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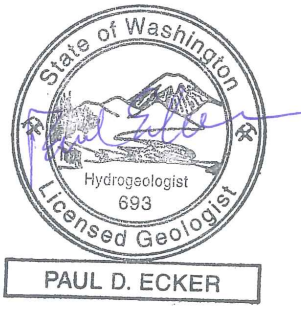
Technical Memorandum

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

From: Paul Ecker LHG, and Chris Rhea, LG

Date: September 7, 2016

Subject: **Status Report - Soil Vapor Extraction Monitoring (3Q-2016)**
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 August 2, 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. The SVE system has operated without major problems since full-time system startup in September 2013. EES turned the SVE system off temporarily between November 2015 and March 2016, 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. Monitoring data collected through August 2, 2016 is summarized below and on Figures 3 and 4, and presented on the attached data tables.

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. Well construction details were documented in prior status reports and are available on request.

Note that seasonally perched groundwater was observed at SVE-5 during winter 2015 and spring 2016, but the local water table has not been encountered during site investigation to date, and is not anticipated within 60 to 100 feet of the site ground surface.

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.

OBSERVED RADIUS OF INFLUENCE

On July 12, 2016, EES collected field measured data regarding air flow, vacuum, and vapor headspace concentration at select site monitoring wells to evaluate the SVE system's radius of influence (ROI) and overall performance. Findings include the following (see Table 2):

- 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. The vapor headspace concentration was much lower than prior measurements observed between November 2015 and April 2016.
- Minimal effects are 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.

The continued ROI tests confirm that the system's zone of shallow vapor extraction influence generally covers the area of known gasoline soil impacts at the Property (Figure 3), with consistent measurable influence extending to off-Property sidewalk well B-17. The radius of influence for each SVE well is estimated at approximately 6 to 10 feet.

BIOGENIC DEGRADATION OF GASOLINE

In order to help evaluate naturally-occurring conditions which may indicate biological degradation of subsurface gasoline vapors, EES field-measured common biodegradation parameters (oxygen, carbon dioxide, and methane) at all site wells on July 12, 2016. Generalized findings are as follows:

- Aerobic conditions (19-21% oxygen) were observed at SVE-1 through SVE-5 at the system manifold, indicating the remedial system is replenishing oxygen to the subsurface and enhancing conditions for biodegradation of contaminants. The effects of active SVE are evident at treatment zone monitoring well B-17, where since system restart in March 2016, oxygen levels have increased (from 8 to 15%), and carbon dioxide and methane levels have decreased (from 7 to 5%, and from 1.3 to 0.0%, respectively).

- At other perimeter well locations B-18, S-27, S-28, S-30, and S-31, aerobic subsurface conditions (approximately 19-21%) were also observed during this monitoring event. Such high oxygen levels may be indicative of depleted or absent contaminant mass at 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

Vapor samples collected from active SVE wells were analyzed to evaluate contaminant mass removal trends and to evaluate regulatory compliance criteria for ongoing air discharges. 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 A.

- Within the SVE treatment zone, gasoline and related constituent vapors continue to be removed from the subsurface at concentrations indicating generally diminishing residual impacts and mass removal rates (Table 3, Figure 4, Charts 1 and 2). Short-term rebounding gasoline conditions were observed as expected following the four-month SVE shutdown (November 2015 – March 2016), but observations during the July 2016 monitoring event were consistent with longer-term gasoline treatment trends over the past three years (Charts 1 through 3). During the July event, no gasoline constituents were detected among the five SVE wells except at SVE-5, where toluene and xylenes were observed at concentrations below regulatory cleanup levels.
- 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 0.005 pounds per day based on the July 2016 monitoring results. Cumulative removal of gasoline range hydrocarbons through July 12, 2016 is estimated to be 156 pounds, or approximately 26 gallons (Table 4).
- Non-gasoline chlorinated solvent vapors, primarily tetrachloroethylene (PCE), continue to be removed from the subsurface during SVE operations. PCE mass extraction rates are very low but have varied since system startup in 2013, and were increased compared to prior monitoring events based on July 2016 data (2,200 ug/m^3 is approximately 0.01 pounds per day PCE based on observed flow rates). Cumulative PCE mass removal through July 12, 2016 is estimated to be 4.1 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 are far below the maximum 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).

