EES
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240 N. Broadway, Suite 203, Portland, Oregon 97227
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Technical Memorandum

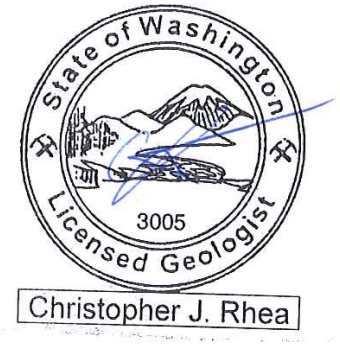
Status Report – SVE Monitoring (Second Quarter 2017)

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

From: Paul Ecker LHG, and Chris Rhea, LG

Date: June 29, 2017

Regarding: 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 2017 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 December 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 with minor short-term exceptions the system has operated continuously since then. Monitoring data collected through April 13, 2017 is summarized below and on Figures 3 and 4, and presented on the attached data tables.

Routine SVE system monitoring and reporting is ongoing, with quarterly vapor sampling events scheduled for January, April, July, and October while the system is in operation.

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.

Seasonally perched groundwater is periodically observed during system operations, primarily during winter conditions at well SVE-5. However, the local water table has not been encountered during site drilling activities to date, and is not anticipated within 60 to 100 feet of the site ground surface.

AIR FLOW

Since March 2016, the system has produced between approximately 88 and 112 cubic feet per minute (CFM) of air flow from the subsurface (see Table 1, "AWS Inlet"). The major source of air flow 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), each with typical extraction flow rates of approximately 30 to 50 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 10 CFM.

OBSERVED RADIUS OF INFLUENCE

On April 13, 2017, EES collected routine quarterly vacuum and vapor headspace concentration field measurements at all site monitoring wells to evaluate the SVE system's radius of influence (ROI) and overall performance. Findings are summarized below and on 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 and air flow observed at that location during active SVE operations.
- Lesser effects are observed at wells B-18 and S-30, and these two wells typically appear to define the perimeter of the SVE well array's radius of influence.
- Although slight vacuum influence is periodically observed at other site monitoring wells (S-27, S-28, S-29, or S-31), these wells typically do not exhibit clear indications of SVE influence on a consistent basis. 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 historical 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) and volatile chemical concentrations at all site wells on April 13, 2017. Generalized findings are as follows, and summarized on Table 2:

- 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 consistent with biodegradation of contaminants.

- The effects of active SVE are evident at treatment zone perimeter monitoring well B-17, where vacuum influence is measured. This well is screened in the interval between five and 10 feet depth, which is in contact with the pocket of residual soil contamination beneath the sidewalk. Data collected at well B-17 between March and October 2016 demonstrated decreases in methane (ranging from 0.0 to 1.3%) and carbon dioxide levels (ranging from 4.0 to 9.5%), and greatly reduced PID concentrations, with increases in overall oxygen (ranging from 5.4 to 15.4%). These observed levels represent suitable soil vapor conditions for promoting aerobic degradation of gasoline. However, in January 2017, methane (2.3%), carbon dioxide (13.2%), oxygen (0.5%), and PID (840 ppmv) levels were more indicative of anaerobic conditions. Conditions observed in April 2017 appear more typical of a moderately aerobic environment, including methane (0.0%), carbon dioxide (8.2%), oxygen (6.2%) and PID (49 ppmv) levels. Based on these monitoring data, it appears well B-17 is on the perimeter of SVE influence with fluctuating aerobic effects and contaminant degradation. The cause for rebound in biodegradation parameter levels may be related to seasonal wet weather conditions limiting soil permeability and air flow, and will continue to be monitored.
- At other perimeter well locations B-18, S-27, S-28, S-30, and S-31, aerobic subsurface conditions (approximately 18-21%) were observed during this monitoring event. Such high oxygen levels likely indicate aerobic conditions expected to deplete or eliminate contaminant mass at these locations (if present).
- Consistent conditions at shallow trench backfill well S-29 are unique at this site and indicate a reductive setting that may not support effective biogenic degradation, including measurable methane (0.2 to 1.2%) and substantially depleted oxygen. Limited 2016-2017 data at this location will be supplemented in the future.

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 compliance with regulatory 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 for this monitoring period 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 through 3). Although short-term elevated (rebounding) gasoline vapor conditions were observed as expected following the four-month SVE shutdown (November 2015 – March 2016), observations during the April 2017 sampling event were generally consistent with longer-term gasoline treatment trends over the past three years (Charts 1 through 3).
- During the April 2017 event, gasoline and/or related vapor constituents were detected at all five SVE wells. The highest concentrations of gasoline (11,000 micrograms per cubic meter [ug/m^3]) and benzene (120 ug/m^3) were detected at well SVE-1, with benzene exceeding the MTCA Method B soil gas screening level (10.7 ug/m^3). Gasoline constituents

were detected at each of the other four wells but at concentrations below MTCA Method B soil gas screening levels. Overall, gasoline and related constituent concentrations were slightly elevated, but within the range of variability observed during the past several years. The more elevated gasoline concentration previously observed at SVE-1 in January 2017 (Table 3, Figure 4) appears to have been a localized and short-term anomaly.

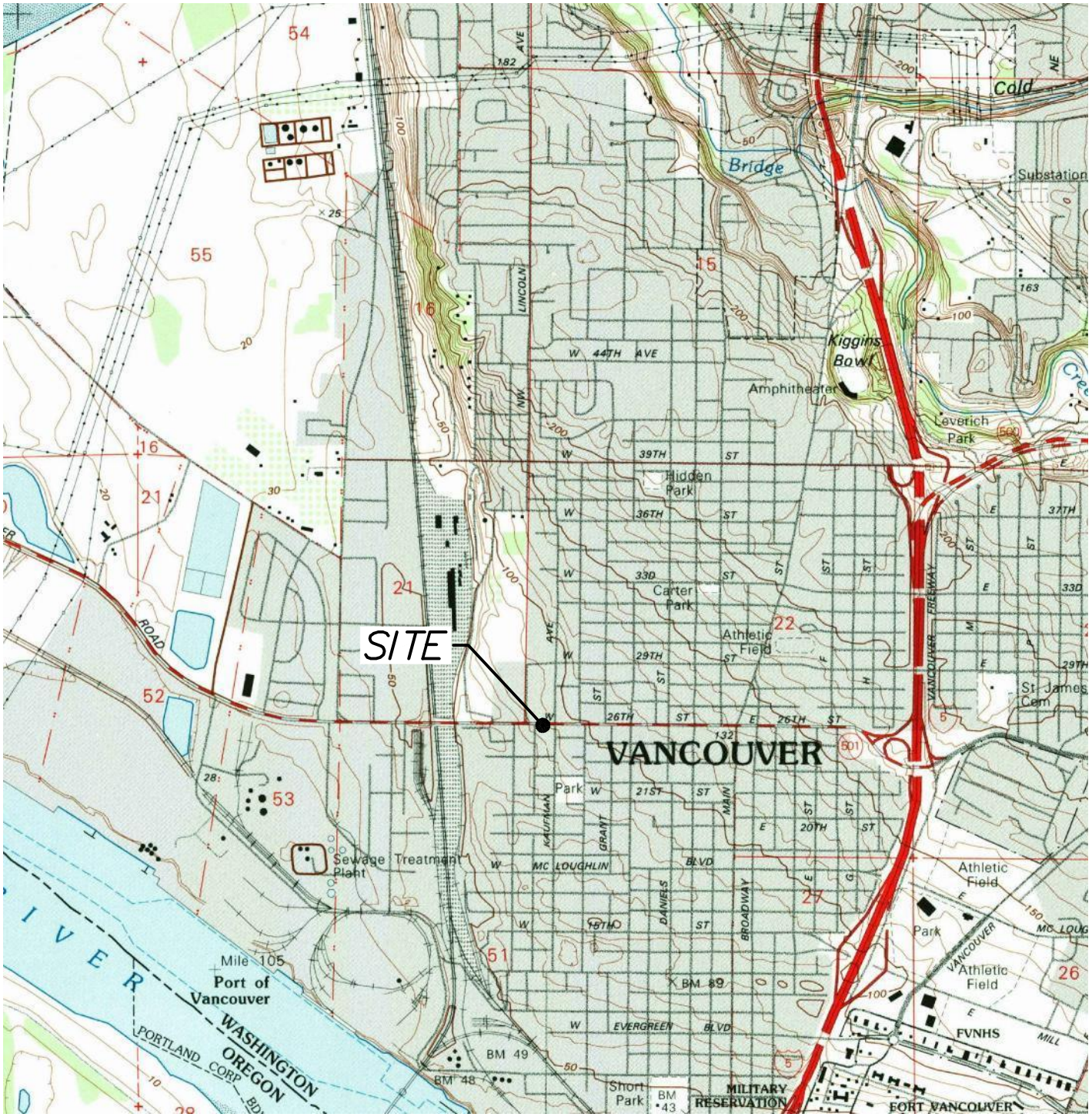
- Initial gasoline mass extraction rates at SVE startup in August 2013 were estimated at 1.4 pounds per day, and decreased to approximately 0.3 pounds per day by November 2013. Since then, gasoline mass extraction rates have fluctuated but generally decreased, and were calculated to be approximately 0.018 pounds per day based on the April 2017 monitoring results. The removal rate increased during the first quarter of 2017, but has been generally consistent since mid-2015. From June 2015 through April 2017 approximately 30 pounds of gasoline mass were removed by SVE from the subsurface. Cumulative removal of gasoline range hydrocarbons through April 13, 2017 is estimated to be 131 pounds, or approximately 29 gallons (Table 4, Chart 3). Chart 3 illustrates these gasoline mass removal trends.
- Non-gasoline chlorinated solvent vapors, primarily tetrachloroethylene (PCE), continue to be removed from the subsurface during SVE operations (Table 3, Figure 4, Chart 4). Total PCE concentrations in SVE system exhaust are measured quarterly for regional air discharge compliance purposes. Since April 2016, overall higher levels of PCE have been observed in system exhausts compared to prior years. PCE in the system exhaust was detected in April 2017 at a concentration of 690 ug/m^3. This concentration exceeds Ecology's default regulatory soil gas screening level of 321 ug/m^3, but is far below air emissions permit thresholds and will continue to be monitored.
- PCE mass extraction rates are very low but have varied since system startup in 2013. PCE extraction rates were elevated between July 2016 and January 2017 compared to prior monitoring events, but diminished between January and April 2017 (approximately 0.0054 pounds per day PCE based on April 2017 data). Cumulative PCE mass removal between 2013 startup and April 13, 2017 is estimated to be 6.8 pounds, more than half of which was accumulated since April 2016 (Table 4, Chart 4).
- Per Southwest Washington Clean Air Agency (SWCAA) approval, SVE exhaust treatment controls were discontinued on March 28, 2014 due to low total emissions. 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 and PCE vapor exhausts (Table 4).

