenzene	80	70-130
1,2,4-Trichlorobenzene	87	70-130
Hexachlorobutadiene	89	70-130
Naphthalene	90	60-140
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	112	70-130

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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager CHRIS RHEA
Collected by: (Print and Sign) DANIELE PETERS Daniele Peters
Company EES ENVIRONMENTAL Email CHRIS@EES-ENV.com
Address 240 N. BROADWAY STE 203 City PORTLAND State OR Zip 97227
Phone (503) 847-2740 Fax —

Project Info:
P.O. # 1179-02
Project # —
Project Name PLAID PANTRY #112

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	SVE-2	37427	4/13/16	1144		29.5	8		
02A	SVE-3	36474		1153		30	8		
03A	SVE-4	35622		1207		29.5	8		
04A	SVE-5	37717		1220		30	8		
05A	SVE-1	37697		1227		30	8		
06A	SVE BLOWER INLET	34667	↓	1242		30	8		

Relinquished by: (signature) Daniele Peters Date/Time 1500 4/13/16
Received by: (signature) Dan EATR Date/Time 4-15-16 1130
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes: PLEASE CONFIRM ANALYSES WITH P.M., CHRIS RHEA.
THANK YOU! ☺

Lab Use Only

Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
UPS		n/a	Good	Yes No (None)	1604360

Form 1293 rev.11