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# Technical Memorandum

## IRAM Status Update – Off-Property SVE Operations (January-July 2020)

Date: August 10, 2020

To: Aaren Fiedler, LG, Washington Department of Ecology Voluntary Cleanup Program

Copies: Jonathan Polonsky and Brent Chadwick, Plaid Pantries, Inc.
Mr. Brian Fallon, Southwest Clean Air Agency

From: Chris Rhea, LG; Daniele Peters, PE; and Paul Ecker, LHG

Regarding: Plaid Pantry Store #112
1002 W. Fourth Plain Boulevard
Vancouver, Washington
Department of Ecology Cleanup Site ID 11759 and VCP #SW1314
EES Project 1179-04


This memorandum provides a summary of soil vapor extraction (SVE) operations and site cleanup performance through July 2020 for the Plaid Pantry Store #112 subject property. (Property, Figure 1). While prior SVE operations successfully addressed the Property's gasoline release source area, the system was expanded in 2019-2020 to focus on mitigating soil impacts that migrated from the Property to an adjacent public right-of-way. Implementation of this remedial action was conducted in general accordance with the EES *Work Plan for Soil Vapor Extraction System Expansion* dated June 27, 2019. Figure 2 illustrates general Site features.

## BACKGROUND

The subject Property is located at the northwest corner of West Fourth Plain Boulevard and Kauffman Avenue in Vancouver, Washington (Figure 1). The 0.26-acre Property is developed with a single commercial building and a retail gasoline station. Building tenants include Plaid Pantry, which operates a convenience store and retail fueling station, and a Domino's Pizza Restaurant. Site features and underground utilities/infrastructure are illustrated on Figures 2 and 3.

Gasoline impacts were first confirmed in soils surrounding a previously unknown UST that was discovered south of the current fuel dispenser island during initial Site assessment activities conducted by Plaid in 2011. The identified gasoline release (source) area is located on the Property and appears to be associated with historical fueling infrastructure that pre-dates Plaid's operations at this Property. Soil impacts are present beyond the Property boundary to the south, extending beneath a limited portion of the adjacent sidewalk and Fourth Plain Boulevard roadway. Collectively, the area affected by gasoline contamination originating at the subject Property is designated as the Site.

EES installed and operated an SVE system at the Property's source area between August 2013 and December 2018 as an interim action to mitigate readily accessible gasoline-impacted soils. The SVE system was applied using a five-well array (SVE-1 through SVE-5) screened at depths between 5 and 20 feet below ground surface (bgs) in the vicinity of the fuel distribution island near the southern Property margin. Based on interim soil and vapor testing within this source area, remedial action objectives were achieved within the SVE treatment zone by 2018.

The zone of initial SVE operations was generally limited to the primary source area within Property boundaries and did not fully address residual gasoline impacts extending into the adjacent Fourth Plain Boulevard right-of-way (ROW). Although perimeter SVE effects were observed near the Property boundary closest to the treatment zone, contaminant concentrations remaining elsewhere in the ROW exceeded protective cleanup levels established under MTCA, and therefore site cleanup could not be fully completed using the on-Property system.

In an effort to address MTCA cleanup requirements and seek the established compliance criteria throughout the site, the SVE system was expanded into the ROW. In late 2019, EES coordinated installation of three horizontal SVE wells extending beneath a portion of the adjoining sidewalk and West Fourth Plain Boulevard ROW (SVE-6 through SVE-8). Full-time SVE system operations in the ROW began in January 2020 and continue at this time. The SVE system layout is shown on Figure 3. System operations are summarized below.

## SVE CONSTRUCTION AND OPERATION IN THE RIGHT-OF-WAY

Following construction in late 2019, SVE operations were expanded beyond the southern Property boundary to remediate gasoline-impacted subsurface soil located in the West Fourth Plain Boulevard right-of-way (Figure 3). Operation of this expanded system began in January 2020.

### HORIZONTAL WELL CONSTRUCTION

Three horizontal borings were advanced below the West Fourth Plain Boulevard right-of-way from a centrally located boring pit on the subject Property. Each well consisted of three-inch diameter casing, constructed using schedule-80 PVC and 0.012-inch slotted screen with 24 slots per foot (0.66% open area). Screened intervals targeted the known pocket of soil contamination within the ROW, with well spacing intended to provide overlapping vacuum influence. This SVE well configuration is shown on Figures 4 and 5.

- Two horizontal wells (SVE-6 and SVE-8) were installed at depths of approximately 10 feet bgs, with screened intervals spaced between approximately 20 and 30 feet laterally.
- Midway between wells SVE-6 and SVE-8, a shallower apex well (SVE-7) was installed at a depth of approximately eight feet bgs.
- Wells SVE-7 and SVE-8 were each installed with 20-foot screen lengths to maximize SVE influence in the area of known soil contamination. To the east, well SVE-6 was fitted with a slightly shorter 15-foot long screen in an effort to avoid potential short circuiting to nearby

features including the former UST pit (source excavation area) and Plaid's operating fuel tank cavity.

Conveyance piping from each horizontal SVE well was incorporated into the existing manifold located in the remediation equipment compound in the secured area next to the Plaid store building. The previous system's one-horsepower SVE blower was replaced with a three-horsepower regenerative blower that applies vacuum to the three horizontal wells (SVE-6 through -8). Blower capacity is adequate to add any of the pre-existing vertical wells (SVE-1 through SVE-5) if needed. Vapors are discharged to ambient air at a stack height of approximately 10 feet. Air emissions are managed under permit (see below).

Horizontal drilling and SVE well installation activities were performed by Ellingson-DTD (Bremerton, Washington). Boring logs are provided in Attachment A. Transmission piping and the SVE system mechanical components were installed by Terra Hydr (Sherwood, Oregon).

## SVE TESTING AND OPERATIONS

Horizontal SVE well testing was initially performed at the Site on January 2, 2020. On January 3, 2020, full-time SVE system operations began at new wells SVE-6 through -8. Since SVE startup in January 2020, the system has operated continuously except for periodic short-term shutdowns occurring during maintenance or following power loss to the Plaid building.

- During the first month of operation SVE performance was monitored on a weekly basis to establish stable system operations during adjustment.
- Bi-weekly (every two weeks) system operations and maintenance visits were conducted during the second and third months of operation.
- Vapor samples were collected three times during the first month of operation, monthly between February and April 2020, and on a quarterly basis thereafter. Quarterly vapor sampling was conducted in July and the next event is scheduled for October 2020.

System flow and vacuum are periodically modified to optimize contaminant mass removal. Operational data collected through July 13, 2020 are presented on the attached tables, figures, and charts, and summarized below.

## AIR FLOW

Between startup on January 3 and July 13, 2020, the system has produced between approximately 36 and 62 cubic feet per minute (cfm) of air flow from the subsurface (see Table 1, "AWS Inlet"). Individual horizontal wells typically produce extraction flow rates ranging between 12 and 17 CFM, with higher flowrates (up to 22 cfm) observed during the first day of operation. On April 1, 2020, the system was modified to increase airflow at well SVE-8 (up to 18 cfm), where the greatest concentrations of gasoline have been observed in soil vapors (discussed below).

## RADIUS OF INFLUENCE

During the initial three months of operation, performance metrics including vacuum, volatile organic compound (VOC) concentrations, and biological degradation parameters were measured at nearby vertical monitoring wells B-17, B-18, S-27, S-28, S-30, and SVE-1 through SVE-5 to evaluate the SVE

system's radius of influence (ROI). Based on observations at these nearby wells, the vapor extraction ROI fully covers the identified area of contamination in the West Fourth Plain Boulevard right-of-way. ROI data are summarized below and presented on Figure 6 and Table 2.

- Consistent measurable influence was observed at off-Property sidewalk wells B-17 and B-18 in the area of known contamination (Figure 6 and Table 2). Wells B-17 and B-18 are screened at depths between five and 10 feet, and 15 and 20 feet, respectively, indicating the vertical extent of influence extends to at least 20 feet depth in the target cleanup area.
- Fluctuating vacuum influence observed at shallow vapor monitoring wells S-30 and SVE-5 (periodically up to 1.3 and 0.22 inches water column, respectively) indicates that the shallow 5-10 feet bgs screened interval of these monitoring wells is near the lateral limits of horizontal SVE influence. Fluctuating vacuum influence between 0.1 and 0.2 inches of water column is also observed at deeper observation wells SVE-2 and SVE-4 (both screened from 15 to 20 feet depth), indicating these wells appear to be near the vertical extent of SVE influence. Based on these observations, the orthogonal ROI for each individual horizontal SVE well is approximately 10 feet. However, within the screened zone between 5 and 10 feet bgs where the horizontal wells are most effective, the SVE system produces a lateral ROI of approximately 35 feet as illustrated in Figure 6.
- Vacuum influence is generally not observed at on-Property utility vapor monitoring wells S-27 and S-28 (screened in utility trench backfill at depths of less than three feet bgs), indicating the SVE influence does not extend to shallow utility corridors on the Property or dissipates near the ground surface.

### BIOGENIC DEGRADATION OF GASOLINE

One goal of SVE is to increase subsurface oxygen inflow and concentrations that promote natural biological degradation of gasoline vapors. Before operation of the SVE system, subsurface oxygen concentrations at site wells within the targeted treatment area ranged between approximately 9 and 20%. As intended, SVE operations have established and maintained more highly aerobic conditions (18-21% oxygen) at active wells SVE-6 through SVE-8 and monitoring wells within the SVE zone of influence (B-17, B-18, and SVE-1 through SVE-5), indicating the remedial system is promoting biodegradation of gasoline contaminants by increasing oxygen flow into the subsurface. Biogenic vapor monitoring data are presented in Table 2.

## CONTAMINANT CONCENTRATIONS AND MASS REMOVAL

Vapor samples were collected three times during the first month of operation (January 2020), monthly through April 2020, and quarterly thereafter through July 2020 to evaluate contaminant mass removal trends during the initial six-month evaluation period. Within the SVE treatment zone, gasoline and related constituent vapors have been removed from the subsurface at concentrations that indicate residual untreated impacts remain in subsurface soil located in the West Fourth Plain Boulevard right-of-way. Findings are summarized below, presented in Tables 3, 4A and 4B, and illustrated on Figure 7 and Chart sets 1 through 3. Copies of laboratory analytical reports for the January-July 2020 monitoring period are presented in Attachment B.

- Gasoline Concentrations: During the initial six-month evaluation period, the greatest gasoline vapor concentration measured in the combined three-well system was observed during the first day of operation at 2,800,000 micrograms per cubic meter (ug/$m^3$). Total gasoline vapor concentrations decreased to 13,000 ug/$m^3$ after one month of operation, indicating an effective initial extraction period. Gasoline concentrations continued to decrease at the individual well laterals throughout the monitoring period to date with slight increases in concentrations observed in July 2020. The rate of degradation is progressing as expected for a localized and treatable contaminant mass.
  - In general, gasoline vapor concentrations measured in the three horizontal wells increase from east to west in the downhill direction. Among these wells at startup in January 2020, the lowest gasoline vapor concentrations were initially observed at well SVE-6 (1,900,000 ug/$m^3$ at startup), increasing sequentially to the west at well SVE-7 (2,200,000 ug/$m^3$) and SVE-8 (7,000,000 ug/$m^3$).
  - SVE implementation in the ROW resulted in significant vapor concentration reductions during the first few months of operation. By March 2020, gasoline vapors were not observed at easternmost well SVE-6. By April 1, 2020 gasoline at the most highly-impacted well SVE-8 decreased by 98% to 140,000 ug/$m^3$. In July 2020, concentrations at the individual well laterals were slightly higher compared to prior monitoring events in 2020. The increased concentrations are likely due to seasonal dry weather conditions and system operations modifications initiated on April 1.
  - The exponential decrease observed in vapor concentrations across the horizontal well network indicates effective coverage throughout the area of known contamination in the ROW and control of potential vapor migration. Chart set 2 illustrates gasoline concentration trends for the system total and individual wells.
  - Gasoline constituents benzene and naphthalene were not detected above laboratory method reporting limits (MRLs) in any of the samples collected between January and July 2020. Low levels of other gasoline constituents (toluene, ethylbenzene, and xylenes) were detected at each of the SVE wells below the MTCA Method B soil gas screening levels in July 2020, but were not detected above laboratory MRLs during any other sampling events.
- Gasoline Mass Extraction Rate: Initial mass removal rates at system startup were estimated at approximately 15 pounds per day and decreased to approximately 0.055 pounds per day by March 2, 2020 (see Chart set 3). Since then, the gasoline extraction rate appears to have stabilized with the last calculated rate being approximately 0.080 pounds per day in July 2020. Since startup in January 2020, cumulative removal of gasoline range hydrocarbons is estimated to be 116 pounds, or approximately 19 gallons (Table 4A). Combined with prior on-Property system operations, a total of approximately 317 pounds (52 gallons) vapor-phase gasoline have been removed from the Site since the initiation of remedial activities in August 2013 (Table 4B and Chart set 3).

## DISCHARGE PERMITTING AND SUPPLEMENTAL COMPLIANCE DATA

Air emissions from the SVE system are directly discharged to the atmosphere in accordance with Southwest Regional Clean Air Agency (SWCAA) requirements. Since air emissions from the SVE system are expected to remain below SWCAA emission exemption criteria (SWCAA 400-109), SWCAA authorized system startup and continued operation of the system without the use of controls and

confirmed on 8/27/2019 that a permit is not required for system operations.

Contaminant concentrations in SVE system exhaust measured on a monthly basis for the first quarter of 2020 demonstrated compliance with SWCAA emissions criteria. Based on these results, SWCAA approved EES's 5/19/2020 request to reduce the frequency of air emissions monitoring to a quarterly basis beginning in May 2020. Status reports related to SVE system air emissions are submitted to SWCAA, at their request.

SVE air emissions are monitored to demonstrate compliance with SWCAA discharge requirements. In addition to gasoline, chlorinated solvent vapors, primarily tetrachloroethylene (PCE), are removed from the subsurface during SVE operations (Table 3). Although not attributed to the gasoline source or Plaid operations, total PCE concentrations in SVE system exhaust are measured to demonstrate air emission compliance with SWCAA discharge criteria.

- Gasoline constituents and PCE vapor emissions are far below the maximum allowable discharge limits. Exhaust treatment is therefore not currently required by SWCAA based on measured system air emissions (Table 4A). Note that no emission threshold criteria have been established for total gasoline and discharge compliance is evaluated based on the combined total of toxic air pollutants (TAPs) as defined in SWCAA Chapter 400. The total TAPs emissions are evaluated by summing gasoline-range volatile organics (GRO) and PCE emissions; since gasoline related TAPs (benzene, toluene, ethylbenzene, xylenes, and naphthalene) constituents are included in the reported GRO laboratory data, and other VOCs are assumed to be present at negligible levels, they are not included in this sum. The registration exemption threshold for the sum of total TAPs is 2,000 pounds per year per SWCAA Chapter 400-109.
- PCE was detected in system exhaust on January 20, 2020 at a concentration of 33 ug/$m^3$, but was not detected above laboratory MRLs in any other combined emission samples collected during the January-July 2020 monitoring period. Chlorinated solvent vapors will continue to be monitored to demonstrate regulatory discharge compliance while the system is in operation.

## CONTINUED SVE OPERATIONS DURING 2020

Monitoring data collected between January and July 2020 indicate that the SVE system has been effective in the treatment area at removing gasoline contaminant mass, promoting hydrocarbon biodegradation, and limiting potential vapor migration. Gasoline mass in the ROW has been greatly diminished as a result of horizontal SVE well implementation. Current vapor concentrations (up to 150,000 ug/$m^3$) exceed conservative indoor air screening criteria (140 ug/$m^3$) by as much as 1,000 times and indicate gasoline persists in this ROW area.

As indicated in the EES RI Report dated 09/19/2018), final cleanup compliance is governed by establishing protective concentrations of gasoline in soil (2,619 mg/kg cleanup criteria) and will be demonstrated by soil sampling in the ROW once SVE vapor concentrations are more comprehensively and consistently diminished. Continued operation of the horizontal SVE system through 2020 is therefore recommended until SVE vapor concentrations decrease to the standard laboratory method reporting limit of approximately 500 ug/$m^3$ and/or the gasoline mass removal rates become asymptotic.

Routine but limited system operations and maintenance will continue to be performed on a monthly

basis, with quarterly air discharge sampling and testing as necessary. System operations may be modified to optimize system performance as contaminant concentrations continue to decrease. System modifications during the second half of 2020 will include well cycling, system cycling, air flow increase or decrease, and/or fresh air venting.

For performance monitoring purposes, quarterly vapor sampling events are scheduled while the system is active, unless more frequent sampling events are required by SWCAA for air emission compliance monitoring. Performance monitoring and evaluation will continue through the end of 2020 and a written status report describing performance and compliance status will be submitted during the first quarter of 2021.

## ATTACHMENTS

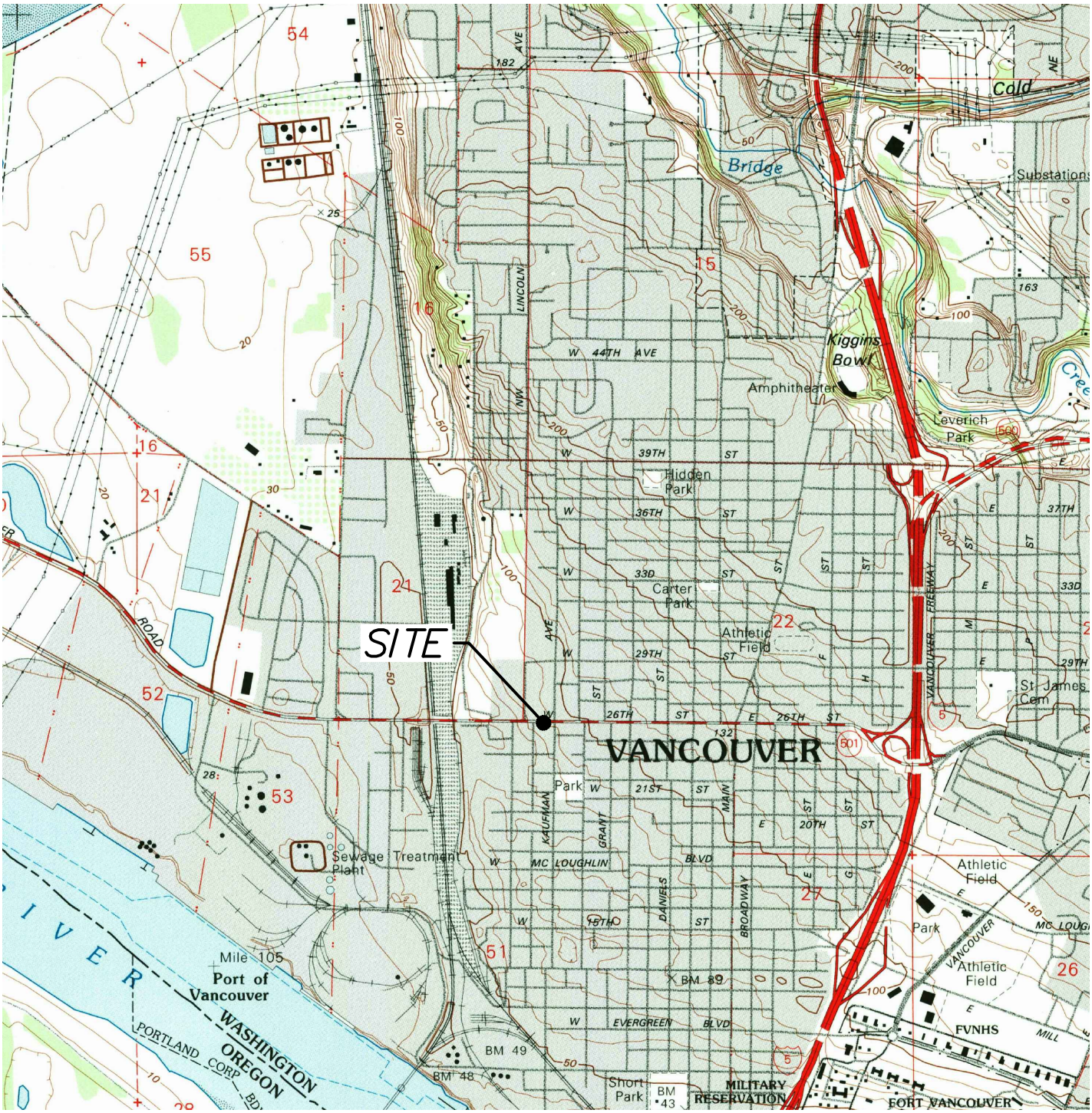
Figure 1: Vicinity Map
Figure 2: Site Features
Figure 3: SVE System Layout
Figure 4: SVE Well Configuration
Figure 5: Cross Section A–A'
Figure 6: Radius of Influence
Figure 7: Gasoline Vapor Concentrations During SVE Operations (January-July 2020)

Table 1: Soil Vapor Extraction Monitoring Data
Table 2: Biodegradation Parameter and Zone of Influence Data
Table 3: Soil Vapor Analytical Results – Volatile Organic Compounds
Table 4A: Soil Vapor Extraction Mass Removal in Right-of-Way
Table 4B: Site Total Soil Vapor Extraction Mass Removal

Chart 1A: System Total Gasoline Vapor Concentrations During SVE Operations in Right-of-Way (Linear Scale)
Chart 1B: System Total Gasoline Vapor Concentrations During SVE Operations in Right-of-Way (Log Scale)
Chart 1C: System Total Gasoline Vapor Concentrations During SVE Operations (Sitewide – Log Scale)
Chart 2A: Gasoline Vapor Concentrations and Removal Rates During SVE Operations in Right-of-Way (Linear Scale)
Chart 2B: Gasoline Vapor Concentrations and Removal Rates During SVE Operations in Right-of-Way (Log Scale)
Chart 3A: Site Total Gasoline Mass Extraction Rates and Cumulative Mass Removal (Linear Scale)
Chart 3B: Site Total Gasoline Mass Extraction Rates and Cumulative Mass Removal (Log Scale)

Attachment A: Boring Logs
Attachment B: 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.

| | | | |
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| DATE: | 7–31–20 | PROJECT NO. | |
| FILE: | 1179–04 | | 1179–04 |
| DRAWN: | JJT | FIGURE NO. | |
| APPROVED: | DBP | | 1 |

C:\Users\Josh\Desktop\Autocad Files\EES-Autocad\1179-04\2020\Jan 2020\1179-04_VM.dwg

LEGEND

- Property Boundary
- Roadway Centerline
- Catch Basin
- Dry Well
- SITE FEATURES ARE APPROXIMATE

APPROXIMATE SCALE IN FEET

0 10 20 40

N

Existing Building

(Domino's Pizza)

(Plaid Pantry)

Canopy/Sidewalk

Remediation Equipment Area

Sidewalk

Kauffman Ave.

UST Vent Pipes

Canopy/Pump Island

Fuel Dispenser

Sign

Abandoned UST (Removed Feb 2012)

Existing UST Locations

Fuel Supply Lines

Sidewalk

Bike Lane

West Fourth Plain Blvd.

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| PROJECT NO. | 1179-04 |
| DATE: 7-31-20 | FIGURE NO. 2 |
| FILE: 1179-04 | |
| DRAWN: JJT | |
| APPROVED: PT | |

SITE FEATURES

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

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## LEGEND

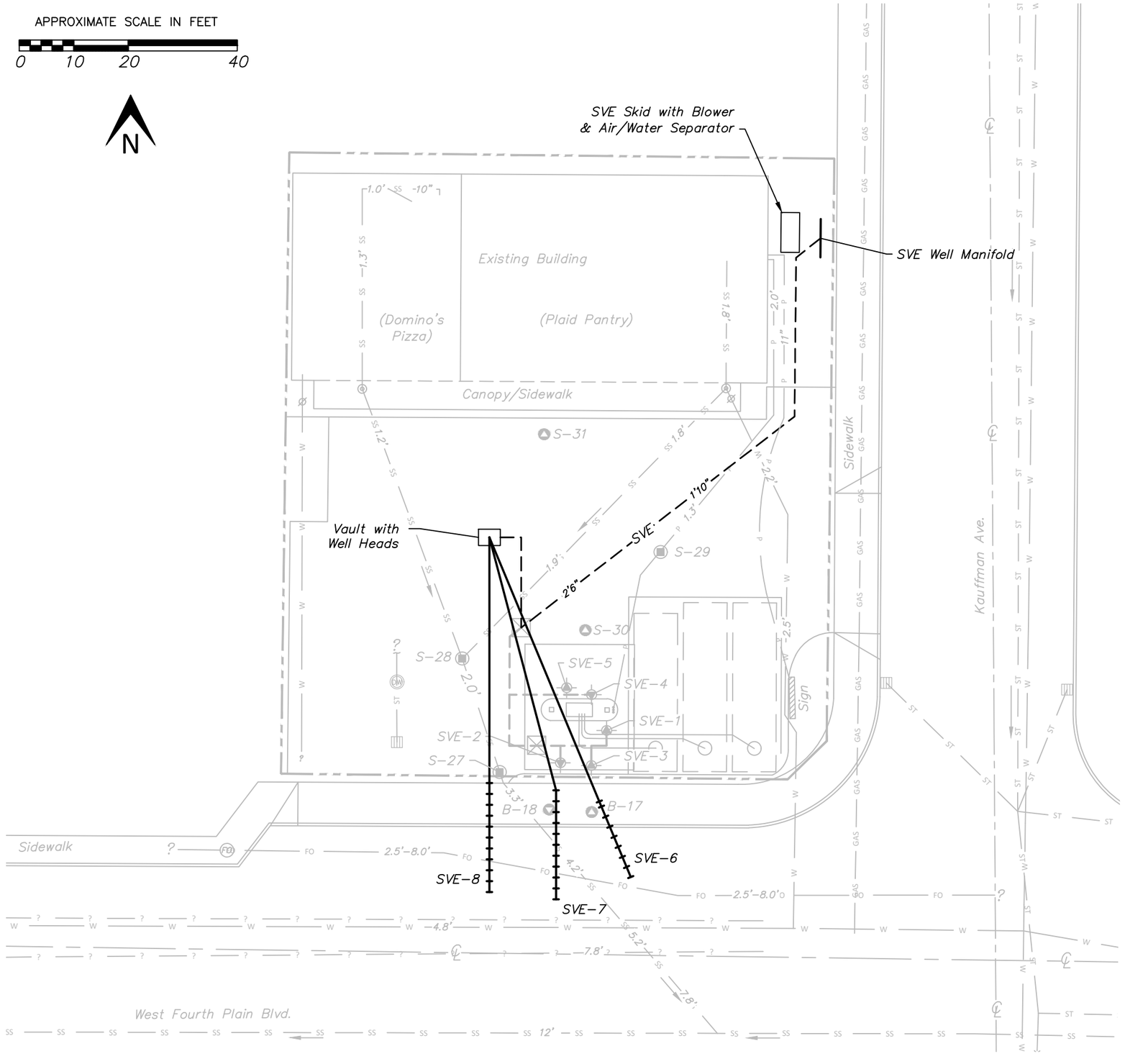
- Property Boundary
- Roadway Centerline
- Catch Basin
- DW — Dry Well
- Vault
- SVE–1 — Inactive Shallow SVE Well (Screened 5–10' bgs)
- SVE–2 — Inactive Deep SVE Well (Screened 15–20' bgs)
- S–28 — Utility Vapor Monitoring Well (Screened at Various Shallow Depths in Trench Backfill)
- B–17 — Shallow Vapor Monitoring Well (Screened 5–10' bgs)
- B–18 — Deep Vapor Monitoring Well (Screened 15–20' bgs)
- SVE — SVE–1 through SVE–5 Conveyance Piping
- SVE — SVE Conveyance Piping
- W — Water Line
- SS — Sanitary Sewer & Flow Direction
- ST — Storm Sewer & Flow Direction
- P — Power
- GAS — Natural Gas
- ? — Unknown Utility
- FO — Fiber Optic
- Arrows Indicate Flow Direction Where Known
- Approximate Utility Depths Indicated Where Known (Feet)
- SVE Well Casing
- SVE Screens

SITE FEATURES ARE APPROXIMATE.

APPROXIMATE SCALE IN FEET

0 10 20 40

N

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| FILE: | 1179–04 |
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| PROJECT NO. | 1179–04 |
| FIGURE NO. | 3 |

SVE SYSTEM LAYOUT

PLAID PANTRY #112
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LEGEND

- Property Boundary
- Road Centerline
- Catch Basin
- Dry Well
- SVE–1 — Inactive Shallow SVE Well
- SVE–2 — Inactive Deep SVE Well
- B–12 — Direct–Push Boring (Aug 2012)
- S–28 — Utility Vapor Monitoring Well (Screened at Various Shallow Depths in Trench Backfill)
- B–1 — Direct–Push Boring (Sept 2011)
- B–16 — Direct–Push Boring (Sept 2015)
- B–17 — Shallow Vapor Monitoring Well (Screened 5–10' bgs)
- B–18 — Deep Vapor Monitoring Well (Screened 15–20' bgs)
- B–22 — Temporary Soil Boring (Dec 2019)
- Vault
- 10 — Approximate Gasoline Isoconcentration Contour (mg/kg, Sept 2015)
- A ⟷ A' — Cross Section A–A' Location (See Figure 5)
- SVE — SVE–1 through SVE–5 Conveyance Piping
- SVE — SVE Conveyance Piping
- SVE Well Casing
- SVE Screen
- SS — Sanitary Sewer
- ST — Storm
- W — Water
- FO — Fiber Optic
- P — Power
- GAS — Gas
- ? — Unknown Utility

SITE FEATURES ARE APPROXIMATE.

APPROXIMATE SCALE IN FEET

0 10 20

N

Vault with Well Heads

SVE

A

A'

SVE–1
SVE–2
SVE–3
SVE–4
SVE–5

SVE–6
Depth=10 ft.
Screen=15 ft.
Diameter=3 in.