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

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LEGEND

Property Boundary

Catch Basin

Dry Well

SITE FEATURES ARE APPROXIMATE.

APPROXIMATE SCALE IN FEET

0 10 20 40

N

Domino's Pizza

Plaid Pantry

Sidewalk

Sidewalk

Kauffman Ave.

Canopy/Pump Island

Sign

Existing UST Locations

Sidewalk

West Fourth Plain Blvd.

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

SITE FEATURES

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

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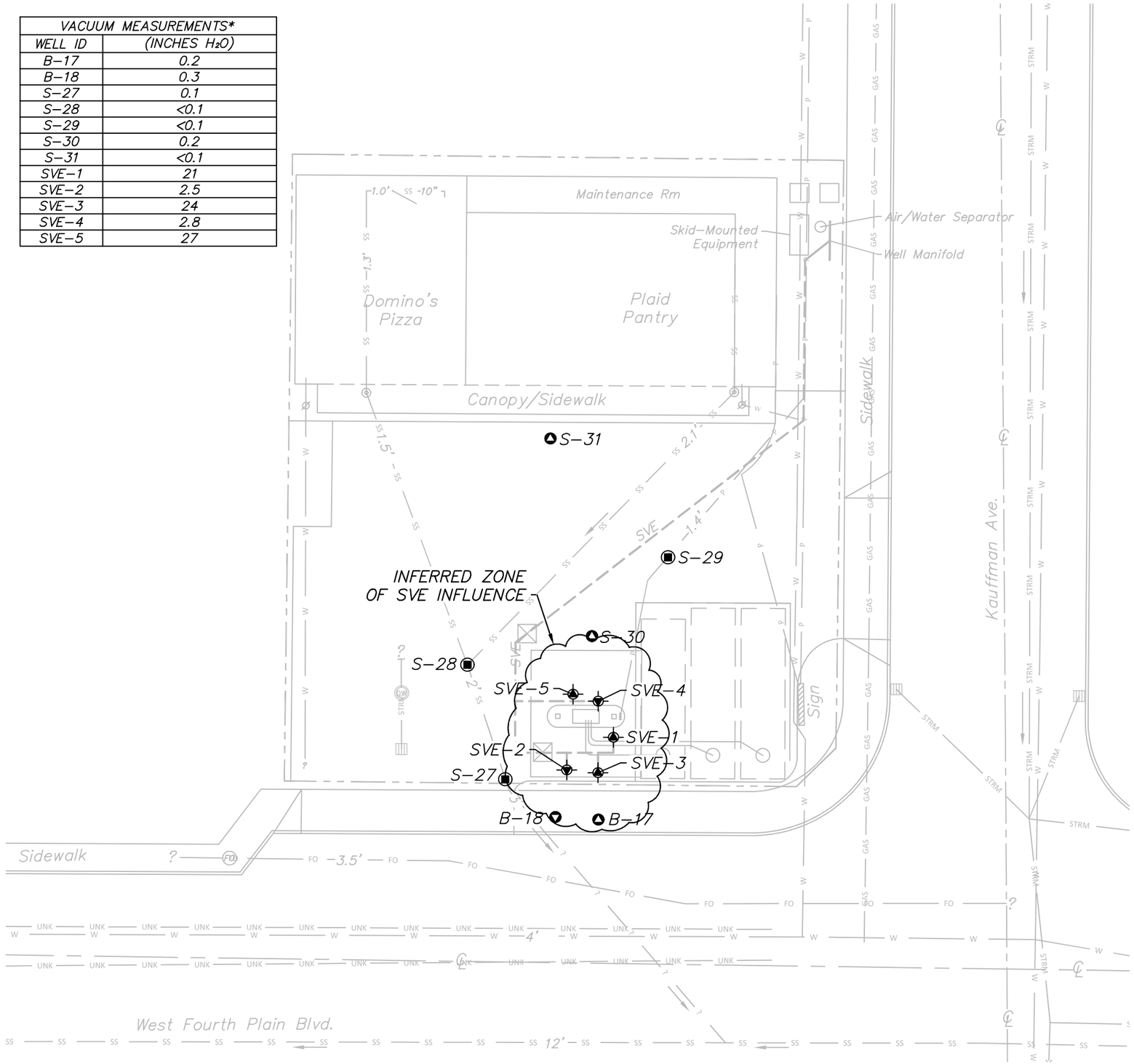
LEGEND

- 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
- * = Vacuum Measured at Wellhead
- Approximate Utility Depths Indicated Where Known (Feet)

SITE FEATURES ARE APPROXIMATE.

VACUUM MEASUREMENTS*	
WELL ID	(INCHES H_2O)
B–17	0.2
B–18	0.3
S–27	0.1
S–28	<0.1
S–29	<0.1
S–30	0.2
S–31	<0.1
SVE–1	21
SVE–2	2.5
SVE–3	24
SVE–4	2.8
SVE–5	27



N

APPROXIMATE SCALE IN FEET

0 10 20 40

INFERRED SVE RADIUS OF INFLUENCE (4/13/2017)

DATE:	6–13–17
FILE:	1179–02
DRAWN:	JJT
APPROVED:	DBP
PROJECT NO.	1179–02
FIGURE NO.	3

PLAID PANTRY #112
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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)

* = SVE SYSTEM OFF 12/11/15 THROUGH 3/16/16 TO EVALUATE PERCHED GROUNDWATER CONDITIONS

** = RESAMPLED ON 3/21/17 BASED ON ANOMALOUSLY HIGH GASOLINE DETECTION

SITE FEATURES ARE APPROXIMATE

N

APPROXIMATE SCALE IN FEET

0 5 10 20

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	--
10/21/16	830U	6.5U	4,200
1/30/17	31,000	26U	--
4/13/17	5,700	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	--
10/21/16	850U	6.7U	4,000
1/30/17	39,000	40U	--
4/13/17	6,500	3.7U	--

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	--
10/21/16	11,000	70	1,200
**1/30/17	3,100,000	190U	--
3/21/17	550U	4.3U	--
4/13/17	11,000	120	--

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	--
10/21/16	500U	3.9U	220
1/30/17	490U	3.9U	--
4/13/17	600U	4.7U	--

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	--
10/21/16	4,900	4.5U	9.6U
1/30/17	1,700	4.0U	--
4/13/17	1,200	4.0U	--

SVE–5 SVE–4 SVE–1 SVE–2 SVE–3

Sidewalk FO 3.5' FO FO FO

West Fourth Plain Blvd.

DATE:	6-6-17
FILE:	1179-02
DRAWN:	JJT
APPROVED:	DBP
PROJECT NO.	1179-02
FIGURE NO.	4

CONTAMINANT VAPOR CONCENTRATIONS DURING SVE OPERATIONS (THROUGH 4/13/17)

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

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Tables

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

Well ID	Date	Analytical Sampling	Induced Vacuum (inches H_2O)[a]	PID (ppmv)[a]	Approximate Velocity (fpm)[a]	Flow (scfm)[b]
SVE-1	2013 Q3 Avg.	-	22	1,129	637	8
	2013 Q4 Avg.	-	41	205	1,099	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
	2015 Q1 Avg.	-	28	1.4	779	7
	2015 Q2 Avg.	-	25	5.8	813	8
	2015 Q3 Avg.	-	21	5.7	881	10
	2015 Q4 Avg.	-	21	2.9	816	10
	2016 Q1 Avg.	-	23	1.1	627	-
	2016 Q2 Avg.	-	22	11	594	7
	07/12/2016	Yes	20	19	467	6
	08/02/2016	-	18	3.2	423	6
	09/02/2016	-	17	3.6	460	8
	09/15/2016	-	18	3.5	592	6
	09/23/2016	-	19	3.0	608	9
	10/21/2016	Yes	20	1.9	841	11
	12/30/2016	-	27	9.7	966	8
	01/30/2017	Yes	26	35	971	9
	02/27/2017	-	26	8.6	861	9
	03/10/2017	-	-	6.6	-	-
	03/17/2017	-	-	2.6	-	-
	03/21/2017	Yes	27	7.1	974	10
	04/04/2017	-	-	10	-	-
	04/13/2017	Yes	24	7.9	637	7
SVE-2	2013 Q3 Avg.	-	7	4.0	2,470	29
	2013 Q4 Avg.	-	9	3.9	3,043	32
	2014 Q1 Avg.	-	8	20	1,597	15
	2014 Q2 Avg.	-	12	6.5	2,664	29
	2014 Q3 Avg.	-	9	1.2	3,046	32
	2014 Q4 Avg.	-	11	0.8	2,414	31
	2015 Q1 Avg.	-	12	0.1	3,500	32
	2015 Q2 Avg.	-	9	0.5	3,272	35
	2015 Q3 Avg.	-	8	0.5	2,886	33
	2015 Q4 Avg.	-	9	0.6	2,562	32
	2016 Q1 Avg.	-	11	0.8	3,025	-
	2016 Q2 Avg.	-	9	3.3	3,665	42
	07/12/2016	Yes	9	17	3,309	43
	08/02/2016	-	7	3.3	2,718	41
	09/02/2016	-	7	1.2	2,109	37
	09/15/2016	-	7	2.8	3,543	36
	09/23/2016	-	7	2.9	2,534	39
	10/21/2016	Yes	9	1.4	2,819	36
	12/30/2016	-	12	7.4	3,740	32
	01/30/2017	Yes	14	3.2	3,421	32
	02/27/2017	-	15	5.3	3,202	35
	03/10/2017	-	-	5.2	-	-
	03/17/2017	-	-	1.9	-	-
	03/21/2017	-	12	6.5	2,915	29
	04/04/2017	-	-	9.1	-	-
	04/13/2017	Yes	13	4.9	3,162	33
SVE-3	2013 Q3 Avg.	-	22	27	732	9