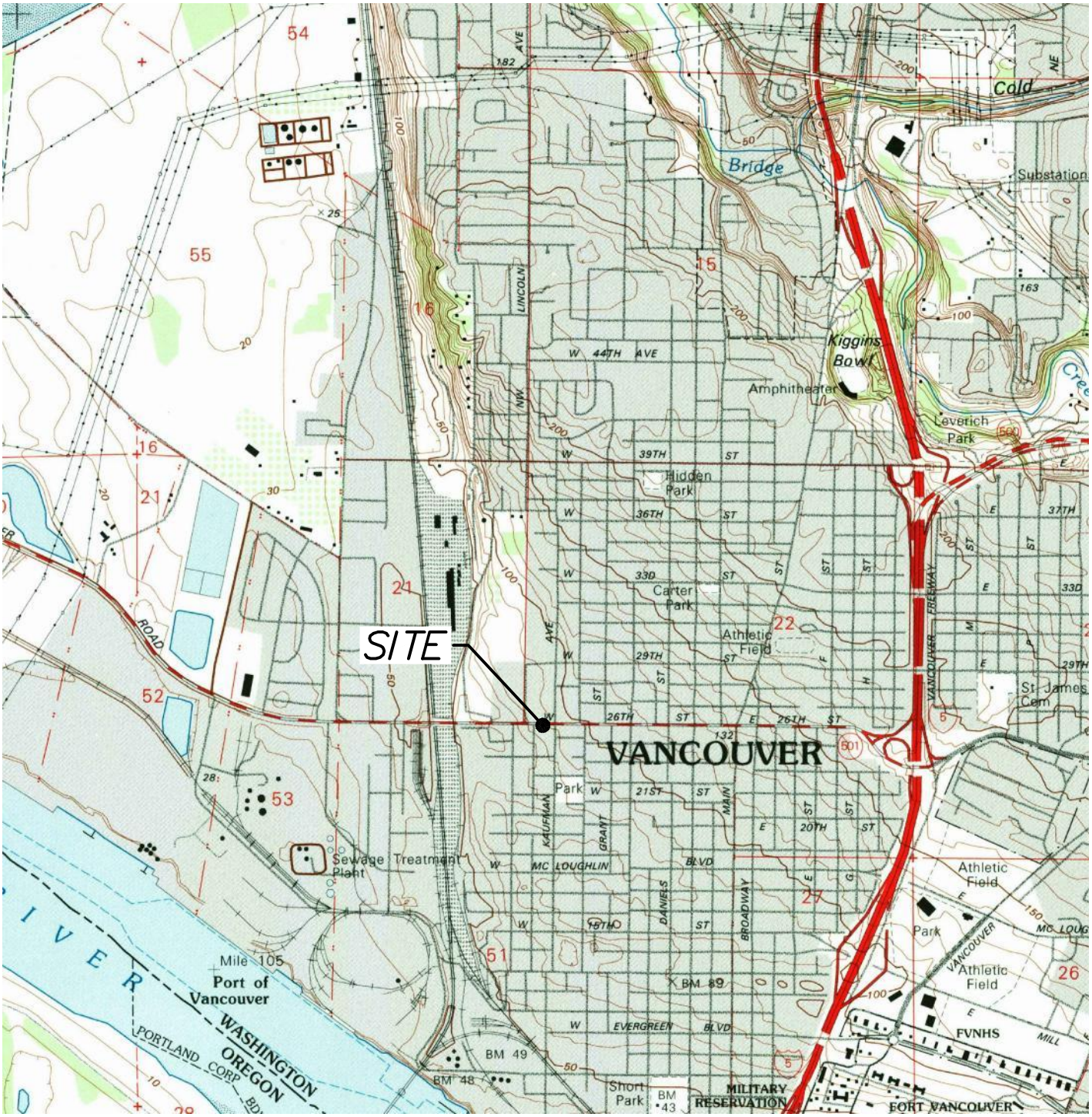
Routine SVE system monitoring is ongoing and the next quarterly vapor sampling event is scheduled for October 2016.

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

Figures	Figure 1: Vicinity Map Figure 2: Site Features Figure 3: Inferred Zone of Vacuum Influence Figure 4: Contaminated Vapor Concentrations during SVE Operations
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
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: Laboratory Analytical Data

Figures



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

N

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

C:\Users\Josh\Desktop\Autocad Backup\EES Autocad\1179-02\2015\April 2015\1179-02_VM.dwg 2.17.2014

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
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VANCOUVER, WA.