SVE–7
Depth=8 ft.
Screen=20 ft.
Diameter=3 in.

SVE–8
Depth=10 ft.
Screen=20 ft.
Diameter=3 in.

B–1, B–2, B–3, B–4, B–5, B–6, B–7, B–8, B–9, B–10, B–11, B–12, B–13, B–14, B–15, B–16, B–17, B–18, B–19, B–20, B–22
S–27, S–28, S–30
10,000, 1,000, 100, 10
Sign
West Fourth Plain Blvd.

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| PROJECT NO. | 1179–04 |
| DATE: 7–31–20 | FIGURE NO. 4 |
| FILE: 1179–04 | |
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SVE WELL CONFIGURATION

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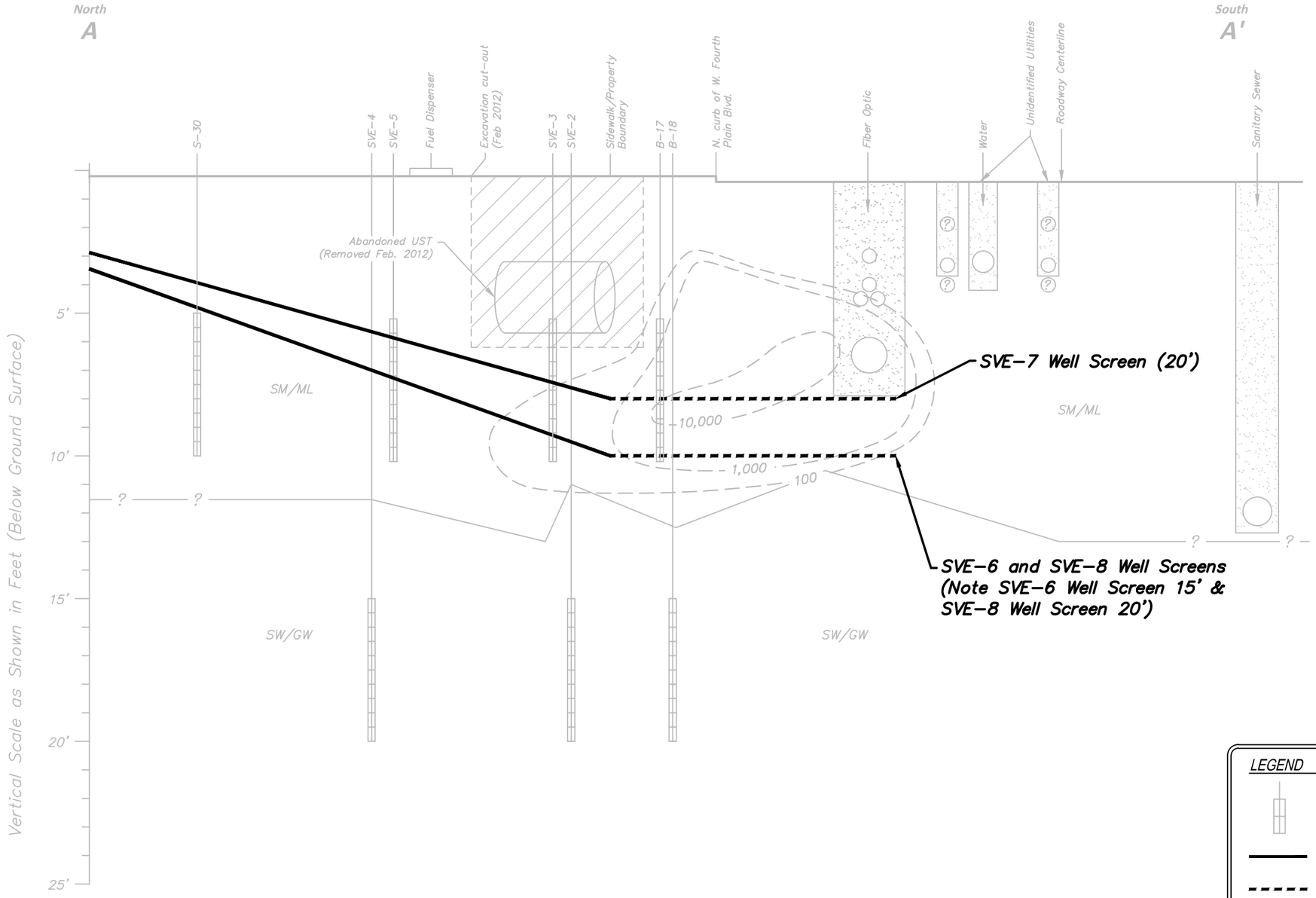


APPROXIMATE SCALE IN FEET

0 4 8 16

LEGEND

- Inactive SVE Well or Vapor Monitoring Well and Screened Interval
- SVE Well Casing
- SVE Screen
- SM/ML — Sandy Silt/Silty Sand
- SW/GW — Sand & Gravels
- 100 — Approximate Gasoline Isoconcentration Contour (mg/kg, Sept 2015)

SITE FEATURES ARE APPROXIMATE.

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| DATE: | 7-31-20 |
| FILE: | 1179-04 |
| DRAWN: | JJT |
| APPROVED: | PT |
| PROJECT NO. | 1179-04 |
| FIGURE NO. | 5 |

CROSS SECTION A-A'

PLAID PANTRY #112
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VANCOUVER, WA.

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## LEGEND

- Property Boundary
- Road Centerline
- Catch Basin
- Dry Well
- SVE–1 — Inactive Shallow SVE Well
- SVE–2 — Inactive Deep SVE Well
- 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)
- Vault
- 10 — Approximate Gasoline Isoconcentration Contour (mg/kg, Sept 2015)
- -SVE- — SVE–1 through SVE–5 Conveyance Piping
- -SVE- — SVE Conveyance Piping
- SVE Well Casing
- SVE Screen

Vacuum measurements in inches of water column.

SITE FEATURES ARE APPROXIMATE.

APPROXIMATE SCALE IN FEET

0 10 20

N

Vault with Well Heads

SVE

2'6"

S–28

| DATE | VACUUM |
|---|---|
| 1/3/20 | 0+ |
| 1/10/20 | 0+ |
| 1/20/20 | 0+ |
| 2/3/20 | 0+ |

SVE–2

| DATE | VACUUM |
|---|---|
| 1/3/20 | 0.17 |
| 1/10/20 | 0.10 |
| 1/20/20 | 0.18 |
| 2/3/20 | 0.12 |
| 3/2/20 | 0.12 |
| 4/1/20 | 0.08 |
| 7/13/20 | 0.12 |

S–27

| DATE | VACUUM |
|---|---|
| 1/3/20 | 0.12 |
| 1/10/20 | 0.04 |
| 1/20/20 | 0.04 |
| 2/3/20 | 0.04 |
| 3/2/20 | 0.00 |
| 4/1/20 | 0.00 |
| 7/13/20 | 0.00 |

B–18

| DATE | VACUUM |
|---|---|
| 1/3/20 | 0.06 |
| 1/10/20 | 0.24 |
| 1/20/20 | 0.10 |
| 2/3/20 | 0.74 |
| 3/2/20 | 0.58 |
| 4/1/20 | 1.2 |
| 7/13/20 | 2.0 |

S–30

| DATE | VACUUM |
|---|---|
| 1/10/20 | 0.12 |
| 1/17/20 | 0.12 |
| 1/20/20 | 0.06 |
| 2/3/20 | 0.46 |
| 3/2/20 | 0.96 |
| 4/1/20 | 1.3 |
| 7/13/20 | 1.0 |

SVE–5

| DATE | VACUUM |
|---|---|
| 1/3/20 | 0.06 |
| 1/10/20 | 0.02 |
| 1/20/20 | 0.22 |
| 2/3/20 | 0+ |
| 3/2/20 | 0.04 |
| 4/1/20 | 0.10 |
| 7/13/20 | 0.10 |

SVE–4

| DATE | VACUUM |
|---|---|
| 1/3/20 | 0.02 |
| 1/10/20 | 0.12 |
| 1/20/20 | 0.12 |
| 2/3/20 | 0.08 |
| 3/2/20 | 0.06 |
| 4/1/20 | 0.08 |
| 7/13/20 | 0.06 |

SVE–1

| DATE | VACUUM |
|---|---|
| 1/3/20 | 0.17 |
| 1/10/20 | 0.14 |
| 1/20/20 | 0.06 |
| 2/3/20 | 0.14 |
| 3/2/20 | 0.18 |
| 4/1/20 | 0.12 |
| 7/13/20 | 0.12 |

SVE–3

| DATE | VACUUM |
|---|---|
| 1/3/20 | 0.16 |
| 1/10/20 | 0.08 |
| 1/20/20 | 0.10 |
| 2/3/20 | 0.12 |
| 3/2/20 | 0.14 |
| 4/1/20 | 0.14 |
| 7/13/20 | 0.10 |

B–17

| DATE | VACUUM |
|---|---|
| 1/3/20 | 1.10 |
| 1/10/20 | 0.88 |
| 1/20/20 | 0.60 |
| 2/3/20 | 0.94 |
| 3/2/20 | 1.3 |
| 4/1/20 | 1.1 |
| 7/13/20 | 1.2 |

S–30 S–28 SVE–5 SVE–4 SVE–2 SVE–1 SVE–3 S–27 B–18 B–17 SVE–6 Depth=10 ft. SVE–8 Depth=10 ft. SVE–7 Depth=8 ft.

10,000 1,000 100 10

West Fourth Plain Blvd.

Radius of Influence at 5–10 feet depth

Radius of Influence at 5–20 feet depth

PROJECT NO. 1179–04 FIGURE NO. 6

DATE: 7–31–20 FILE: 1179–04 DRAWN: JJT APPROVED: PT

RADIUS OF INFLUENCE

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

EES Environmental Consulting, Inc.
240 N. Broadway, Suite 203 • Portland, Oregon 97227
(503) 847–2740 • ees-environmental.com

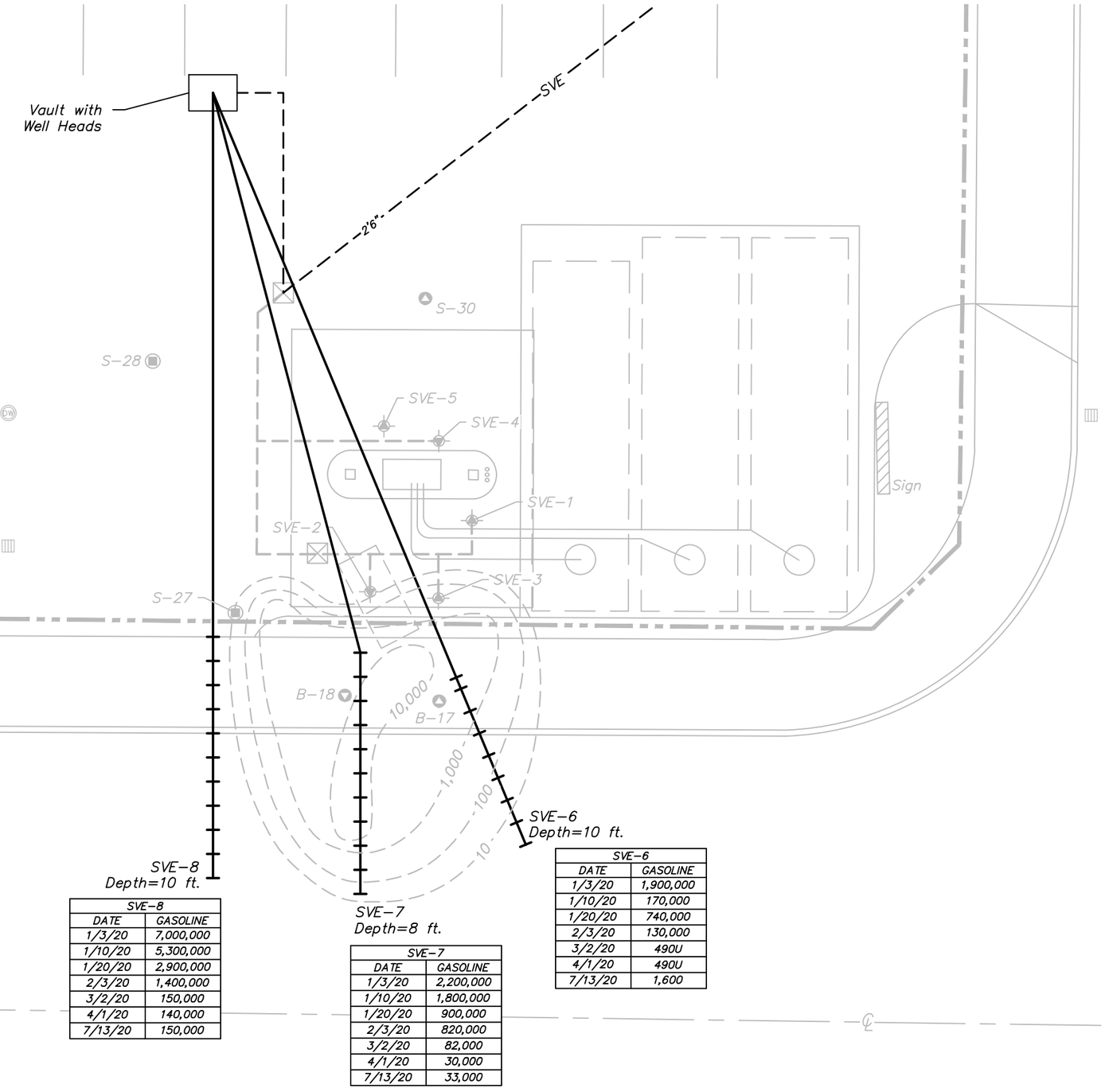
## LEGEND

- Property Boundary
- Road Centerline
- Catch Basin
- Dry Well
- SVE–1 — Inactive Shallow SVE Well
- SVE–2 — Inactive Deep SVE Well
- 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)
- Vault
- 10 — Approximate Gasoline Isoconcentration Contour (mg/kg, Sept 2015)
- -SVE- — SVE–1 through SVE–5 Conveyance Piping
- -SVE- — SVE Conveyance Piping
- SVE Well Casing
- SVE Screen
- Soil Vapor Analytical Results in ug/m³
- SITE FEATURES ARE APPROXIMATE.

APPROXIMATE SCALE IN FEET

0 10 20

N




| SVE–8 | |
|---|---|
| DATE | GASOLINE |
| 1/3/20 | 7,000,000 |
| 1/10/20 | 5,300,000 |
| 1/20/20 | 2,900,000 |
| 2/3/20 | 1,400,000 |
| 3/2/20 | 150,000 |
| 4/1/20 | 140,000 |
| 7/13/20 | 150,000 |

| SVE–7 | |
|---|---|
| DATE | GASOLINE |
| 1/3/20 | 2,200,000 |
| 1/10/20 | 1,800,000 |
| 1/20/20 | 900,000 |
| 2/3/20 | 820,000 |
| 3/2/20 | 82,000 |
| 4/1/20 | 30,000 |
| 7/13/20 | 33,000 |

| SVE–6 | |
|---|---|
| DATE | GASOLINE |
| 1/3/20 | 1,900,000 |
| 1/10/20 | 170,000 |
| 1/20/20 | 740,000 |
| 2/3/20 | 130,000 |
| 3/2/20 | 490U |
| 4/1/20 | 490U |
| 7/13/20 | 1,600 |

| | |
|---|---|
| DATE: 7–31–20 | PROJECT NO. 1179–04 |
| FILE: 1179–04 | FIGURE NO. 7 |
| DRAWN: JJT | |
| APPROVED: PT | |

GASOLINE VAPOR CONCENTRATIONS
DURING SVE OPERATIONS
(JANUARY THROUGH JULY 2020)

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


EES Environmental Consulting, Inc.
240 N. Broadway, Suite 203 • Portland, Oregon 97227
(503) 847–2740 • ees-environmental.com

# 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-6 | 01/03/2020 | - | 20 | 133 | 1,431 | 22 |
| | 01/03/2020 | - | 20 | 145 | 1,344 | 22 |
| | 01/03/2020 | - | 20 | - | 1,283 | 18 |
| | 01/03/2020 | Yes | 20 | 75 | 1,256 | 20 |
| | 01/06/2020 | - | 21 | - | 877 | 14 |
| | 01/10/2020 | Yes | 21 | 4.5 | 859 | 15 |
| | 01/10/2020 | - | 21 | 6.8 | 922 | 15 |
| | 01/17/2020 | - | 20 | 75 | - | - |
| | 01/17/2020 | - | 20 | 120 | - | - |
| | 01/20/2020 | Yes | 19 | 17 | - | - |
| | 01/20/2020 | - | 19 | 38 | 807 | 16 |
| | 02/03/2020 | - | 18 | 2.3 | 802 | 16 |
| | 02/03/2020 | Yes | 19 | 3.6 | 917 | 17 |
| | 02/17/2020 | - | 20 | 2.8 | 943 | 15 |
| | 02/17/2020 | - | 20 | 9.2 | 927 | 17 |
| | 03/02/2020 | Yes | 20 | 0.8 | 921 | 17 |
| | 03/16/2020 | - | 20 | 37 | 610 | 14 |
| | 04/01/2020 | Yes | 19 | 0.9 | 650 | 15 |
| | 04/01/2020 | - | 20 | 0.8 | 800 | 15 |
| | 05/01/2020 | - | 20 | 0.7 | 717 | 13 |
| | 05/19/2020 | - | 20 | 1.7 | 539 | 12 |
| | 05/26/2020 | - | 20 | 7.8 | 760 | 12 |
| | 06/12/2020 | - | 20 | 1.8 | 738 | 17 |
| | 07/13/2020 | Yes | 20 | 1.8 | 702 | 14 |
| SVE-7 | 01/03/2020 | - | 20 | 283 | 1,311 | 20 |
| | 01/03/2020 | - | 20 | 245 | 1,150 | 18 |
| | 01/03/2020 | - | 20 | - | 1,152 | 16 |
| | 01/03/2020 | Yes | 20 | 166 | 1,055 | 17 |
| | 01/06/2020 | - | 21 | - | 827 | 14 |
| | 01/10/2020 | Yes | 21 | 211 | 836 | 14 |
| | 01/10/2020 | - | 21 | 197 | 841 | 14 |
| | 01/17/2020 | - | 21 | 71 | - | - |
| | 01/17/2020 | - | 21 | 170 | - | - |
| | 01/20/2020 | Yes | 20 | 41 | - | - |
| | 01/20/2020 | - | 20 | 62 | 792 | 16 |
| | 02/03/2020 | - | 19 | 6.6 | 799 | 16 |
| | 02/03/2020 | Yes | 20 | 7.1 | 841 | 15 |
| | 02/17/2020 | - | 21 | 6.1 | 949 | 15 |
| | 02/17/2020 | - | 20 | 13 | 909 | 17 |
| | 03/02/2020 | Yes | 20 | 3.3 | 851 | 15 |
| | 03/16/2020 | - | 20 | 16 | 679 | 16 |
| | 04/01/2020 | Yes | 20 | 1.4 | 752 | 17 |
| | 04/01/2020 | - | 20 | 1.5 | 862 | 16 |
| | 05/01/2020 | - | 20 | 1.4 | 785 | 15 |
| | 05/19/2020 | - | 20 | 3.1 | 620 | 14 |
| | 05/26/2020 | - | 20 | 4.7 | 807 | 12 |
| | 06/12/2020 | - | 21 | 1.6 | 781 | 18 |
| | 07/13/2020 | Yes | 21 | 1.1 | 776 | 16 |

**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-8 | 01/03/2020 | - | 20 | 928 | 1,366 | 21 |
| | 01/03/2020 | - | 20 | 388 | 1,378 | 22 |
| | 01/03/2020 | - | 20 | - | 1,354 | 19 |
| | 01/03/2020 | Yes | 20 | 385 | 1,270 | 21 |
| | 01/06/2020 | - | 21 | - | 825 | 14 |
| | 01/10/2020 | Yes | 21 | 372 | 842 | 15 |
| | 01/10/2020 | - | 21 | 360 | 810 | 14 |
| | 01/17/2020 | - | 20 | 65 | - | - |
| | 01/17/2020 | - | 20 | 284 | - | - |
| | 01/20/2020 | Yes | 20 | 89 | - | - |
| | 01/20/2020 | - | 20 | 110 | 796 | 16 |
| | 02/03/2020 | - | 19 | 37 | 777 | 16 |
| | 02/03/2020 | Yes | 20 | 36 | 848 | 15 |
| | 02/17/2020 | - | 21 | 10 | 928 | 15 |
| | 02/17/2020 | - | 20 | 29 | 915 | 17 |
| | 03/02/2020 | Yes | 20 | 12 | 855 | 15 |
| | 03/16/2020 | - | 20 | 15 | 701 | 17 |
| | 04/01/2020 | Yes | 20 | 1.8 | 653 | 15 |
| | 04/01/2020 | - | 20 | 7.8 | 973 | 18 |
| | 05/01/2020 | - | 20 | 2.8 | 733 | 14 |
| | 05/19/2020 | - | 20 | 8.1 | 650 | 14 |
| | 05/26/2020 | - | 20 | 16 | 817 | 12 |
| | 06/12/2020 | - | 21 | 2.3 | 803 | 18 |
| | 07/13/2020 | Yes | 20 | 1.6 | 787 | 16 |
| AWS Inlet | 01/03/2020 | - | 20 | - | 1,425 | 62 |
| | 01/03/2020 | - | 20 | 118 | 1,418 | 62 |
| | 01/03/2020 | - | 20 | 386 | 1,237 | 54 |
| | 01/03/2020 | Yes | 20 | - | 1,340 | 58 |
| | 01/06/2020 | - | 21 | - | 943 | 42 |
| | 01/10/2020 | Yes | 20 | - | 991 | 44 |
| | 01/10/2020 | - | 20 | - | 974 | 43 |
| | 01/17/2020 | - | 20 | 40 | 758 | 48 |
| | 01/17/2020 | - | 21 | 114 | 703 | 45 |
| | 01/20/2020 | Yes | 20 | 86 | 803 | 50 |
| | 01/20/2020 | - | 20 | 95 | 819 | 47 |
| | 02/03/2020 | - | 20 | 30 | 842 | 47 |
| | 02/03/2020 | Yes | 22 | 33 | 853 | 47 |
| | 02/17/2020 | - | 21 | 7.2 | 1,147 | 45 |
| | 02/17/2020 | - | 20 | 25 | 875 | 50 |
| | 03/02/2020 | Yes | 20 | 8.4 | 859 | 47 |
| | 03/16/2020 | - | 20 | 16 | 635 | 47 |
| | 04/01/2020 | Yes | 20 | 1.4 | 737 | 47 |
| | 04/01/2020 | - | 20 | 12 | 829 | 49 |
| | 05/01/2020 | - | 20 | 2.1 | 715 | 42 |
| | 05/19/2020 | - | 20 | 6.4 | 721 | 40 |
| | 05/26/2020 | - | 21 | 10 | 759 | 36 |
| | 06/12/2020 | - | 21 | 2.9 | 744 | 52 |

**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] |
|---|---|---|---|---|---|---|
| AWS Inlet (cont'd) | 07/13/2020 | Yes | 20 | 2.9 | 762 | 46 |
| AWS Outlet | 01/03/2020 | - | 22 | - | - | - |
| | 01/03/2020 | - | 22 | - | - | - |
| | 01/03/2020 | - | 22 | - | - | - |
| | 01/03/2020 | - | 22 | - | - | - |
| | 01/06/2020 | - | 23 | - | - | - |
| | 01/10/2020 | - | 23 | - | - | - |
| | 01/10/2020 | - | 23 | - | - | - |
| | 01/17/2020 | - | 21 | - | - | - |
| | 01/17/2020 | - | 19 | - | - | - |
| | 01/20/2020 | - | 22 | - | - | - |
| | 01/20/2020 | - | 22 | - | - | - |
| | 02/03/2020 | - | 23 | - | - | - |
| | 02/03/2020 | - | 25 | - | - | - |
| | 02/17/2020 | - | 25 | - | - | - |
| | 02/17/2020 | - | 23 | - | - | - |
| | 03/02/2020 | - | 23 | - | - | - |
| | 03/16/2020 | - | 24 | - | - | - |
| | 04/01/2020 | - | 25 | - | - | - |
| | 04/01/2020 | - | 26 | - | - | - |
| | 05/01/2020 | - | 23 | - | - | - |
| | 05/19/2020 | - | 23 | - | - | - |
| | 05/26/2020 | - | 23 | - | - | - |
| | 06/12/2020 | - | 25 | - | - | - |
| | 07/13/2020 | - | 25 | - | - | - |
| Stack[c] | 01/03/2020 | - | 0.15 | 77 | - | - |
| | 01/03/2020 | - | 0.14 | 71 | 2,153 | 166 |
| | 01/03/2020 | - | 0.08 | 64 | 2,305 | 177 |
| | 01/03/2020 | - | 0.06 | 61 | 2,285 | 174 |
| | 01/06/2020 | - | 0.15 | 44 | 2,404 | 187 |
| | 01/10/2020 | - | 0.14 | 31 | 2,267 | 178 |
| | 01/10/2020 | - | 0.13 | 34 | 2,306 | 180 |
| | 01/17/2020 | - | 0.12 | 14 | 2,337 | 187 |
| | 01/17/2020 | - | 0.14 | 10 | 2,489 | 200 |
| | 01/20/2020 | - | 0.14 | 55 | 2,262 | 175 |
| | 01/20/2020 | - | 0.14 | 53 | 2,096 | 161 |
| | 02/03/2020 | - | 0.16 | 30 | 2,235 | 175 |
| | 02/03/2020 | - | 0.16 | 30 | 2,186 | 171 |
| | 02/17/2020 | - | 0.16 | 6.4 | 2,091 | 161 |
| | 02/17/2020 | - | 0.10 | 13 | 2,159 | 167 |
| | 03/02/2020 | - | 0.12 | 6.4 | 2,217 | 174 |
| | 03/16/2020 | - | 0.10 | 9.7 | 2,052 | 157 |
| | 04/01/2020 | - | 0.09 | 1.3 | 2,234 | 174 |
| | 04/01/2020 | - | 0.10 | 8.5 | 2,121 | 164 |
| | 05/01/2020 | - | 0.06 | 1.3 | 1,922 | 147 |
| | 05/19/2020 | - | 0.08 | 12 | 1,889 | 140 |
| | 05/26/2020 | - | 0.10 | 7.3 | 1,890 | 138 |

**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] |
|---|---|---|---|---|---|---|
| Stack[c] (cont'd) | 06/12/2020 | - | 0.08 | 2.0 | 1,826 | 140 |
| | 07/13/2020 | - | 0.10 | 2.0 | 1,816 | 132 |

**Notes:**

[a] Measured at SVE system manifold.

[b] Air flow calculated at individual well laterals (SVE-6 through -8), and measured at AWS Inlet (system total) using a 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 stack (inches $H_2O$).