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

Well ID	Date	Analytical Sampling	Induced Vacuum (inches H_2O)[a]	PID (ppmv)[a]	Approximate Velocity (fpm)[a]	Flow (scfm)[b]
SVE-3 (cont'd)	2013 Q4 Avg.	-	39	11	1,077	9
	2014 Q1 Avg.	-	36	18	1,107	9
	2014 Q2 Avg.	-	26	6.1	808	8
	2014 Q3 Avg.	-	23	1.2	890	9
	2014 Q4 Avg.	-	26	3.7	951	11
	2015 Q1 Avg.	-	28	3.0	769	7
	2015 Q2 Avg.	-	24	1.6	763	8
	2015 Q3 Avg.	-	21	1.5	746	9
	2015 Q4 Avg.	-	21	0.8	588	7
	2016 Q1 Avg.	-	23	8	607	-
	2016 Q2 Avg.	-	21	236	535	6
	07/12/2016	Yes	20	17	475	6
	08/02/2016	-	18	3.1	462	7
	09/02/2016	-	17	1.4	453	8
	09/15/2016	-	19	4.2	503	5
	09/23/2016	-	20	3.2	421	7
	10/21/2016	Yes	21	5.2	733	9
	12/30/2016	-	27	9.8	870	8
	01/30/2017	Yes	26	2.0	872	8
	02/27/2017	-	26	7.4	880	9
	03/10/2017	-	-	5.7	-	-
	03/17/2017	-	-	2.3	-	-
	03/21/2017	-	27	8.7	826	8
	04/04/2017	-	-	10	-	-
	04/13/2017	Yes	24	4.9	634	7
SVE-4	2013 Q3 Avg.	-	8	4.1	2,767	33
	2013 Q4 Avg.	-	13	9.0	2,743	27
	2014 Q1 Avg.	-	15	8.9	3,382	32
	2014 Q2 Avg.	-	15	5.1	3,525	40
	2014 Q3 Avg.	-	9	1.4	2,940	29
	2014 Q4 Avg.	-	11	2.9	2,489	32
	2015 Q1 Avg.	-	12	3.4	3,833	35
	2015 Q2 Avg.	-	9	1.1	3,254	33
	2015 Q3 Avg.	-	8	1.8	3,116	36
	2015 Q4 Avg.	-	9	1.1	3,187	39
	2016 Q1 Avg.	-	13	1.1	3,583	-
	2016 Q2 Avg.	-	10	5	3,401	39
	07/12/2016	Yes	8	17	2,747	36
	08/02/2016	-	10	4.7	2,920	44
	09/02/2016	-	9	3.1	2,447	43
	09/15/2016	-	7	6.1	3,418	35
	09/23/2016	-	7	4.8	2,216	35
	10/21/2016	Yes	8	2.4	2,605	33
	12/30/2016	-	11	8.5	3,853	33
	01/30/2017	Yes	12	2.8	3,427	32
	02/27/2017	-	12	13	3,085	33
	03/10/2017	-	-	6.2	-	-
	03/17/2017	-	-	2.6	-	-
	03/21/2017	-	15	7.4	3,393	33
	04/04/2017	-	-	12	-	-
	04/13/2017	Yes	15	6.6	3,563	38
SVE-5	2013 Q3 Avg.	-	22	6.9	674	8
	2013 Q4 Avg.	-	39	10	1,079	9

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

Well ID	Date	Analytical Sampling	Induced Vacuum (inches H_2O)[a]	PID (ppmv)[a]	Approximate Velocity (fpm)[a]	Flow (scfm)[b]
SVE-5 (cont'd)	2014 Q1 Avg.	-	35	18	889	7
	2014 Q2 Avg.	-	26	7.8	790	9
	2014 Q3 Avg.	-	23	1.2	886	9
	2014 Q4 Avg.	-	25	2.7	766	9
	2015 Q1 Avg.	-	28	2.8	862	8
	2015 Q2 Avg.	-	24	0.6	812	8
	2015 Q3 Avg.	-	21	0.6	895	10
	2015 Q4 Avg.	-	21	3.9	559	7
	2016 Q1 Avg.	-	23	1.1	515	-
	2016 Q2 Avg.	-	21	6	556	7
	07/12/2016	Yes	20	15	434	6
	08/02/2016	-	17	38	428	6
	09/02/2016	-	17	1.2	415	7
	09/15/2016	-	19	2.8	524	5
	09/23/2016	-	19	2.8	430	7
	10/21/2016	Yes	20	0.2	575	7
	12/30/2016	-	27	8.7	873	8
	01/30/2017	Yes	26	2.4	784	7
	02/27/2017	-	26	13	982	11
	03/10/2017	-	-	4.2	-	-
	03/17/2017	-	-	2.3	-	-
	03/21/2017	-	27	7.5	930	9
	04/04/2017	-	-	12	-	-
	04/13/2017	Yes	24	5.7	600	6
AWS Inlet	2013 Q3 Avg.	-	23	-	-	86
	2013 Q4 Avg.	-	42	-	-	65
	2014 Q1 Avg.	-	34	-	-	58
	2014 Q2 Avg.	-	27	-	-	87
	2014 Q3 Avg.	-	25	-	-	89
	2014 Q4 Avg.	-	26	-	-	93
	2015 Q1 Avg.	-	29	-	-	88
	2015 Q2 Avg.	-	26	-	-	91
	2015 Q3 Avg.	-	21	-	-	98
	2015 Q4 Avg.	-	22	-	-	95
	2016 Q1 Avg.	-	22	-	-	-
	2016 Q2 Avg.	-	22	-	-	101
	07/12/2016	-	21	-	-	96
	08/02/2016	-	19	-	-	104
	09/02/2016	-	18	-	-	104
	09/15/2016	-	20	-	-	88
	09/23/2016	-	20	-	-	97
	10/21/2016	-	22	-	-	97
	12/30/2016	-	28	-	-	89
	01/30/2017	-	26	-	-	89
	02/27/2017	-	26	-	-	97
	03/21/2017	-	28	-	-	89
	04/04/2017	-	28	-	-	-
	04/13/2017	-	25	-	-	97
SVE Blower Inlet	2013 Q3 Avg.	-	24	37	1,744	80
	2013 Q4 Avg.	-	43	21	1,643	76
	2014 Q1 Avg.	-	35	10	1,686	79
	2014 Q2 Avg.	-	28	3.6	1,918	88

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

Well ID	Date	Analytical Sampling	Induced Vacuum (inches H_2O)[a]	PID (ppmv)[a]	Approximate Velocity (fpm)[a]	Flow (scfm)[b]
SVE Blower Inlet	2014 Q3 Avg.	-	25	3.3	1,777	82
(cont'd)	2014 Q4 Avg.	-	27	1.7	1,874	86
	2015 Q1 Avg.	-	30	1.4	2,353	108
	2015 Q2 Avg.	-	27	0.6	2,203	101
	2015 Q3 Avg.	-	23	1.8	2,380	109
	2015 Q4 Avg.	-	22	0.9	2,223	102
	2016 Q1 Avg.	-	24	1.4	1,983	91
	2016 Q2 Avg.	-	23	31	2,294	106
	07/12/2016	Yes	22	3.2	1,837	85
	08/02/2016	-	20	6.9	1,905	88
	09/02/2016	-	19	1.0	2,048	94
	09/15/2016	-	21	4.4	1,978	91
	09/23/2016	-	22	3.0	1,862	86
	10/21/2016	Yes	22	1.2	2,632	121
	12/30/2016	-	28	8.1	2,672	123
	01/30/2017	Yes	27	2.6	2,135	98
	02/27/2017	-	28	8.2	1,961	90
	03/10/2017	-	-	4.2	-	-
	03/17/2017	-	-	2.4	-	-
	03/21/2017	Yes	29	7.2	1,813	83
	04/04/2017	-	-	12	-	-
	04/13/2017	Yes	26	6.5	1,572	72
SVE Blower Outlet[c]	2013 Q3 Avg.	-	-	76	-	-
	2013 Q4 Avg.	-	-	24	-	-
	2014 Q1 Avg.	-	9.3	25	-	-
	2014 Q2 Avg.	-	0.4	4.5	-	-
	2014 Q3 Avg.	-	0.3	6.0	-	-
	2014 Q4 Avg.	-	0.4	4.2	-	-
	2015 Q1 Avg.	-	0.3	1.9	-	-
	2015 Q2 Avg.	-	0.3	0.7	-	-
	2015 Q3 Avg.	-	0.4	2.0	-	-
	2015 Q4 Avg.	-	0.4	1.7	-	-
	2016 Q1 Avg.	-	0.2	2.9	-	-
	2016 Q2 Avg.	-	0.5	34	-	-
	06/24/2016	-	0.5	3.8	-	-
	07/12/2016	-	0.5	2.4	-	-
	08/02/2016	-	0.5	5.4	-	-
	09/02/2016	-	0.5	1.2	-	-
	09/15/2016	-	0.5	3.7	-	-
	09/23/2016	-	0.5	2.8	-	-
	10/21/2016	-	0.5	1.3	-	-
	12/30/2016	-	0.5	5.9	-	-
	01/30/2017	-	0.4	6.9	-	-
	02/27/2017	-	0.5	8.1	-	-
	03/10/2017	-	-	4.2	-	-
	03/17/2017	-	-	2.0	-	-
	03/21/2017	-	0.4	8.0	-	-
	04/04/2017	-	-	8.9	-	-
	04/13/2017	-	0.4	5.7	-	-
GAC #2	2013 Q3 Avg.	-	-	0.0	-	-
	2013 Q4 Avg.	-	-	0.9	-	-
	2014 Q1 Avg.	-	-	2.9	-	-
	2014 Q2 Avg.	-	-	1.4	-	-

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

Well ID	Date	Analytical Sampling	Induced Vacuum (inches H_2O)[a]	PID (ppmv)[a]	Approximate Velocity (fpm)[a]	Flow (scfm)[b]
Post GAC	2013 Q3 Avg.	-	-	0.0	-	-
	2013 Q4 Avg.	-	-	0.0	-	-
	2014 Q1 Avg.	-	0.2	1.4	-	-
	2014 Q2 Avg.	-	0.1	2.5	-	-
	2014 Q3 Avg.	-	0.1	5.2	-	-
	2014 Q4 Avg.	-	0.1	-	-	-
	2015 Q1 Avg.	-	0.1	-	-	-

Notes:
[a] Measured at SVE system manifold.
[b] Air flow calculated at individual well laterals (SVE-1 through -5), and measured at AWS Inlet (system total) using a dedicated pitot tube. Individual well air flow calculations corrected to reflect proportional contribution to the system total.
[c] Values in the vacuum column are positive pressure at the SVE Blower Outlet (inches H_2O).
Avg. = average
AWS = air/water separator
scfm = standard cubic feet per minute
cont'd = continued
fpm = feet per minute
ppmv = parts per million vapor
- = Not measured
GAC = Granular activated carbon