SITE FEATURES

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

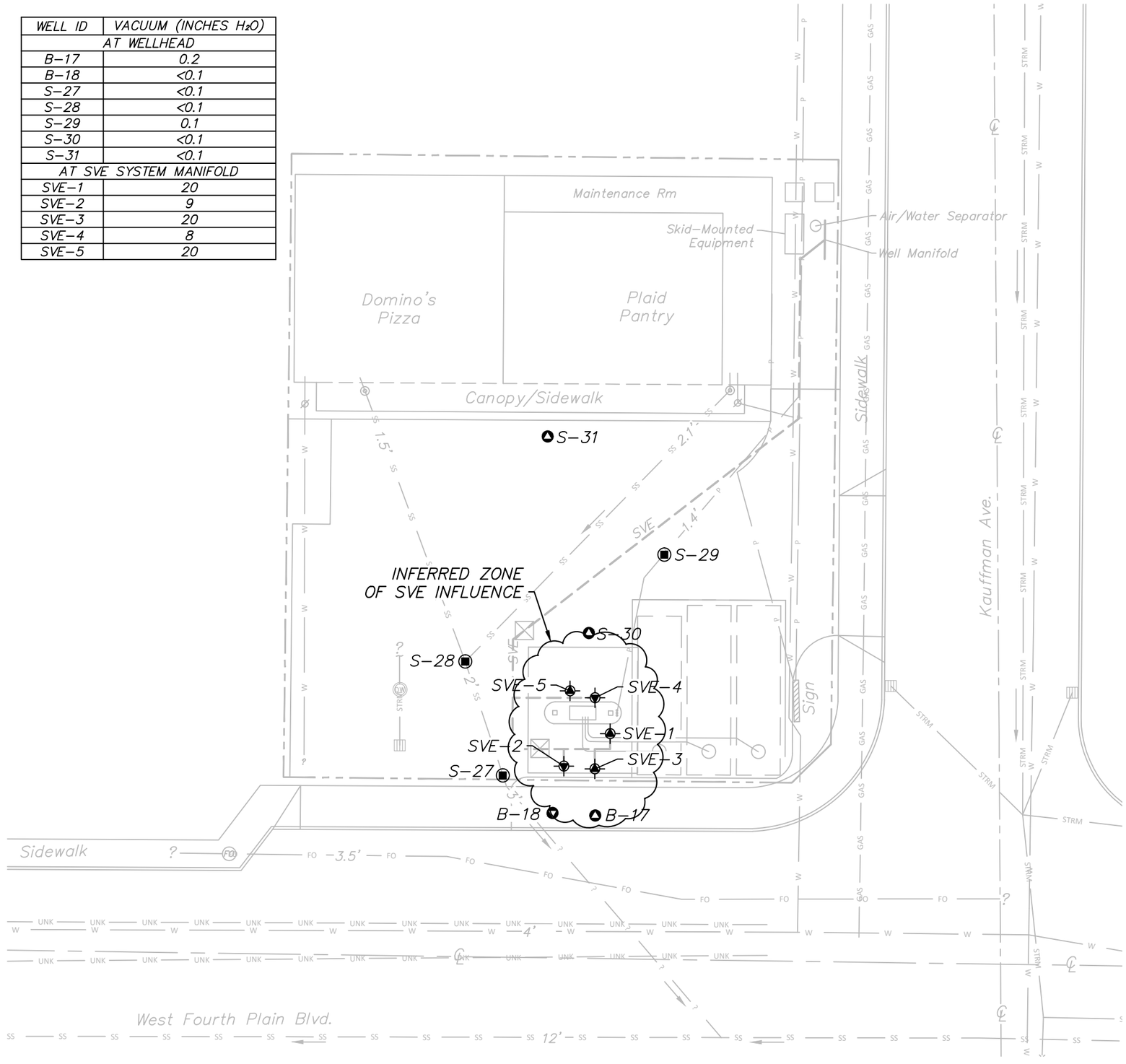
LEGEND

- 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
- FO — Fiber Optic
- Arrows Indicate Flow Direction Where Known

Approximate Utility Depths Indicated Where Known (Feet)

SITE FEATURES ARE APPROXIMATE.

WELL ID	VACUUM (INCHES H_2O)
AT WELLHEAD	
B-17	0.2
B-18	<0.1
S-27	<0.1
S-28	<0.1
S-29	0.1
S-30	<0.1
S-31	<0.1
AT SVE SYSTEM MANIFOLD	
SVE-1	20
SVE-2	9
SVE-3	20
SVE-4	8
SVE-5	20



APPROXIMATE SCALE IN FEET

0 10 20 40

N

PROJECT NO. 1179-02
FIGURE NO. 3
DATE: 8-30-16
FILE: 1179-02
DRAWN: JJT
APPROVED: DBP

INFERRED SVE RADIUS OF INFLUENCE (7/12/2016)

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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
- Sanitary Sewer
- Storm
- Water
- Fiber Optic
- Power
- SVE Piping

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

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

SITE FEATURES ARE APPROXIMATE.

N

APPROXIMATE SCALE IN FEET

0 5 10 20

West Fourth Plain Blvd.

Sidewalk

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	--
7/12/16	940	3.8U	--

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	--
7/12/16	520U	4.0U	--

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	--
7/12/16	650	4.0U	--

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	--
7/12/16	510U	4.0U	--

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	--
7/12/16	740	4.1U	--

PROJECT NO. 1179-02
DATE: 8-28-16
FILE: 1179-02
DRAWN: JJT
APPROVED: DBP
FIGURE NO. 4

CONTAMINANT VAPOR CONCENTRATIONS DURING SVE OPERATIONS

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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
	05/13/2016	-	21	6.5	674	7
	06/10/2016	-	21	1.2	646	7
	06/24/2016	-	20	9.0	534	6
	07/12/2016	Yes	20	19	467	6
	08/02/2016	-	18	3.2	423	6
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

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-2 (cont'd)	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
	04/13/2016	Yes	9	1.2	3,388	48
	05/13/2016	-	8	7.2	4,520	44
	06/10/2016	-	9	2.5	3,357	39
	06/24/2016	-	8	3.8	3,583	41
	07/12/2016	Yes	9	17	3,309	43
	08/02/2016	-	7	3.3	2,718	41
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
	05/13/2016	-	21	8.1	550	5
	06/10/2016	-	21	2.6	606	7
	06/24/2016	-	20	12	530	6
	07/12/2016	Yes	20	17	475	6
	08/02/2016	-	18	3.1	462	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

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-4 (cont'd)	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
	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
	05/13/2016	-	8	7.2	5,136	50
	06/10/2016	-	8	3.5	3,219	37
	06/24/2016	-	8	6.2	3,382	38
	07/12/2016	Yes	8	17	2,747	36
	08/02/2016	-	10	4.7	2,920	44
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
	05/13/2016	-	20	5.8	529	5
	06/10/2016	-	21	1.7	531	6
	06/24/2016	-	20	5.1	520	6

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-5 (cont'd)	07/12/2016	Yes	20	15	434	6
	08/02/2016	-	17	38	428	6
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
	11/20/2015	-	24	-	-	89
	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
	05/13/2016	-	21	-	-	111
	06/10/2016	-	22	-	-	97
	06/24/2016	-	21	-	-	97
	07/12/2016	-	21	-	-	97
	08/02/2016	-	19	-	-	105
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

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 Blower Inlet	11/20/2015	Yes	24	0.9	1,060	49
(cont'd)	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
	05/13/2016	-	22	5.4	3,014	139
	06/10/2016	-	23	2.1	1,828	84
	06/24/2016	-	22	4.2	1,805	83
	07/12/2016	Yes	22	3.2	1,837	85
	08/02/2016	-	20	6.9	1,905	88
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	-	-
	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	-	-
	05/13/2016	-	0.6	4.2	-	-
	06/10/2016	-	0.5	1.3	-	-
	06/24/2016	-	0.5	3.8	-	-
	07/12/2016	-	0.5	2.4	-	-
	08/02/2016	-	0.5	5.4	-	-
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	-	-