AWS = air/water separator

scfm = standard cubic feet per minute

fpm = feet per minute

ppmv = parts per million vapor

- = Not measured

cont'd = continued

**TABLE 2**
**Biodegradation Parameter and Zone of Influence Data**
Plaid Pantry No. 112
Vancouver, Washington

| Well ID | Date | Time | Vacuum (inches $H_2O$)[a] | Flow Observed (Yes/No)[c] | PID (ppmv)[a] | $O_2$ (%)[a] | $CO_2$ (%)[a] | $CH_4$ (%)[a] |
|---|---|---|---|---|---|---|---|---|
| **Active SVE Wells** | | | | | | | | |
| SVE-6 | *1/2/2020* | *10:30* | *0.45* | - | *1,166* | *19.3* | *0.0* | *0.6* |
| | 1/3/2020 | 12:00 | - | - | 133[b] | 20.7[b] | 0.1[b] | 0.0[b] |
| | 1/3/2020 | 12:25 | 5.9 | - | - | - | - | - |
| | 1/3/2020 | 14:00 | 7.0 | - | - | - | - | - |
| | 2/3/2020 | 14:30 | - | - | 2.9[b] | 20.7[b] | 0.1[b] | 0.1[b] |
| | 3/2/2020 | 12:30 | - | - | 0.8[b] | 20.8[b] | 0.0[b] | 0.0[b] |
| | 4/1/2020 | 14:00 | - | - | 0.8[b] | 20.8[b] | 0.0[b] | 0.0[b] |
| | 7/13/2020 | 14:00 | - | - | 1.8[b] | 20.8[b] | 0.0[b] | 0.0[b] |
| SVE-7 | *1/2/2020* | *10:30* | *0.00* | - | *1,951* | *20.4* | *0.0* | *1.1* |
| | 1/3/2020 | 12:00 | - | - | 283[b] | 20.3[b] | 0.5[b] | 0.0[b] |
| | 1/3/2020 | 12:25 | 20 | - | - | - | - | - |
| | 1/3/2020 | 14:00 | 20 | - | - | - | - | - |
| | 2/3/2020 | 14:30 | - | - | 7.4[b] | 19.6[b] | 1.4[b] | 0.3[b] |
| | 3/2/2020 | 12:30 | - | - | 3.3[b] | 19.9[b] | 1.0[b] | 0.0[b] |
| | 4/1/2020 | 14:00 | - | - | 1.5[b] | 19.4[b] | 1.3[b] | 0.0[b] |
| | 7/13/2020 | 14:00 | - | - | 1.1[b] | 19.5[b] | 1.5[b] | 0.0[b] |
| SVE-8 | *1/2/2020* | *10:30* | *0.00* | - | *10,899* | *19.9* | *0.0* | *4.9* |
| | 1/3/2020 | 12:00 | - | - | 928[b] | 19.2[b] | 0.9[b] | 0.0[b] |
| | 1/3/2020 | 12:25 | 20 | - | - | - | - | - |
| | 1/3/2020 | 14:00 | 20 | - | - | - | - | - |
| | 2/3/2020 | 14:30 | - | - | 36[b] | 19.8[b] | 1.1[b] | 0.4[b] |
| | 3/2/2020 | 12:30 | - | - | 12[b] | 19.2[b] | 1.6[b] | 0.1[b] |
| | 4/1/2020 | 14:00 | - | - | 7.8[b] | 19.0[b] | 1.6[b] | 0.0[b] |
| | 7/13/2020 | 14:00 | - | - | 1.6[b] | 18.7[b] | 2.3[b] | 0.0[b] |
| **Inactive SVE Wells** | | | | | | | | |
| SVE-1 | *1/2/2020* | *10:30* | *0.00* | - | *127* | *14.6* | *6.0* | *0.0* |
| | 1/3/2020 | 12:25 | 0.16 | - | - | - | - | - |
| | 1/3/2020 | 14:00 | 0.17 | - | 4.8 | 15.5 | 4.6 | 0.1 |
| | 1/3/2020 | 16:00 | 0.17 | - | - | 14.0 | 6.3 | 0.0 |
| | 1/10/2020 | 13:00 | 0.14 | - | - | - | - | - |
| | 1/20/2020 | 14:30 | 0.06 | - | - | - | - | - |
| | 2/3/2020 | 14:30 | 0.14 | Yes | 1.2 | 21.1 | 0.5 | 0.0 |
| | 3/2/2020 | 12:30 | 0.18 | - | 6.4 | 20.5 | 0.6 | 0.0 |
| | 4/1/2020 | 14:00 | 0.12 | - | 2.6 | 20.9 | 0.0 | 0.0 |
| | 7/13/2020 | 14:00 | 0.12 | - | 2.0 | 20.9 | 0.0 | 0.0 |
| SVE-2 | *1/2/2020* | *10:30* | *0.00* | - | *184* | *20.4* | *0.6* | *0.0* |
| | 1/3/2020 | 12:25 | 0.06 | - | - | - | - | - |
| | 1/3/2020 | 14:00 | 0.17 | - | 4.4 | 18.1 | 2.1 | 0.0 |
| | 1/3/2020 | 16:00 | - | - | - | 18.1 | 2.2 | 0.0 |
| | 1/10/2020 | 13:00 | 0.10 | - | - | - | - | - |
| | 1/20/2020 | 14:30 | 0.18 | - | - | - | - | - |
| | 2/3/2020 | 14:30 | 0.12 | Yes | 2.2 | 20.9 | 0.1 | 0.0 |
| | 3/2/2020 | 12:30 | 0.12 | - | 4.8 | 18.6 | 2.1 | 0.0 |
| | 4/1/2020 | 14:00 | 0.08 | - | 2.1 | 18.6 | 1.9 | 0.0 |
| | 7/13/2020 | 14:00 | 0.12 | - | 1.7 | 18.9 | 2.3 | 0.0 |
| SVE-3 | *1/2/2020* | *10:30* | *0.00* | - | *153* | *16.6* | *4.2* | *0.0* |

**TABLE 2**
**Biodegradation Parameter and Zone of Influence Data**
Plaid Pantry No. 112
Vancouver, Washington

| Well ID | Date | Time | Vacuum (inches $H_2O$)[a] | Flow Observed (Yes/No)[c] | PID (ppmv)[a] | $O_2$ (%)[a] | $CO_2$ (%)[a] | $CH_4$ (%)[a] |
|---|---|---|---|---|---|---|---|---|
| SVE-3 (cont'd) | 1/3/2020 | 12:25 | 0.15 | - | - | - | - | - |
| | 1/3/2020 | 14:00 | 0.16 | - | 4.4 | 17.7 | 3.4 | 0.0 |
| | 1/3/2020 | 16:00 | - | - | - | 18.3 | 3.2 | 0.0 |
| | 1/10/2020 | 13:00 | 0.08 | - | - | - | - | - |
| | 1/20/2020 | 14:30 | 0.10 | - | - | - | - | - |
| | 2/3/2020 | 14:30 | 0.12 | Yes | 2.0 | 20.6 | 0.9 | 0.0 |
| | 3/2/2020 | 12:30 | 0.14 | - | 6.7 | 20.1 | 0.9 | 0.0 |
| | 4/1/2020 | 14:00 | 0.14 | - | 2.0 | 20.3 | 0.6 | 0.0 |
| | 7/13/2020 | 14:00 | 0.10 | - | 1.6 | 20.5 | 0.6 | 0.0 |
| SVE-4 | *1/2/2020* | *10:30* | *0.00* | - | *52* | *19.2* | *1.5* | *0.0* |
| | 1/3/2020 | 12:25 | 0.02 | - | - | - | - | - |
| | 1/3/2020 | 14:00 | 0.00 | - | 2.9 | 18.1 | 1.9 | 0.0 |
| | 1/10/2020 | 13:00 | 0.12 | - | - | - | - | - |
| | 1/20/2020 | 14:30 | 0.12 | - | - | - | - | - |
| | 2/3/2020 | 14:30 | 0.08 | No | 1.5 | 20.6 | 0.3 | 0.0 |
| | 3/2/2020 | 12:30 | 0.06 | - | 5.8 | 19.0 | 1.5 | 0.0 |
| | 4/1/2020 | 14:00 | 0.08 | - | 1.6 | 19.0 | 0.4 | 0.0 |
| | 7/13/2020 | 14:00 | 0.06 | - | 2.1 | 19.9 | 0.9 | 0.0 |
| SVE-5 | *1/2/2020* | *10:30* | *0.02* | - | *33* | *20.8* | *0.2* | *0.0* |
| | 1/3/2020 | 12:25 | 0.10 | - | - | - | - | - |
| | 1/3/2020 | 14:00 | 0.06 | - | 2.8 | 20.1 | 0.3 | 0.0 |
| | 1/10/2020 | 13:00 | 0.02 | - | - | - | - | - |
| | 1/20/2020 | 14:30 | 0.22 | - | - | - | - | - |
| | 2/3/2020 | 14:30 | 0+ | No | 1.4 | 17.8 | 1.8 | 0.0 |
| | 3/2/2020 | 12:30 | 0.04 | - | 4.4 | 18.2 | 1.2 | 0.0 |
| | 4/1/2020 | 14:00 | 0.10 | - | 1.8 | 17.9 | 0.7 | 0.0 |
| | 7/13/2020 | 14:00 | 0.10 | - | 3.0 | 20.4 | 0.4 | 0.0 |
| **Vapor Monitoring Wells** | | | | | | | | |
| B-17 | *1/2/2020* | *10:30* | *0.00* | - | *27.5* | *8.9* | *9.1* | *0.0* |
| | 1/3/2020 | 12:25 | 1.20 | - | - | - | - | - |
| | 1/3/2020 | 14:00 | 1.10 | - | 3.0 | 19.4 | 2.8 | 0.0 |
| | 1/3/2020 | 16:00 | - | - | - | 20.9 | 0.5 | 0.0 |
| | 1/10/2020 | 13:00 | 0.88 | - | - | - | - | - |
| | 1/20/2020 | 14:30 | 0.60 | - | - | - | - | - |
| | 2/3/2020 | 14:30 | 0.94 | Yes | 3.7 | 20.1 | 1.3 | 0.0 |
| | 3/2/2020 | 12:30 | 1.3 | - | 3.6 | 20.4 | 0.7 | 0.0 |
| | 4/1/2020 | 14:00 | 1.1 | - | 1.8 | 20.2 | 0.8 | 0.0 |
| | 7/13/2020 | 14:00 | 1.2 | - | 2.3 | 20.8 | 1.3 | 0.0 |
| B-18 | *1/2/2020* | *10:30* | *0.00* | - | *31* | *18.5* | *1.9* | *0.0* |
| | 1/3/2020 | 12:25 | 0.04 | - | - | - | - | - |
| | 1/3/2020 | 14:00 | 0.06 | - | 3.3 | 19.2 | 1.2 | 0.0 |
| | 1/3/2020 | 16:00 | - | - | - | 18.1 | 2.3 | 0.0 |
| | 1/10/2020 | 13:00 | 0.24 | - | - | - | - | - |
| | 1/20/2020 | 14:30 | 0.10 | - | - | - | - | - |
| | 2/3/2020 | 14:30 | 0.74 | Yes | 2.2 | 18.0 | 2.6 | 0.0 |
| | 3/2/2020 | 12:30 | 0.58 | - | 2.7 | 18.8 | 1.9 | 0.0 |
| | 4/1/2020 | 14:00 | 1.2 | - | 2.0 | 18.4 | 2.0 | 0.0 |
| | 7/13/2020 | 14:00 | 2.0 | - | 2.7 | 17.8 | 2.3 | 0.0 |
| S-27 | *1/2/2020* | *10:30* | *0.00* | - | *42* | *19.7* | *0.8* | *0.0* |

**TABLE 2**
**Biodegradation Parameter and Zone of Influence Data**
Plaid Pantry No. 112
Vancouver, Washington

| Well ID | Date | Time | Vacuum (inches $H_2O$)[a] | Flow Observed (Yes/No)[c] | PID (ppmv)[a] | $O_2$ (%)[a] | $CO_2$ (%)[a] | $CH_4$ (%)[a] |
|---|---|---|---|---|---|---|---|---|
| S-27 (cont'd) | 1/3/2020 | 12:25 | 0.13 | - | - | - | - | - |
| | 1/3/2020 | 14:00 | 0.12 | - | 3.4 | 20.3 | 0.9 | 0.0 |
| | 1/10/2020 | 13:00 | 0.04 | - | - | - | - | - |
| | 1/20/2020 | 14:30 | 0.04 | - | - | - | - | - |
| | 2/3/2020 | 14:30 | 0.04 | No | 1.9 | 20.8 | 0.4 | 0.0 |
| | 3/2/2020 | 12:30 | 0.00 | - | 3.9 | 20.7 | 0.4 | 0.0 |
| | 4/1/2020 | 14:00 | 0.00 | - | 2.9 | 19.6 | 0.6 | 0.0 |
| | 7/13/2020 | 14:00 | 0.00 | - | 3.1 | 19.8 | 0.9 | 0.0 |
| S-28 | *1/2/2020* | *10:30* | *0.11* | - | *53* | *17.7* | *0.6* | *0.0* |
| | 1/3/2020 | 12:25 | 0+ | - | - | - | - | - |
| | 1/3/2020 | 14:00 | 0+ | - | 3.2 | 17.6 | 0.7 | 0.0 |
| | 1/10/2020 | 13:00 | 0+ | - | - | - | - | - |
| | 1/20/2020 | 14:30 | 0+ | - | - | - | - | - |
| | 2/3/2020 | 14:30 | 0+ | - | - | - | - | - |
| S-30 | 1/10/2020 | 13:00 | 0.12 | - | - | - | - | - |
| | 1/17/2020 | 11:00 | 0.12 | - | - | - | - | - |
| | 1/20/2020 | 14:30 | 0.06 | - | - | - | - | - |
| | 2/3/2020 | 14:30 | 0.46 | - | - | - | - | - |
| | 3/2/2020 | 11:00 | 0.96 | - | - | - | - | - |
| | 4/1/2020 | 14:00 | 1.3 | - | - | - | - | - |
| | 7/13/2020 | 14:00 | 1.0 | - | - | - | - | - |

**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.
*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 | 11/32 | 76,000/230,000 | 15,000/46,000 | 1,500/4,600[2] | 1,500/4,600[2] | 0.14/0.42 | 3.2/9.6 | 320/960 | 2.5/7.4 | 320/960 | 11/33 | 76,000/230,000 | 14/42 | 76,000/230,000 |
| **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* | - | - | - | - | - |
| | 07/06/2017 | 5-10 | 16,000 | 4.3 U | 16 | 5.8 U | 12 | 5.8 U | - | - | - | *14 U* | - | - | - | - | - |
| | 10/28/2017 | 5-10 | 20,000 [a] | 4.3 | 10 | 5.7 U | 6.4 | 5.7 U | - | - | - | *14 U* | - | - | - | - | - |
| | 02/13/2018 | 5-10 | 5,700 | 3.8 U | 4.5 U | 5.2 U | 6.0 | 5.2 U | - | - | - | *12 U* | - | - | - | - | - |
| | 04/27/2018 | 5-10 | 740 [a] | 3.8 U | 4.4 U | 5.1 U | 5.1 U | 5.1 U | - | - | - | *12 U* | - | - | - | - | - |
| | 07/06/2018 | 5-10 | 1,000 | 4.0 U | 7.0 | 5.4 U | 14 | 5.4 U | - | - | - | *13 U* | - | - | - | - | - |
| | 10/04/2018 | 5-10 | 1,400 | 4.0 U | 19 | 5.4 U | 11 | 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) | 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 | 11/32 | 76,000/230,000 | 15,000/46,000 | 1,500/4,600[2] | 1,500/4,600[2] | 0.14/0.42 | 3.2/9.6 | 320/960 | 2.5/7.4 | 320/960 | 11/33 | 76,000/230,000 | 14/42 | 76,000/230,000 |
| 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* | - | - | - | - | - |
| | 07/12/2016 | 15-20 | 510 U | 4.0 U | 4.7 U | 5.4 U | 5.4 U | 5.4 U | - | - | - | *13 U* | - | - | - | - | - |
| | 10/21/2016 | 15-20 | 500 U | 3.9 U | 4.6 U | 5.4 U | 5.4 U | 5.4 U | - | - | - | *26 U* | 220 | - | - | - | - |
| | 01/30/2017 | 15-20 | 490 U | 3.9 U | 4.6 U | 5.2 U | 5.2 U | 5.2 U | - | - | - | *13 U* | - | - | - | - | - |
| | 04/13/2017 | 15-20 | 600 U | 4.7 U | 42 | 6.4 U | 9.5 | 6.4 U | - | - | - | *15 U* | - | - | - | - | - |
| | 07/06/2017 | 15-20 | 1,600 | 4.2 U | 19 | 5.7 U | 12 | 5.7 U | - | - | - | *14 U* | - | - | - | - | - |
| | 10/28/2017 | 15-20 | 490 U | 3.8 U | 6.9 | 5.2 U | 5.2 | 5.2 U | - | - | - | *12 U* | - | - | - | - | - |
| | 04/27/2018 | 15-20 | 490 U | 3.9 U | 4.6 U | 5.2 U | 5.2 U | 5.2 U | - | - | - | *13 U* | - | - | - | - | - |
| | 07/06/2018 | 15-20 | 510 U | 4.0 U | 4.7 U | 5.4 U | 5.6 | 5.4 U | - | - | - | *13 U* | - | - | - | - | - |
| | 10/04/2018 | 15-20 | 510 U | 4.0 U | 17 | 5.4 U | 11 | 5.4 U | - | - | - | *13 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* | - | - | - | - | - |
| | 07/06/2017[d] | 5-10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 10/28/2017 | 5-10 | 1,200 | 3.4 U | 9.1 | 4.7 U | 6.2 | 4.7 U | - | - | - | *11 U* | - | - | - | - | - |
| | 02/13/2018 | 5-10 | 520 U | 4.0 U | 5.4 | 5.5 U | 6.7 | 5.5 U | - | - | - | *13 U* | - | - | - | - | - |
| | 04/27/2018 | 5-10 | 480 U | 3.7 U | 4.4 U | 5.0 U | 5.0 U | 5.0 U | - | - | - | *12 U* | - | - | - | - | - |
| | 07/06/2018 | 5-10 | 570 | 4.0 U | 5.9 | 5.5 U | 11 | 5.5 U | - | - | - | *13 U* | - | - | - | - | - |
| | 10/04/2018 | 5-10 | 530 | 3.8 U | 14 | 5.1 U | 11 | 5.1 U | - | - | - | *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) | 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 | 11/32 | 76,000/230,000 | 15,000/46,000 | 1,500/4,600[2] | 1,500/4,600[2] | 0.14/0.42 | 3.2/9.6 | 320/960 | 2.5/7.4 | 320/960 | 11/33 | 76,000/230,000 | 14/42 | 76,000/230,000 |
| 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* | - | - | - | - | - |
| | 07/06/2017 | 15-20 | 24,000 | *17 U* | 20 U | 23 U | 23 U | 23 U | - | - | - | *55 U* | - | - | - | - | - |
| | 10/28/2017 | 15-20 | 3,600 | 3.6 U | 24 | 5.0 U | 6.7 | 5.0 U | - | - | - | *12 U* | - | - | - | - | - |
| | 02/13/2018 | 15-20 | 11,000 | 3.9 U | 7.9 | 5.3 U | 6.6 | 5.3 U | - | - | - | *13 U* | - | - | - | - | - |
| | 04/27/2018 | 15-20 | 5,700 [a] | 3.9 U | 4.6 U | 5.4 U | 5.4 U | 5.4 U | - | - | - | *13 U* | - | - | - | - | - |
| | 07/06/2018 | 15-20 | 610 | 4.0 U | 7.8 | 5.5 U | 12 | 5.5 U | - | - | - | *13 U* | - | - | - | - | - |
| | 10/04/2018 | 15-20 | 500 U | 3.9 U | 12 | 5.3 U | 8.0 | 5.3 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 | 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* | - | - | - | - | - |
| | 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* | - | - | - | - | - |
| | 07/06/2017 | 5-10 | 360,000 | **140** | 4,300 | 1,400 | **9,000** | **4,600** | - | - | - | *66 U* | - | - | - | - | - |
| | 10/28/2017 | 5-10 | 1,900 | 4.4 U | 8.2 | 6.0 U | 6.0 U | 6.0 U | - | - | - | *14 U* | - | - | - | - | - |
| | 02/13/2018 | 5-10 | 10,000 | 4.0 U | 40 | 5.4 U | 6.3 | 5.4 U | - | - | - | *13 U* | - | - | - | - | - |
| | 04/27/2018 | 5-10 | 500 U | 3.9 U | 4.6 U | 5.3 U | 5.5 | 5.3 U | - | - | - | *13 U* | - | - | - | - | - |
| | 07/06/2018 | 5-10 | 520 U | 4.0 U | 4.8 U | 5.5 U | 5.5 U | 5.5 U | - | - | - | *13 U* | - | - | - | - | - |
| | 10/04/2018 | 5-10 | 540 U | 4.2 U | 5.0 U | 5.7 U | 5.7 U | 5.7 U | - | - | - | *14 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 | 11/32 | 76,000/230,000 | 15,000/46,000 | 1,500/4,600[2] | 1,500/4,600[2] | 0.14/0.42 | 3.2/9.6 | 320/960 | 2.5/7.4 | 320/960 | 11/33 | 76,000/230,000 | 14/42 | 76,000/230,000 |
| SVE-6 | 01/03/2020 | 10 | 1,900,000 | *100 U* | 120 U | 140 U | 140 U | 140 U | - | - | - | *680 U* | - | - | - | - | - |
| | 01/10/2020 | 10 | 170,000 | *39 U* | 46 U | 52 U | 52 U | 52 U | - | - | - | *250 U* | - | - | - | - | - |
| | 01/20/2020 | 10 | 740,000 | *67 U* | 79 U | 91 U | 91 U | 91 U | - | - | - | *220 U* | - | - | - | - | - |
| | 02/03/2020 | 10 | 130,000 | *52 U* | 62 U | 71 U | 71 U | 71 U | - | - | - | *170 U* | - | - | - | - | - |
| | 03/02/2020 | 10 | 490 U | 3.8 U | 4.5 U | 5.2 U | 5.2 U | 5.2 U | - | - | - | *13 U* | - | - | - | - | - |
| | 04/01/2020 | 10 | 490 U | 3.8 U | 4.5 U | 5.2 U | 5.2 U | 5.2 U | - | - | - | *13 U* | - | - | - | - | - |
| | 07/13/2020 | 10 | 1,600 | 4.1 U | 14 | 18 | 66 | 34 | - | - | - | *14 U* | - | - | - | - | - |
| SVE-7 | 01/03/2020 | 8 | 2,200,000 | *140 U* | 160 U | 190 U | 190 U | 190 U | - | - | - | *900 U* | - | - | - | - | - |
| | 01/10/2020 | 8 | 1,800,000 | *36 U* | 43 U | 50 U | 50 U | 50 U | - | - | - | *240 U* | - | - | - | - | - |
| | 01/20/2020 | 8 | 900,000 | 9.9 U | 12 U | 13 U | 13 U | 13 U | - | - | - | *32 U* | - | - | - | - | - |
| | 02/03/2020 | 8 | 820,000 | *53 U* | 63 U | 72 U | 72 U | 72 U | - | - | - | *180 U* | - | - | - | - | - |
| | 03/02/2020 | 8 | 82,000 | *78 U* | 92 U | 100 U | 100 U | 100 U | - | - | - | *260 U* | - | - | - | - | - |
| | 04/01/2020 | 8 | 30,000 | 3.9 U | 4.6 U | 5.2 U | 5.2 U | 5.2 U | - | - | - | *13 U* | - | - | - | - | - |
| | 07/13/2020 | 8 | 33,000 | 4.1 U | 14 | 25 | 100 | 52 | - | - | - | *14 U* | - | - | - | - | - |
| SVE-8 | 01/03/2020 | 10 | 7,000,000 | *130 U* | 160 U | 180 U | 180 U | 180 U | - | - | - | *880 U* | - | - | - | - | - |
| | 01/10/2020 | 10 | 5,300,000 | *39 U* | 46 U | 54 U | 54 U | 54 U | - | - | - | *260 U* | - | - | - | - | - |
| | 01/20/2020 | 10 | 2,900,000 | *27 U* | 32 U | 36 U | 36 U | 36 U | - | - | - | *88 U* | - | - | - | - | - |
| | 02/03/2020 | 10 | 1,400,000 | *52 U* | 61 U | 70 U | 70 U | 70 U | - | - | - | *170 U* | - | - | - | - | - |
| | 03/02/2020 | 10 | 150,000 | *78 U* | 92 U | 100 U | 100 U | 100 U | - | - | - | *260 U* | - | - | - | - | - |
| | 04/01/2020 | 10 | 140,000 | 7.7 U | 9.1 U | 10 U | 10 U | 10 U | - | - | - | *25 U* | - | - | - | - | - |
| | 07/13/2020 | 10 | 150,000 | 4.0 U | 16 | 27 | 100 | 56 | - | - | - | *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 |
| | 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 |
| | 07/06/2017 | NA | 16,000 | 5.5 U | 75 | 18 | 130 | 59 | *13 U* | *7.0 U* | 25 U | *18 U* | **1,100** | 9.2 U | 20 U | 11 U | 9.4 U |
| | 10/28/2017 | NA | 3,600 | 4.0 U | 12 | 5.4 U | 7.8 | 5.4 U | *9.6 U* | *5.0 U* | 18 U | *13 U* | **980** | 6.7 U | 15 U | 7.8 U | 6.8 U |
| | 02/13/2018 | NA | 4,900 | 4.2 U | 5.0 U | 5.8 U | 5.8 | 5.8 U | *10 U* | *5.4 U* | 19 U | *14 U* | 73 | 7.1 U | 16 U | 8.3 U | 7.2 U |
| | 04/27/2018 | NA | 2,600 [a] | 3.9 U | 4.6 U | 5.3 U | 5.3 U | 5.3 U | *9.4 U* | *4.9 U* | 18 U | *13 U* | **400** | 6.6 U | 180 | 7.7 U | 6.6 U |
| | 07/06/2018 | NA | 520 U | 4.0 U | 5.2 | 5.5 U | 8.0 | 5.5 U | *9.8 U* | *5.1 U* | 18 U | *13 U* | **720** | 6.8 U | 56 | 8.0 U | 6.9 U |
| | 10/04/2018 | NA | 520 U | 4.0 U | 5.2 | 5.5 U | 5.5 U | 5.5 U | *9.7 U* | *5.1 U* | 18 U | *13 U* | **580** | 6.8 U | 17 | 8.0 U | 6.9 U |
| | 01/03/2020 | NA | 2,800,000 | *200 U* | 240 U | 270 U | 270 U | 270 U | *480 U* | *250 U* | 230 U | *1,300 U* | *430 U* | *340 U* | 6,600 | *400 U* | 340 U |
| | 01/10/2020 | NA | 1,300,000 | *38 U* | 45 U | 52 U | 52 U | 52 U | *91 U* | *48 U* | 43 U | *250 U* | 81 U | *64 U* | 400 | *75 U* | 65 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 | 11/32 | 76,000/230,000 | 15,000/46,000 | 1,500/4,600[2] | 1,500/4,600[2] | 0.14/0.42 | 3.2/9.6 | 320/960 | 2.5/7.4 | 320/960 | 11/33 | 76,000/230,000 | 14/42 | 76,000/230,000 |
| SVE Blower Inlet | 01/20/2020 | NA | 130,000 | 3.7 U | 4.4 U | 5.0 U | 5.0 U | 5.0 U | *9.0 U* | *4.7 U* | 17 U | *12 U* | 33 | 6.3 U | 170 | 7.3 U | 6.4 U |
| (cont'd) | 02/03/2020 | NA | 13,000 | 4.0 U | 4.7 U | 5.4 U | 5.4 U | 5.4 U | *9.5 U* | *5.0 U* | 18 U | *13 U* | 8.4 U | 6.7 U | 15 U | 7.8 U | 6.8 U |
| | 03/02/2020 | NA | 13,000 | 7.6 U | 9.0 U | 10 U | 10 U | 10 U | *18 U* | *9.7 U* | 34 U | *25 U* | 16 U | *13 U* | 28 U | *15 U* | 13 U |
| | 04/01/2020 | NA | 18,000 | 3.8 U | 4.4 U | 5.1 U | 5.1 U | 5.1 U | *9.1 U* | *4.8 U* | 17 U | *12 U* | 8.0 U | 6.3 U | 14 U | 7.4 U | 6.4 U |
| | 07/13/2020 | NA | 20,000 | 4.0 U | 5.7 | 10 | 36 | 20 | *9.7 U* | *5.1 U* | 18 U | *13 U* | 8.5 U | 6.8 U | 19 | 7.9 U | 6.9 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 (January 2020).

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 total xylenes.

[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.

[d] This sample was not analyzed due to canister vacuum issues.

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 4A**
**Soil Vapor Extraction Mass Removal in Right-of-Way**
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 & Discharge Emissions (Pounds) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Gasoline | Benzene | PCE | Gasoline | Benzene | PCE | Gasoline | Benzene | PCE |
| 01/03/2020 | 0.4 | 58 | 2,800 | 0.20 U | 0.43 U | 15 | 0.0010 | 0.0023 | 6.0 | 0.00043 | 0.00092 |
| 01/10/2020 | 7 | 44 | 1,300 | 0.038 U | 0.081 U | 9.4 | 0.00055 | 0.0012 | 70 | 0.0042 | 0.0089 |
| 01/20/2020 | 17 | 50 | 130 | 0.0037 U | 0.033 | 3.0 | 0.000088 | 0.00024 | 101 | 0.0050 | 0.011 |
| 02/03/2020 | 31 | 47 | 13 | 0.0040 U | 0.0084 U | 0.31 | 0.000017 | 0.000091 | 105 | 0.0053 | 0.013 |
| 03/02/2020 | 59 | 47 | 13 | 0.0076 U | 0.016 U | 0.055 | 0.000025 | 0.000052 | 107 | 0.0060 | 0.014 |
| 04/01/2020 | 80 | 47 | 18 | 0.0038 U | 0.0080 U | 0.066 | 0.000024 | 0.000051 | 108 | 0.0065 | 0.015 |
| 07/13/2020 | *183* | 46 | 20 | 0.0040 U | 0.0085 U | 0.080 | 0.000016 | 0.000035 | 116 | 0.0082 | 0.019 |
| *10/01/2020* | *263* | - | - | - | - | *0.041* | *0.000013* | *0.000021* | *120* | *0.0092* | *0.020* |
| *01/01/2021* | *355* | - | - | - | - | *0.026* | *0.0000053* | *0.000013* | *122* | *0.0097* | *0.022* |
| *04/01/2021* | *445* | - | - | - | - | *0.017* | *0.0000031* | *0.0000081* | *123* | *0.0099* | *0.022* |
| | | | | | | | | Estimated Emissions During Last 12 Months (Pounds/Year): | 116 | 0.0082 | 0.019 |
| | | | | | | | | Annual Emissions Threshold (Pounds/Year): | NE[b] | 20[c] | 500[c] |

**Notes:**

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

[b] No emission threshold eshablished for gasoline. Registration exemption threshold for the sum of total criteria pollutants and VOCs is 2,000 pounds per year, per SWCAA Chapter 400-109, Air Discharge Permits - Exempt Emission Thresholds, dated 03/21/2020.

[c] Small Quantity Emissions Rate (SQER), per SWCAA 400, General Regulations for Air Pollution Sources, dated 03/21/2020.