TABLE 2
Biodegradation Parameter Data
Plaid Pantry No. 112
Vancouver, Washington

Well ID	Date	Vacuum (inches H_2O)[a]	Flow Observed (Yes/No)[c]	PID (ppmv)[a]	CH_4 (%)[a]	CO_2 (%)[a]	O_2 (%)[a]
SVE Wells							
SVE-1	11/23/2015	20	Yes	2.8	-	-	-
	07/12/2016	19	Yes	19[b]	0.0[b]	1.0[b]	19.7[b]
	10/21/2016	19	Yes	1.9[b]	0.0[b]	0.1[b]	20.5[b]
	01/30/2017	26	Yes	35[b]	0.5[b]	0.2[b]	20.4[b]
	04/13/2017	21	-	1.7[b]	0.0[b]	0.4[b]	20.3[b]
SVE-2	11/23/2015	4.0	Yes	1.9	-	-	-
	07/12/2016	1.2	Yes	17[b]	0.0[b]	1.7[b]	19.3[b]
	10/21/2016	1.5	Yes	1.4[b]	0.0[b]	0.3[b]	20.5[b]
	01/30/2017	2.0	Yes	3.2[b]	0.0[b]	0.3[b]	20.5[b]
	04/13/2017	2.5	-	1.0[b]	0.0[b]	0.2[b]	20.5[b]
SVE-3	11/23/2015	21	Yes	2.8	-	-	-
	07/12/2016	19	Yes	17[b]	0.0[b]	0.3[b]	20.5[b]
	10/21/2016	16	Yes	5.2[b]	0.0[b]	0.5[b]	19.9[b]
	01/30/2017	25	Yes	2.0[b]	0.0[b]	0.1[b]	20.8[b]
	04/13/2017	24	-	0.5[b]	0.0[b]	0.0[b]	20.9[b]
SVE-4	11/23/2015	1.8	Yes	0.9	-	-	-
	07/12/2016	1.5	Yes	17[b]	0.0[b]	1.3[b]	19.4[b]
	10/21/2016	1.8	Yes	2.4[b]	0.0[b]	0.3[b]	20.3[b]
	01/30/2017	2.0	Yes	2.8[b]	0.0[b]	0.3[b]	20.5[b]
	04/13/2017	2.8	-	1.0[b]	0.0[b]	0.3[b]	20.5[b]
SVE-5	11/23/2015	6	Yes	0.8	-	-	-
	07/12/2016	20	Yes	15[b]	0.0[b]	0.1[b]	20.5[b]
	10/21/2016	10	Yes	1.7[b]	0.0[b]	0.2[b]	20.2[b]
	01/30/2017	20	Yes	2.4[b]	0.0[b]	0.2[b]	20.6[b]
	04/13/2017	27	-	1.1[b]	0.0[b]	0.2[b]	20.5[b]
Vapor Monitoring Wells							
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	-	-	-
	03/16/2016	*0.00*	-	*287*	-	-	-
	03/16/2016[1]	0.01	-	1,469	1.3	7.1	8.2
	03/16/2016[2]	0.03	-	359	0.6	9.5	5.4
	03/22/2016	1.5	-	-	-	-	-
	03/28/2016	0.25	-	-	-	-	-
	04/01/2016	0.24	No	315	0.3	4.0	15.4
	04/08/2016	0.24	-	-	-	-	-
	04/13/2016	0.25	-	-	-	-	-
	05/13/2016	0.30	Yes	-	-	-	-
	07/12/2016	0.21	Yes	2.6	0.0	4.6	15.3
	10/21/2016	0.30	Yes	305	0.2	8.8	9.7
	01/30/2017	0.40	Yes	840	2.3	13	0.5
	04/13/2017	0.20	-	49	0.0	8.2	6.2
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	-	-	-
	03/16/2016	*0.00*	-	*1.3*	-	-	-
	03/16/2016[1]	0.02	-	1.4	0.1	0.9	20.1
	03/16/2016[2]	+0.04	-	1.5	0.1	1.6	19.3
	03/22/2016	0.09	-	-	-	-	-

TABLE 2
Biodegradation Parameter Data
Plaid Pantry No. 112
Vancouver, Washington

Well ID	Date	Vacuum (inches H_2O)[a]	Flow Observed (Yes/No)[c]	PID (ppmv)[a]	CH_4 (%)[a]	CO_2 (%)[a]	O_2 (%)[a]
B-18 (cont'd)	03/28/2016	0.07	-	-	-	-	-
	04/01/2016	0.06	No	1.3	0.0	1.7	18.8
	04/08/2016	0.05	-	-	-	-	-
	04/13/2016	0.06	-	-	-	-	-
	05/13/2016	0.08	No	-	-	-	-
	07/12/2016	0.07	-	2.7	0.0	2.0	18.4
	10/21/2016	0.18	No	0.9	0.0	2.2	18.4
	01/30/2017	0.20	Yes	6.9	0.0	0.6	20.1
	04/13/2017	0.25	-	2.4	0.0	2.2	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*	-	-	-
	03/16/2016[1]	0.00	-	1.4	0.0	0.5	19.8
	03/16/2016[2]	0.00	-	1.9	0.1	0.9	18.9
	03/22/2016	0.02	-	-	-	-	-
	03/28/2016	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
	10/21/2016	0.05	-	0.8	0.0	0.2	20.6
	01/30/2017	0.10	No	7.5	0.0	0.1	20.8
	04/13/2017	0.12	-	1.6	0.0	0.1	20.8
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
	10/21/2016	0.04	-	0.9	0.0	1.0	17.6
	01/30/2017	0.60	No	6.4	0.0	0.6	18.4
	04/13/2017	0.01	No	1.5	0.0	0.2	19.4
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	-	-	-
	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
	10/21/2016	0.20	No	1.5	0.2	0.0	0.0
	01/30/2017	0+	-	16	0.4	0.0	0.8
	04/13/2017	0.02	-	5.5	0.2	0.0	2.9
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	-	-	-	-	-

TABLE 2
Biodegradation Parameter Data
Plaid Pantry No. 112
Vancouver, Washington

Well ID	Date	Vacuum (inches H_2O)[a]	Flow Observed (Yes/No)[c]	PID (ppmv)[a]	CH_4 (%)[a]	CO_2 (%)[a]	O_2 (%)[a]
S-30 (cont'd)	05/13/2016	0.06	No	-	-	-	-
	07/12/2016	0.06	-	4.0	0.0	1.1	19.2
	10/21/2016	0.05	-	2.8	0.0	0.8	19.6
	01/30/2017	0.08	-	5.7	0.0	0.5	20.3
	04/13/2017	0.19	-	7.8	0.0	0.7	20.1
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	-	-	-	-
	06/22/2016	-	-	*21*	*0.0*	*1.3*	*19.7*
	07/12/2016	0.06	-	5.3	0.0	1.2	19.3
	10/21/2016	0.01	-	2.6	0.0	1.3	19.7
	01/30/2017	0.03	-	4.8	0.0	0.8	19.9
	04/13/2017	0.00	-	3.0	0.0	0.8	19.8

Notes:

[a] Vacuum, PID and biodegradation parameters measured at wellhead unless otherwise indicated.

[b] Measured at SVE system manifold.

[c] Qualitative field observation based on relative deflation rate of a 1-liter tedlar bag.

[1] Measurements taken while only SVE-2 open at SVE manifold.

[2] Measurements taken while only SVE-3 open at SVE manifold.