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]
Post GAC	2014 Q2 Avg.	-	0.1	3	-	-
(cont'd)	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 Observed (Yes/No)[a]	PID (ppmv)	CH_4 (%)	CO_2 (%)	O_2 (%)
B-17	11/20/2015	0.30	-	-	-	-	-
	11/23/2015	0.22	No	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	No	315	0.3	4.0	15.4
	4/8/2016	0.24	-	-	-	-	-
	4/13/2016	0.25	-	-	-	-	-
	5/13/2016	0.3	Yes	-	-	-	-
	7/12/2016	0.2	Yes	2.6	0.0	4.6	15.3
B-18	11/20/2015	0.05	-	-	-	-	-
	11/23/2015	0.08	No	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	No	1.3	0.0	1.7	18.8
	4/8/2016	0.05	-	-	-	-	-
	4/13/2016	0.06	-	-	-	-	-
	5/13/2016	0.08	No	-	-	-	-
	7/12/2016	0.07	-	2.7	0.0	2.0	18.4
S-27	11/20/2015	0.02	-	-	-	-	-
	11/23/2015	0.01	No	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	No	0.9	0.0	0.2	20.7
	04/08/2016	0.02	-	-	-	-	-
	05/13/2016	0.05	No	-	-	-	-
	07/12/2016	0.03	-	2.3	0.0	0.1	20.3
S-28	11/20/2015	0.03	-	-	-	-	-
	11/23/2015	0.00	No	0.8	-	-	-
	11/24/2015	*+0.75*	-	*1.0*	-	-	-
	12/11/2015	3.40	-	-	-	-	-
	03/16/2016	*+0.04*	-	-	-	-	-
	05/13/2016	+0	-	-	-	-	-
	07/12/2016	0.00	-	3.3	0.0	1.7	17.8
S-29	11/20/2015	0.02	-	-	-	-	-
	11/23/2015	0.00	No	2.6	-	-	-
	11/24/2015	*0.00*	-	*1.0*	-	-	-
	12/11/2015	0.09	-	0.4	-	-	-

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

Well ID	Date	Vacuum (inches H_2O)	Flow Observed (Yes/No)[a]	PID (ppmv)	CH_4 (%)	CO_2 (%)	O_2 (%)
S-29 (cont'd)	*03/16/2016*	*0.02*	-	-	-	-	-
	05/13/2016	0.00	No	-	-	-	-
	07/12/2016	0.10	No	3.7	1.2	0.0	1.2
S-30	11/20/2015	0.00	-	-	-	-	-
	11/23/2015	0.00	No	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	No	1.0	0.0	1.2	20.2
	04/08/2016	0.08	-	-	-	-	-
	04/13/2016	0.06	-	-	-	-	-
	05/13/2016	0.06	No	-	-	-	-
	07/12/2016	0.06	-	4.0	0.0	1.1	19.2
S-31	11/20/2015	0.02	-	-	-	-	-
	11/23/2015	0.03	No	3.6	-	-	-
	11/24/2015	*0.00*	-	*0.9*	-	-	-
	12/11/2015	0.05	-	0.5	-	-	-
	03/16/2016	*0.04*	-	-	-	-	-
	05/13/2016	0.00	No	-	-	-	-
	07/12/2016	0.06	-	5.3	0.0	1.2	19.3
SVE-1	11/23/2015	20	Yes	2.8	-	-	-
	7/12/2016	19	Yes	18.6[b]	0.0[b]	1.0[b]	19.7[b]
SVE-2	11/23/2015	4	Yes	1.9	-	-	-
	7/12/2016	1.2	Yes	16.8[b]	0.0[b]	1.7[b]	19.3[b]
SVE-3	11/23/2015	21	Yes	2.8	-	-	-
	7/12/2016	19	Yes	17.0[b]	0.0[b]	0.3[b]	20.5[b]
SVE-4	11/23/2015	1.8	Yes	0.9	-	-	-
	7/12/2016	1.5	Yes	16.7[b]	0.0[b]	1.3[b]	19.4[b]
SVE-5	11/23/2015	6	Yes	0.8	-	-	-
	7/12/2016	20	Yes	15.2[b]	0.0[b]	0.1[b]	20.5[b]

Notes:
[a] Flow of >0.1 liter per minute is considered observed flow.
[b] Measured at SVE system manifold.
[1] Measurements taken while only SVE-2 open at SVE manifold.
[2] Measurements taken while only SVE-3 open at SVE manifold.
Vacuum, PID, and biodegradation parameters measured at well heads.
Italics indicate the measurements were taken while the SVE system was off.
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*	-	-	-	-	-
	07/12/2016	5-10	18.6	650	4.0 U	4.8 U	5.5 U	5.5 U	5.5 U	-	-	-	*13 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*	-	-	-	-	-
	07/12/2016	5-10	16.8	510 U	4.0 U	4.7 U	5.4 U	5.4 U	5.4 U	-	-	-	*13 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	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
	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*	-	-	-	-	-
	07/12/2016	5-10	17.0	740	4.1 U	4.8 U	5.5 U	5.5 U	5.5 U	-	-	-	*13 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*	-	-	-	-	-
	07/12/2016	15-20	16.7	520 U	4.0 U	4.8 U	5.5 U	5.5 U	5.5 U	-	-	-	*13 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*	-	-	-	-	-
	07/12/2016	5-10	15.2	940	3.8 U	7.1	5.2 U	10	12	-	-	-	*12 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 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
	07/12/2016	NA	3.2	560 U	4.3 U	5.1 U	5.9 U	5.9 U	5.9 U	-	-	-	*14 U*	**2,200**	-	-	-	-
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 exceed 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	0.081 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	0.30	0.28	0.00093	26	0.039	0.089	0.0030
12/04/2013	89	99	26	1.2	0.32	0.0052	37	0.21	0.32	0.0047
03/07/2014	160	55	50	0.41	0.26	0.0056	55	0.60	11	0.026
05/09/2014	223	89	24	1.2	0.24	0.0052	70	0.93	25	0.28
08/08/2014	314	88	25	1.2	0.19	0.0095	88	1.8	43	1.2
11/14/2014	412	98	19	0.077 U	0.18	0.0053	106	2.3	61	1.7
02/06/2015	475	89	94	0.17 U	0.47	0.0010	136	2.4	90	1.7
03/06/2015	503	88	2.5 [e]	1.0 [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	0.057	0.00049	153	3.0	108	2.4
04/13/2016	803	113	0.54 U	0.39	0.062	0.0022	156	3.1	111	2.5
07/12/2016	881	97	0.56 U	2.2	0.0052	0.012	156	4.1	111	3.4
							Estimated Emissions During Last 12 Months (Pounds/Year):		9	1.1
							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