$ft^3$/min = cubic feet per minute

$mg/m^3$ = milligrams per cubic meter

NE = not established

**Sample Calculations:**

Estimated Gasoline Mass Removal Rate on 01/10/2020:

$$\left(\frac{58\ \frac{ft^3}{min}+44\ \frac{ft^3}{min}}{2}\right)\times\left(\frac{2{,}800\frac{mg}{m^3}+1{,}300\frac{mg}{m^3}}{2}\right)\times\frac{1\ m^3}{35.3146667\ ft^3}\times\frac{1\ pound}{453592.37\ mg}\times\frac{1440\ min}{day}=9.4\ \frac{pounds}{day}$$

Estimated Cumulative Gasoline Emissions on 01/10/2020:

$$(7\ days\ -0.4\ day)\times\left(\frac{58\ \frac{ft^3}{min}+44\ \frac{ft^3}{min}}{2}\right)\times\left(\frac{2{,}800\frac{mg}{m^3}+1{,}300\frac{mg}{m^3}}{2}\right)\times\frac{1\ m^3}{35.3146667\ ft^3}\times\frac{1\ pound}{453592.37\ mg}\times\frac{1440\ min}{day}+6.0\ pounds=70\ pounds$$

**TABLE 4B**
**Site Total 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 |
| 05/08/2014 | 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 | 89 | 0.52 | - | 0.14 | 0.0053 | 175 | 6.7 | 130 | 6.1 |
| 04/13/2017 | 1125 | 97 | 3.6 | 0.69 | 0.017 | 0.0054 | 175 | 6.8 | 131 | 6.2 |
| 07/06/2017 | 1209 | 116 | 16 | 1.1 | 0.094 | 0.0085 | 183 | 7.5 | 138 | 6.9 |
| 10/28/2017 | 1323 | 110 | 3.6 | 0.98 | 0.099 | 0.011 | 195 | 8.7 | 150 | 8.1 |
| 02/13/2018 | 1403 | 93 | 4.9 | 0.073 | 0.039 | 0.0048 | 198 | 9.1 | 153 | 8.5 |
| 04/27/2018 | 1468 | 105 | 2.6 | 0.40 | 0.033 | 0.0021 | 200 | 9.3 | 155 | 8.6 |
| 07/06/2018 | 1538 | 104 | 0.52 U | 0.72 | 0.015 | 0.0053 | 201 | 9.6 | 156 | 9.0 |
| 10/04/2018 | 1592 | 109 | 0.52 U | 0.58 | 0.0050 | 0.0062 | 201 | 10 | 156 | 9.3 |
| 01/03/2020 | 1592 | 58 | 2,800 | 0.43 U | 15 | 0.0023 | 207 | 10 | 162 | 9.3 |
| 01/10/2020 | 1599 | 44 | 1,300 | 0.081 U | 9.4 | 0.0012 | 271 | 10 | 227 | 9.3 |
| 01/20/2020 | 1609 | 50 | 130 | 0.033 U | 3.0 | 0.00024 | 302 | 10 | 257 | 9.3 |
| 02/03/2020 | 1623 | 47 | 13 | 0.0084 U | 0.31 | 0.000091 | 306 | 10 | 261 | 9.3 |
| 03/02/2020 | 1651 | 47 | 13 | 0.016 U | 0.055 | 0.000052 | 308 | 10 | 263 | 9.3 |
| 04/01/2020 | 1672 | 47 | 18 | 0.0080 U | 0.066 | 0.000051 | 309 | 10 | 264 | 9.3 |
| 07/13/2020 | 1775 | 46 | 20 | 0.0085 U | 0.080 | 0.000035 | 317 | 10 | 273 | 9.3 |
| *10/01/2020* | *1855* | - | - | - | *0.041* | *0.000021* | *321* | *10* | *276* | *9.3* |
| *01/01/2021* | *1947* | - | - | - | *0.026* | *0.000013* | *323* | *10* | *278* | *9.3* |
| *04/01/2021* | *2037* | - | - | - | *0.017* | *0.0000081* | *325* | *10* | *280* | *9.3* |
| | | | | | | Estimated Emissions During Last 12 Months (Pounds/Year): | | | 116 | 0.019 |
| | | | | | | Annual Emissions Threshold (Pounds/Year): | | | NE[c] | 500[d] |

**TABLE 4B**
**Site Total Soil Vapor Extraction Mass Removal**
Plaid Pantry No. 112
Vancouver, Washington

**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] No emission threshold eshablished for gasoline. Registration exemption threshold for the sum of total criteria pollutants and VOCs is 2,000 pounds per year, per SWCAA Chapter 400-109, Air Discharge Permits - Exempt Emission Thresholds, dated 03/21/2020.

[d] Small Quantity Emissions Rate (SQER), per SWCAA 400, General Regulations for Air Pollution Sources, dated 03/21/2020.

[e] Estimated mass based upon historic data trends.

$ft^3$/min = Cubic feet per minute

$mg/m^3$ = Milligrams per cubic meter

NE = not established

- = Not measured

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

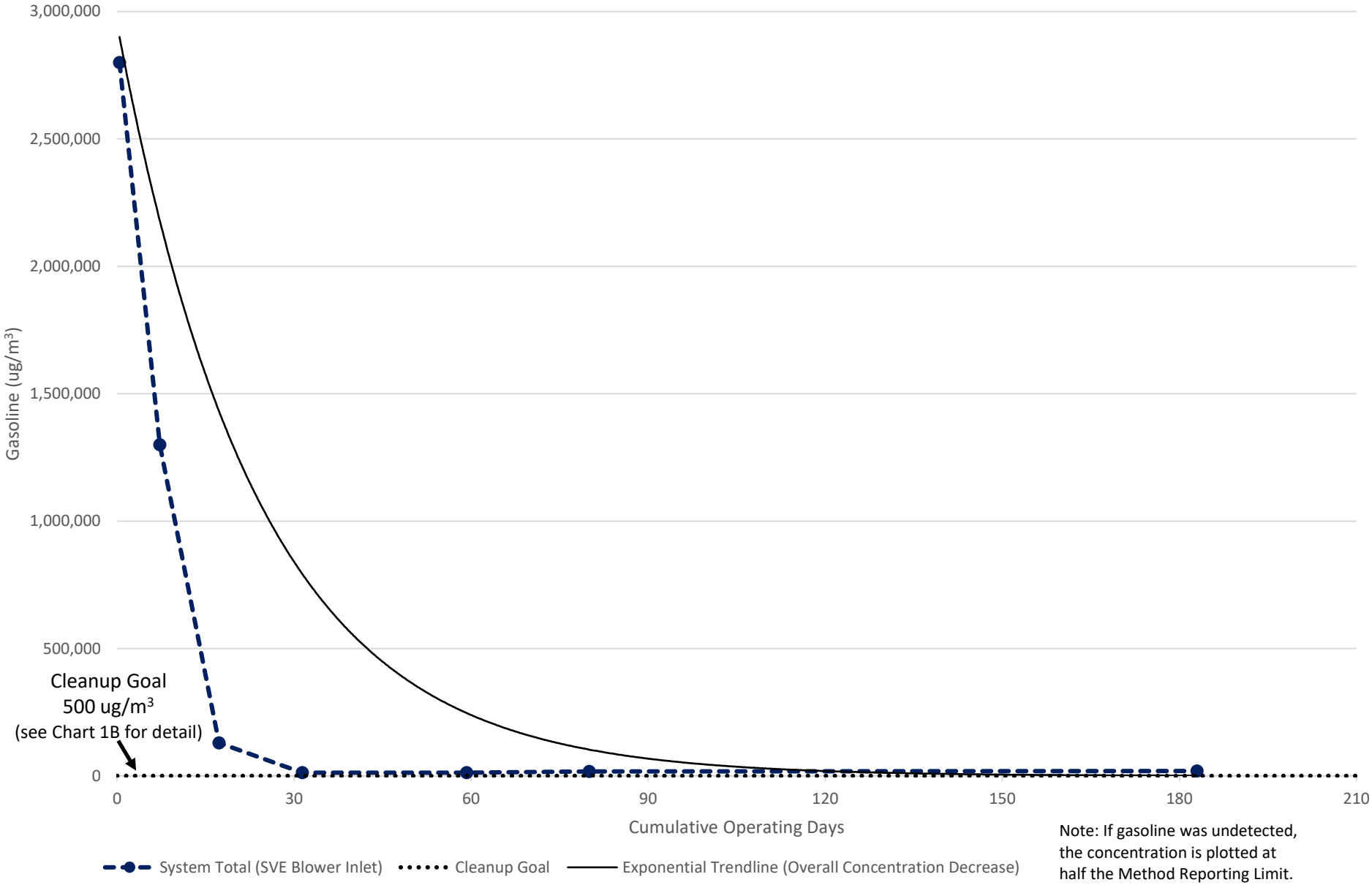
# Charts

**CHART 1A**

**System Total Gasoline Vapor Concentrations During SVE Operations in Right-of-Way (Linear Scale)**

Plaid Pantry No. 112

Vancouver, Washington




Note: If gasoline was undetected, the concentration is plotted at half the Method Reporting Limit.

**CHART 1B**

**System Total Gasoline Vapor Concentrations During SVE Operations in Right-of-Way (Log Scale)**

Plaid Pantry No. 112

Vancouver, Washington

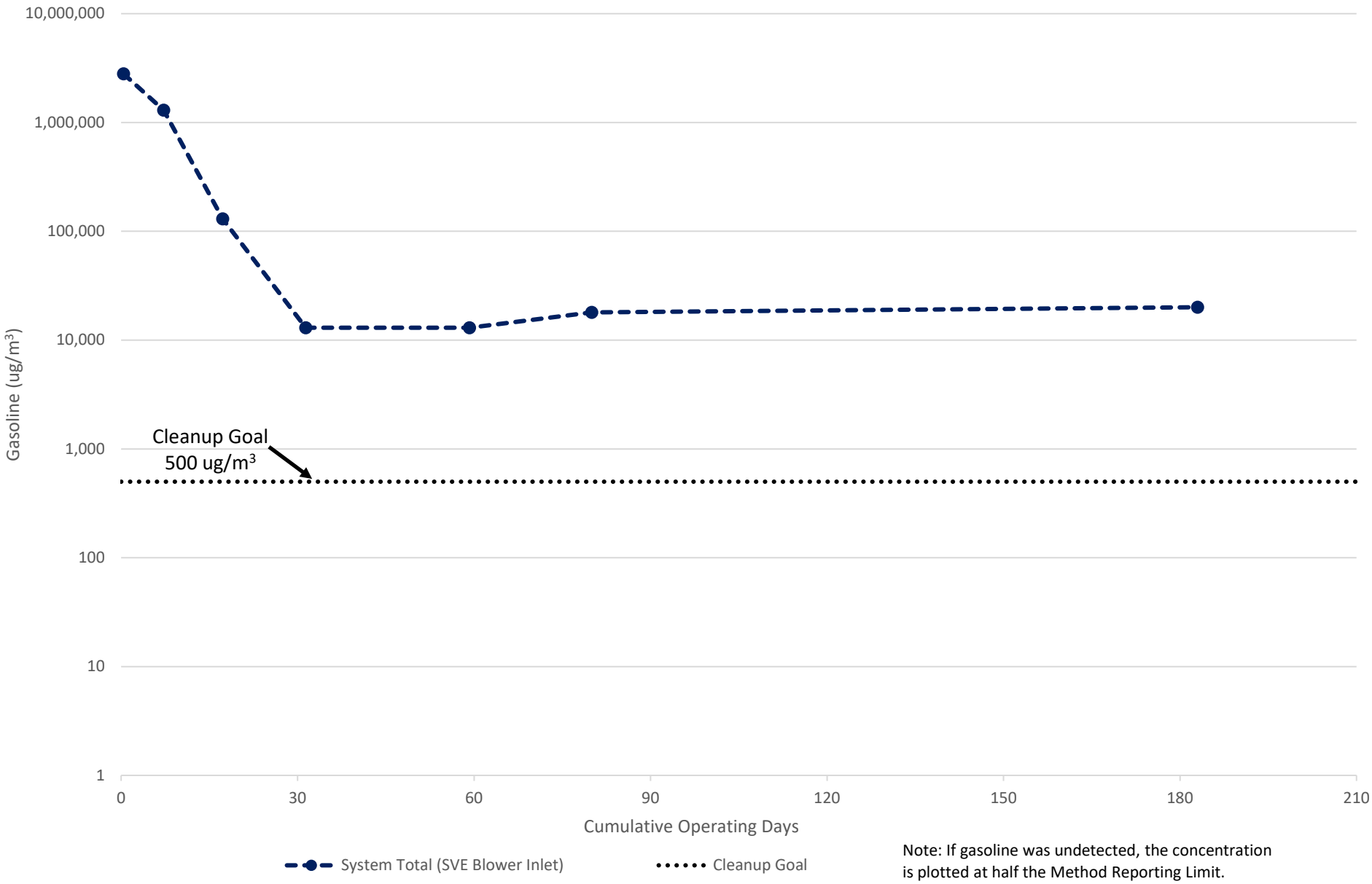
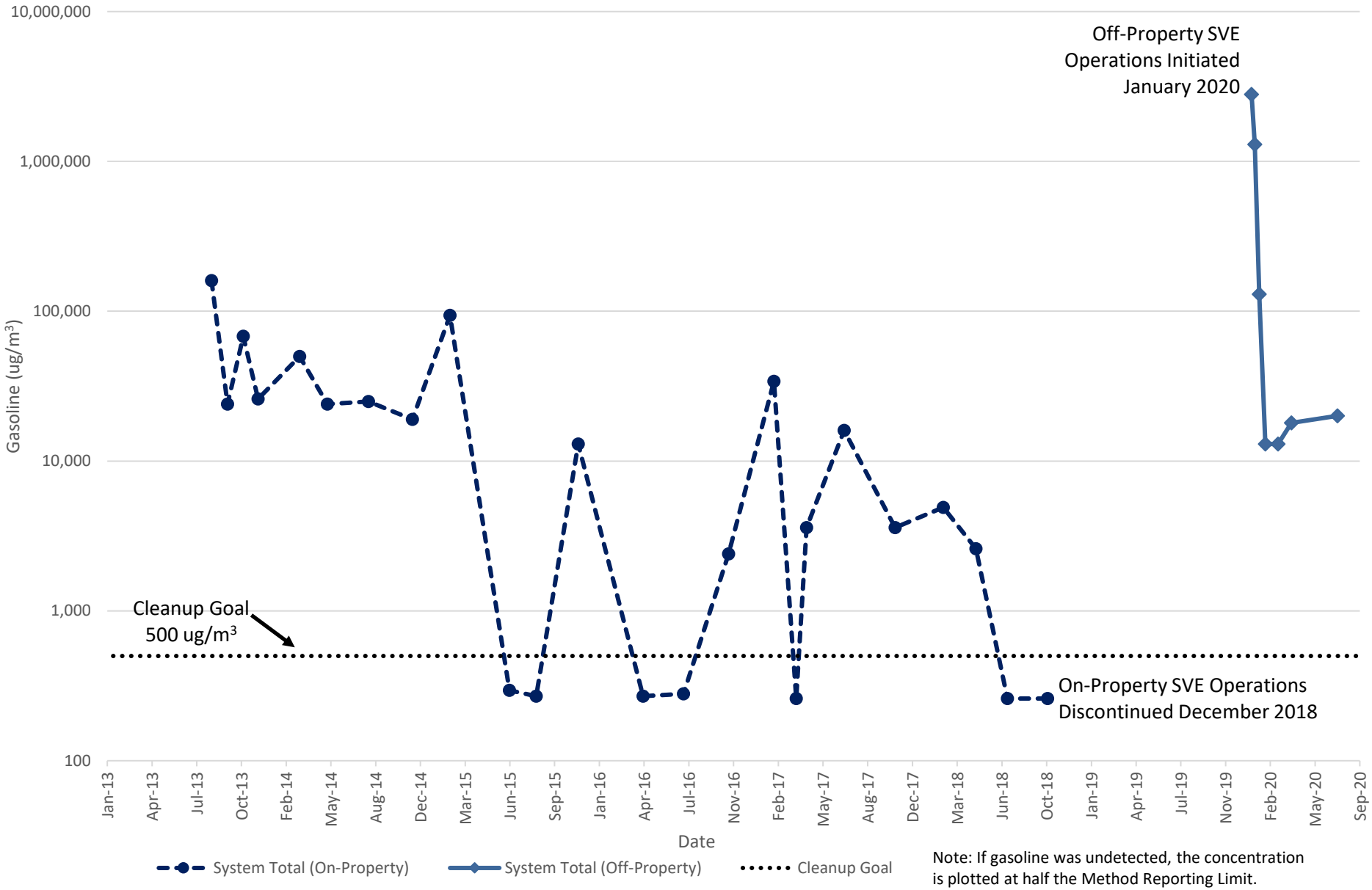


**CHART 1C**

**System Total Gasoline Vapor Concentrations During SVE Operations (Sitewide - Log Scale)**

Plaid Pantry No. 112

Vancouver, Washington



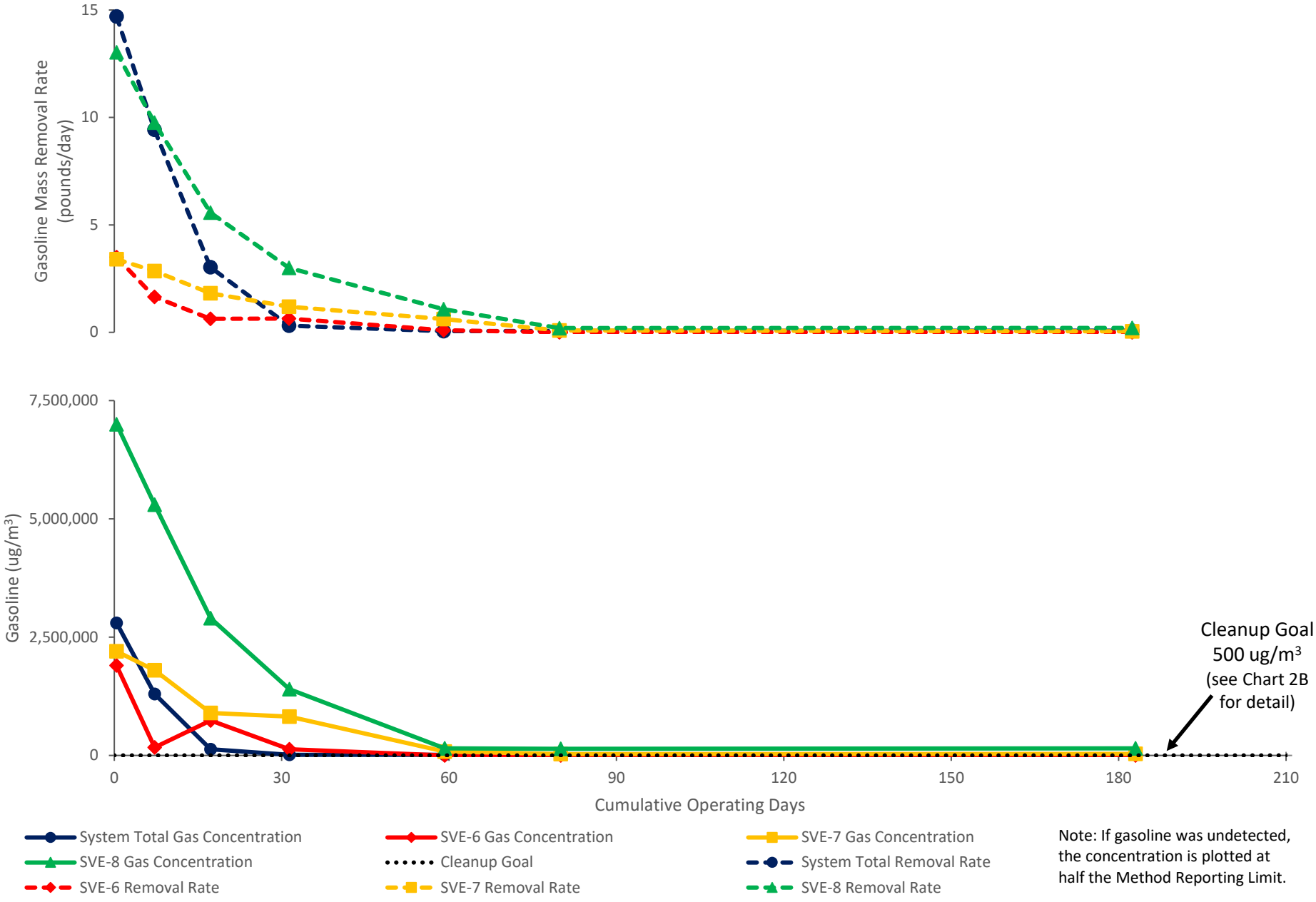

Note: If gasoline was undetected, the concentration is plotted at half the Method Reporting Limit.

**CHART 2A**

**Gasoline Vapor Concentrations and Removal Rates During SVE Operations in Right-of-Way (Linear Scale)**

Plaid Pantry No. 112

Vancouver, Washington



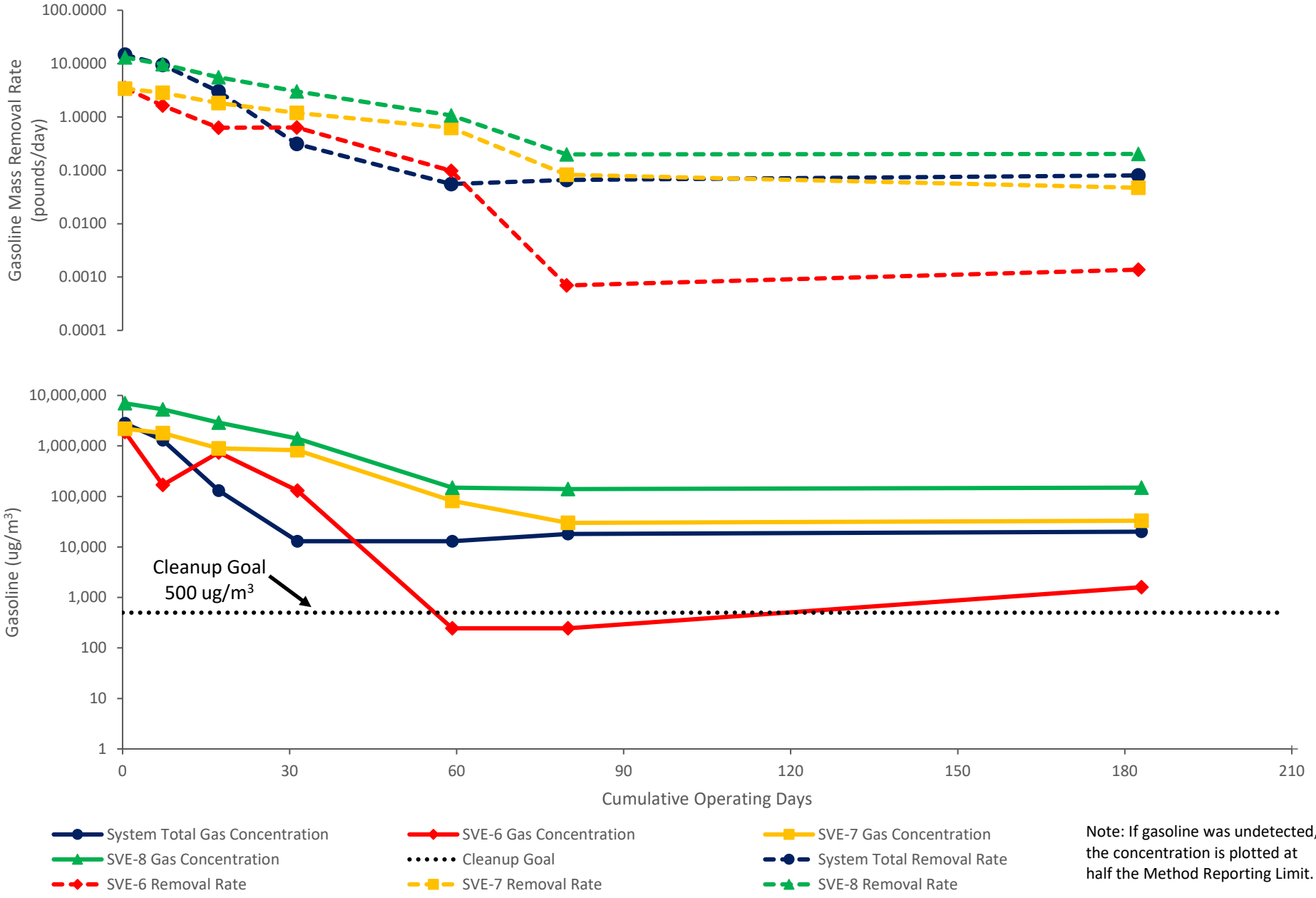

Note: If gasoline was undetected, the concentration is plotted at half the Method Reporting Limit.

**CHART 2B**

**Gasoline Vapor Concentrations and Removal Rates During SVE Operations in Right-of-Way (Log Scale)**

Plaid Pantry No. 112

Vancouver, Washington




Note: If gasoline was undetected, the concentration is plotted at half the Method Reporting Limit.

**CHART 3A**

**Site Total Gasoline Mass Extraction Rates and Cumulative Mass Removal (Linear Scale)**

Plaid Pantry No. 112

Vancouver, Washington

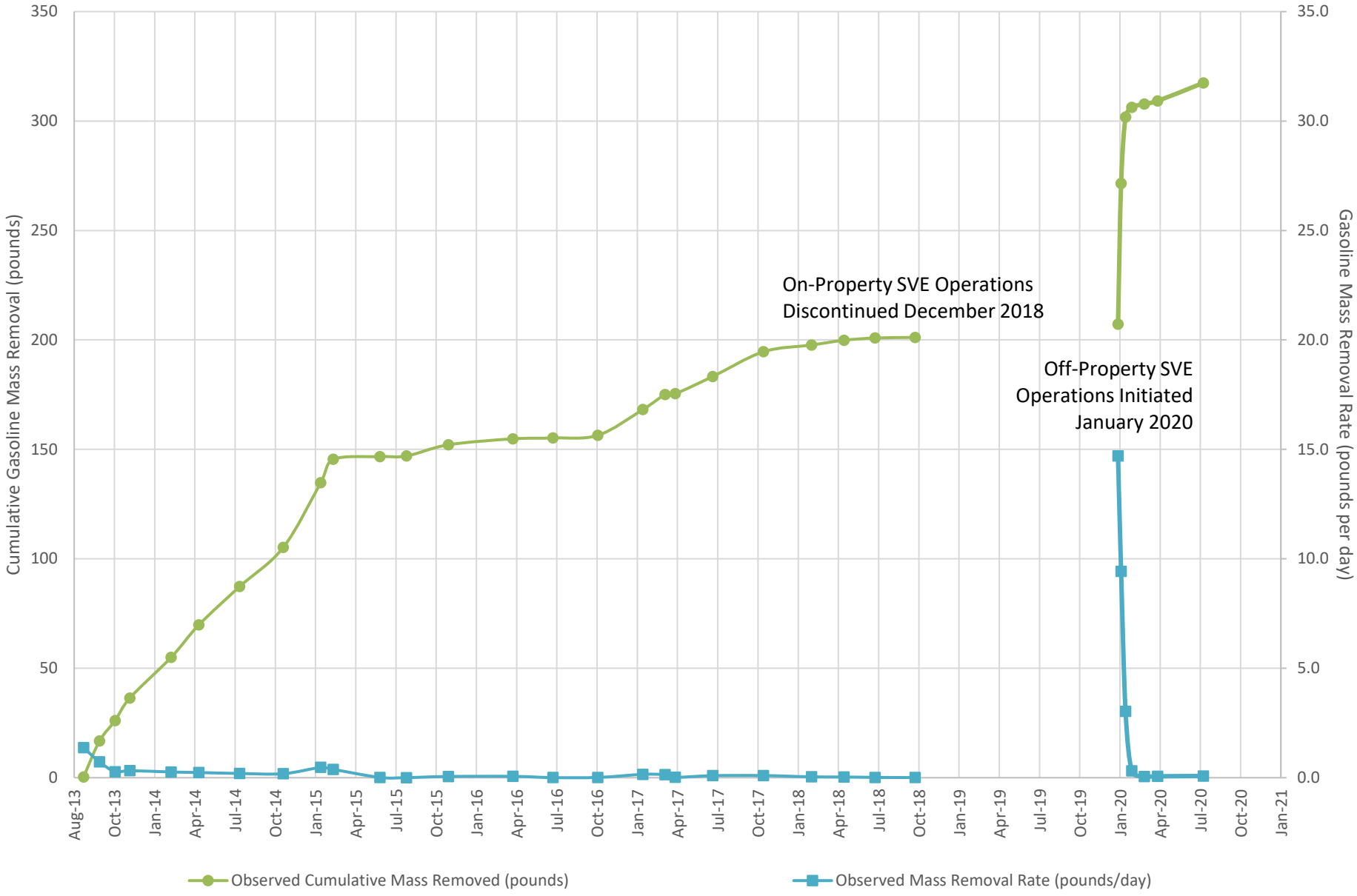
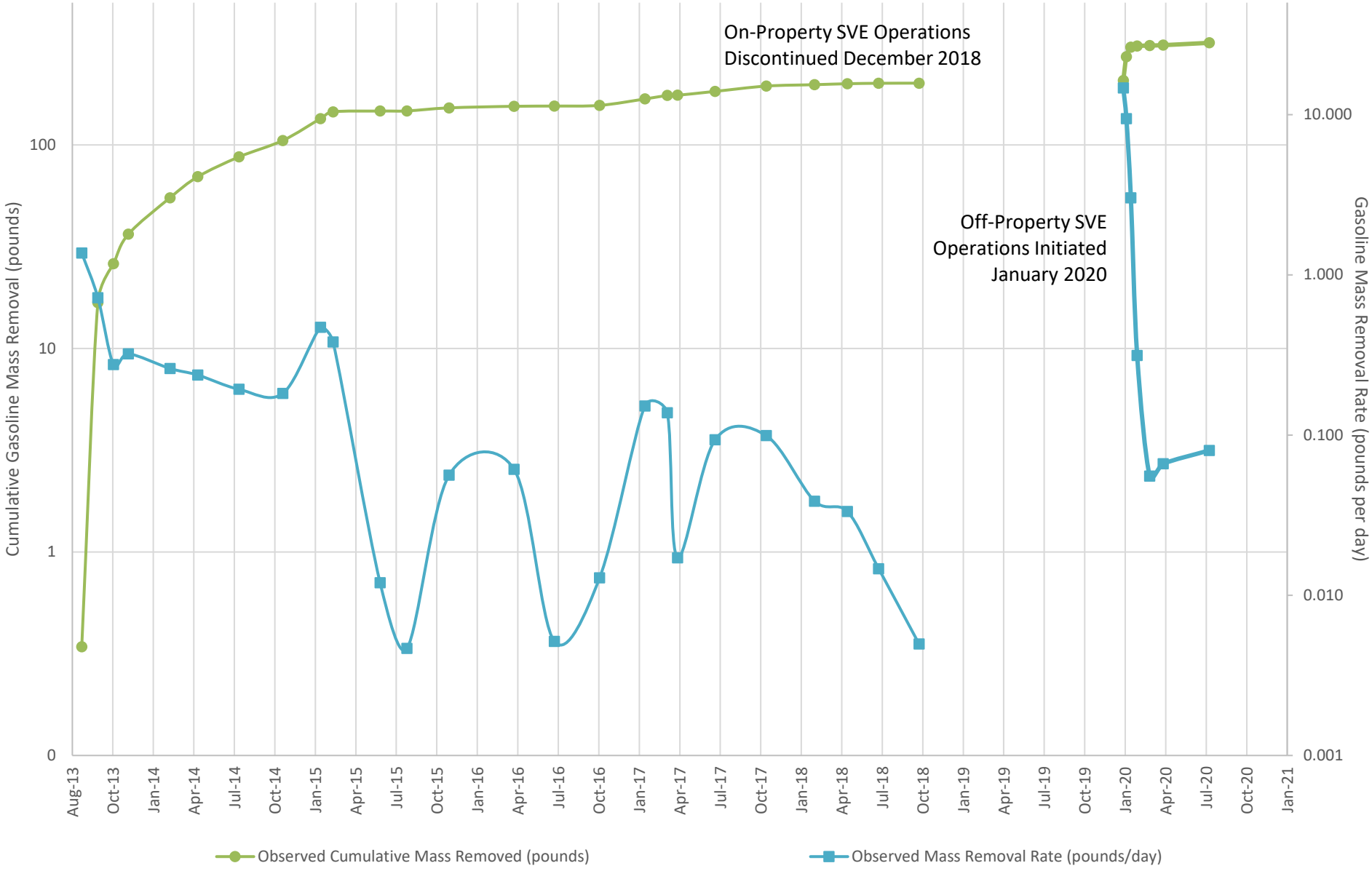


**CHART 3B**

**Site Total Gasoline Mass Extraction Rates and Cumulative Mass Removal (Log Scale)**

Plaid Pantry No. 112

Vancouver, Washington



# Attachment A

**EES** EES Environmental

BORING NO. **B-16** PAGE **1** OF **1**

PROJECT **Plaid Pantry #112**

LOCATION **Vancouver, WA**

START CARD WELL ID

COORDINATES PROJECT NO. **1179-01/03/04**

SURFACE ELEVATION DATUM LOGGED BY **AG**

| SAMPLE INFORMATION | | | | | | STRATA | DESCRIPTION | CONSTRUCTION DETAIL/ COMMENTS | ELEVATION FEET |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH FEET | LAB SAMPLE ID | pH | PID (ppmV) | SHEEN | RECOVERY % | | | | |
| | | | | | | | Asphalt (AC): 10 inches. | | |
| | | | | | 100 | | Medium stiff, brown sandy SILT (ML); moist. | | |
| | B-16(3) | | 0.3 | No | | | Brown silty SAND (SM); moist. Sand is fine. | | |
| 5 | | | | | | | | | |
| | B-16(6) | 6.87 | 169 | No | | | Strong hydrocarbon odor, and some gray stained streaks. | | |
| | | | | | 100 | | | | |
| | | 6.69 | 518 | No | | | | | |
| | B-16(9) | | 608 | No | | | Soil becomes dark gray. | | |
| 10 | | | 15.8 | No | | | | | |
| | | | | | | | Becomes moist to wet, with moderate hydrocarbon odor. | | |
| | B-16(12) | | 13.8 | No | | | Brown to gray sandy GRAVEL (GP); moist. | | |
| | | | | | 100 | | | | |
| | | | 11.1 | No | | | | | |
| 15 | | | | | | | | | |
| | | | 0.3 | No | | | | | |
| | | | | | 70 | | | | |
| | | | | | | | No recovery (18.5-20 ft). | | |
| 20 | | | | | | | Boring complete at 20 feet. | | |
| | | | | | | | Backfilled boring with hydrated bentonite. | | |

DRILLING CONTRACTOR **Cascade Drilling**

DRILLING METHOD **Hand Auger/Direct-Push**

DRILLING EQUIPMENT **Geoprobe 7720DT**

DRILLING STARTED **9/2/15** ENDED **9/2/15**

REMARKS **Boring advanced to 0-10 feet bgs using hand auger, then advanced to terminal depth using direct-push tooling. Placed temporary casing in borehole and left open for 2 hours. No measurable groundwater observed.**

See key sheet for symbols and abbreviations used above.