Italics indicate measurements were collected 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)	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	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	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	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	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	140,000	**140**	100 U	120 U	120 U	120 U	-	-	-	*570 U*	-	-	-	-	-
	03/16/2016	5-10	3,200	**12**	14 U	16 U	16 U	16 U	-	-	-	*39 U*	-	-	-	-	-
	04/01/2016	5-10	780 U	6.0 U	7.1 U	8.2 U	8.2 U	8.2 U	-	-	-	*40 U*	-	-	-	-	-
	04/13/2016	5-10	1,800	4.2 U	5.0 U	5.7 U	5.7 U	5.7 U	-	-	-	*14 U*	-	-	-	-	-
	07/12/2016	5-10	650	4.0 U	4.8 U	5.5 U	5.5 U	5.5 U	-	-	-	*13 U*	-	-	-	-	-
	10/21/2016	5-10	11,000	**70**	140	13	28	22	-	-	-	*27 U*	**1,200**	-	-	-	-
	01/30/2017	5-10	3,100,000 [a]	*190 U*	230 U	260 U	260 U	260 U	-	-	-	*1,300 U*	-	-	-	-	-
	03/21/2017	5-10	550 U	4.3 UJ	37 J	5.8 U	7.2	5.8 U	-	-	-	*14 U*	-	-	-	-	-
	04/13/2017	5-10	11,000	**120**	120	55	360	330	-	-	-	*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	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	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	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	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	540 U	4.2 U	4.9 U	5.7 U	5.7 U	5.7 U	-	-	-	*27 U*	-	-	-	-	-
	03/16/2016	15-20	940 U	7.4 U	8.7 U	10 U	10 U	10 U	-	-	-	*24 U*	-	-	-	-	-
	04/01/2016	15-20	550 U	4.3 U	5.1 U	5.9 U	5.9 U	5.9 U	-	-	-	*28 U*	-	-	-	-	-
	04/13/2016	15-20	580 U	4.5 U	5.3 U	6.1 U	6.1 U	6.1 U	-	-	-	*15 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)	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-2 (cont'd)	07/12/2016	5-10	510 U	4.0 U	4.7 U	5.4 U	5.4 U	5.4 U	-	-	-	*13 U*	-	-	-	-	-
	10/21/2016	5-10	500 U	3.9 U	4.6 U	5.4 U	5.4 U	5.4 U	-	-	-	*26 U*	220	-	-	-	-
	01/30/2017	5-10	490 U	3.9 U	4.6 U	5.2 U	5.2 U	5.2 U	-	-	-	*13 U*	-	-	-	-	-
	04/13/2017	5-10	600 U	4.7 U	42	6.4 U	9.5	6.4 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
	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	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	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	1,000	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	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	2,000	3.8 U	12	5.2 U	5.2 U	5.2 U	-	-	-	*25 U*	-	-	-	-	-
	03/16/2016	5-10	99,000	**700**	7,800	360	1,300	510	-	-	-	*54 U*	-	-	-	-	-
	04/01/2016	5-10	1,600	4.4 U	5.2 U	6.0 U	6.0 U	6.0 U	-	-	-	*29 U*	-	-	-	-	-
	04/13/2016	5-10	5,300	**12**	160	17	74	97	-	-	-	*14 U*	-	-	-	-	-
	07/12/2016	5-10	740	4.1 U	4.8 U	5.5 U	5.5 U	5.5 U	-	-	-	*13 U*	-	-	-	-	-
	10/21/2016	5-10	4,900	4.5 U	7.0	6.1 U	6.1 U	6.1 U	-	-	-	*30 U*	9.6 U	-	-	-	-
	01/30/2017	5-10	1,700	4.0 U	4.7 U	5.4 U	5.4 U	5.4 U	-	-	-	*13 U*	-	-	-	-	-
	04/13/2017	5-10	1,200	4.0 U	30	5.4 U	6.6	5.4 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	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	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	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	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	510 U	4.0 U	5.0	5.4 U	5.4 U	5.4 U	-	-	-	*26 U*	-	-	-	-	-
	03/16/2016	15-20	530 U	4.2 U	4.9 U	5.7 U	5.7 U	5.7 U	-	-	-	*14 U*	-	-	-	-	-
	04/01/2016	15-20	550 U	4.3 U	5.1 U	5.9 U	5.9 U	5.9 U	-	-	-	*28 U*	-	-	-	-	-
	04/13/2016	15-20	980	4.3 U	5.1 U	5.9 U	5.9 U	5.9 U	-	-	-	*14 U*	-	-	-	-	-
	07/12/2016	15-20	520 U	4.0 U	4.8 U	5.5 U	5.5 U	5.5 U	-	-	-	*13 U*	-	-	-	-	-
	10/21/2016	15-20	850 U	6.7 U	22	9.1 U	10	9.1 U	-	-	-	*44 U*	**4,000**	-	-	-	-
	01/30/2017	15-20	39,000	*40 U*	47 U	55 U	55 U	55 U	-	-	-	*130 U*	-	-	-	-	-
	04/13/2017	15-20	6,500	3.7 U	37	5.0 U	10	5.0 U	-	-	-	*12 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	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	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	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	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	510 U	4.0 U	4.7 U	5.4 U	5.4 U	5.4 U	-	-	-	*26 U*	-	-	-	-	-
	03/16/2016	5-10	1,300 U	9.8 U	12 U	13 U	13 U	13 U	-	-	-	*32 U*	-	-	-	-	-
	04/01/2016	5-10	37,000	**760**	1,200	40	170	67	-	-	-	*26 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)	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-5 (cont'd)	04/13/2016	5-10	1,900	4.4 U	5.2	6.0 U	82	100	-	-	-	*14 U*	-	-	-	-	-
	07/12/2016	5-10	940	3.8 U	7.1	5.2 U	10	12	-	-	-	*12 U*	-	-	-	-	-
	10/21/2016	5-10	830 U	6.5 U	8.6	8.8 U	8.8 U	8.8 U	-	-	-	*42 U*	**4,200**	-	-	-	-
	01/30/2017	5-10	31,000	*26 U*	31 U	36 U	36 U	36 U	-	-	-	*86 U*	-	-	-	-	-
	04/13/2017	5-10	5,700	3.8 U	33	5.2 U	8.9	5.2 U	-	-	-	*13 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	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	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	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	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	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	560 U	4.3 U	5.1 U	5.9 U	5.9 U	5.9 U	-	-	-	*14 U*	**2,200**	-	-	-	-
	10/21/2016	NA	2,400	9.5	29	5.8 U	6.7	5.8 U	*10 U*	*5.4 U*	19 U	*14 U*	**1,800**	7.2 U	16 U	8.5 U	7.3 U
	01/30/2017	NA	34,000	*40 U*	48 U	55 U	55 U	55 U	*97 U*	*51 U*	180 U	*130 U*	**600**	*68 U*	150 U	*80 U*	69 U
	03/21/2017	NA	520 U	4.0 UJ	25 J	5.5 U	5.5 U	5.5 U	-	-	-	*13 U*	-	-	-	-	-
	04/13/2017	NA	3,600	4.4 U	39	5.9 U	13	5.9 U	*10 U*	*5.5 U*	20 U	*14 U*	**690**	7.3 U	16 U	8.6 U	7.4 U
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), 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

J = Estimated concentration. The associated numerical value is the approximate concentration of the analyte in the sample. See data validation report for additional information.

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	95	160	0.081 U	1.4	0.00069	0.34	0.00017	0.00049	0.000016
09/27/2013	23	79	24	0.0081 U	0.72	0.00035	17	0.0081	0.042	0.0014
11/01/2013	57	54	68	0.30	0.28	0.00092	26	0.039	0.088	0.0029
12/04/2013	89	98	26	1.2	0.32	0.0051	36	0.20	0.32	0.0047
03/07/2014	160	55	50	0.41	0.26	0.0055	55	0.60	11	0.026
05/09/2014	223	88	24	1.2	0.24	0.0052	70	0.92	25	0.28
08/08/2014	314	87	25	1.2	0.19	0.0095	87	1.8	42	1.1
11/14/2014	412	97	19	0.077 U	0.18	0.0053	105	2.3	60	1.7
02/06/2015	475	88	94	0.17 U	0.47	0.0010	135	2.4	90	1.7
03/06/2015	503	88	2.5 [e]	1.0 [e]	0.38	0.0047	145	2.5	101	1.9
06/19/2015	607	87	0.59 U	0.038	0.012	0.0041	147	2.9	102	2.3
08/18/2015	667	96	0.54 U	0.026	0.0047	0.00026	147	2.9	102	2.3
11/20/2015	758	89	13	0.090	0.056	0.00048	152	3.0	107	2.4
04/13/2016	803	112	0.54 U	0.39	0.061	0.0022	155	3.1	110	2.5
07/12/2016	881	96	0.56 U	2.2	0.0052	0.012	155	4.0	110	3.4
10/21/2016	975	97	2.4	1.8	0.013	0.017	156	5.7	112	5.0
01/30/2017	1052	89	34	0.60	0.15	0.010	168	6.4	123	5.8
03/21/2017	1102	97	0.52	-	0.14	0.0056	175	6.7	130	6.1
04/13/2017	1125	97	3.6	0.69	0.018	0.0054	176	6.8	131	6.2
								Estimated Emissions During Last 12 Months (Pounds/Year):	21	3.8
								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

SVE system off from December 2015 through March 2016 for rebound monitoring and perched GW evaluation.