Charts

Chart 1

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

Plaid Pantry No. 112

Vancouver, Washington

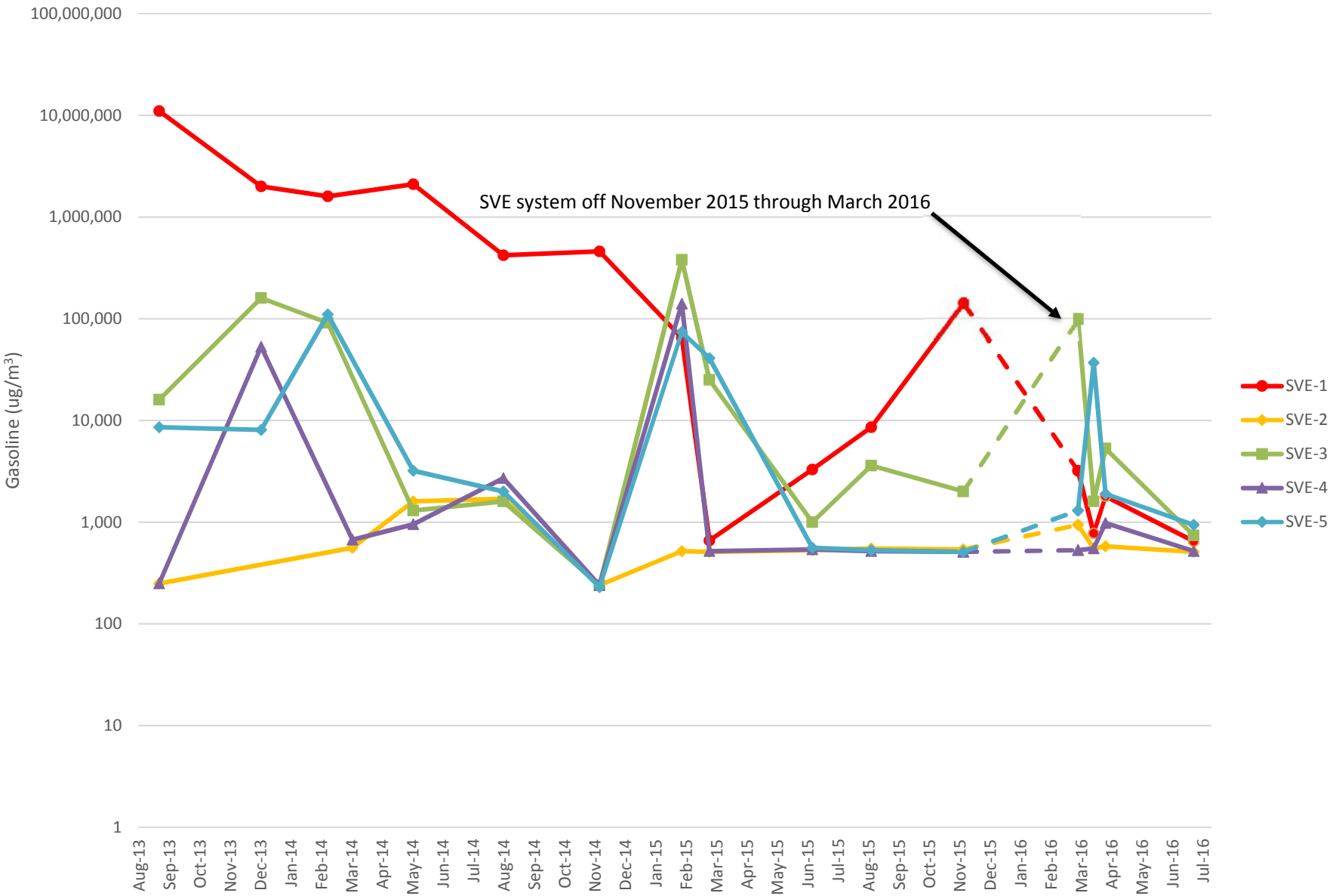


Chart 2

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

Plaid Pantry No. 112

Vancouver, Washington

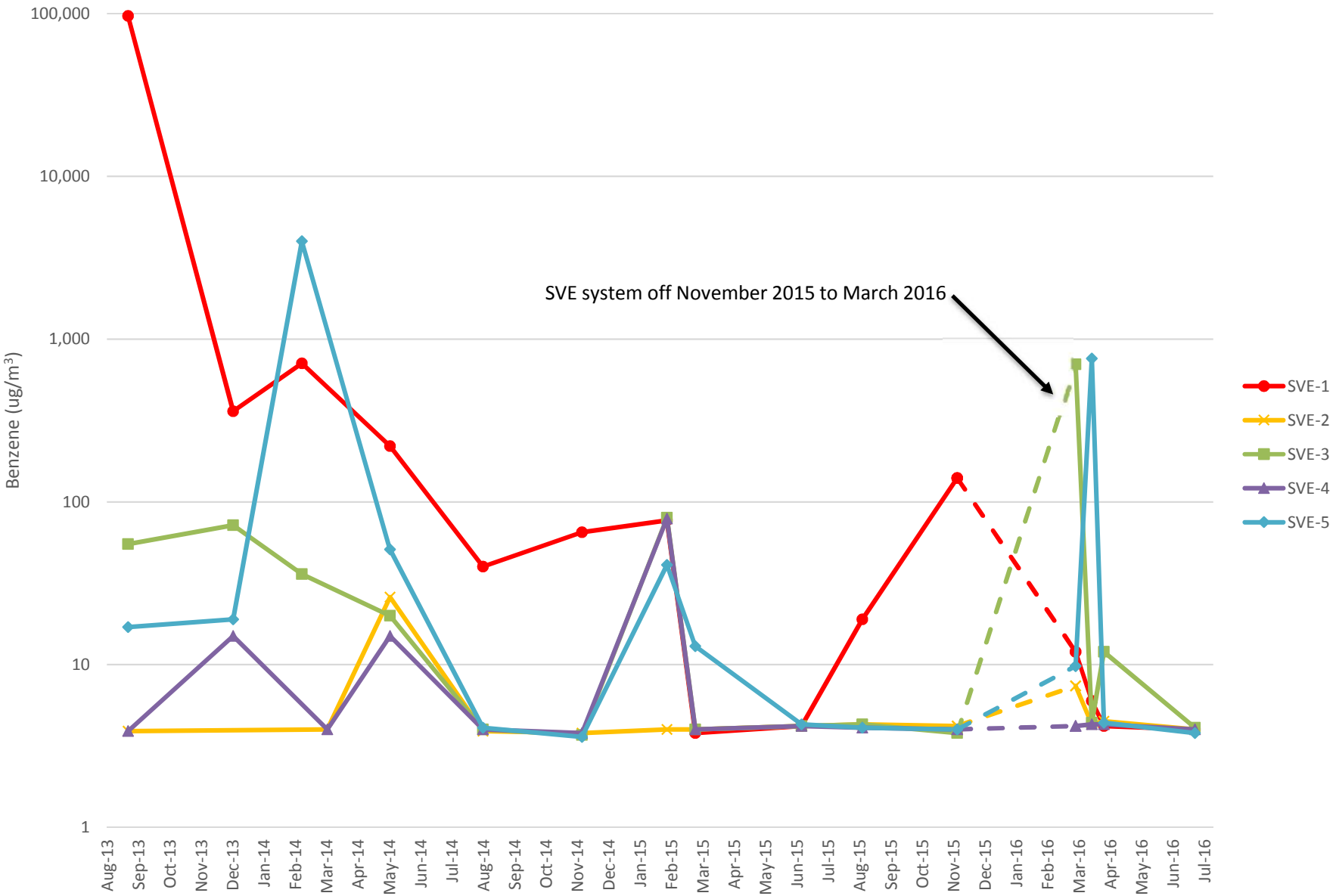


Chart 3

Gasoline Mass Extraction Rates and Cumulative Mass Removal

Plaid Pantry No. 112

Vancouver, Washington

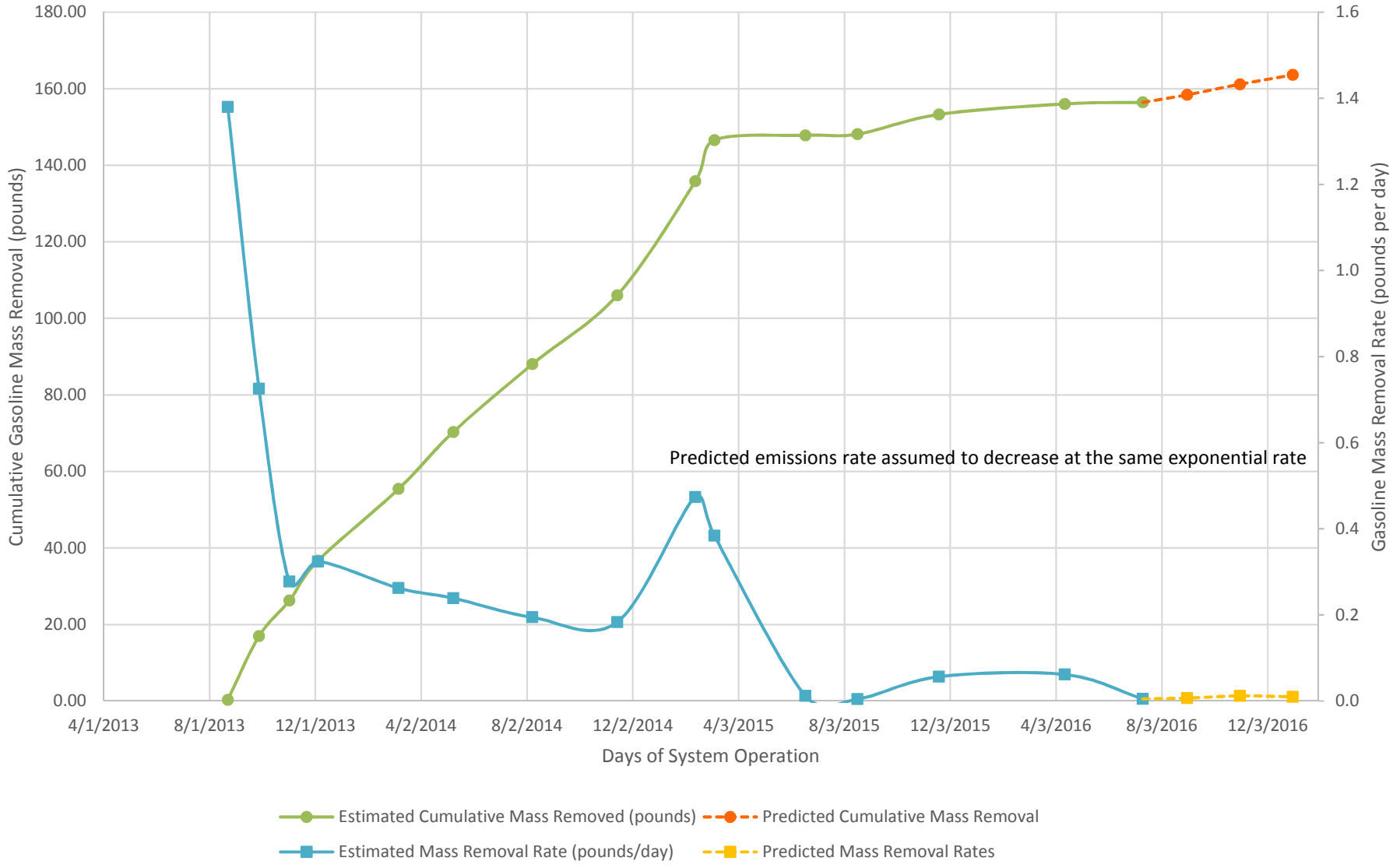
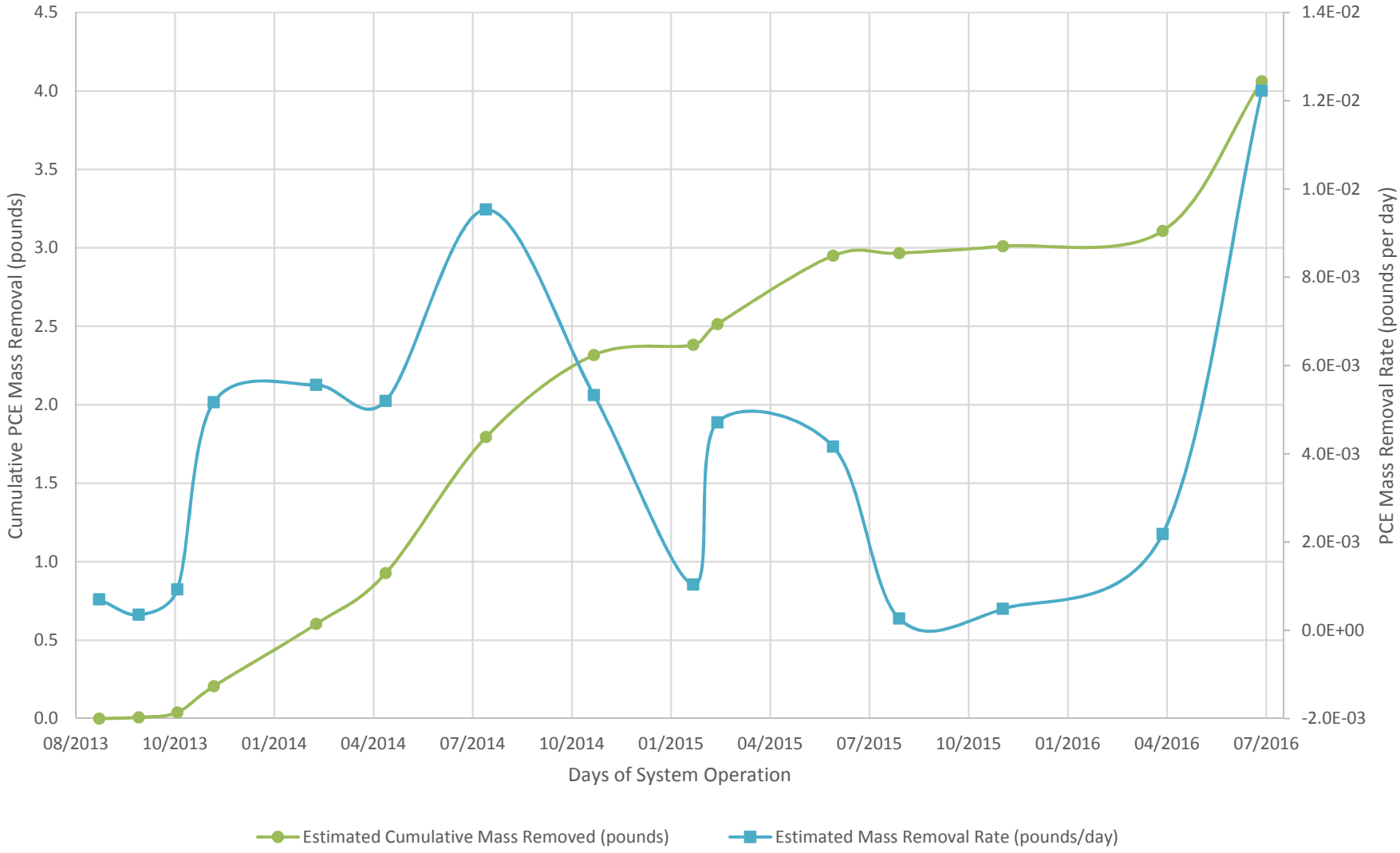


Chart 4

PCE Mass Extraction Rates and Cumulative Mass Removal

Plaid Pantry No. 112

Vancouver, Washington



Attachment A

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8/15/2016
Mr. Chris Rhea
EES Environmental Consulting, Inc.
240 N Broadway
Suite 203
Portland OR 97227

Project Name: PLAID #112
Project #: 1179-02
Workorder #: 1607266R1

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 7/14/2016 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 #: 1607266R1