**EES** EES Environmental

BORING NO. **B-17** PAGE **1** OF **1**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03/04**
LOGGED BY **AG**

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

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

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

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

See key sheet for symbols and abbreviations used above.

EES LOG WITH WELL & SHEEN - LOG A EWNN03.GDT - 5/6/20 16:32 - C:\USERS\PIERCE\DROPBOX (EES ENVIRONMENTAL)\PROJECTS_GINT\PROJECTS\1179-01 ,03, & 04 BORING LOGS 120919.GPJ

**EES** EES Environmental

BORING NO. **B-18** PAGE **1** OF **1**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03/04**
LOGGED BY **AG**

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

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

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

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

See key sheet for symbols and abbreviations used above.

**EES** EES Environmental

BORING NO. **B-19** PAGE **1** OF **1**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03/04**
LOGGED BY **AG**

START CARD
COORDINATES
SURFACE ELEVATION
WELL ID
DATUM

| SAMPLE INFORMATION | | | | | | STRATA | DESCRIPTION | CONSTRUCTION DETAIL/ COMMENTS | ELEVATION FEET |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH FEET | LAB SAMPLE ID | pH | PID (ppmV) | SHEEN | RECOVERY % | | | | |
| | | | | | | | Concrete: 4 inches. | | |
| | | | | | | | Brown silty SAND (SM); moist. Sand is fine. | | |
| | B-19(3) | | 0.3 | No | 100 | | | | |
| 5 | | | | | | | | | |
| | B-19(6) | | 347 | No | | | Strong hydrocarbon odor, and some gray stained streaks. | | |
| | | | | | 100 | | | | |
| | B-19(9) | | 291 | No | | | Becomes dark brown to gray, with moderate hydrocarbon odor. | | |
| 10 | | | 0.3 | No | | | Thin (3-inch) moist to wet silt interval encountered between 10-10.5 ft bgs. | | |
| | | | | | | | Brown to gray sandy GRAVEL (GP); moist. | | |
| | B-19(12) | | 268 | No | | | | | |
| | | | | | 100 | | | | |
| | | | 2.1 | No | | | | | |
| 15 | | | | | | | | | |
| | | | | | 100 | | | | |
| | | | 0.3 | No | | | | | |
| | | | | | | | Boring complete at 19.5 feet. | | |
| | | | | | | | Backfilled boring with hydrated bentonite. | | |

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

REMARKS

See key sheet for symbols and abbreviations used above.

EES LOG WITH WELL & SHEEN - LOG A EWNN03.GDT - 5/6/20 16:32 - C:\USERS\PIERCE\DROPBOX (EES ENVIRONMENTAL)\PROJECTS_GINT\PROJECTS\1179-01 ,03, & 04 BORING LOGS 120919.GPJ

**EES** EES Environmental

BORING NO. **B-20** PAGE **1** OF **1**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03/04**
LOGGED BY **AG**

START CARD
COORDINATES
SURFACE ELEVATION
WELL ID
DATUM

| SAMPLE INFORMATION | | | | | | STRATA | DESCRIPTION | CONSTRUCTION DETAIL/ COMMENTS | ELEVATION FEET |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH FEET | LAB SAMPLE ID | pH | PID (ppmV) | SHEEN | RECOVERY % | | | | |
| | | | | | | | Concrete: 4 inches. | | |
| | | | | | 100 | | Brown silty SAND (SM); moist. | | |
| | | | | | | | Pea gravel encountered between 3.5-6 ft depth. | | |
| 5 | B-19(6) | | 0.4 | No | | | Brown silty SAND (SM); moist | | |
| | | | | | 100 | | | | |
| | B-19(9) | | 1,600 | No | | | Strong hydrocarbon odor. | | |
| 10 | | | 410 | No | | | Thin (3-inch) moist to wet silt interval encountered between 10.5-11 ft bgs. | | |
| | B-19(12) | | 0.3 | No | | | Brown to gray sandy GRAVEL (GP); moist. | | |
| | | | | | 100 | | | | |
| 15 | | | | | | | | | |
| | | | 0.3 | No | 100 | | | | |
| 20 | | | | | | | Boring complete at 20 feet. | | |
| | | | | | | | Backfilled boring with hydrated bentonite. | | |

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

REMARKS

See key sheet for symbols and abbreviations used above.

EES LOG WITH WELL & SHEEN - LOG A EWNN03.GDT - 5/6/20 16:32 - C:\USERS\PIERCE\DROPBOX (EES ENVIRONMENTAL)\PROJECTS_GINT\PROJECTS\1179-01 ,03, & 04 BORING LOGS 120919.GPJ

**EES** EES Environmental

BORING NO. **B-21** PAGE **1** OF **1**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03/04**
LOGGED BY **PT**

START CARD WELL ID
COORDINATES
SURFACE ELEVATION DATUM

| SAMPLE INFORMATION | | | | | | STRATA | DESCRIPTION | CONSTRUCTION DETAIL/ COMMENTS | ELEVATION FEET |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH FEET | LAB SAMPLE ID | pH | PID (ppmV) | SHEEN | RECOVERY % | | | | |
| | | | | | | | Asphalt: 8 inches. | | |
| | | | | | | | Gravel baserock. | | |
| | | | | | | | No recovery 1'-4'. | | |
| | B21-4 | | 0.0 | No | 100 | | Brown sandy silt, trace clay, soft, moist, sand is fine. | | |
| 5 | | | | | | | | | |
| | B21-6 | | 0.0 | No | 100 | | Becomes with gravel. | | |

DRILLING CONTRACTOR **Terra Hydr**
DRILLING METHOD **Hand Auger**
DRILLING EQUIPMENT **--**
DRILLING STARTED **12/6/19** ENDED **12/6/19**

REMARKS

See key sheet for symbols and abbreviations used above.

EES LOG WITH WELL & SHEEN - LOG A EWNN03.GDT - 5/6/20 16:32 - C:\USERS\PIERCE\DROPBOX (EES ENVIRONMENTAL)\PROJECTS_GINT\PROJECTS\1179-01 ,03, & 04 BORING LOGS 120919.GPJ

**EES** EES Environmental

BORING NO. **B-22** PAGE **1** OF **1**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03/04**
LOGGED BY **PT**

START CARD WELL ID
COORDINATES
SURFACE ELEVATION DATUM

| SAMPLE INFORMATION | | | | | | STRATA | DESCRIPTION | CONSTRUCTION DETAIL/ COMMENTS | ELEVATION FEET |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH FEET | LAB SAMPLE ID | pH | PID (ppmV) | SHEEN | RECOVERY % | | | | |
| | | | | | | | Asphalt: 8 inches. | | |
| | | | | | | | Gravel baserock. | | |
| | | | | | | | No recovery 1'-4'. | | |
| | B22-4 | | 0.0 | No | 100 | | Brown sandy silt, trace clay, soft, moist, sand is fine. | | |
| 5 | B22-6 | | 0.0 | No | 100 | | | | |
| | B22-8 | | 0.3 | No | 100 | | Becomes grey and red, mottled. | | |
| | | | | | | | Grey silty sand, very soft, moist, sand is fine. | | |
| 10 | B22-10 | | 1850 | Moderate | 100 | | | | |

DRILLING CONTRACTOR **Terra Hydr**
DRILLING METHOD **Hand Auger**
DRILLING EQUIPMENT **--**
DRILLING STARTED **12/6/19** ENDED **12/6/19**

REMARKS

See key sheet for symbols and abbreviations used above.

**EES** EES Environmental

BORING NO. **S-27** PAGE **1** OF **1**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03/04**
LOGGED BY **AG**

START CARD
COORDINATES
SURFACE ELEVATION
WELL ID **S-27**
DATUM

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

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

REMARKS

See key sheet for symbols and abbreviations used above.

**EES** EES Environmental

BORING NO. **S-28** PAGE **1** OF **1**

PROJECT **Plaid Pantry #112**

LOCATION **Vancouver, WA**

START CARD WELL ID **S-28**

COORDINATES PROJECT NO. **1179-01/03/04**

SURFACE ELEVATION DATUM LOGGED BY **AG**

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

DRILLING CONTRACTOR **Cascade Drilling**

DRILLING METHOD **Air Knife/Hand Auger**

DRILLING EQUIPMENT **--**

DRILLING STARTED **9/4/15** ENDED **9/4/15**

REMARKS

See key sheet for symbols and abbreviations used above.

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**EES** EES Environmental

BORING NO. **S-29** PAGE **1** OF **1**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03/04**
LOGGED BY **AG**

START CARD
COORDINATES
SURFACE ELEVATION

WELL ID **S-29**
DATUM

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

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

REMARKS

See key sheet for symbols and abbreviations used above.

**EES** EES Environmental

BORING NO. **S-30** PAGE **1** OF **1**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03/04**
LOGGED BY **AG**

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

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

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

REMARKS

See key sheet for symbols and abbreviations used above.

**EES** EES Environmental

BORING NO. **S-31** PAGE **1** OF **1**
PROJECT **Plaid Pantry #112**
LOCATION **Vancouver, WA**
PROJECT NO. **1179-01/03/04**
LOGGED BY **AG**

START CARD
COORDINATES
SURFACE ELEVATION

WELL ID **S-31**
DATUM

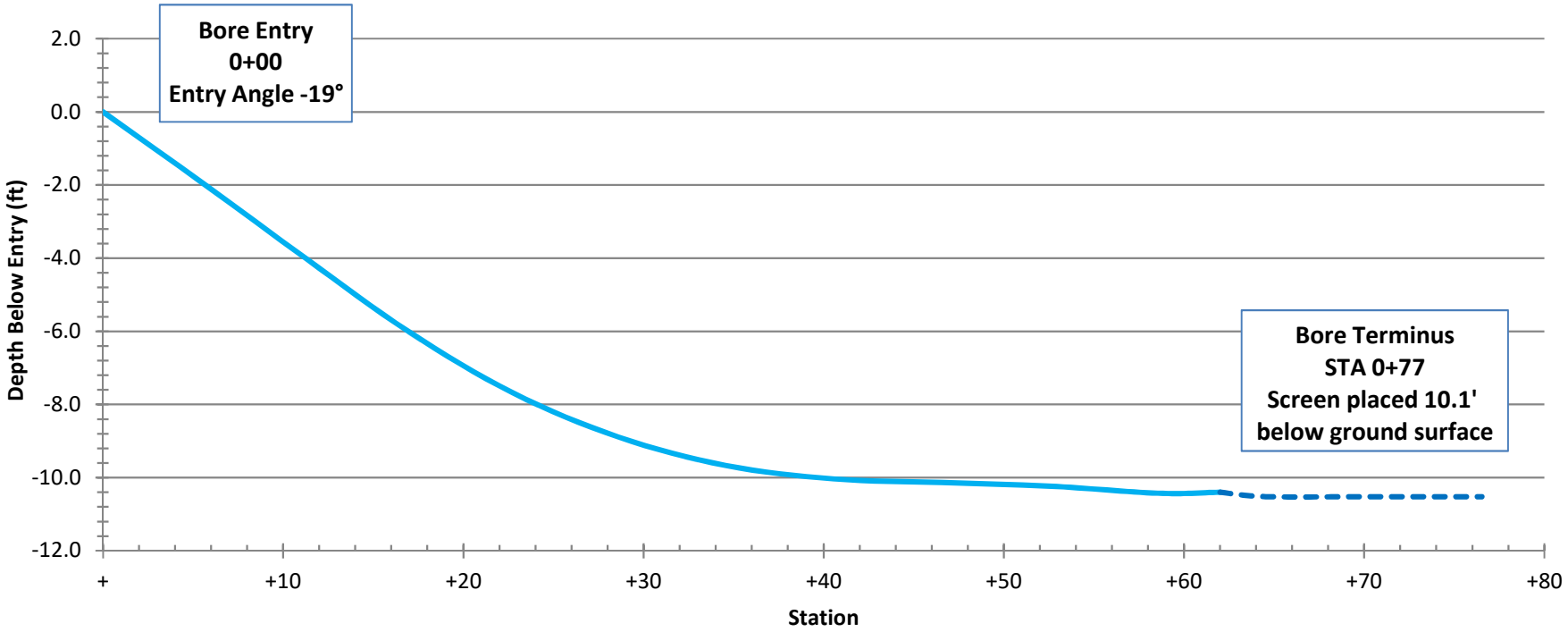
| SAMPLE INFORMATION | | | | | | STRATA | DESCRIPTION | CONSTRUCTION DETAIL/ COMMENTS | ELEVATION FEET |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH FEET | LAB SAMPLE ID | pH | PID (ppmV) | SHEEN | RECOVERY % | | | | |
| | | | 0.0 | No | 100 | | Asphalt: 3 inches.<br>Brown sandy SILT (ML); moist.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

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

REMARKS

See key sheet for symbols and abbreviations used above.

# SVE-6 Profile
# EES - Plaid Pantry #112 HDD - Vancouver, WA
# Prepared by Ellingson-DTD




**BORE NOTES:**

1. Ground surface not surveyed, not included on profile
2. Profile identifies depth below entry point. (see table for measured depths)
3. Drilled Length: 78'
4. Horizontal Length: 77'
5. Assumed well datum of 0' at point of entry
6. 2.3x vertical exaggeration

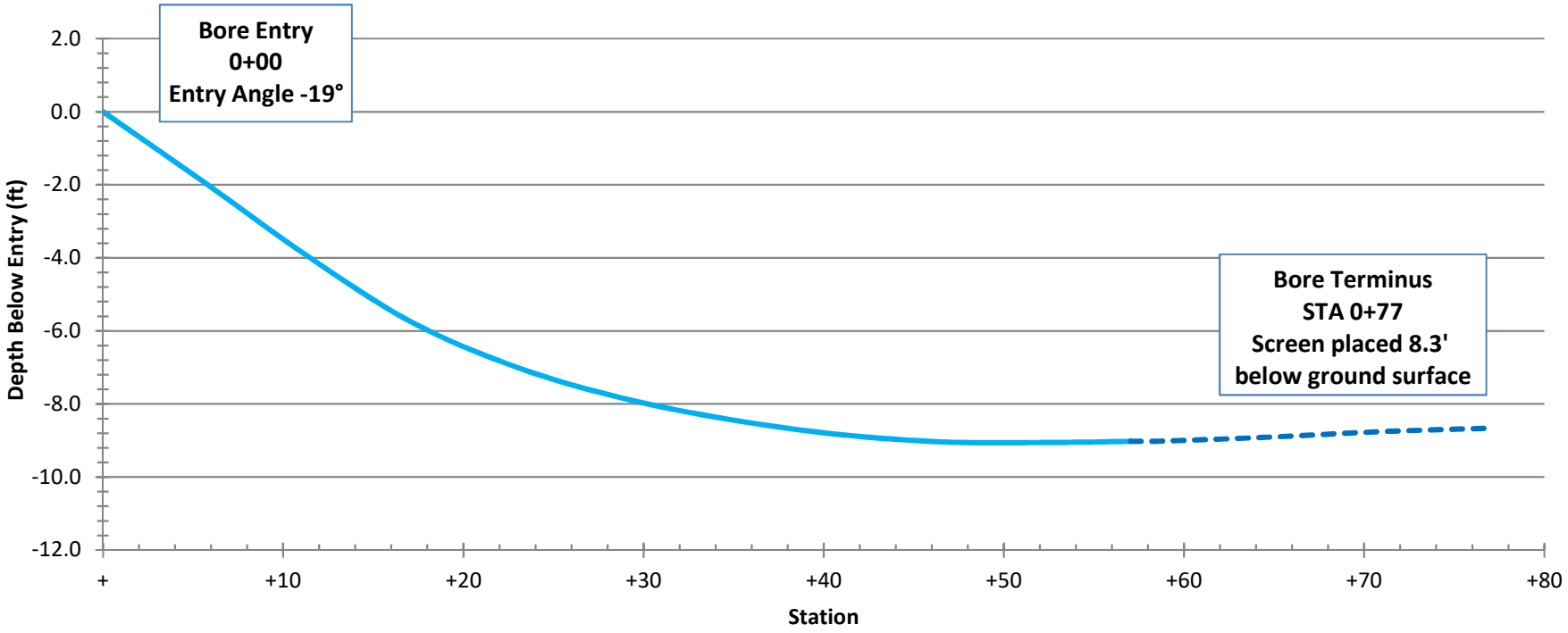
Casing
Screen

**Client Name:** EES
**Job Name:** Plaid Pantry #112 HDD
**Location:** SVE-6
**Drill Rig:** Vermeer 10x15
**Drill bit:** 5" Duckbill jetting assembly
**Well Screen:** 3-inch SCH80 PVC - 0.012", 24 slots per foot , 0.66% open area
**Well Casing:** 3-inch SCH80 PVC
**Length of Drill Rods:** 6 ft
**Length of Borehole:** 77 ft (Horizontal Distance)
**Length of Well:** 78 ft
**Entry Casing Length:** 63 ft
**Screen Length:** 15 ft
**Exit Casing Length** NA ft

| | | |
|---|---|---|
| Rig Entry Angle | -19 | degrees |
| Elevation at Point of Entry | 0 | ft |
| Station at Point of Entry | + | station |
| Horz distance from Transmitter to Point of Entry | 0 | ft |
| Height of Transmitter above Point of Entry | 0 | ft |

| Rod | Rod Distance from Vices (ft) | Station (#+##) | Description | Bore Elevation (ft amsl) | Percent Slope (%) | Vertical Angle (degrees) | Horizontal Distance (cumulative ft) | Measured Depth (ft bgs) | Calculated Depth (ft below entry) |
|---|---|---|---|---|---|---|---|---|---|
| Point of Entry | 0 | + | | 0.0 | -34.4 % | -19.0 | 0.0 | 0.0 | 0.0 |
| 1 | 6 | +6 | | -2.0 | -36.0 % | -19.8 | 5.7 | 2.1 | 2.0 |
| 2 | 12 | +11 | | -4.0 | -36.0 % | -19.8 | 11.3 | 4.3 | 4.0 |
| 3 | 18 | +17 | | -6.0 | -34.0 % | -18.8 | 17.0 | 6.2 | 6.0 |
| 4 | 24 | +23 | | -7.7 | -24.0 % | -13.5 | 22.7 | 7.6 | 7.7 |
| 5 | 30 | +29 | | -8.9 | -17.3 % | -9.8 | 28.6 | 8.9 | 8.9 |
| 6 | 36 | +35 | | -9.7 | -8.9 % | -5.1 | 34.6 | 9.2 | 9.7 |
| 7 | 42 | +41 | Locate on fuel island curb | -10.0 | -3.3 % | -1.9 | 40.5 | 10.4 | 10.0 |
| 8 | 48 | +47 | | -10.1 | 0.0 % | 0.0 | 46.5 | 9.9 | 10.1 |
| 9 | 54 | +53 | | -10.2 | -3.3 % | -1.9 | 52.5 | 10.3 | 10.2 |
| 10 | 60 | +59 | locate on sidewalk | -10.4 | -3.1 % | -1.8 | 58.5 | 10.4 | 10.4 |
| 10.5 | 63 | +62 | locate on sidewalk, start of screen | -10.4 | -1.5 % | -1.8 | 61.5 | 10.4 | 10.4 |
| 11 | 66 | +65 | locate on sidewalk | -10.5 | 0.0 % | 0.0 | 64.5 | 10.3 | 10.5 |
| 12 | 72 | +71 | locate on road | -10.5 | 0.0 % | 0.0 | 70.5 | 10.1 | 10.5 |
| 13 | 78 | +77 | locate on road | -10.5 | 0.0 % | 0.0 | 76.5 | 10.1 | 10.5 |

# SVE-7 Profile
# EES - Plaid Pantry #112 HDD - Vancouver, WA
# Prepared by Ellingson-DTD




**BORE NOTES:**

1. Ground surface not surveyed, not included on profile
2. Profile identifies depth below entry point. (see table for measured depths)
3. Drilled Length: 78'
4. Horizontal Length: 77'
5. Assumed well datum of 0' at point of entry
6. 2.3x vertical exaggeration

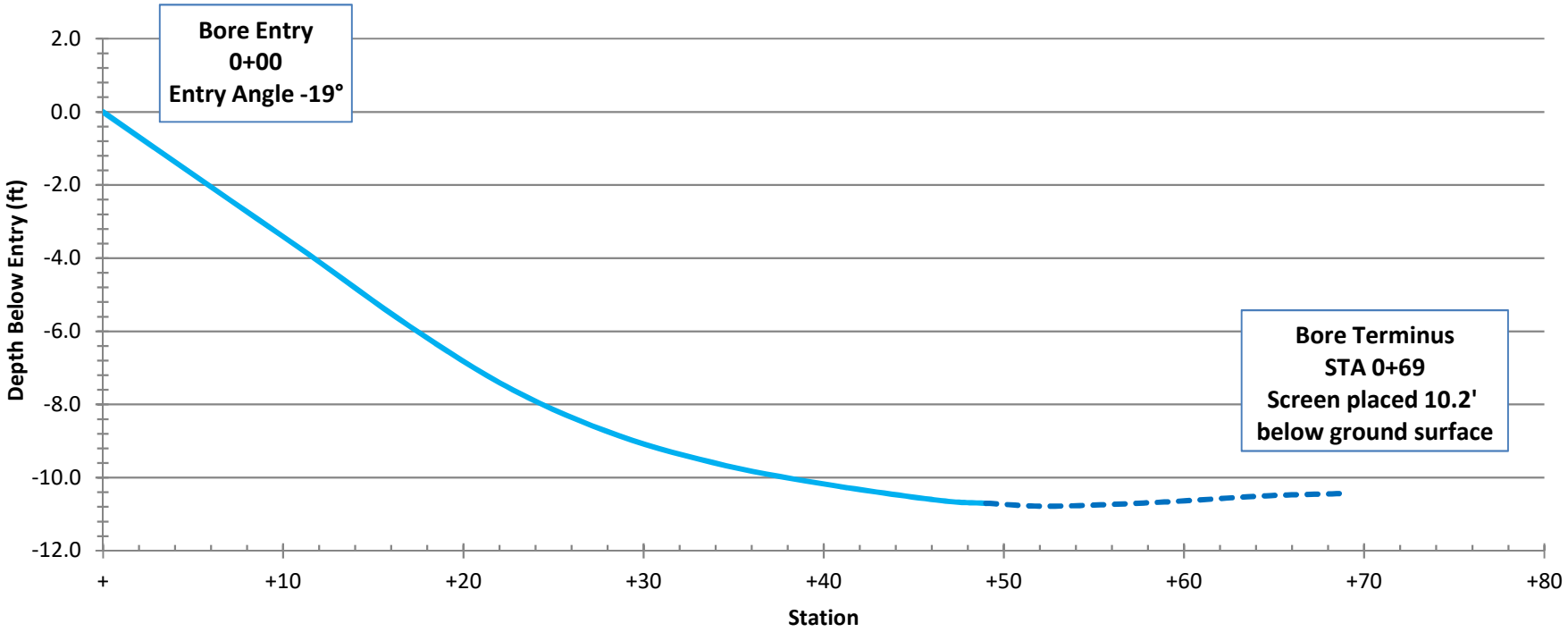
Casing
Screen

**Client Name:** EES
**Job Name:** Plaid Pantry #112 HDD
**Location:** SVE-7
**Drill Rig:** Vermeer 10x15
**Drill bit:** 5" Duckbill jetting assembly
**Well Screen:** 3-inch SCH80 PVC - 0.012", 24 slots per foot , 0.66% open area
**Well Casing:** 3-inch SCH80 PVC
**Length of Drill Rods:** 6 ft
**Length of Borehole:** 77 ft (Horizontal Distance)
**Length of Well:** 78 ft
**Entry Casing Length:** 58 ft
**Screen Length:** 20 ft
**Exit Casing Length** NA ft

| | | |
|---|---|---|
| Rig Entry Angle | -19 | degrees |
| Elevation at Point of Entry | 0 | ft |
| Station at Point of Entry | + | station |
| Horz distance from Transmitter to Point of Entry | 0 | ft |
| Height of Transmitter above Point of Entry | 0 | ft |

| Rod | Rod Distance from Vices (ft) | Station (#+##) | Description | Bore Elevation (ft amsl) | Percent Slope (%) | Vertical Angle (degrees) | Horizontal Distance (cumulative ft) | Measured Depth (ft bgs) | Calculated Depth (ft below entry) |
|---|---|---|---|---|---|---|---|---|---|
| Point of Entry | 0 | + | | 0.0 | -34.4 % | -19.0 | 0.0 | 0.0 | 0.0 |
| 1 | 6 | +6 | | -2.0 | -34.4 % | -19.0 | 5.7 | 2.2 | 2.0 |
| 2 | 12 | +11 | | -3.9 | -36.0 % | -19.8 | 11.3 | 4.3 | 3.9 |
| 3 | 18 | +17 | | -5.7 | -26.8 % | -15.0 | 17.1 | 6.6 | 5.7 |
| 4 | 24 | +23 | | -7.0 | -15.8 % | -9.0 | 22.9 | 6.6 | 7.0 |
| 5 | 30 | +29 | | -7.8 | -13.0 % | -7.4 | 28.9 | 7.4 | 7.8 |
| 6 | 36 | +35 | | -8.4 | -6.6 % | -3.8 | 34.8 | 8.0 | 8.4 |
| 7 | 42 | +41 | | -8.8 | -6.8 % | -3.9 | 40.8 | 8.5 | 8.8 |
| 8 | 48 | +47 | | -9.0 | -0.2 % | -0.1 | 46.8 | 9.1 | 9.0 |
| 9 | 54 | +53 | | -9.1 | -0.2 % | -0.1 | 52.8 | 8.9 | 9.1 |
| 9.7 | 58 | +57 | | -9.0 | 1.6 % | 0.9 | 57.0 | 8.9 | 9.0 |
| 10 | 60 | +59 | | -9.0 | 1.4 % | 0.8 | 58.8 | 8.4 | 9.0 |
| 11 | 66 | +65 | | -8.9 | 2.3 % | 1.3 | 64.8 | 8.3 | 8.9 |
| 12 | 72 | +71 | | -8.8 | 2.6 % | 1.5 | 70.8 | 8.3 | 8.8 |
| 13 | 78 | +77 | | -8.7 | 0.5 % | 0.3 | 76.8 | 8.4 | 8.7 |