Charts

CHART 1

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

Plaid Pantry No. 112

Vancouver, Washington

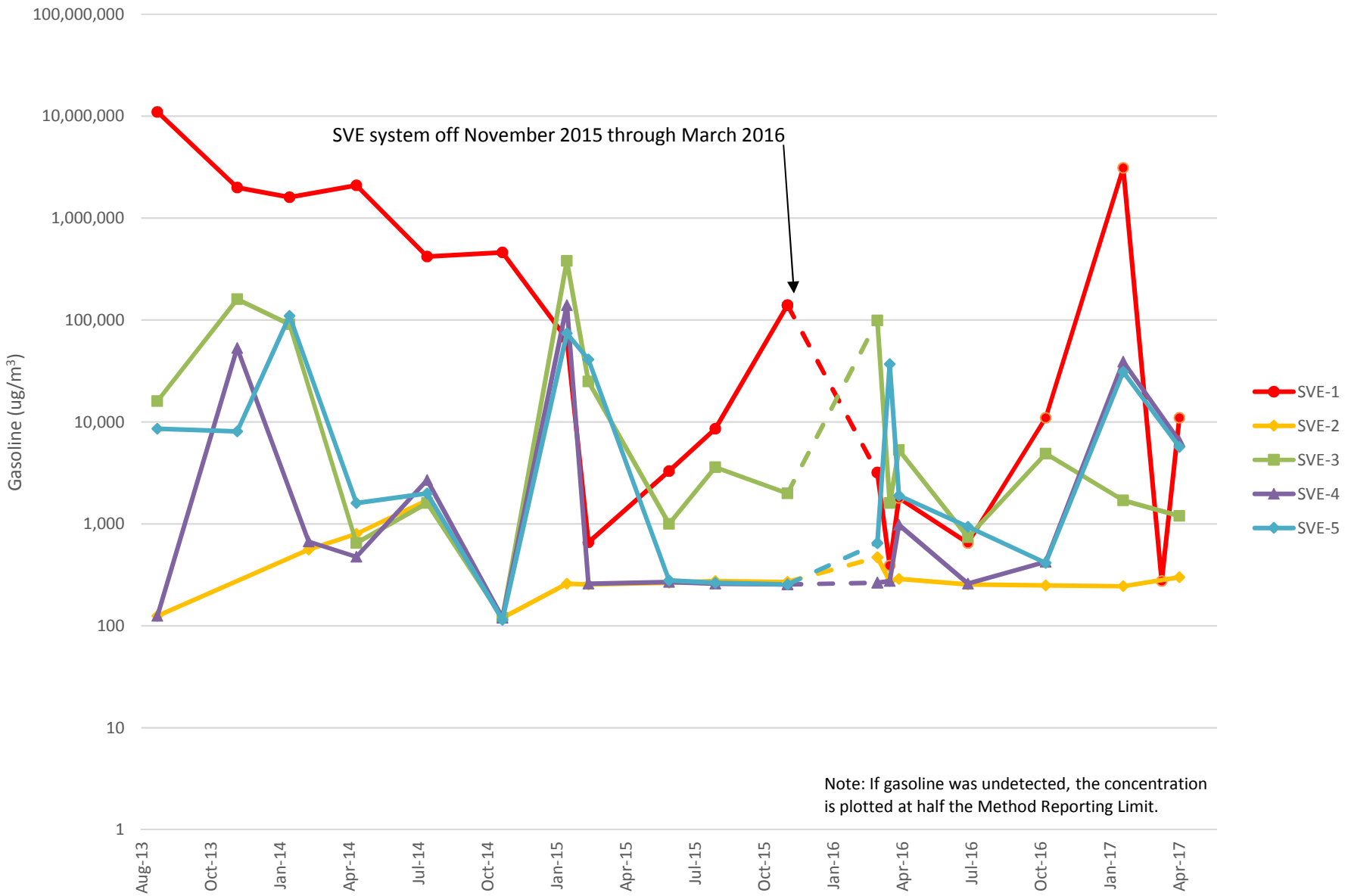


CHART 2

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

Plaid Pantry No. 112

Vancouver, Washington

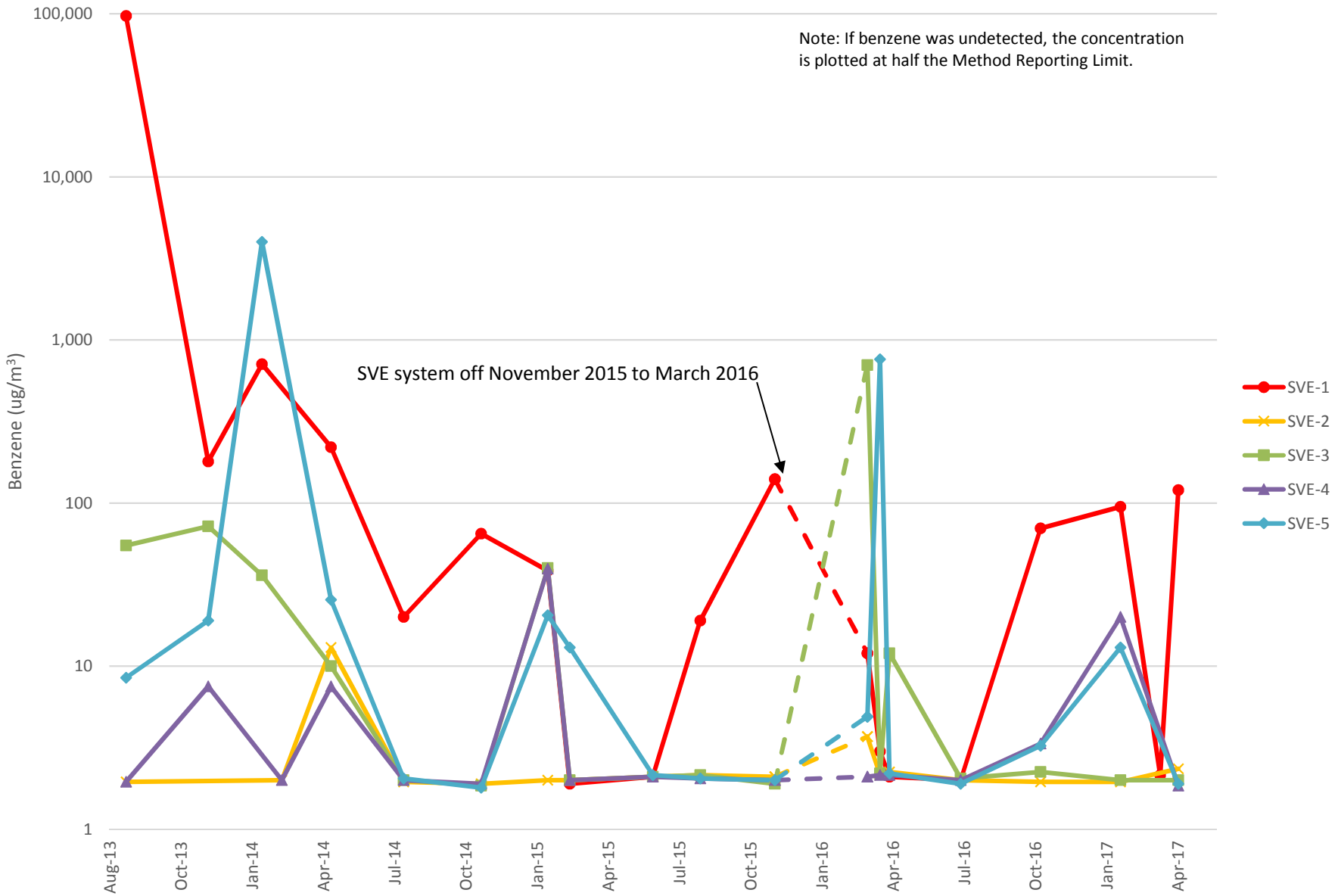


CHART 3

Gasoline Mass Extraction Rates and Cumulative Mass Removal

Plaid Pantry No. 112

Vancouver, Washington

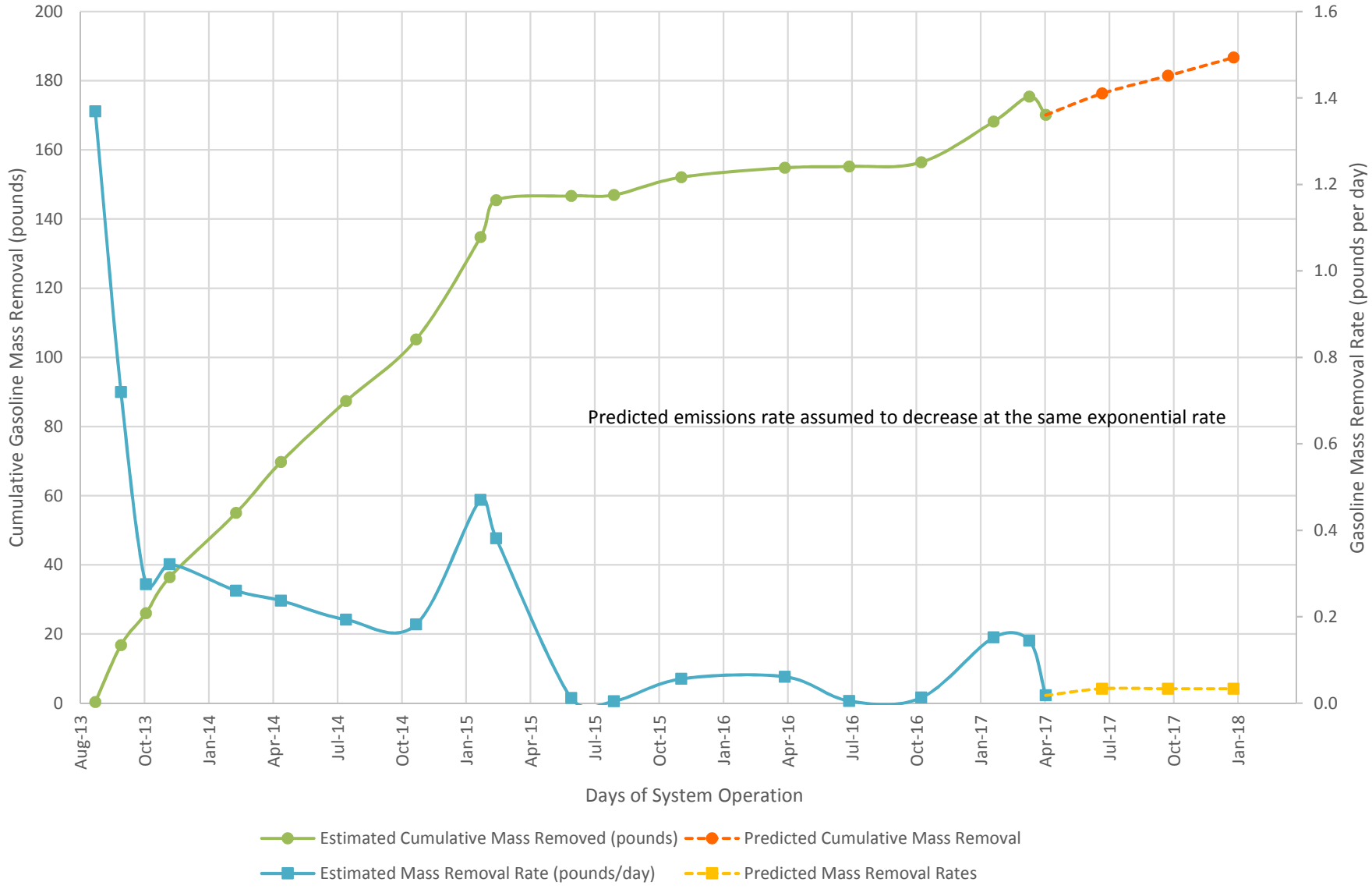
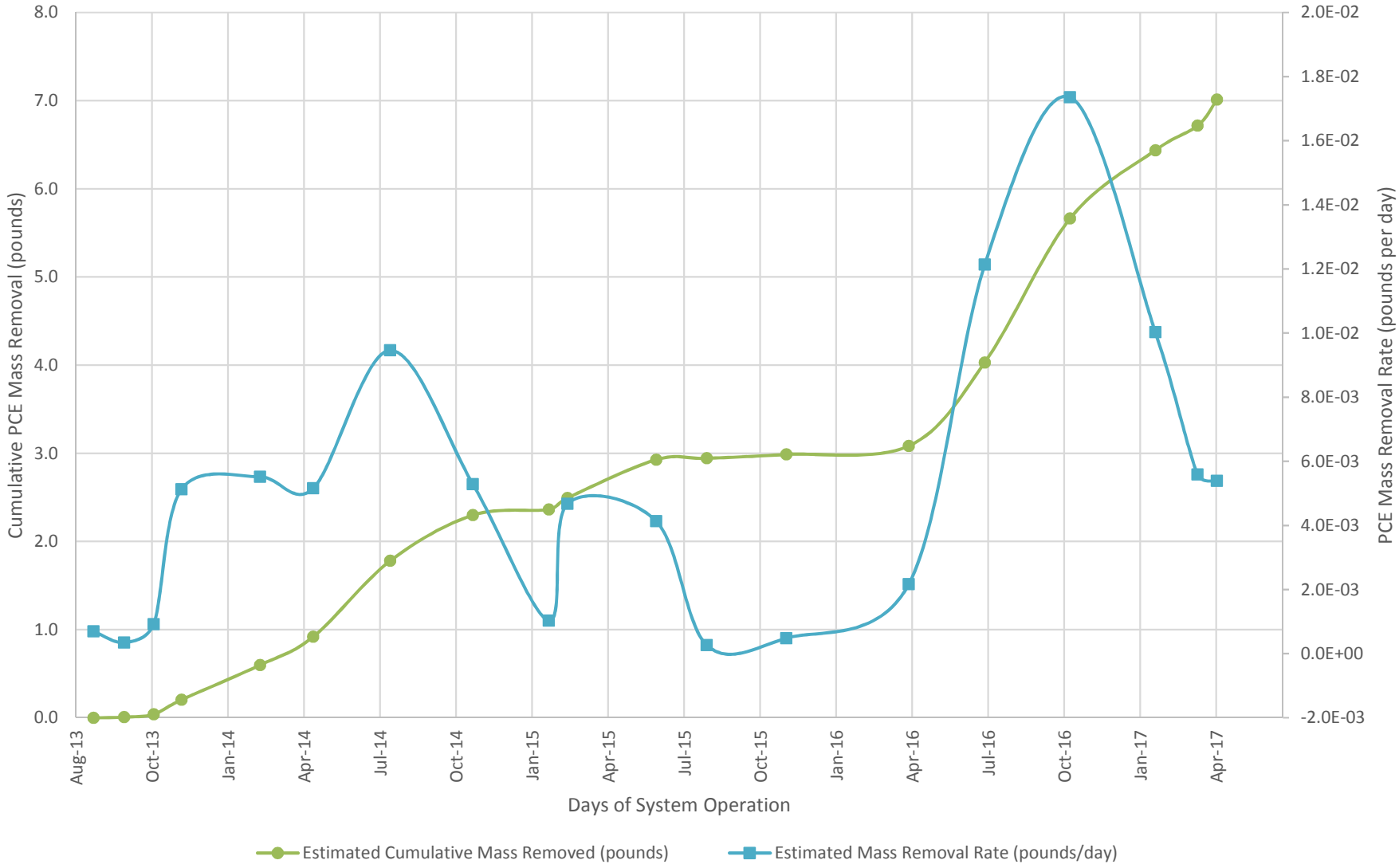