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:	07/14/2016	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	07/27/2016		
DATE REISSUED:	08/15/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SVE-2	TO-15	5.7 "Hg	15 psi
02A	SVE-3	TO-15	5.9 "Hg	15.4 psi
03A	SVE-1	TO-15	5.9 "Hg	15.3 psi
04A	SVE-4	TO-15	5.7 "Hg	15.5 psi
05A	SVE-5	TO-15	4.5 "Hg	15.1 psi
06A	SVE BLOWER INLET	TO-15	7.6 "Hg	15.1 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 Mayo DATE: 08/15/16

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# 1607266R1

Six 1 Liter Summa Canister samples were received on July 14, 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

The Chain of Custody was missing method information for samples 02A-06A. EATL proceeded with the analysis as per the original contract or verbal agreement.

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.

The workorder was reissued on 08/15/16 to report Tetrachloroethene (PCE) in sample SVE BLOWER INLET per client's request. While the initial report met the laboratory data quality requirements for the originally requested compounds, PCE was not evaluated for quality compliance at the time of sample analysis. As a result, PCE was detected in the laboratory blank above the reporting limit. Associated sample PCE concentration was B-flagged as indicated.

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#: 1607266R1-01A

No Detections Were Found.

Client Sample ID: SVE-3

Lab ID#: 1607266R1-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
TPH ref. to Gasoline (MW=100)	130	180	520	740

Client Sample ID: SVE-1

Lab ID#: 1607266R1-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
TPH ref. to Gasoline (MW=100)	130	160	520	650

Client Sample ID: SVE-4

Lab ID#: 1607266R1-04A

No Detections Were Found.