# SVE-8 Profile
# EES - Plaid Pantry #112 HDD - Vancouver, WA
# Prepared by Ellingson-DTD




**BORE NOTES:**

1. Ground surface not surveyed, not included on profile
2. Profile identifies depth below entry point. (see table for measured depths)
3. Drilled Length: 70'
4. Horizontal Length: 69'
5. Assumed well datum of 0' at point of entry
6. 2.3x vertical exaggeration

Casing
Screen

**Client Name:** EES
**Job Name:** Plaid Pantry #112 HDD
**Location:** SVE-6
**Drill Rig:** Vermeer 10x15
**Drill bit:** 5" Duckbill jetting assembly
**Well Screen:** 3-inch SCH80 PVC - 0.012", 24 slots per foot , 0.66% open area
**Well Casing:** 3-inch SCH80 PVC
**Length of Drill Rods:** 6 ft
**Length of Borehole:** 69 ft (Horizontal Distance)
**Length of Well:** 70 ft
**Entry Casing Length:** 50 ft
**Screen Length:** 20 ft
**Exit Casing Length** NA ft

| | | |
|---|---|---|
| Rig Entry Angle | -19 | degrees |
| Elevation at Point of Entry | 0 | ft |
| Station at Point of Entry | + | station |
| Horz distance from Transmitter to Point of Entry | 0 | ft |
| Height of Transmitter above Point of Entry | 0 | ft |

| Rod | Rod Distance from Vices (ft) | Station (#+##) | Description | Bore Elevation (ft amsl) | Percent Slope (%) | Vertical Angle (degrees) | Horizontal Distance (cumulative ft) | Measured Depth (ft bgs) | Calculated Depth (ft below entry) |
|---|---|---|---|---|---|---|---|---|---|
| Point of Entry | 0 | + | | 0.0 | -34.4 % | -19.0 | 0.0 | 0.0 | 0.0 |
| 1 | 6 | +6 | | -1.9 | -34.0 % | -18.8 | 5.7 | 2.2 | 1.9 |
| 2 | 12 | +11 | | -3.9 | -34.0 % | -18.8 | 11.4 | 4.2 | 3.9 |
| 3 | 18 | +17 | | -5.9 | -36.0 % | -19.8 | 17.0 | 6.3 | 5.9 |
| 4 | 24 | +23 | | -7.6 | -24.9 % | -14.0 | 22.8 | 7.5 | 7.6 |
| 5 | 30 | +29 | | -8.9 | -17.6 % | -10.0 | 28.6 | 8.4 | 8.9 |
| 6 | 36 | +35 | | -9.7 | -10.0 % | -5.7 | 34.6 | 8.8 | 9.7 |
| 7 | 42 | +41 | | -10.2 | -8.2 % | -4.7 | 40.5 | 9.5 | 10.2 |
| 8 | 48 | +47 | | -10.6 | -5.6 % | -3.2 | 46.5 | 10.0 | 10.6 |
| 8.3 | 50 | +49 | on curb, start of screen | -10.7 | -3.8 % | -2.2 | 48.6 | 10.5 | 10.7 |
| 9 | 54 | +53 | | -10.8 | 0.5 % | 0.3 | 52.5 | 10.7 | 10.8 |
| 10 | 60 | +59 | | -10.7 | 3.0 % | 1.7 | 58.5 | 10.3 | 10.7 |
| 11 | 66 | +65 | | -10.5 | 3.0 % | 1.7 | 64.5 | 10.1 | 10.5 |
| 11.7 | 70 | +69 | | -10.4 | 0.0 % | 0.0 | 68.7 | 10.2 | 10.4 |

# Attachment B

eurofins | Air Toxics

1/20/2020
Mr. Chris Rhea
EES Environmental Consulting, Inc.
240 N Broadway
Suite 203
Portland OR 97227

Project Name: Plaid Pantry #112
Project #: 1179-04
Workorder #: 2001068A

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 1/6/2020 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

eurofins | Air Toxics

# WORK ORDER #: 2001068A

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 | **BILL TO:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 |
| **PHONE:** | 530-847-2740 | **P.O. #** | |
| **FAX:** | | **PROJECT #** | 1179-04 Plaid Pantry #112 |
| **DATE RECEIVED:** | 01/06/2020 | **CONTACT:** | Kelly Buettner |
| **DATE COMPLETED:** | 01/20/2020 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 01A | SVE-6 | TO-15 | 6.5 "Hg | 15 psi |
| 02A | SVE-7 | TO-15 | 6.5 "Hg | 15 psi |
| 03A | SVE-8 | TO-15 | 6.0 "Hg | 15 psi |
| 04A | AWS INLET | TO-15 | 6.0 "Hg | 15 psi |
| 05A | Lab Blank | TO-15 | NA | NA |
| 06A | CCV | TO-15 | NA | NA |
| 07A | LCS | TO-15 | NA | NA |
| 07AA | LCSD | TO-15 | NA | NA |

CERTIFIED BY: Heidi Hayes DATE: 01/20/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards



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**LABORATORY NARRATIVE**
**EPA Method TO-15**
**EES Environmental Consulting, Inc.**
**Workorder# 2001068A**

Four 1 Liter Summa Canister samples were received on January 06, 2020. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

## Receiving Notes

There were no receiving discrepancies.

## Analytical Notes

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

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

Dilution was performed on samples SVE-6, SVE-7, SVE-8 and AWS INLET due to matrix interference.

The recovery of surrogate Toluene-d8 in samples SVE-7, SVE-8 and AWS INLET was outside laboratory control limits due to high level hydrocarbon matrix interference. The surrogate recovery is flagged.

## Definition of Data Qualifying Flags

Ten 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.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

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

**Client Sample ID: SVE-6**

**Lab ID#: 2001068A-01A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 1300 | 460000 | 5300 | 1900000 |

**Client Sample ID: SVE-7**

**Lab ID#: 2001068A-02A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 1700 | 540000 | 7000 | 2200000 |

**Client Sample ID: SVE-8**

**Lab ID#: 2001068A-03A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 1700 | 1700000 | 6900 | 7000000 |

**Client Sample ID: AWS INLET**

**Lab ID#: 2001068A-04A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Acetone | 250 | 2700 | 600 | 6400 |
| 2-Butanone (Methyl Ethyl Ketone) | 250 | 2200 | 740 | 6600 |
| Tetrahydrofuran | 63 | 5800 | 180 | 17000 |
| Heptane | 63 | 1100 | 260 | 4500 |
| Cumene | 63 | 190 | 310 | 920 |
| Propylbenzene | 63 | 320 | 310 | 1600 |
| 4-Ethyltoluene | 63 | 74 | 310 | 360 |
| 1,2,4-Trimethylbenzene | 63 | 470 | 310 | 2300 |
| TPH ref. to Gasoline (MW=100) | 2500 | 690000 | 10000 | 2800000 |

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**Client Sample ID: SVE-6**

**Lab ID#: 2001068A-01A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j010826** | **Date of Collection: 1/3/20 3:18:00 PM** | |
| **Dil. Factor:** | **6.45** | **Date of Analysis: 1/8/20 10:22 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 32 | Not Detected | 100 | Not Detected |
| Toluene | 32 | Not Detected | 120 | Not Detected |
| Ethyl Benzene | 32 | Not Detected | 140 | Not Detected |
| m,p-Xylene | 32 | Not Detected | 140 | Not Detected |
| o-Xylene | 32 | Not Detected | 140 | Not Detected |
| Naphthalene | 130 | Not Detected | 680 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 1300 | 460000 | 5300 | 1900000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 89 | 70-130 |
| Toluene-d8 | 129 | 70-130 |
| 4-Bromofluorobenzene | 114 | 70-130 |

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**Client Sample ID: SVE-7**

**Lab ID#: 2001068A-02A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j010823** | **Date of Collection: 1/3/20 3:22:00 PM** | |
| **Dil. Factor:** | **8.60** | **Date of Analysis: 1/8/20 09:09 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 43 | Not Detected | 140 | Not Detected |
| Toluene | 43 | Not Detected | 160 | Not Detected |
| Ethyl Benzene | 43 | Not Detected | 190 | Not Detected |
| m,p-Xylene | 43 | Not Detected | 190 | Not Detected |
| o-Xylene | 43 | Not Detected | 190 | Not Detected |
| Naphthalene | 170 | Not Detected | 900 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 1700 | 540000 | 7000 | 2200000 |

Q = Exceeds Quality Control limits of 70% to 130%, due to matrix effects.

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 90 | 70-130 |
| Toluene-d8 | 135 Q | 70-130 |
| 4-Bromofluorobenzene | 112 | 70-130 |

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**Client Sample ID: SVE-8**

**Lab ID#: 2001068A-03A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j010825** | **Date of Collection: 1/3/20 3:23:00 PM** | |
| **Dil. Factor:** | **8.42** | **Date of Analysis: 1/8/20 09:58 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 42 | Not Detected | 130 | Not Detected |
| Toluene | 42 | Not Detected | 160 | Not Detected |
| Ethyl Benzene | 42 | Not Detected | 180 | Not Detected |
| m,p-Xylene | 42 | Not Detected | 180 | Not Detected |
| o-Xylene | 42 | Not Detected | 180 | Not Detected |
| Naphthalene | 170 | Not Detected | 880 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 1700 | 1700000 | 6900 | 7000000 |

Q = Exceeds Quality Control limits of 70% to 130%, due to matrix effects.

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 88 | 70-130 |
| Toluene-d8 | 294 Q | 70-130 |
| 4-Bromofluorobenzene | 112 | 70-130 |

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**Client Sample ID: AWS INLET**

**Lab ID#: 2001068A-04A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j010824** | **Date of Collection:** | **1/3/20 3:28:00 PM** |
| **Dil. Factor:** | **12.6** | **Date of Analysis:** | **1/8/20 09:33 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 63 | Not Detected | 310 | Not Detected |
| Freon 114 | 63 | Not Detected | 440 | Not Detected |
| Chloromethane | 250 | Not Detected | 520 | Not Detected |
| Vinyl Chloride | 63 | Not Detected | 160 | Not Detected |
| 1,3-Butadiene | 63 | Not Detected | 140 | Not Detected |
| Bromomethane | 250 | Not Detected | 980 | Not Detected |
| Chloroethane | 250 | Not Detected | 660 | Not Detected |
| Freon 11 | 63 | Not Detected | 350 | Not Detected |
| Ethanol | 250 | Not Detected | 470 | Not Detected |
| Freon 113 | 63 | Not Detected | 480 | Not Detected |
| 1,1-Dichloroethene | 63 | Not Detected | 250 | Not Detected |
| Acetone | 250 | 2700 | 600 | 6400 |
| 2-Propanol | 250 | Not Detected | 620 | Not Detected |
| Carbon Disulfide | 250 | Not Detected | 780 | Not Detected |
| 3-Chloropropene | 250 | Not Detected | 790 | Not Detected |
| Methylene Chloride | 250 | Not Detected | 880 | Not Detected |
| Methyl tert-butyl ether | 63 | Not Detected | 230 | Not Detected |
| trans-1,2-Dichloroethene | 63 | Not Detected | 250 | Not Detected |
| Hexane | 63 | Not Detected | 220 | Not Detected |
| 1,1-Dichloroethane | 63 | Not Detected | 260 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 250 | 2200 | 740 | 6600 |
| cis-1,2-Dichloroethene | 63 | Not Detected | 250 | Not Detected |
| Tetrahydrofuran | 63 | 5800 | 180 | 17000 |
| Chloroform | 63 | Not Detected | 310 | Not Detected |
| 1,1,1-Trichloroethane | 63 | Not Detected | 340 | Not Detected |
| Cyclohexane | 63 | Not Detected | 220 | Not Detected |
| Carbon Tetrachloride | 63 | Not Detected | 400 | Not Detected |
| 2,2,4-Trimethylpentane | 63 | Not Detected | 290 | Not Detected |
| Benzene | 63 | Not Detected | 200 | Not Detected |
| 1,2-Dichloroethane | 63 | Not Detected | 250 | Not Detected |
| Heptane | 63 | 1100 | 260 | 4500 |
| Trichloroethene | 63 | Not Detected | 340 | Not Detected |
| 1,2-Dichloropropane | 63 | Not Detected | 290 | Not Detected |
| 1,4-Dioxane | 250 | Not Detected | 910 | Not Detected |
| Bromodichloromethane | 63 | Not Detected | 420 | Not Detected |
| cis-1,3-Dichloropropene | 63 | Not Detected | 280 | Not Detected |
| 4-Methyl-2-pentanone | 63 | Not Detected | 260 | Not Detected |
| Toluene | 63 | Not Detected | 240 | Not Detected |
| trans-1,3-Dichloropropene | 63 | Not Detected | 280 | Not Detected |
| 1,1,2-Trichloroethane | 63 | Not Detected | 340 | Not Detected |
| Tetrachloroethene | 63 | Not Detected | 430 | Not Detected |
| 2-Hexanone | 250 | Not Detected | 1000 | Not Detected |

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**Client Sample ID: AWS INLET**

**Lab ID#: 2001068A-04A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j010824** | **Date of Collection: 1/3/20 3:28:00 PM** | |
| **Dil. Factor:** | **12.6** | **Date of Analysis: 1/8/20 09:33 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Dibromochloromethane | 63 | Not Detected | 540 | Not Detected |
| 1,2-Dibromoethane (EDB) | 63 | Not Detected | 480 | Not Detected |
| Chlorobenzene | 63 | Not Detected | 290 | Not Detected |
| Ethyl Benzene | 63 | Not Detected | 270 | Not Detected |
| m,p-Xylene | 63 | Not Detected | 270 | Not Detected |
| o-Xylene | 63 | Not Detected | 270 | Not Detected |
| Styrene | 63 | Not Detected | 270 | Not Detected |
| Bromoform | 63 | Not Detected | 650 | Not Detected |
| Cumene | 63 | 190 | 310 | 920 |
| 1,1,2,2-Tetrachloroethane | 63 | Not Detected | 430 | Not Detected |
| Propylbenzene | 63 | 320 | 310 | 1600 |
| 4-Ethyltoluene | 63 | 74 | 310 | 360 |
| 1,3,5-Trimethylbenzene | 63 | Not Detected | 310 | Not Detected |
| 1,2,4-Trimethylbenzene | 63 | 470 | 310 | 2300 |
| 1,3-Dichlorobenzene | 63 | Not Detected | 380 | Not Detected |
| 1,4-Dichlorobenzene | 63 | Not Detected | 380 | Not Detected |
| alpha-Chlorotoluene | 63 | Not Detected | 330 | Not Detected |
| 1,2-Dichlorobenzene | 63 | Not Detected | 380 | Not Detected |
| 1,2,4-Trichlorobenzene | 250 | Not Detected | 1900 | Not Detected |
| Hexachlorobutadiene | 250 | Not Detected | 2700 | Not Detected |
| Naphthalene | 250 | Not Detected | 1300 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 2500 | 690000 | 10000 | 2800000 |

Q = Exceeds Quality Control limits of 70% to 130%, due to matrix effects.

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 91 | 70-130 |
| Toluene-d8 | 142 Q | 70-130 |
| 4-Bromofluorobenzene | 109 | 70-130 |

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**Client Sample ID: Lab Blank**

**Lab ID#: 2001068A-05A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j010809** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/8/20 01:51 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 5.0 | Not Detected | 25 | Not Detected |
| Freon 114 | 5.0 | Not Detected | 35 | Not Detected |
| Chloromethane | 20 | Not Detected | 41 | Not Detected |
| Vinyl Chloride | 5.0 | Not Detected | 13 | Not Detected |
| 1,3-Butadiene | 5.0 | Not Detected | 11 | Not Detected |
| Bromomethane | 20 | Not Detected | 78 | Not Detected |
| Chloroethane | 20 | Not Detected | 53 | Not Detected |
| Freon 11 | 5.0 | Not Detected | 28 | Not Detected |
| Ethanol | 20 | Not Detected | 38 | Not Detected |
| Freon 113 | 5.0 | Not Detected | 38 | Not Detected |
| 1,1-Dichloroethene | 5.0 | Not Detected | 20 | Not Detected |
| Acetone | 20 | Not Detected | 48 | Not Detected |
| 2-Propanol | 20 | Not Detected | 49 | Not Detected |
| Carbon Disulfide | 20 | Not Detected | 62 | Not Detected |
| 3-Chloropropene | 20 | Not Detected | 63 | Not Detected |
| Methylene Chloride | 20 | Not Detected | 69 | Not Detected |
| Methyl tert-butyl ether | 5.0 | Not Detected | 18 | Not Detected |
| trans-1,2-Dichloroethene | 5.0 | Not Detected | 20 | Not Detected |
| Hexane | 5.0 | Not Detected | 18 | Not Detected |
| 1,1-Dichloroethane | 5.0 | Not Detected | 20 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 20 | Not Detected | 59 | Not Detected |
| cis-1,2-Dichloroethene | 5.0 | Not Detected | 20 | Not Detected |
| Tetrahydrofuran | 5.0 | Not Detected | 15 | Not Detected |
| Chloroform | 5.0 | Not Detected | 24 | Not Detected |
| 1,1,1-Trichloroethane | 5.0 | Not Detected | 27 | Not Detected |
| Cyclohexane | 5.0 | Not Detected | 17 | Not Detected |
| Carbon Tetrachloride | 5.0 | Not Detected | 31 | Not Detected |
| 2,2,4-Trimethylpentane | 5.0 | Not Detected | 23 | Not Detected |
| Benzene | 5.0 | Not Detected | 16 | Not Detected |
| 1,2-Dichloroethane | 5.0 | Not Detected | 20 | Not Detected |
| Heptane | 5.0 | Not Detected | 20 | Not Detected |
| Trichloroethene | 5.0 | Not Detected | 27 | Not Detected |
| 1,2-Dichloropropane | 5.0 | Not Detected | 23 | Not Detected |
| 1,4-Dioxane | 20 | Not Detected | 72 | Not Detected |
| Bromodichloromethane | 5.0 | Not Detected | 34 | Not Detected |
| cis-1,3-Dichloropropene | 5.0 | Not Detected | 23 | Not Detected |
| 4-Methyl-2-pentanone | 5.0 | Not Detected | 20 | Not Detected |
| Toluene | 5.0 | Not Detected | 19 | Not Detected |
| trans-1,3-Dichloropropene | 5.0 | Not Detected | 23 | Not Detected |
| 1,1,2-Trichloroethane | 5.0 | Not Detected | 27 | Not Detected |
| Tetrachloroethene | 5.0 | Not Detected | 34 | Not Detected |
| 2-Hexanone | 20 | Not Detected | 82 | Not Detected |

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**Client Sample ID: Lab Blank**

**Lab ID#: 2001068A-05A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j010809** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/8/20 01:51 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Dibromochloromethane | 5.0 | Not Detected | 42 | Not Detected |
| 1,2-Dibromoethane (EDB) | 5.0 | Not Detected | 38 | Not Detected |
| Chlorobenzene | 5.0 | Not Detected | 23 | Not Detected |
| Ethyl Benzene | 5.0 | Not Detected | 22 | Not Detected |
| m,p-Xylene | 5.0 | Not Detected | 22 | Not Detected |
| o-Xylene | 5.0 | Not Detected | 22 | Not Detected |
| Styrene | 5.0 | Not Detected | 21 | Not Detected |
| Bromoform | 5.0 | Not Detected | 52 | Not Detected |
| Cumene | 5.0 | Not Detected | 24 | Not Detected |
| 1,1,2,2-Tetrachloroethane | 5.0 | Not Detected | 34 | Not Detected |
| Propylbenzene | 5.0 | Not Detected | 24 | Not Detected |
| 4-Ethyltoluene | 5.0 | Not Detected | 24 | Not Detected |
| 1,3,5-Trimethylbenzene | 5.0 | Not Detected | 24 | Not Detected |
| 1,2,4-Trimethylbenzene | 5.0 | Not Detected | 24 | Not Detected |
| 1,3-Dichlorobenzene | 5.0 | Not Detected | 30 | Not Detected |
| 1,4-Dichlorobenzene | 5.0 | Not Detected | 30 | Not Detected |
| alpha-Chlorotoluene | 5.0 | Not Detected | 26 | Not Detected |
| 1,2-Dichlorobenzene | 5.0 | Not Detected | 30 | Not Detected |
| 1,2,4-Trichlorobenzene | 20 | Not Detected | 150 | Not Detected |
| Hexachlorobutadiene | 20 | Not Detected | 210 | Not Detected |
| Naphthalene | 20 | Not Detected | 100 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 200 | Not Detected | 820 | Not Detected |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 92 | 70-130 |
| Toluene-d8 | 98 | 70-130 |
| 4-Bromofluorobenzene | 106 | 70-130 |

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**Client Sample ID: CCV**
**Lab ID#: 2001068A-06A**
**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j010802** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/8/20 08:58 AM** | |

| Compound | %Recovery |
|---|---|
| Freon 12 | 96 |
| Freon 114 | 99 |
| Chloromethane | 104 |
| Vinyl Chloride | 88 |
| 1,3-Butadiene | 90 |
| Bromomethane | 99 |
| Chloroethane | 96 |
| Freon 11 | 102 |
| Ethanol | 101 |
| Freon 113 | 107 |
| 1,1-Dichloroethene | 99 |
| Acetone | 104 |
| 2-Propanol | 99 |
| Carbon Disulfide | 95 |
| 3-Chloropropene | 97 |
| Methylene Chloride | 109 |
| Methyl tert-butyl ether | 95 |
| trans-1,2-Dichloroethene | 92 |
| Hexane | 92 |
| 1,1-Dichloroethane | 98 |
| 2-Butanone (Methyl Ethyl Ketone) | 87 |
| cis-1,2-Dichloroethene | 96 |
| Tetrahydrofuran | 86 |
| Chloroform | 95 |
| 1,1,1-Trichloroethane | 96 |
| Cyclohexane | 89 |
| Carbon Tetrachloride | 97 |
| 2,2,4-Trimethylpentane | 94 |
| Benzene | 92 |
| 1,2-Dichloroethane | 93 |
| Heptane | 85 |
| Trichloroethene | 90 |
| 1,2-Dichloropropane | 87 |
| 1,4-Dioxane | 94 |
| Bromodichloromethane | 90 |
| cis-1,3-Dichloropropene | 89 |
| 4-Methyl-2-pentanone | 78 |
| Toluene | 89 |
| trans-1,3-Dichloropropene | 87 |
| 1,1,2-Trichloroethane | 91 |
| Tetrachloroethene | 102 |
| 2-Hexanone | 83 |

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**Client Sample ID: CCV**
**Lab ID#: 2001068A-06A**
**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j010802** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/8/20 08:58 AM** | |

| Compound | %Recovery |
|---|---|
| Dibromochloromethane | 99 |
| 1,2-Dibromoethane (EDB) | 94 |
| Chlorobenzene | 95 |
| Ethyl Benzene | 92 |
| m,p-Xylene | 91 |
| o-Xylene | 91 |
| Styrene | 91 |
| Bromoform | 104 |
| Cumene | 95 |
| 1,1,2,2-Tetrachloroethane | 86 |
| Propylbenzene | 89 |
| 4-Ethyltoluene | 97 |
| 1,3,5-Trimethylbenzene | 91 |
| 1,2,4-Trimethylbenzene | 88 |
| 1,3-Dichlorobenzene | 102 |
| 1,4-Dichlorobenzene | 103 |
| alpha-Chlorotoluene | 85 |
| 1,2-Dichlorobenzene | 106 |
| 1,2,4-Trichlorobenzene | 106 |
| Hexachlorobutadiene | 111 |
| Naphthalene | 82 |
| TPH ref. to Gasoline (MW=100) | 100 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 91 | 70-130 |
| Toluene-d8 | 95 | 70-130 |
| 4-Bromofluorobenzene | 104 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 2001068A-07A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j010805** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/8/20 10:13 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 94 | 70-130 |
| Freon 114 | 100 | 70-130 |
| Chloromethane | 105 | 70-130 |
| Vinyl Chloride | 89 | 70-130 |
| 1,3-Butadiene | 86 | 70-130 |
| Bromomethane | 97 | 70-130 |
| Chloroethane | 97 | 70-130 |
| Freon 11 | 101 | 70-130 |
| Ethanol | 102 | 70-130 |
| Freon 113 | 103 | 70-130 |
| 1,1-Dichloroethene | 98 | 70-130 |
| Acetone | 101 | 70-130 |
| 2-Propanol | 102 | 70-130 |
| Carbon Disulfide | 94 | 70-130 |
| 3-Chloropropene | 94 | 70-130 |
| Methylene Chloride | 106 | 70-130 |
| Methyl tert-butyl ether | 92 | 70-130 |
| trans-1,2-Dichloroethene | 103 | 70-130 |
| Hexane | 92 | 70-130 |
| 1,1-Dichloroethane | 95 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 92 | 70-130 |
| cis-1,2-Dichloroethene | 89 | 70-130 |
| Tetrahydrofuran | 86 | 70-130 |
| Chloroform | 93 | 70-130 |
| 1,1,1-Trichloroethane | 93 | 70-130 |
| Cyclohexane | 90 | 70-130 |
| Carbon Tetrachloride | 95 | 70-130 |
| 2,2,4-Trimethylpentane | 93 | 70-130 |
| Benzene | 94 | 70-130 |
| 1,2-Dichloroethane | 93 | 70-130 |
| Heptane | 88 | 70-130 |
| Trichloroethene | 93 | 70-130 |
| 1,2-Dichloropropane | 90 | 70-130 |
| 1,4-Dioxane | 97 | 70-130 |
| Bromodichloromethane | 92 | 70-130 |
| cis-1,3-Dichloropropene | 92 | 70-130 |
| 4-Methyl-2-pentanone | 84 | 70-130 |
| Toluene | 91 | 70-130 |
| trans-1,3-Dichloropropene | 85 | 70-130 |
| 1,1,2-Trichloroethane | 88 | 70-130 |
| Tetrachloroethene | 98 | 70-130 |
| 2-Hexanone | 89 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 2001068A-07A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j010805** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/8/20 10:13 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 99 | 70-130 |
| 1,2-Dibromoethane (EDB) | 92 | 70-130 |
| Chlorobenzene | 95 | 70-130 |
| Ethyl Benzene | 95 | 70-130 |
| m,p-Xylene | 91 | 70-130 |
| o-Xylene | 93 | 70-130 |
| Styrene | 94 | 70-130 |
| Bromoform | 109 | 70-130 |
| Cumene | 96 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 90 | 70-130 |
| Propylbenzene | 94 | 70-130 |
| 4-Ethyltoluene | 106 | 70-130 |
| 1,3,5-Trimethylbenzene | 98 | 70-130 |
| 1,2,4-Trimethylbenzene | 96 | 70-130 |
| 1,3-Dichlorobenzene | 111 | 70-130 |
| 1,4-Dichlorobenzene | 114 | 70-130 |
| alpha-Chlorotoluene | 103 | 70-130 |
| 1,2-Dichlorobenzene | 111 | 70-130 |
| 1,2,4-Trichlorobenzene | 129 | 70-130 |
| Hexachlorobutadiene | 131 Q | 70-130 |
| Naphthalene | 117 | 60-140 |
| TPH ref. to Gasoline (MW=100) | Not Spiked | |

Q = Exceeds Quality Control limits.