CHART 4

PCE Mass Extraction Rates and Cumulative Mass Removal

Plaid Pantry No. 112

Vancouver, Washington



Attachment A

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4/27/2017
Mr. Chris Rhea
EES Environmental Consulting, Inc.
240 N Broadway
Suite 203
Portland OR 97227

Project Name: PLAID PANTRY #112
Project #: 1179-02
Workorder #: 1704267A

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 4/17/2017 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 to contact 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 #: 1704267A

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 PANTRY #112
DATE RECEIVED:	04/17/2017	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/27/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SVE-2	TO-15	9.4 "Hg	15 psi
02A	SVE-3	TO-15	6.1 "Hg	14.4 psi
03A	SVE-1	TO-15	7.1 "Hg	15 psi
04A	SVE-4	TO-15	4.3 "Hg	14.6 psi
05A	SVE-5	TO-15	5.1 "Hg	14.7 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: 04/27/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
EPA Method TO-15
EES Environmental Consulting, Inc.
Workorder# 1704267A

Five 1 Liter Summa Canister samples were received on April 17, 2017. 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#: 1704267A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Toluene	1.5	11	5.5	42
m,p-Xylene	1.5	2.2	6.4	9.5

Client Sample ID: SVE-3

Lab ID#: 1704267A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Toluene	1.2	8.0	4.7	30
m,p-Xylene	1.2	1.5	5.4	6.6
TPH ref. to Gasoline (MW=100)	120	290	510	1200

Client Sample ID: SVE-1

Lab ID#: 1704267A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.3	36	4.2	120
Ethyl Benzene	1.3	13	5.8	55
Toluene	1.3	31	5.0	120
m,p-Xylene	1.3	82	5.8	360
o-Xylene	1.3	76	5.8	330
TPH ref. to Gasoline (MW=100)	130	2800	540	11000

Client Sample ID: SVE-4

Lab ID#: 1704267A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Toluene	1.2	9.9	4.4	37
m,p-Xylene	1.2	2.4	5.0	10
TPH ref. to Gasoline (MW=100)	120	1600	480	6500

Client Sample ID: SVE-5

Lab ID#: 1704267A-05A

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

Client Sample ID: SVE-5

Lab ID#: 1704267A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Toluene	1.2	8.9	4.5	33
m,p-Xylene	1.2	2.0	5.2	8.9
TPH ref. to Gasoline (MW=100)	120	1400	490	5700

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Client Sample ID: SVE-2

Lab ID#: 1704267A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3041907**	**Date of Collection: 4/13/17 11:08:00 AM**	
Dil. Factor:	**2.94**	**Date of Analysis: 4/19/17 01:39 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.5	Not Detected	4.7	Not Detected
Ethyl Benzene	1.5	Not Detected	6.4	Not Detected
Toluene	1.5	11	5.5	42
m,p-Xylene	1.5	2.2	6.4	9.5
o-Xylene	1.5	Not Detected	6.4	Not Detected
Naphthalene	2.9	Not Detected	15	Not Detected
TPH ref. to Gasoline (MW=100)	150	Not Detected	600	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	78	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: SVE-3

Lab ID#: 1704267A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3041908**	**Date of Collection: 4/13/17 11:40:00 AM**	
Dil. Factor:	**2.48**	**Date of Analysis: 4/19/17 02:06 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	8.0	4.7	30
m,p-Xylene	1.2	1.5	5.4	6.6
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	290	510	1200

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	81	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: SVE-1

Lab ID#: 1704267A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3041909**	**Date of Collection: 4/13/17 11:59:00 AM**	
Dil. Factor:	**2.65**	**Date of Analysis: 4/19/17 02:32 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.3	36	4.2	120
Ethyl Benzene	1.3	13	5.8	55
Toluene	1.3	31	5.0	120
m,p-Xylene	1.3	82	5.8	360
o-Xylene	1.3	76	5.8	330
Naphthalene	2.6	Not Detected	14	Not Detected
TPH ref. to Gasoline (MW=100)	130	2800	540	11000

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: SVE-4

Lab ID#: 1704267A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3041910**	**Date of Collection: 4/13/17 12:18:00 PM**	
Dil. Factor:	**2.33**	**Date of Analysis: 4/19/17 02:58 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.2	Not Detected	3.7	Not Detected
Ethyl Benzene	1.2	Not Detected	5.0	Not Detected
Toluene	1.2	9.9	4.4	37
m,p-Xylene	1.2	2.4	5.0	10
o-Xylene	1.2	Not Detected	5.0	Not Detected
Naphthalene	2.3	Not Detected	12	Not Detected
TPH ref. to Gasoline (MW=100)	120	1600	480	6500

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	81	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: SVE-5

Lab ID#: 1704267A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3041911**	**Date of Collection: 4/13/17 12:33:00 PM**	
Dil. Factor:	**2.41**	**Date of Analysis: 4/19/17 03:25 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	8.9	4.5	33
m,p-Xylene	1.2	2.0	5.2	8.9
o-Xylene	1.2	Not Detected	5.2	Not Detected
Naphthalene	2.4	Not Detected	13	Not Detected
TPH ref. to Gasoline (MW=100)	120	1400	490	5700

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1704267A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3041906**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/19/17 12:03 PM**	

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	81	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: CCV

Lab ID#: 1704267A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3041902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/19/17 08:43 AM**	

Compound	%Recovery
Benzene	84
Ethyl Benzene	98
Toluene	94
m,p-Xylene	98
o-Xylene	102
Naphthalene	117
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCS

Lab ID#: 1704267A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3041903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/19/17 09:08 AM**	

Compound	%Recovery	Method Limits
Benzene	89	70-130
Ethyl Benzene	98	70-130
Toluene	103	70-130
m,p-Xylene	98	70-130
o-Xylene	101	70-130
Naphthalene	117	60-140
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1704267A-08AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3041904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/19/17 09:32 AM**	

Compound	%Recovery	Method Limits
Benzene	88	70-130
Ethyl Benzene	100	70-130
Toluene	102	70-130
m,p-Xylene	98	70-130
o-Xylene	101	70-130
Naphthalene	121	60-140
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	80	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	104	70-130

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4/25/2017
Mr. Chris Rhea
EES Environmental Consulting, Inc.
240 N Broadway
Suite 203
Portland OR 97227

Project Name: PLAID PANTRY #112
Project #: 1179-02
Workorder #: 1704267B

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 4/17/2017 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 to contact 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 #: 1704267B

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 PANTRY #112
DATE RECEIVED:	04/17/2017	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/25/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
06A	SVE BLOWER INLET	TO-15	7.8 "Hg	15 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: _____ DATE: 04/25/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
EPA Method TO-15
EES Environmental Consulting, Inc.
Workorder# 1704267B

One 1 Liter Summa Canister sample was received on April 17, 2017. 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 BLOWER INLET

Lab ID#: 1704267B-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	2.1	6.8	10
Freon 11	1.4	1.6	7.7	8.8
Ethanol	5.5	120	10	230
2-Propanol	5.5	5.4 J	13	13 J
Cyclohexane	1.4	4.3	4.7	15
2,2,4-Trimethylpentane	1.4	12	6.4	57
Toluene	1.4	10	5.1	39
Tetrachloroethene	1.4	100	9.2	690
m,p-Xylene	1.4	3.0	5.9	13
TPH ref. to Gasoline (MW=100)	140	890	560	3600

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Client Sample ID: SVE BLOWER INLET

Lab ID#: 1704267B-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041908**	**Date of Collection:**	**4/13/17 12:51:00 PM**
Dil. Factor:	**2.73**	**Date of Analysis:**	**4/19/17 01:33 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	2.1	6.8	10
Freon 114	1.4	Not Detected	9.5	Not Detected
Chloromethane	14	Not Detected	28	Not Detected
Vinyl Chloride	1.4	Not Detected	3.5	Not Detected
1,3-Butadiene	1.4	Not Detected	3.0	Not Detected
Bromomethane	14	Not Detected	53	Not Detected
Chloroethane	5.5	Not Detected	14	Not Detected
Freon 11	1.4	1.6	7.7	8.8
Ethanol	5.5	120	10	230
Freon 113	1.4	Not Detected	10	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.4	Not Detected
Acetone	14	Not Detected	32	Not Detected
2-Propanol	5.5	5.4 J	13	13 J
Carbon Disulfide	5.5	Not Detected	17	Not Detected
3-Chloropropene	5.5	Not Detected	17	Not Detected
Methylene Chloride	14	Not Detected	47	Not Detected
Methyl tert-butyl ether	5.5	Not Detected	20	Not Detected
trans-1,2-Dichloroethene	1.4	Not Detected	5.4	Not Detected
Hexane	1.4	Not Detected	4.8	Not Detected
1,1-Dichloroethane	1.4	Not Detected	5.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.5	Not Detected	16	Not Detected
cis-1,2-Dichloroethene	1.4	Not Detected	5.4	Not Detected
Tetrahydrofuran	1.4	Not Detected	4.0	Not Detected
Chloroform	1.4	Not Detected	6.7	Not Detected
1,1,1-Trichloroethane	1.4	Not Detected	7.4	Not Detected
Cyclohexane	1.4	4.3	4.7	15
Carbon Tetrachloride	1.4	Not Detected	8.6	Not Detected
2,2,4-Trimethylpentane	1.4	12	6.4	57
Benzene	1.4	Not Detected	4.4	Not Detected
1,2-Dichloroethane	1.4	Not Detected	5.5	Not Detected
Heptane	1.4	Not Detected	5.6	Not Detected
Trichloroethene	1.4	Not Detected	7.3	Not Detected
1,2-Dichloropropane	1.4	Not Detected	6.3	Not Detected
1,4-Dioxane	5.5	Not Detected	20	Not Detected
Bromodichloromethane	1.4	Not Detected	9.1	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.2	Not Detected
4-Methyl-2-pentanone	1.4	Not Detected	5.6	Not Detected
Toluene	1.4	10	5.1	39
trans-1,3-Dichloropropene	1.4	Not Detected	6.2	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.4	Not Detected
Tetrachloroethene	1.4	100	9.2	690
2-Hexanone	5.5	Not Detected	22	Not Detected