Client Sample ID: SVE-5

Lab ID#: 1607266R1-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Toluene	1.2	1.9	4.5	7.1
m,p-Xylene	1.2	2.4	5.2	10
o-Xylene	1.2	2.7	5.2	12
TPH ref. to Gasoline (MW=100)	120	230	490	940

Client Sample ID: SVE BLOWER INLET

Lab ID#: 1607266R1-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	1.4	320 B	9.2	2200 B

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Client Sample ID: SVE-2

Lab ID#: 1607266R1-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17071911**	**Date of Collection: 7/12/16 10:33:00 AM**	
Dil. Factor:	**2.49**	**Date of Analysis: 7/19/16 05:06 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.2	Not Detected	4.0	Not Detected
Ethyl Benzene	1.2	Not Detected	5.4	Not Detected
Toluene	1.2	Not Detected	4.7	Not Detected
m,p-Xylene	1.2	Not Detected	5.4	Not Detected
o-Xylene	1.2	Not Detected	5.4	Not Detected
Naphthalene	2.5	Not Detected	13	Not Detected
TPH ref. to Gasoline (MW=100)	120	Not Detected	510	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: SVE-3

Lab ID#: 1607266R1-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17071912**	**Date of Collection: 7/12/16 10:46:00 AM**	
Dil. Factor:	**2.55**	**Date of Analysis: 7/19/16 05:33 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.3	Not Detected	4.1	Not Detected
Ethyl Benzene	1.3	Not Detected	5.5	Not Detected
Toluene	1.3	Not Detected	4.8	Not Detected
m,p-Xylene	1.3	Not Detected	5.5	Not Detected
o-Xylene	1.3	Not Detected	5.5	Not Detected
Naphthalene	2.6	Not Detected	13	Not Detected
TPH ref. to Gasoline (MW=100)	130	180	520	740

Container Type: 1 Liter Summa Canister

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

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Client Sample ID: SVE-1

Lab ID#: 1607266R1-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17071913**	**Date of Collection: 7/12/16 11:27:00 AM**	
Dil. Factor:	**2.54**	**Date of Analysis: 7/19/16 05:59 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.3	Not Detected	4.0	Not Detected
Ethyl Benzene	1.3	Not Detected	5.5	Not Detected
Toluene	1.3	Not Detected	4.8	Not Detected
m,p-Xylene	1.3	Not Detected	5.5	Not Detected
o-Xylene	1.3	Not Detected	5.5	Not Detected
Naphthalene	2.5	Not Detected	13	Not Detected
TPH ref. to Gasoline (MW=100)	130	160	520	650

Container Type: 1 Liter Summa Canister

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

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Client Sample ID: SVE-4

Lab ID#: 1607266R1-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17071914**	**Date of Collection: 7/12/16 11:51:00 AM**	
Dil. Factor:	**2.54**	**Date of Analysis: 7/19/16 06:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.3	Not Detected	4.0	Not Detected
Ethyl Benzene	1.3	Not Detected	5.5	Not Detected
Toluene	1.3	Not Detected	4.8	Not Detected
m,p-Xylene	1.3	Not Detected	5.5	Not Detected
o-Xylene	1.3	Not Detected	5.5	Not Detected
Naphthalene	2.5	Not Detected	13	Not Detected
TPH ref. to Gasoline (MW=100)	130	Not Detected	520	Not Detected

Container Type: 1 Liter Summa Canister

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

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Client Sample ID: SVE-5

Lab ID#: 1607266R1-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17071915**	**Date of Collection: 7/12/16 12:08:00 PM**	
Dil. Factor:	**2.38**	**Date of Analysis: 7/19/16 06:52 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.2	Not Detected	3.8	Not Detected
Ethyl Benzene	1.2	Not Detected	5.2	Not Detected
Toluene	1.2	1.9	4.5	7.1
m,p-Xylene	1.2	2.4	5.2	10
o-Xylene	1.2	2.7	5.2	12
Naphthalene	2.4	Not Detected	12	Not Detected
TPH ref. to Gasoline (MW=100)	120	230	490	940

Container Type: 1 Liter Summa Canister

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

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Client Sample ID: SVE BLOWER INLET

Lab ID#: 1607266R1-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17071916r1**	**Date of Collection: 7/12/16 12:32:00 PM**	
Dil. Factor:	**2.72**	**Date of Analysis: 7/19/16 07:18 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.4	Not Detected	4.3	Not Detected
Tetrachloroethene	1.4	320 B	9.2	2200 B
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	Not Detected	560	Not Detected

B = Analyte present in laboratory blank greater than reporting limit.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1607266R1-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17071910**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/19/16 03:15 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	Not Detected	1.6	Not Detected
Tetrachloroethene	0.50	4.2	3.4	28
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	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: CCV

Lab ID#: 1607266R1-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17071902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/19/16 09:39 AM**	

Compound	%Recovery
Benzene	100
Tetrachloroethene	97
Ethyl Benzene	101
Toluene	100
m,p-Xylene	102
o-Xylene	105
Naphthalene	85
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: LCS

Lab ID#: 1607266R1-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17071907**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/19/16 12:45 PM**	

Compound	%Recovery	Method Limits
Benzene	101	70-130
Tetrachloroethene	97	70-130
Ethyl Benzene	100	70-130
Toluene	99	70-130
m,p-Xylene	101	70-130
o-Xylene	104	70-130
Naphthalene	101	60-140
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 1607266R1-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17071908**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/19/16 01:12 PM**	

Compound	%Recovery	Method Limits
Benzene	101	70-130
Tetrachloroethene	99	70-130
Ethyl Benzene	102	70-130
Toluene	100	70-130
m,p-Xylene	104	70-130
o-Xylene	108	70-130
Naphthalene	106	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	99	70-130
4-Bromofluorobenzene	101	70-130