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 93 | 70-130 |
| Toluene-d8 | 97 | 70-130 |
| 4-Bromofluorobenzene | 109 | 70-130 |

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**Client Sample ID: LCSD**
**Lab ID#: 2001068A-07AA**
**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j010806** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/8/20 10:50 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 94 | 70-130 |
| Freon 114 | 102 | 70-130 |
| Chloromethane | 106 | 70-130 |
| Vinyl Chloride | 90 | 70-130 |
| 1,3-Butadiene | 85 | 70-130 |
| Bromomethane | 99 | 70-130 |
| Chloroethane | 101 | 70-130 |
| Freon 11 | 104 | 70-130 |
| Ethanol | 107 | 70-130 |
| Freon 113 | 102 | 70-130 |
| 1,1-Dichloroethene | 101 | 70-130 |
| Acetone | 109 | 70-130 |
| 2-Propanol | 104 | 70-130 |
| Carbon Disulfide | 97 | 70-130 |
| 3-Chloropropene | 97 | 70-130 |
| Methylene Chloride | 109 | 70-130 |
| Methyl tert-butyl ether | 94 | 70-130 |
| trans-1,2-Dichloroethene | 101 | 70-130 |
| Hexane | 94 | 70-130 |
| 1,1-Dichloroethane | 96 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 94 | 70-130 |
| cis-1,2-Dichloroethene | 90 | 70-130 |
| Tetrahydrofuran | 92 | 70-130 |
| Chloroform | 92 | 70-130 |
| 1,1,1-Trichloroethane | 93 | 70-130 |
| Cyclohexane | 93 | 70-130 |
| Carbon Tetrachloride | 96 | 70-130 |
| 2,2,4-Trimethylpentane | 93 | 70-130 |
| Benzene | 90 | 70-130 |
| 1,2-Dichloroethane | 91 | 70-130 |
| Heptane | 86 | 70-130 |
| Trichloroethene | 90 | 70-130 |
| 1,2-Dichloropropane | 88 | 70-130 |
| 1,4-Dioxane | 93 | 70-130 |
| Bromodichloromethane | 88 | 70-130 |
| cis-1,3-Dichloropropene | 89 | 70-130 |
| 4-Methyl-2-pentanone | 84 | 70-130 |
| Toluene | 88 | 70-130 |
| trans-1,3-Dichloropropene | 88 | 70-130 |
| 1,1,2-Trichloroethane | 88 | 70-130 |
| Tetrachloroethene | 98 | 70-130 |
| 2-Hexanone | 87 | 70-130 |

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**Client Sample ID: LCSD**
**Lab ID#: 2001068A-07AA**
**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j010806** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/8/20 10:50 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 102 | 70-130 |
| 1,2-Dibromoethane (EDB) | 94 | 70-130 |
| Chlorobenzene | 97 | 70-130 |
| Ethyl Benzene | 93 | 70-130 |
| m,p-Xylene | 92 | 70-130 |
| o-Xylene | 93 | 70-130 |
| Styrene | 94 | 70-130 |
| Bromoform | 111 | 70-130 |
| Cumene | 96 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 90 | 70-130 |
| Propylbenzene | 95 | 70-130 |
| 4-Ethyltoluene | 105 | 70-130 |
| 1,3,5-Trimethylbenzene | 95 | 70-130 |
| 1,2,4-Trimethylbenzene | 97 | 70-130 |
| 1,3-Dichlorobenzene | 112 | 70-130 |
| 1,4-Dichlorobenzene | 116 | 70-130 |
| alpha-Chlorotoluene | 102 | 70-130 |
| 1,2-Dichlorobenzene | 114 | 70-130 |
| 1,2,4-Trichlorobenzene | 128 | 70-130 |
| Hexachlorobutadiene | 133 Q | 70-130 |
| Naphthalene | 118 | 60-140 |
| TPH ref. to Gasoline (MW=100) | Not Spiked | |

Q = Exceeds Quality Control limits.

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 91 | 70-130 |
| Toluene-d8 | 95 | 70-130 |
| 4-Bromofluorobenzene | 113 | 70-130 |

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1/24/2020
Mr. Chris Rhea
EES Environmental Consulting, Inc.
240 N Broadway
Suite 203
Portland OR 97227

Project Name: pp#112
Project #: 1179-04
Workorder #: 2001219A

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 1/13/2020 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 #: 2001219A

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 | **BILL TO:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 |
| **PHONE:** | 530-847-2740 | **P.O. #** | |
| **FAX:** | | **PROJECT #** | 1179-04 pp#112 |
| **DATE RECEIVED:** | 01/13/2020 | **CONTACT:** | Kelly Buettner |
| **DATE COMPLETED:** | 01/24/2020 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 01A | SVE-6 | TO-15 | 5.0 "Hg | 15 psi |
| 02A | SVE-7 | TO-15 | 3.5 "Hg | 15 psi |
| 03A | SVE-8 | TO-15 | 5.5 "Hg | 15 psi |
| 04A | AWS INLET | TO-15 | 4.5 "Hg | 15 psi |
| 05A | Lab Blank | TO-15 | NA | NA |
| 06A | CCV | TO-15 | NA | NA |
| 07A | LCS | TO-15 | NA | NA |
| 07AA | LCSD | TO-15 | NA | NA |

CERTIFIED BY: Heidi Hayes DATE: 01/24/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC 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) 351-8279

**LABORATORY NARRATIVE**
**EPA Method TO-15**
**EES Environmental Consulting, Inc.**
**Workorder# 2001219A**

Four 1 Liter Summa Canister samples were received on January 13, 2020. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

## Receiving Notes

There were no receiving discrepancies.

## Analytical Notes

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

Dilution was performed on samples SVE-6, SVE-7, SVE-8 and AWS INLET due to the presence of high level target species.

## Definition of Data Qualifying Flags

Ten 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.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

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

**Client Sample ID: SVE-6**

**Lab ID#: 2001219A-01A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 480 | 41000 | 2000 | 170000 |

**Client Sample ID: SVE-7**

**Lab ID#: 2001219A-02A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 460 | 430000 | 1900 | 1800000 |

**Client Sample ID: SVE-8**

**Lab ID#: 2001219A-03A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 490 | 1300000 | 2000 | 5300000 |

**Client Sample ID: AWS INLET**

**Lab ID#: 2001219A-04A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Ethanol | 48 | 120 | 90 | 220 |
| Acetone | 48 | 430 | 110 | 1000 |
| 2-Butanone (Methyl Ethyl Ketone) | 48 | 140 | 140 | 400 |
| Tetrahydrofuran | 12 | 380 | 35 | 1100 |
| Heptane | 12 | 410 | 49 | 1700 |
| Cumene | 12 | 34 | 58 | 170 |
| Propylbenzene | 12 | 57 | 58 | 280 |
| 4-Ethyltoluene | 12 | 14 | 58 | 69 |
| 1,2,4-Trimethylbenzene | 12 | 81 | 58 | 400 |
| TPH ref. to Gasoline (MW=100) | 480 | 330000 | 1900 | 1300000 |

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**Client Sample ID: SVE-6**

**Lab ID#: 2001219A-01A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **14012014** | **Date of Collection: 1/10/20 12:25:00 PM** | |
| **Dil. Factor:** | **2.42** | **Date of Analysis: 1/20/20 04:54 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 12 | Not Detected | 39 | Not Detected |
| Toluene | 12 | Not Detected | 46 | Not Detected |
| Ethyl Benzene | 12 | Not Detected | 52 | Not Detected |
| m,p-Xylene | 12 | Not Detected | 52 | Not Detected |
| o-Xylene | 12 | Not Detected | 52 | Not Detected |
| Naphthalene | 48 | Not Detected | 250 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 480 | 41000 | 2000 | 170000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 115 | 70-130 |
| Toluene-d8 | 99 | 70-130 |
| 4-Bromofluorobenzene | 96 | 70-130 |

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**Client Sample ID: SVE-7**

**Lab ID#: 2001219A-02A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **14012015** | **Date of Collection: 1/10/20 12:33:00 PM** | |
| **Dil. Factor:** | **2.29** | **Date of Analysis: 1/20/20 05:17 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 11 | Not Detected | 36 | Not Detected |
| Toluene | 11 | Not Detected | 43 | Not Detected |
| Ethyl Benzene | 11 | Not Detected | 50 | Not Detected |
| m,p-Xylene | 11 | Not Detected | 50 | Not Detected |
| o-Xylene | 11 | Not Detected | 50 | Not Detected |
| Naphthalene | 46 | Not Detected | 240 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 460 | 430000 | 1900 | 1800000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 120 | 70-130 |
| Toluene-d8 | 108 | 70-130 |
| 4-Bromofluorobenzene | 98 | 70-130 |

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**Client Sample ID: SVE-8**

**Lab ID#: 2001219A-03A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **14012016** | **Date of Collection: 1/10/20 12:43:00 PM** | |
| **Dil. Factor:** | **2.47** | **Date of Analysis: 1/20/20 06:03 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 12 | Not Detected | 39 | Not Detected |
| Toluene | 12 | Not Detected | 46 | Not Detected |
| Ethyl Benzene | 12 | Not Detected | 54 | Not Detected |
| m,p-Xylene | 12 | Not Detected | 54 | Not Detected |
| o-Xylene | 12 | Not Detected | 54 | Not Detected |
| Naphthalene | 49 | Not Detected | 260 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 490 | 1300000 | 2000 | 5300000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 121 | 70-130 |
| Toluene-d8 | 102 | 70-130 |
| 4-Bromofluorobenzene | 99 | 70-130 |

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**Client Sample ID: AWS INLET**

**Lab ID#: 2001219A-04A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **14012017** | **Date of Collection:** | **1/10/20 12:53:00 PM** |
| **Dil. Factor:** | **2.38** | **Date of Analysis:** | **1/20/20 06:25 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 12 | Not Detected | 59 | Not Detected |
| Freon 114 | 12 | Not Detected | 83 | Not Detected |
| Chloromethane | 48 | Not Detected | 98 | Not Detected |
| Vinyl Chloride | 12 | Not Detected | 30 | Not Detected |
| 1,3-Butadiene | 12 | Not Detected | 26 | Not Detected |
| Bromomethane | 48 | Not Detected | 180 | Not Detected |
| Chloroethane | 48 | Not Detected | 120 | Not Detected |
| Freon 11 | 12 | Not Detected | 67 | Not Detected |
| Ethanol | 48 | 120 | 90 | 220 |
| Freon 113 | 12 | Not Detected | 91 | Not Detected |
| 1,1-Dichloroethene | 12 | Not Detected | 47 | Not Detected |
| Acetone | 48 | 430 | 110 | 1000 |
| 2-Propanol | 48 | Not Detected | 120 | Not Detected |
| Carbon Disulfide | 48 | Not Detected | 150 | Not Detected |
| 3-Chloropropene | 48 | Not Detected | 150 | Not Detected |
| Methylene Chloride | 48 | Not Detected | 160 | Not Detected |
| Methyl tert-butyl ether | 12 | Not Detected | 43 | Not Detected |
| trans-1,2-Dichloroethene | 12 | Not Detected | 47 | Not Detected |
| Hexane | 12 | Not Detected | 42 | Not Detected |
| 1,1-Dichloroethane | 12 | Not Detected | 48 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 48 | 140 | 140 | 400 |
| cis-1,2-Dichloroethene | 12 | Not Detected | 47 | Not Detected |
| Tetrahydrofuran | 12 | 380 | 35 | 1100 |
| Chloroform | 12 | Not Detected | 58 | Not Detected |
| 1,1,1-Trichloroethane | 12 | Not Detected | 65 | Not Detected |
| Cyclohexane | 12 | Not Detected | 41 | Not Detected |
| Carbon Tetrachloride | 12 | Not Detected | 75 | Not Detected |
| 2,2,4-Trimethylpentane | 12 | Not Detected | 56 | Not Detected |
| Benzene | 12 | Not Detected | 38 | Not Detected |
| 1,2-Dichloroethane | 12 | Not Detected | 48 | Not Detected |
| Heptane | 12 | 410 | 49 | 1700 |
| Trichloroethene | 12 | Not Detected | 64 | Not Detected |
| 1,2-Dichloropropane | 12 | Not Detected | 55 | Not Detected |
| 1,4-Dioxane | 48 | Not Detected | 170 | Not Detected |
| Bromodichloromethane | 12 | Not Detected | 80 | Not Detected |
| cis-1,3-Dichloropropene | 12 | Not Detected | 54 | Not Detected |
| 4-Methyl-2-pentanone | 12 | Not Detected | 49 | Not Detected |
| Toluene | 12 | Not Detected | 45 | Not Detected |
| trans-1,3-Dichloropropene | 12 | Not Detected | 54 | Not Detected |
| 1,1,2-Trichloroethane | 12 | Not Detected | 65 | Not Detected |
| Tetrachloroethene | 12 | Not Detected | 81 | Not Detected |
| 2-Hexanone | 48 | Not Detected | 190 | Not Detected |

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**Client Sample ID: AWS INLET**

**Lab ID#: 2001219A-04A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **14012017** | **Date of Collection:** | **1/10/20 12:53:00 PM** |
| **Dil. Factor:** | **2.38** | **Date of Analysis:** | **1/20/20 06:25 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Dibromochloromethane | 12 | Not Detected | 100 | Not Detected |
| 1,2-Dibromoethane (EDB) | 12 | Not Detected | 91 | Not Detected |
| Chlorobenzene | 12 | Not Detected | 55 | Not Detected |
| Ethyl Benzene | 12 | Not Detected | 52 | Not Detected |
| m,p-Xylene | 12 | Not Detected | 52 | Not Detected |
| o-Xylene | 12 | Not Detected | 52 | Not Detected |
| Styrene | 12 | Not Detected | 51 | Not Detected |
| Bromoform | 12 | Not Detected | 120 | Not Detected |
| Cumene | 12 | 34 | 58 | 170 |
| 1,1,2,2-Tetrachloroethane | 12 | Not Detected | 82 | Not Detected |
| Propylbenzene | 12 | 57 | 58 | 280 |
| 4-Ethyltoluene | 12 | 14 | 58 | 69 |
| 1,3,5-Trimethylbenzene | 12 | Not Detected | 58 | Not Detected |
| 1,2,4-Trimethylbenzene | 12 | 81 | 58 | 400 |
| 1,3-Dichlorobenzene | 12 | Not Detected | 72 | Not Detected |
| 1,4-Dichlorobenzene | 12 | Not Detected | 72 | Not Detected |
| alpha-Chlorotoluene | 12 | Not Detected | 62 | Not Detected |
| 1,2-Dichlorobenzene | 12 | Not Detected | 72 | Not Detected |
| 1,2,4-Trichlorobenzene | 48 | Not Detected | 350 | Not Detected |
| Hexachlorobutadiene | 48 | Not Detected | 510 | Not Detected |
| Naphthalene | 48 | Not Detected | 250 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 480 | 330000 | 1900 | 1300000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 119 | 70-130 |
| Toluene-d8 | 107 | 70-130 |
| 4-Bromofluorobenzene | 96 | 70-130 |

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**Client Sample ID: Lab Blank**

**Lab ID#: 2001219A-05A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **14012007** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/20/20 10:38 AM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 5.0 | Not Detected | 25 | Not Detected |
| Freon 114 | 5.0 | Not Detected | 35 | Not Detected |
| Chloromethane | 20 | Not Detected | 41 | Not Detected |
| Vinyl Chloride | 5.0 | Not Detected | 13 | Not Detected |
| 1,3-Butadiene | 5.0 | Not Detected | 11 | Not Detected |
| Bromomethane | 20 | Not Detected | 78 | Not Detected |
| Chloroethane | 20 | Not Detected | 53 | Not Detected |
| Freon 11 | 5.0 | Not Detected | 28 | Not Detected |
| Ethanol | 20 | Not Detected | 38 | Not Detected |
| Freon 113 | 5.0 | Not Detected | 38 | Not Detected |
| 1,1-Dichloroethene | 5.0 | Not Detected | 20 | Not Detected |
| Acetone | 20 | Not Detected | 48 | Not Detected |
| 2-Propanol | 20 | Not Detected | 49 | Not Detected |
| Carbon Disulfide | 20 | Not Detected | 62 | Not Detected |
| 3-Chloropropene | 20 | Not Detected | 63 | Not Detected |
| Methylene Chloride | 20 | Not Detected | 69 | Not Detected |
| Methyl tert-butyl ether | 5.0 | Not Detected | 18 | Not Detected |
| trans-1,2-Dichloroethene | 5.0 | Not Detected | 20 | Not Detected |
| Hexane | 5.0 | Not Detected | 18 | Not Detected |
| 1,1-Dichloroethane | 5.0 | Not Detected | 20 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 20 | Not Detected | 59 | Not Detected |
| cis-1,2-Dichloroethene | 5.0 | Not Detected | 20 | Not Detected |
| Tetrahydrofuran | 5.0 | Not Detected | 15 | Not Detected |
| Chloroform | 5.0 | Not Detected | 24 | Not Detected |
| 1,1,1-Trichloroethane | 5.0 | Not Detected | 27 | Not Detected |
| Cyclohexane | 5.0 | Not Detected | 17 | Not Detected |
| Carbon Tetrachloride | 5.0 | Not Detected | 31 | Not Detected |
| 2,2,4-Trimethylpentane | 5.0 | Not Detected | 23 | Not Detected |
| Benzene | 5.0 | Not Detected | 16 | Not Detected |
| 1,2-Dichloroethane | 5.0 | Not Detected | 20 | Not Detected |
| Heptane | 5.0 | Not Detected | 20 | Not Detected |
| Trichloroethene | 5.0 | Not Detected | 27 | Not Detected |
| 1,2-Dichloropropane | 5.0 | Not Detected | 23 | Not Detected |
| 1,4-Dioxane | 20 | Not Detected | 72 | Not Detected |
| Bromodichloromethane | 5.0 | Not Detected | 34 | Not Detected |
| cis-1,3-Dichloropropene | 5.0 | Not Detected | 23 | Not Detected |
| 4-Methyl-2-pentanone | 5.0 | Not Detected | 20 | Not Detected |
| Toluene | 5.0 | Not Detected | 19 | Not Detected |
| trans-1,3-Dichloropropene | 5.0 | Not Detected | 23 | Not Detected |
| 1,1,2-Trichloroethane | 5.0 | Not Detected | 27 | Not Detected |
| Tetrachloroethene | 5.0 | Not Detected | 34 | Not Detected |
| 2-Hexanone | 20 | Not Detected | 82 | Not Detected |

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**Client Sample ID: Lab Blank**

**Lab ID#: 2001219A-05A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **14012007** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/20/20 10:38 AM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Dibromochloromethane | 5.0 | Not Detected | 42 | Not Detected |
| 1,2-Dibromoethane (EDB) | 5.0 | Not Detected | 38 | Not Detected |
| Chlorobenzene | 5.0 | Not Detected | 23 | Not Detected |
| Ethyl Benzene | 5.0 | Not Detected | 22 | Not Detected |
| m,p-Xylene | 5.0 | Not Detected | 22 | Not Detected |
| o-Xylene | 5.0 | Not Detected | 22 | Not Detected |
| Styrene | 5.0 | Not Detected | 21 | Not Detected |
| Bromoform | 5.0 | Not Detected | 52 | Not Detected |
| Cumene | 5.0 | Not Detected | 24 | Not Detected |
| 1,1,2,2-Tetrachloroethane | 5.0 | Not Detected | 34 | Not Detected |
| Propylbenzene | 5.0 | Not Detected | 24 | Not Detected |
| 4-Ethyltoluene | 5.0 | Not Detected | 24 | Not Detected |
| 1,3,5-Trimethylbenzene | 5.0 | Not Detected | 24 | Not Detected |
| 1,2,4-Trimethylbenzene | 5.0 | Not Detected | 24 | Not Detected |
| 1,3-Dichlorobenzene | 5.0 | Not Detected | 30 | Not Detected |
| 1,4-Dichlorobenzene | 5.0 | Not Detected | 30 | Not Detected |
| alpha-Chlorotoluene | 5.0 | Not Detected | 26 | Not Detected |
| 1,2-Dichlorobenzene | 5.0 | Not Detected | 30 | Not Detected |
| 1,2,4-Trichlorobenzene | 20 | Not Detected | 150 | Not Detected |
| Hexachlorobutadiene | 20 | Not Detected | 210 | Not Detected |
| Naphthalene | 20 | Not Detected | 100 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 200 | Not Detected | 820 | Not Detected |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 112 | 70-130 |
| Toluene-d8 | 97 | 70-130 |
| 4-Bromofluorobenzene | 98 | 70-130 |

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**Client Sample ID: CCV**
**Lab ID#: 2001219A-06A**
**EPA METHOD TO-15 GC/MS**

| | | |
|---|---|---|
| **File Name:** | **14012002** | **Date of Collection: NA** |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/20/20 07:39 AM** |

| Compound | %Recovery |
|---|---|
| Freon 12 | 100 |
| Freon 114 | 98 |
| Chloromethane | 106 |
| Vinyl Chloride | 94 |
| 1,3-Butadiene | 106 |
| Bromomethane | 99 |
| Chloroethane | 93 |
| Freon 11 | 113 |
| Ethanol | 102 |
| Freon 113 | 102 |
| 1,1-Dichloroethene | 107 |
| Acetone | 108 |
| 2-Propanol | 105 |
| Carbon Disulfide | 98 |
| 3-Chloropropene | 96 |
| Methylene Chloride | 110 |
| Methyl tert-butyl ether | 110 |
| trans-1,2-Dichloroethene | 91 |
| Hexane | 106 |
| 1,1-Dichloroethane | 104 |
| 2-Butanone (Methyl Ethyl Ketone) | 92 |
| cis-1,2-Dichloroethene | 107 |
| Tetrahydrofuran | 101 |
| Chloroform | 101 |
| 1,1,1-Trichloroethane | 106 |
| Cyclohexane | 98 |
| Carbon Tetrachloride | 108 |
| 2,2,4-Trimethylpentane | 104 |
| Benzene | 96 |
| 1,2-Dichloroethane | 102 |
| Heptane | 91 |
| Trichloroethene | 97 |
| 1,2-Dichloropropane | 94 |
| 1,4-Dioxane | 96 |
| Bromodichloromethane | 96 |
| cis-1,3-Dichloropropene | 94 |
| 4-Methyl-2-pentanone | 80 |
| Toluene | 95 |
| trans-1,3-Dichloropropene | 101 |
| 1,1,2-Trichloroethane | 88 |
| Tetrachloroethene | 96 |
| 2-Hexanone | 93 |

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**Client Sample ID: CCV**
**Lab ID#: 2001219A-06A**
**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **14012002** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/20/20 07:39 AM** | |

| Compound | %Recovery |
|---|---|
| Dibromochloromethane | 95 |
| 1,2-Dibromoethane (EDB) | 94 |
| Chlorobenzene | 91 |
| Ethyl Benzene | 94 |
| m,p-Xylene | 93 |
| o-Xylene | 91 |
| Styrene | 95 |
| Bromoform | 93 |
| Cumene | 94 |
| 1,1,2,2-Tetrachloroethane | 91 |
| Propylbenzene | 93 |
| 4-Ethyltoluene | 93 |
| 1,3,5-Trimethylbenzene | 97 |
| 1,2,4-Trimethylbenzene | 88 |
| 1,3-Dichlorobenzene | 92 |
| 1,4-Dichlorobenzene | 92 |
| alpha-Chlorotoluene | 90 |
| 1,2-Dichlorobenzene | 90 |
| 1,2,4-Trichlorobenzene | 93 |
| Hexachlorobutadiene | 89 |
| Naphthalene | 81 |
| TPH ref. to Gasoline (MW=100) | 100 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | 70-130 |
| Toluene-d8 | 99 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 2001219A-07A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **14012003** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/20/20 08:48 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 105 | 70-130 |
| Freon 114 | 106 | 70-130 |
| Chloromethane | 105 | 70-130 |
| Vinyl Chloride | 99 | 70-130 |
| 1,3-Butadiene | 108 | 70-130 |
| Bromomethane | 91 | 70-130 |
| Chloroethane | 101 | 70-130 |
| Freon 11 | 119 | 70-130 |
| Ethanol | 118 | 70-130 |
| Freon 113 | 108 | 70-130 |
| 1,1-Dichloroethene | 111 | 70-130 |
| Acetone | 112 | 70-130 |
| 2-Propanol | 112 | 70-130 |
| Carbon Disulfide | 105 | 70-130 |
| 3-Chloropropene | 99 | 70-130 |
| Methylene Chloride | 112 | 70-130 |
| Methyl tert-butyl ether | 104 | 70-130 |
| trans-1,2-Dichloroethene | 103 | 70-130 |
| Hexane | 110 | 70-130 |
| 1,1-Dichloroethane | 110 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 99 | 70-130 |
| cis-1,2-Dichloroethene | 103 | 70-130 |
| Tetrahydrofuran | 105 | 70-130 |
| Chloroform | 106 | 70-130 |
| 1,1,1-Trichloroethane | 112 | 70-130 |
| Cyclohexane | 107 | 70-130 |
| Carbon Tetrachloride | 110 | 70-130 |
| 2,2,4-Trimethylpentane | 111 | 70-130 |
| Benzene | 102 | 70-130 |
| 1,2-Dichloroethane | 108 | 70-130 |
| Heptane | 101 | 70-130 |
| Trichloroethene | 103 | 70-130 |
| 1,2-Dichloropropane | 100 | 70-130 |
| 1,4-Dioxane | 104 | 70-130 |
| Bromodichloromethane | 103 | 70-130 |
| cis-1,3-Dichloropropene | 103 | 70-130 |
| 4-Methyl-2-pentanone | 94 | 70-130 |
| Toluene | 99 | 70-130 |
| trans-1,3-Dichloropropene | 99 | 70-130 |
| 1,1,2-Trichloroethane | 95 | 70-130 |
| Tetrachloroethene | 99 | 70-130 |
| 2-Hexanone | 100 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 2001219A-07A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **14012003** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/20/20 08:48 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 102 | 70-130 |
| 1,2-Dibromoethane (EDB) | 102 | 70-130 |
| Chlorobenzene | 96 | 70-130 |
| Ethyl Benzene | 98 | 70-130 |
| m,p-Xylene | 101 | 70-130 |
| o-Xylene | 100 | 70-130 |
| Styrene | 103 | 70-130 |
| Bromoform | 102 | 70-130 |
| Cumene | 99 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 98 | 70-130 |
| Propylbenzene | 99 | 70-130 |
| 4-Ethyltoluene | 100 | 70-130 |
| 1,3,5-Trimethylbenzene | 103 | 70-130 |
| 1,2,4-Trimethylbenzene | 91 | 70-130 |
| 1,3-Dichlorobenzene | 96 | 70-130 |
| 1,4-Dichlorobenzene | 100 | 70-130 |
| alpha-Chlorotoluene | 99 | 70-130 |
| 1,2-Dichlorobenzene | 95 | 70-130 |
| 1,2,4-Trichlorobenzene | 72 | 70-130 |
| Hexachlorobutadiene | 78 | 70-130 |
| Naphthalene | 73 | 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 | 98 | 70-130 |
| 4-Bromofluorobenzene | 96 | 70-130 |

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**Client Sample ID: LCSD**
**Lab ID#: 2001219A-07AA**
**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **14012004** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/20/20 09:11 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 110 | 70-130 |
| Freon 114 | 109 | 70-130 |
| Chloromethane | 112 | 70-130 |
| Vinyl Chloride | 104 | 70-130 |
| 1,3-Butadiene | 112 | 70-130 |
| Bromomethane | 108 | 70-130 |
| Chloroethane | 100 | 70-130 |
| Freon 11 | 124 | 70-130 |
| Ethanol | 116 | 70-130 |
| Freon 113 | 111 | 70-130 |
| 1,1-Dichloroethene | 115 | 70-130 |
| Acetone | 113 | 70-130 |
| 2-Propanol | 116 | 70-130 |
| Carbon Disulfide | 108 | 70-130 |
| 3-Chloropropene | 109 | 70-130 |
| Methylene Chloride | 119 | 70-130 |
| Methyl tert-butyl ether | 115 | 70-130 |
| trans-1,2-Dichloroethene | 108 | 70-130 |
| Hexane | 115 | 70-130 |
| 1,1-Dichloroethane | 110 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 101 | 70-130 |
| cis-1,2-Dichloroethene | 104 | 70-130 |
| Tetrahydrofuran | 105 | 70-130 |
| Chloroform | 110 | 70-130 |
| 1,1,1-Trichloroethane | 116 | 70-130 |
| Cyclohexane | 105 | 70-130 |
| Carbon Tetrachloride | 114 | 70-130 |
| 2,2,4-Trimethylpentane | 113 | 70-130 |
| Benzene | 100 | 70-130 |
| 1,2-Dichloroethane | 108 | 70-130 |
| Heptane | 101 | 70-130 |
| Trichloroethene | 106 | 70-130 |
| 1,2-Dichloropropane | 100 | 70-130 |
| 1,4-Dioxane | 102 | 70-130 |
| Bromodichloromethane | 105 | 70-130 |
| cis-1,3-Dichloropropene | 105 | 70-130 |
| 4-Methyl-2-pentanone | 90 | 70-130 |
| Toluene | 100 | 70-130 |
| trans-1,3-Dichloropropene | 105 | 70-130 |
| 1,1,2-Trichloroethane | 96 | 70-130 |
| Tetrachloroethene | 100 | 70-130 |
| 2-Hexanone | 101 | 70-130 |

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**Client Sample ID: LCSD**
**Lab ID#: 2001219A-07AA**
**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **14012004** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/20/20 09:11 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 103 | 70-130 |
| 1,2-Dibromoethane (EDB) | 103 | 70-130 |
| Chlorobenzene | 96 | 70-130 |
| Ethyl Benzene | 101 | 70-130 |
| m,p-Xylene | 102 | 70-130 |
| o-Xylene | 100 | 70-130 |
| Styrene | 102 | 70-130 |
| Bromoform | 101 | 70-130 |
| Cumene | 100 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 100 | 70-130 |
| Propylbenzene | 99 | 70-130 |
| 4-Ethyltoluene | 102 | 70-130 |
| 1,3,5-Trimethylbenzene | 104 | 70-130 |
| 1,2,4-Trimethylbenzene | 93 | 70-130 |
| 1,3-Dichlorobenzene | 97 | 70-130 |
| 1,4-Dichlorobenzene | 99 | 70-130 |
| alpha-Chlorotoluene | 100 | 70-130 |
| 1,2-Dichlorobenzene | 95 | 70-130 |
| 1,2,4-Trichlorobenzene | 83 | 70-130 |
| Hexachlorobutadiene | 80 | 70-130 |
| Naphthalene | 86 | 60-140 |
| TPH ref. to Gasoline (MW=100) | Not Spiked | |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | 70-130 |
| Toluene-d8 | 99 | 70-130 |
| 4-Bromofluorobenzene | 98 | 70-130 |

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2/4/2020
Mr. Chris Rhea
EES Environmental Consulting, Inc.
240 N Broadway
Suite 203
Portland OR 97227

Project Name: PP # 12
Project #: 1179-04
Workorder #: 2001459

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 1/22/2020 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 #: 2001459

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 | **BILL TO:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 |
| **PHONE:** | 530-847-2740 | **P.O. #** | |
| **FAX:** | | **PROJECT #** | 1179-04 PP # 12 |
| **DATE RECEIVED:** | 01/22/2020 | **CONTACT:** | Kelly Buettner |
| **DATE COMPLETED:** | 02/04/2020 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 01A | SVE-6 | TO-15 | 6.0 "Hg | 15 psi |
| 02A | SVE-7 | TO-15 | 5.5 "Hg | 15 psi |
| 03A | SVE-8 | TO-15 | 6.0 "Hg | 15 psi |
| 04A | AWS INLET | TO-15 | 4.0 "Hg | 15 psi |
| 05A | Lab Blank | TO-15 | NA | NA |
| 06A | CCV | TO-15 | NA | NA |
| 07A | LCS | TO-15 | NA | NA |
| 07AA | LCSD | TO-15 | NA | NA |

CERTIFIED BY: Heidi Hayes DATE: 02/04/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC 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) 351-8279

**LABORATORY NARRATIVE**
**EPA Method TO-15**
**EES Environmental Consulting, Inc.**
**Workorder# 2001459**

Four 1 Liter Summa Canister samples were received on January 22, 2020. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

## Receiving Notes

There were no receiving discrepancies.