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Client Sample ID: SVE BLOWER INLET

Lab ID#: 1704267B-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041908**	**Date of Collection: 4/13/17 12:51:00 PM**	
Dil. Factor:	**2.73**	**Date of Analysis: 4/19/17 01:33 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	10	Not Detected
Chlorobenzene	1.4	Not Detected	6.3	Not Detected
Ethyl Benzene	1.4	Not Detected	5.9	Not Detected
m,p-Xylene	1.4	3.0	5.9	13
o-Xylene	1.4	Not Detected	5.9	Not Detected
Styrene	1.4	Not Detected	5.8	Not Detected
Bromoform	1.4	Not Detected	14	Not Detected
Cumene	1.4	Not Detected	6.7	Not Detected
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.4	Not Detected
Propylbenzene	1.4	Not Detected	6.7	Not Detected
4-Ethyltoluene	1.4	Not Detected	6.7	Not Detected
1,3,5-Trimethylbenzene	1.4	Not Detected	6.7	Not Detected
1,2,4-Trimethylbenzene	1.4	Not Detected	6.7	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.2	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.2	Not Detected
alpha-Chlorotoluene	1.4	Not Detected	7.1	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.2	Not Detected
1,2,4-Trichlorobenzene	5.5	Not Detected	40	Not Detected
Hexachlorobutadiene	5.5	Not Detected	58	Not Detected
Naphthalene	2.7	Not Detected	14	Not Detected
TPH ref. to Gasoline (MW=100)	140	890	560	3600

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1704267B-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041907**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/19/17 11:46 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	2.0	Not Detected	7.2	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#: 1704267B-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041907**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/19/17 11:46 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	100	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: CCV

Lab ID#: 1704267B-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/19/17 09:13 AM**	

Compound	%Recovery
Freon 12	95
Freon 114	89
Chloromethane	118
Vinyl Chloride	110
1,3-Butadiene	104
Bromomethane	92
Chloroethane	108
Freon 11	91
Ethanol	97
Freon 113	87
1,1-Dichloroethene	98
Acetone	101
2-Propanol	106
Carbon Disulfide	106
3-Chloropropene	100
Methylene Chloride	110
Methyl tert-butyl ether	95
trans-1,2-Dichloroethene	101
Hexane	104
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	103
cis-1,2-Dichloroethene	103
Tetrahydrofuran	108
Chloroform	94
1,1,1-Trichloroethane	88
Cyclohexane	98
Carbon Tetrachloride	85
2,2,4-Trimethylpentane	103
Benzene	100
1,2-Dichloroethane	95
Heptane	102
Trichloroethene	96
1,2-Dichloropropane	100
1,4-Dioxane	93
Bromodichloromethane	95
cis-1,3-Dichloropropene	100
4-Methyl-2-pentanone	93
Toluene	94
trans-1,3-Dichloropropene	99
1,1,2-Trichloroethane	95
Tetrachloroethene	87
2-Hexanone	93

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Client Sample ID: CCV

Lab ID#: 1704267B-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/19/17 09:13 AM**	

Compound	%Recovery
Dibromochloromethane	90
1,2-Dibromoethane (EDB)	91
Chlorobenzene	92
Ethyl Benzene	94
m,p-Xylene	97
o-Xylene	100
Styrene	96
Bromoform	90
Cumene	93
1,1,2,2-Tetrachloroethane	98
Propylbenzene	95
4-Ethyltoluene	91
1,3,5-Trimethylbenzene	89
1,2,4-Trimethylbenzene	91
1,3-Dichlorobenzene	87
1,4-Dichlorobenzene	87
alpha-Chlorotoluene	95
1,2-Dichlorobenzene	87
1,2,4-Trichlorobenzene	90
Hexachlorobutadiene	86
Naphthalene	93
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: LCS

Lab ID#: 1704267B-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/19/17 09:38 AM**	

Compound	%Recovery	Method Limits
Freon 12	88	70-130
Freon 114	83	70-130
Chloromethane	114	70-130
Vinyl Chloride	104	70-130
1,3-Butadiene	96	70-130
Bromomethane	92	70-130
Chloroethane	102	70-130
Freon 11	85	70-130
Ethanol	98	70-130
Freon 113	82	70-130
1,1-Dichloroethene	91	70-130
Acetone	95	70-130
2-Propanol	104	70-130
Carbon Disulfide	102	70-130
3-Chloropropene	96	70-130
Methylene Chloride	100	70-130
Methyl tert-butyl ether	92	70-130
trans-1,2-Dichloroethene	106	70-130
Hexane	98	70-130
1,1-Dichloroethane	94	70-130
2-Butanone (Methyl Ethyl Ketone)	104	70-130
cis-1,2-Dichloroethene	100	70-130
Tetrahydrofuran	102	70-130
Chloroform	88	70-130
1,1,1-Trichloroethane	82	70-130
Cyclohexane	98	70-130
Carbon Tetrachloride	82	70-130
2,2,4-Trimethylpentane	98	70-130
Benzene	95	70-130
1,2-Dichloroethane	89	70-130
Heptane	101	70-130
Trichloroethene	87	70-130
1,2-Dichloropropane	96	70-130
1,4-Dioxane	96	70-130
Bromodichloromethane	92	70-130
cis-1,3-Dichloropropene	103	70-130
4-Methyl-2-pentanone	94	70-130
Toluene	89	70-130
trans-1,3-Dichloropropene	98	70-130
1,1,2-Trichloroethane	95	70-130
Tetrachloroethene	86	70-130
2-Hexanone	101	70-130

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Client Sample ID: LCS

Lab ID#: 1704267B-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/19/17 09:38 AM**	

Compound	%Recovery	Method Limits
Dibromochloromethane	90	70-130
1,2-Dibromoethane (EDB)	90	70-130
Chlorobenzene	90	70-130
Ethyl Benzene	93	70-130
m,p-Xylene	96	70-130
o-Xylene	100	70-130
Styrene	95	70-130
Bromoform	91	70-130
Cumene	91	70-130
1,1,2,2-Tetrachloroethane	101	70-130
Propylbenzene	94	70-130
4-Ethyltoluene	86	70-130
1,3,5-Trimethylbenzene	93	70-130
1,2,4-Trimethylbenzene	89	70-130
1,3-Dichlorobenzene	86	70-130
1,4-Dichlorobenzene	87	70-130
alpha-Chlorotoluene	98	70-130
1,2-Dichlorobenzene	86	70-130
1,2,4-Trichlorobenzene	88	70-130
Hexachlorobutadiene	84	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	101	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: LCSD

Lab ID#: 1704267B-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/19/17 10:04 AM**	

Compound	%Recovery	Method Limits
Freon 12	90	70-130
Freon 114	85	70-130
Chloromethane	117	70-130
Vinyl Chloride	108	70-130
1,3-Butadiene	98	70-130
Bromomethane	92	70-130
Chloroethane	104	70-130
Freon 11	87	70-130
Ethanol	95	70-130
Freon 113	85	70-130
1,1-Dichloroethene	94	70-130
Acetone	100	70-130
2-Propanol	107	70-130
Carbon Disulfide	104	70-130
3-Chloropropene	100	70-130
Methylene Chloride	105	70-130
Methyl tert-butyl ether	95	70-130
trans-1,2-Dichloroethene	109	70-130
Hexane	103	70-130
1,1-Dichloroethane	97	70-130
2-Butanone (Methyl Ethyl Ketone)	104	70-130
cis-1,2-Dichloroethene	106	70-130
Tetrahydrofuran	104	70-130
Chloroform	90	70-130
1,1,1-Trichloroethane	85	70-130
Cyclohexane	98	70-130
Carbon Tetrachloride	84	70-130
2,2,4-Trimethylpentane	101	70-130
Benzene	96	70-130
1,2-Dichloroethane	89	70-130
Heptane	102	70-130
Trichloroethene	88	70-130
1,2-Dichloropropane	97	70-130
1,4-Dioxane	95	70-130
Bromodichloromethane	92	70-130
cis-1,3-Dichloropropene	100	70-130
4-Methyl-2-pentanone	94	70-130
Toluene	91	70-130
trans-1,3-Dichloropropene	96	70-130
1,1,2-Trichloroethane	96	70-130
Tetrachloroethene	84	70-130
2-Hexanone	99	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1704267B-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a041904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/19/17 10:04 AM**	

Compound	%Recovery	Method Limits
Dibromochloromethane	89	70-130
1,2-Dibromoethane (EDB)	90	70-130
Chlorobenzene	90	70-130
Ethyl Benzene	94	70-130
m,p-Xylene	95	70-130
o-Xylene	99	70-130
Styrene	96	70-130
Bromoform	90	70-130
Cumene	91	70-130
1,1,2,2-Tetrachloroethane	100	70-130
Propylbenzene	95	70-130
4-Ethyltoluene	91	70-130
1,3,5-Trimethylbenzene	89	70-130
1,2,4-Trimethylbenzene	90	70-130
1,3-Dichlorobenzene	87	70-130
1,4-Dichlorobenzene	87	70-130
alpha-Chlorotoluene	97	70-130
1,2-Dichlorobenzene	85	70-130
1,2,4-Trichlorobenzene	89	70-130
Hexachlorobutadiene	85	70-130
Naphthalene	89	60-140
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	96	70-130