## Analytical Notes

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

Dilution was performed on samples SVE-6, SVE-7 and SVE-8 due to the presence of high level target species.

## Definition of Data Qualifying Flags

Ten 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.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

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-6**

**Lab ID#: 2001459-01A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 2100 | 180000 | 8600 | 740000 |

**Client Sample ID: SVE-7**

**Lab ID#: 2001459-02A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 310 | 220000 | 1300 | 900000 |

**Client Sample ID: SVE-8**

**Lab ID#: 2001459-03A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 840 | 700000 | 3400 | 2900000 |

**Client Sample ID: AWS INLET**

**Lab ID#: 2001459-04A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Ethanol | 4.7 | 70 | 8.8 | 130 |
| Acetone | 12 | 100 | 28 | 240 |
| Carbon Disulfide | 4.7 | 20 | 14 | 62 |
| Hexane | 1.2 | 2.4 | 4.1 | 8.6 |
| 2-Butanone (Methyl Ethyl Ketone) | 4.7 | 58 | 14 | 170 |
| Tetrahydrofuran | 1.2 | 140 | 3.4 | 410 |
| Cyclohexane | 1.2 | 7.2 | 4.0 | 25 |
| Heptane | 1.2 | 100 | 4.8 | 420 |
| Tetrachloroethene | 1.2 | 4.9 | 7.9 | 33 |
| Cumene | 1.2 | 2.1 | 5.7 | 10 |
| Propylbenzene | 1.2 | 2.2 | 5.7 | 11 |
| 1,2,4-Trimethylbenzene | 1.2 | 2.7 | 5.7 | 13 |
| TPH ref. to Gasoline (MW=100) | 120 | 33000 | 480 | 130000 |

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**Client Sample ID: SVE-6**

**Lab ID#: 2001459-01A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **3012612** | **Date of Collection: 1/20/20 1:10:00 PM** | |
| **Dil. Factor:** | **42.1** | **Date of Analysis: 1/26/20 03:13 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 21 | Not Detected | 67 | Not Detected |
| Ethyl Benzene | 21 | Not Detected | 91 | Not Detected |
| Toluene | 21 | Not Detected | 79 | Not Detected |
| m,p-Xylene | 21 | Not Detected | 91 | Not Detected |
| o-Xylene | 21 | Not Detected | 91 | Not Detected |
| Naphthalene | 42 | Not Detected | 220 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 2100 | 180000 | 8600 | 740000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | 70-130 |
| Toluene-d8 | 96 | 70-130 |
| 4-Bromofluorobenzene | 99 | 70-130 |

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**Client Sample ID: SVE-7**

**Lab ID#: 2001459-02A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **3012610** | **Date of Collection: 1/20/20 1:18:00 PM** | |
| **Dil. Factor:** | **6.18** | **Date of Analysis: 1/26/20 02:25 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 3.1 | Not Detected | 9.9 | Not Detected |
| Ethyl Benzene | 3.1 | Not Detected | 13 | Not Detected |
| Toluene | 3.1 | Not Detected | 12 | Not Detected |
| m,p-Xylene | 3.1 | Not Detected | 13 | Not Detected |
| o-Xylene | 3.1 | Not Detected | 13 | Not Detected |
| Naphthalene | 6.2 | Not Detected | 32 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 310 | 220000 | 1300 | 900000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | 70-130 |
| Toluene-d8 | 94 | 70-130 |
| 4-Bromofluorobenzene | 104 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: SVE-8**

**Lab ID#: 2001459-03A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **3012611** | **Date of Collection: 1/20/20 1:24:00 PM** | |
| **Dil. Factor:** | **16.8** | **Date of Analysis: 1/26/20 02:49 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 8.4 | Not Detected | 27 | Not Detected |
| Ethyl Benzene | 8.4 | Not Detected | 36 | Not Detected |
| Toluene | 8.4 | Not Detected | 32 | Not Detected |
| m,p-Xylene | 8.4 | Not Detected | 36 | Not Detected |
| o-Xylene | 8.4 | Not Detected | 36 | Not Detected |
| Naphthalene | 17 | Not Detected | 88 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 840 | 700000 | 3400 | 2900000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | 70-130 |
| Toluene-d8 | 96 | 70-130 |
| 4-Bromofluorobenzene | 103 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: AWS INLET**

**Lab ID#: 2001459-04A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **3012609** | **Date of Collection:** | **1/20/20 1:35:00 PM** |
| **Dil. Factor:** | **2.33** | **Date of Analysis:** | **1/26/20 02:01 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 1.2 | Not Detected | 5.8 | Not Detected |
| Freon 114 | 1.2 | Not Detected | 8.1 | Not Detected |
| Chloromethane | 12 | Not Detected | 24 | Not Detected |
| Vinyl Chloride | 1.2 | Not Detected | 3.0 | Not Detected |
| 1,3-Butadiene | 1.2 | Not Detected | 2.6 | Not Detected |
| Bromomethane | 12 | Not Detected | 45 | Not Detected |
| Chloroethane | 4.7 | Not Detected | 12 | Not Detected |
| Freon 11 | 1.2 | Not Detected | 6.5 | Not Detected |
| Ethanol | 4.7 | 70 | 8.8 | 130 |
| Freon 113 | 1.2 | Not Detected | 8.9 | Not Detected |
| 1,1-Dichloroethene | 1.2 | Not Detected | 4.6 | Not Detected |
| Acetone | 12 | 100 | 28 | 240 |
| 2-Propanol | 4.7 | Not Detected | 11 | Not Detected |
| Carbon Disulfide | 4.7 | 20 | 14 | 62 |
| 3-Chloropropene | 4.7 | Not Detected | 14 | Not Detected |
| Methylene Chloride | 12 | Not Detected | 40 | Not Detected |
| Methyl tert-butyl ether | 4.7 | Not Detected | 17 | Not Detected |
| trans-1,2-Dichloroethene | 1.2 | Not Detected | 4.6 | Not Detected |
| Hexane | 1.2 | 2.4 | 4.1 | 8.6 |
| 1,1-Dichloroethane | 1.2 | Not Detected | 4.7 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 4.7 | 58 | 14 | 170 |
| cis-1,2-Dichloroethene | 1.2 | Not Detected | 4.6 | Not Detected |
| Tetrahydrofuran | 1.2 | 140 | 3.4 | 410 |
| Chloroform | 1.2 | Not Detected | 5.7 | Not Detected |
| 1,1,1-Trichloroethane | 1.2 | Not Detected | 6.4 | Not Detected |
| Cyclohexane | 1.2 | 7.2 | 4.0 | 25 |
| Carbon Tetrachloride | 1.2 | Not Detected | 7.3 | Not Detected |
| 2,2,4-Trimethylpentane | 1.2 | Not Detected | 5.4 | Not Detected |
| Benzene | 1.2 | Not Detected | 3.7 | Not Detected |
| 1,2-Dichloroethane | 1.2 | Not Detected | 4.7 | Not Detected |
| Heptane | 1.2 | 100 | 4.8 | 420 |
| Trichloroethene | 1.2 | Not Detected | 6.3 | Not Detected |
| 1,2-Dichloropropane | 1.2 | Not Detected | 5.4 | Not Detected |
| 1,4-Dioxane | 4.7 | Not Detected | 17 | Not Detected |
| Bromodichloromethane | 1.2 | Not Detected | 7.8 | Not Detected |
| cis-1,3-Dichloropropene | 1.2 | Not Detected | 5.3 | Not Detected |
| 4-Methyl-2-pentanone | 1.2 | Not Detected | 4.8 | Not Detected |
| Toluene | 1.2 | Not Detected | 4.4 | Not Detected |
| trans-1,3-Dichloropropene | 1.2 | Not Detected | 5.3 | Not Detected |
| 1,1,2-Trichloroethane | 1.2 | Not Detected | 6.4 | Not Detected |
| Tetrachloroethene | 1.2 | 4.9 | 7.9 | 33 |
| 2-Hexanone | 4.7 | Not Detected | 19 | Not Detected |

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**Client Sample ID: AWS INLET**

**Lab ID#: 2001459-04A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **3012609** | **Date of Collection:** | **1/20/20 1:35:00 PM** |
| **Dil. Factor:** | **2.33** | **Date of Analysis:** | **1/26/20 02:01 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Dibromochloromethane | 1.2 | Not Detected | 9.9 | Not Detected |
| 1,2-Dibromoethane (EDB) | 1.2 | Not Detected | 9.0 | Not Detected |
| Chlorobenzene | 1.2 | Not Detected | 5.4 | Not Detected |
| Ethyl Benzene | 1.2 | Not Detected | 5.0 | Not Detected |
| m,p-Xylene | 1.2 | Not Detected | 5.0 | Not Detected |
| o-Xylene | 1.2 | Not Detected | 5.0 | Not Detected |
| Styrene | 1.2 | Not Detected | 5.0 | Not Detected |
| Bromoform | 1.2 | Not Detected | 12 | Not Detected |
| Cumene | 1.2 | 2.1 | 5.7 | 10 |
| 1,1,2,2-Tetrachloroethane | 1.2 | Not Detected | 8.0 | Not Detected |
| Propylbenzene | 1.2 | 2.2 | 5.7 | 11 |
| 4-Ethyltoluene | 1.2 | Not Detected | 5.7 | Not Detected |
| 1,3,5-Trimethylbenzene | 1.2 | Not Detected | 5.7 | Not Detected |
| 1,2,4-Trimethylbenzene | 1.2 | 2.7 | 5.7 | 13 |
| 1,3-Dichlorobenzene | 1.2 | Not Detected | 7.0 | Not Detected |
| 1,4-Dichlorobenzene | 1.2 | Not Detected | 7.0 | Not Detected |
| alpha-Chlorotoluene | 1.2 | Not Detected | 6.0 | Not Detected |
| 1,2-Dichlorobenzene | 1.2 | Not Detected | 7.0 | Not Detected |
| 1,2,4-Trichlorobenzene | 4.7 | Not Detected | 34 | Not Detected |
| Hexachlorobutadiene | 4.7 | Not Detected | 50 | Not Detected |
| Naphthalene | 2.3 | Not Detected | 12 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 120 | 33000 | 480 | 130000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 96 | 70-130 |
| 1,2-Dichloroethane-d4 | 104 | 70-130 |
| 4-Bromofluorobenzene | 104 | 70-130 |

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**Client Sample ID: Lab Blank**

**Lab ID#: 2001459-05A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **3012606** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/26/20 12:15 PM** | |

| 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#: 2001459-05A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **3012606** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/26/20 12:15 PM** | |

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

**Container Type: NA - Not Applicable**

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

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**Client Sample ID: CCV**

**Lab ID#: 2001459-06A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | |
|---|---|---|
| **File Name:** | **3012602** | **Date of Collection: NA** |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/26/20 09:53 AM** |

| Compound | %Recovery |
|---|---|
| Freon 12 | 101 |
| Freon 114 | 101 |
| Chloromethane | 105 |
| Vinyl Chloride | 91 |
| 1,3-Butadiene | 82 |
| Bromomethane | 102 |
| Chloroethane | 93 |
| Freon 11 | 106 |
| Ethanol | 100 |
| Freon 113 | 103 |
| 1,1-Dichloroethene | 95 |
| Acetone | 101 |
| 2-Propanol | 100 |
| Carbon Disulfide | 92 |
| 3-Chloropropene | 93 |
| Methylene Chloride | 106 |
| Methyl tert-butyl ether | 92 |
| trans-1,2-Dichloroethene | 98 |
| Hexane | 94 |
| 1,1-Dichloroethane | 97 |
| 2-Butanone (Methyl Ethyl Ketone) | 95 |
| cis-1,2-Dichloroethene | 100 |
| Tetrahydrofuran | 99 |
| Chloroform | 98 |
| 1,1,1-Trichloroethane | 100 |
| Cyclohexane | 94 |
| Carbon Tetrachloride | 110 |
| 2,2,4-Trimethylpentane | 98 |
| Benzene | 97 |
| 1,2-Dichloroethane | 107 |
| Heptane | 95 |
| Trichloroethene | 107 |
| 1,2-Dichloropropane | 103 |
| 1,4-Dioxane | 98 |
| Bromodichloromethane | 105 |
| cis-1,3-Dichloropropene | 101 |
| 4-Methyl-2-pentanone | 98 |
| Toluene | 94 |
| trans-1,3-Dichloropropene | 99 |
| 1,1,2-Trichloroethane | 102 |
| Tetrachloroethene | 106 |
| 2-Hexanone | 97 |

eurofins | Air Toxics

**Client Sample ID: CCV**

**Lab ID#: 2001459-06A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **3012602** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/26/20 09:53 AM** | |

| Compound | %Recovery |
|---|---|
| Dibromochloromethane | 107 |
| 1,2-Dibromoethane (EDB) | 105 |
| Chlorobenzene | 102 |
| Ethyl Benzene | 102 |
| m,p-Xylene | 104 |
| o-Xylene | 101 |
| Styrene | 100 |
| Bromoform | 113 |
| Cumene | 101 |
| 1,1,2,2-Tetrachloroethane | 102 |
| Propylbenzene | 102 |
| 4-Ethyltoluene | 104 |
| 1,3,5-Trimethylbenzene | 103 |
| 1,2,4-Trimethylbenzene | 103 |
| 1,3-Dichlorobenzene | 108 |
| 1,4-Dichlorobenzene | 109 |
| alpha-Chlorotoluene | 103 |
| 1,2-Dichlorobenzene | 108 |
| 1,2,4-Trichlorobenzene | 112 |
| Hexachlorobutadiene | 112 |
| Naphthalene | 99 |
| TPH ref. to Gasoline (MW=100) | 100 |

**Container Type: NA - Not Applicable**

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

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**Client Sample ID: LCS**

**Lab ID#: 2001459-07A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **3012603** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/26/20 10:30 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 96 | 70-130 |
| Freon 114 | 97 | 70-130 |
| Chloromethane | 102 | 70-130 |
| Vinyl Chloride | 90 | 70-130 |
| 1,3-Butadiene | 80 | 70-130 |
| Bromomethane | 102 | 70-130 |
| Chloroethane | 95 | 70-130 |
| Freon 11 | 102 | 70-130 |
| Ethanol | 85 | 70-130 |
| Freon 113 | 102 | 70-130 |
| 1,1-Dichloroethene | 96 | 70-130 |
| Acetone | 100 | 70-130 |
| 2-Propanol | 93 | 70-130 |
| Carbon Disulfide | 87 | 70-130 |
| 3-Chloropropene | 86 | 70-130 |
| Methylene Chloride | 103 | 70-130 |
| Methyl tert-butyl ether | 92 | 70-130 |
| trans-1,2-Dichloroethene | 88 | 70-130 |
| Hexane | 92 | 70-130 |
| 1,1-Dichloroethane | 96 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 92 | 70-130 |
| cis-1,2-Dichloroethene | 105 | 70-130 |
| Tetrahydrofuran | 92 | 70-130 |
| Chloroform | 98 | 70-130 |
| 1,1,1-Trichloroethane | 98 | 70-130 |
| Cyclohexane | 93 | 70-130 |
| Carbon Tetrachloride | 110 | 70-130 |
| 2,2,4-Trimethylpentane | 97 | 70-130 |
| Benzene | 92 | 70-130 |
| 1,2-Dichloroethane | 101 | 70-130 |
| Heptane | 93 | 70-130 |
| Trichloroethene | 99 | 70-130 |
| 1,2-Dichloropropane | 97 | 70-130 |
| 1,4-Dioxane | 96 | 70-130 |
| Bromodichloromethane | 98 | 70-130 |
| cis-1,3-Dichloropropene | 99 | 70-130 |
| 4-Methyl-2-pentanone | 93 | 70-130 |
| Toluene | 93 | 70-130 |
| trans-1,3-Dichloropropene | 98 | 70-130 |
| 1,1,2-Trichloroethane | 96 | 70-130 |
| Tetrachloroethene | 102 | 70-130 |
| 2-Hexanone | 92 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: LCS**

**Lab ID#: 2001459-07A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **3012603** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/26/20 10:30 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 102 | 70-130 |
| 1,2-Dibromoethane (EDB) | 100 | 70-130 |
| Chlorobenzene | 96 | 70-130 |
| Ethyl Benzene | 98 | 70-130 |
| m,p-Xylene | 99 | 70-130 |
| o-Xylene | 97 | 70-130 |
| Styrene | 93 | 70-130 |
| Bromoform | 104 | 70-130 |
| Cumene | 97 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 97 | 70-130 |
| Propylbenzene | 95 | 70-130 |
| 4-Ethyltoluene | 96 | 70-130 |
| 1,3,5-Trimethylbenzene | 96 | 70-130 |
| 1,2,4-Trimethylbenzene | 95 | 70-130 |
| 1,3-Dichlorobenzene | 99 | 70-130 |
| 1,4-Dichlorobenzene | 98 | 70-130 |
| alpha-Chlorotoluene | 88 | 70-130 |
| 1,2-Dichlorobenzene | 99 | 70-130 |
| 1,2,4-Trichlorobenzene | 85 | 70-130 |
| Hexachlorobutadiene | 86 | 70-130 |
| Naphthalene | 67 | 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 | 98 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

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**Client Sample ID: LCSD**

**Lab ID#: 2001459-07AA**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **3012604** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/26/20 10:55 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 95 | 70-130 |
| Freon 114 | 97 | 70-130 |
| Chloromethane | 101 | 70-130 |
| Vinyl Chloride | 87 | 70-130 |
| 1,3-Butadiene | 79 | 70-130 |
| Bromomethane | 100 | 70-130 |
| Chloroethane | 94 | 70-130 |
| Freon 11 | 100 | 70-130 |
| Ethanol | 82 | 70-130 |
| Freon 113 | 102 | 70-130 |
| 1,1-Dichloroethene | 96 | 70-130 |
| Acetone | 100 | 70-130 |
| 2-Propanol | 92 | 70-130 |
| Carbon Disulfide | 86 | 70-130 |
| 3-Chloropropene | 86 | 70-130 |
| Methylene Chloride | 101 | 70-130 |
| Methyl tert-butyl ether | 91 | 70-130 |
| trans-1,2-Dichloroethene | 86 | 70-130 |
| Hexane | 91 | 70-130 |
| 1,1-Dichloroethane | 97 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 91 | 70-130 |
| cis-1,2-Dichloroethene | 104 | 70-130 |
| Tetrahydrofuran | 91 | 70-130 |
| Chloroform | 96 | 70-130 |
| 1,1,1-Trichloroethane | 96 | 70-130 |
| Cyclohexane | 92 | 70-130 |
| Carbon Tetrachloride | 107 | 70-130 |
| 2,2,4-Trimethylpentane | 96 | 70-130 |
| Benzene | 94 | 70-130 |
| 1,2-Dichloroethane | 100 | 70-130 |
| Heptane | 92 | 70-130 |
| Trichloroethene | 99 | 70-130 |
| 1,2-Dichloropropane | 98 | 70-130 |
| 1,4-Dioxane | 96 | 70-130 |
| Bromodichloromethane | 98 | 70-130 |
| cis-1,3-Dichloropropene | 99 | 70-130 |
| 4-Methyl-2-pentanone | 92 | 70-130 |
| Toluene | 92 | 70-130 |
| trans-1,3-Dichloropropene | 97 | 70-130 |
| 1,1,2-Trichloroethane | 95 | 70-130 |
| Tetrachloroethene | 101 | 70-130 |
| 2-Hexanone | 92 | 70-130 |

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**Client Sample ID: LCSD**

**Lab ID#: 2001459-07AA**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **3012604** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/26/20 10:55 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 103 | 70-130 |
| 1,2-Dibromoethane (EDB) | 99 | 70-130 |
| Chlorobenzene | 96 | 70-130 |
| Ethyl Benzene | 97 | 70-130 |
| m,p-Xylene | 100 | 70-130 |
| o-Xylene | 98 | 70-130 |
| Styrene | 92 | 70-130 |
| Bromoform | 102 | 70-130 |
| Cumene | 96 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 96 | 70-130 |
| Propylbenzene | 94 | 70-130 |
| 4-Ethyltoluene | 95 | 70-130 |
| 1,3,5-Trimethylbenzene | 95 | 70-130 |
| 1,2,4-Trimethylbenzene | 94 | 70-130 |
| 1,3-Dichlorobenzene | 98 | 70-130 |
| 1,4-Dichlorobenzene | 97 | 70-130 |
| alpha-Chlorotoluene | 88 | 70-130 |
| 1,2-Dichlorobenzene | 98 | 70-130 |
| 1,2,4-Trichlorobenzene | 84 | 70-130 |
| Hexachlorobutadiene | 85 | 70-130 |
| Naphthalene | 67 | 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 | 99 | 70-130 |
| 4-Bromofluorobenzene | 101 | 70-130 |

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2/18/2020
Mr. Chris Rhea
EES Environmental Consulting, Inc.
240 N Broadway
Suite 203
Portland OR 97227

Project Name: PP #112
Project #: 1179-04
Workorder #: 2002141A

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 2/5/2020 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 #: 2002141A

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 | **BILL TO:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 |
| **PHONE:** | 530-847-2740 | **P.O. #** | |
| **FAX:** | | **PROJECT #** | 1179-04 PP #112 |
| **DATE RECEIVED:** | 02/05/2020 | **CONTACT:** | Kelly Buettner |
| **DATE COMPLETED:** | 02/18/2020 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 01A | SVE-6 | TO-15 | 5.3 "Hg | 15.1 psi |
| 02A | SVE-7 | TO-15 | 5.7 "Hg | 15.1 psi |
| 03A | SVE-8 | TO-15 | 4.1 "Hg | 16.1 psi |
| 04A | AWS INLET | TO-15 | 5.3 "Hg | 15.3 psi |
| 05A | Lab Blank | TO-15 | NA | NA |
| 05B | Lab Blank | TO-15 | NA | NA |
| 06A | CCV | TO-15 | NA | NA |
| 06B | CCV | TO-15 | NA | NA |
| 07A | LCS | TO-15 | NA | NA |
| 07AA | LCSD | TO-15 | NA | NA |
| 07B | LCS | TO-15 | NA | NA |
| 07BB | LCSD | TO-15 | NA | NA |

CERTIFIED BY: Heidi Hayes DATE: 02/18/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC 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) 351-8279

**LABORATORY NARRATIVE**
**EPA Method TO-15**
**EES Environmental Consulting, Inc.**
**Workorder# 2002141A**

Four 1 Liter Summa Canister samples were received on February 05, 2020. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

## 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.

The hydrocarbon profile present in samples SVE-6, SVE-7, SVE-8 and AWS INLET did not resemble that of commercial gasoline. Results were calculated using the response factor derived from the gasoline calibration.

Dilution was performed on samples SVE-6, SVE-7 and SVE-8 due to the presence of high level target species.

## Definition of Data Qualifying Flags

Ten 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.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

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-6**

**Lab ID#: 2002141A-01A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 1600 | 31000 | 6700 | 130000 |

**Client Sample ID: SVE-7**

**Lab ID#: 2002141A-02A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 1700 | 200000 | 6800 | 820000 |

**Client Sample ID: SVE-8**

**Lab ID#: 2002141A-03A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 1600 | 350000 | 6600 | 1400000 |

**Client Sample ID: AWS INLET**

**Lab ID#: 2002141A-04A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Acetone | 12 | 13 | 29 | 31 |
| Tetrahydrofuran | 1.2 | 6.2 | 3.6 | 18 |
| 2,2,4-Trimethylpentane | 1.2 | 2.3 | 5.8 | 11 |
| Heptane | 1.2 | 5.1 | 5.1 | 21 |
| TPH ref. to Gasoline (MW=100) | 120 | 3200 | 510 | 13000 |

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**Client Sample ID: SVE-6**

**Lab ID#: 2002141A-01A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021432** | **Date of Collection: 2/3/20 1:43:00 PM** | |
| **Dil. Factor:** | **32.8** | **Date of Analysis: 2/15/20 02:49 AM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 16 | Not Detected | 52 | Not Detected |
| Ethyl Benzene | 16 | Not Detected | 71 | Not Detected |
| Toluene | 16 | Not Detected | 62 | Not Detected |
| m,p-Xylene | 16 | Not Detected | 71 | Not Detected |
| o-Xylene | 16 | Not Detected | 71 | Not Detected |
| Naphthalene | 33 | Not Detected | 170 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 1600 | 31000 | 6700 | 130000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 89 | 70-130 |
| Toluene-d8 | 105 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

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**Client Sample ID: SVE-7**

**Lab ID#: 2002141A-02A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021230** | **Date of Collection: 2/3/20 1:44:00 PM** | |
| **Dil. Factor:** | **33.4** | **Date of Analysis: 2/13/20 01:34 AM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 17 | Not Detected | 53 | Not Detected |
| Ethyl Benzene | 17 | Not Detected | 72 | Not Detected |
| Toluene | 17 | Not Detected | 63 | Not Detected |
| m,p-Xylene | 17 | Not Detected | 72 | Not Detected |
| o-Xylene | 17 | Not Detected | 72 | Not Detected |
| Naphthalene | 33 | Not Detected | 180 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 1700 | 200000 | 6800 | 820000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 92 | 70-130 |
| Toluene-d8 | 98 | 70-130 |
| 4-Bromofluorobenzene | 107 | 70-130 |

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**Client Sample ID: SVE-8**

**Lab ID#: 2002141A-03A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021229** | **Date of Collection: 2/3/20 1:53:00 PM** | |
| **Dil. Factor:** | **32.4** | **Date of Analysis: 2/13/20 01:10 AM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 16 | Not Detected | 52 | Not Detected |
| Ethyl Benzene | 16 | Not Detected | 70 | Not Detected |
| Toluene | 16 | Not Detected | 61 | Not Detected |
| m,p-Xylene | 16 | Not Detected | 70 | Not Detected |
| o-Xylene | 16 | Not Detected | 70 | Not Detected |
| Naphthalene | 32 | Not Detected | 170 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 1600 | 350000 | 6600 | 1400000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 93 | 70-130 |
| Toluene-d8 | 109 | 70-130 |
| 4-Bromofluorobenzene | 106 | 70-130 |

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**Client Sample ID: AWS INLET**

**Lab ID#: 2002141A-04A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021228** | **Date of Collection:** | **2/3/20 2:00:00 PM** |
| **Dil. Factor:** | **2.48** | **Date of Analysis:** | **2/13/20 12:45 AM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 1.2 | Not Detected | 6.1 | Not Detected |
| Freon 114 | 1.2 | Not Detected | 8.7 | Not Detected |
| Chloromethane | 12 | Not Detected | 26 | Not Detected |
| Vinyl Chloride | 1.2 | Not Detected | 3.2 | Not Detected |
| 1,3-Butadiene | 1.2 | Not Detected | 2.7 | Not Detected |
| Bromomethane | 12 | Not Detected | 48 | Not Detected |
| Chloroethane | 5.0 | Not Detected | 13 | Not Detected |
| Freon 11 | 1.2 | Not Detected | 7.0 | Not Detected |
| Ethanol | 5.0 | Not Detected | 9.3 | Not Detected |
| Freon 113 | 1.2 | Not Detected | 9.5 | Not Detected |
| 1,1-Dichloroethene | 1.2 | Not Detected | 4.9 | Not Detected |
| Acetone | 12 | 13 | 29 | 31 |
| 2-Propanol | 5.0 | Not Detected | 12 | Not Detected |
| Carbon Disulfide | 5.0 | Not Detected | 15 | Not Detected |
| 3-Chloropropene | 5.0 | Not Detected | 16 | Not Detected |
| Methylene Chloride | 12 | Not Detected | 43 | Not Detected |
| Methyl tert-butyl ether | 5.0 | Not Detected | 18 | Not Detected |
| trans-1,2-Dichloroethene | 1.2 | Not Detected | 4.9 | Not Detected |
| Hexane | 1.2 | Not Detected | 4.4 | Not Detected |
| 1,1-Dichloroethane | 1.2 | Not Detected | 5.0 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 5.0 | Not Detected | 15 | Not Detected |
| cis-1,2-Dichloroethene | 1.2 | Not Detected | 4.9 | Not Detected |
| Tetrahydrofuran | 1.2 | 6.2 | 3.6 | 18 |
| Chloroform | 1.2 | Not Detected | 6.0 | Not Detected |
| 1,1,1-Trichloroethane | 1.2 | Not Detected | 6.8 | Not Detected |
| Cyclohexane | 1.2 | Not Detected | 4.3 | Not Detected |
| Carbon Tetrachloride | 1.2 | Not Detected | 7.8 | Not Detected |
| 2,2,4-Trimethylpentane | 1.2 | 2.3 | 5.8 | 11 |
| Benzene | 1.2 | Not Detected | 4.0 | Not Detected |
| 1,2-Dichloroethane | 1.2 | Not Detected | 5.0 | Not Detected |
| Heptane | 1.2 | 5.1 | 5.1 | 21 |
| Trichloroethene | 1.2 | Not Detected | 6.7 | Not Detected |
| 1,2-Dichloropropane | 1.2 | Not Detected | 5.7 | Not Detected |
| 1,4-Dioxane | 5.0 | Not Detected | 18 | Not Detected |
| Bromodichloromethane | 1.2 | Not Detected | 8.3 | Not Detected |
| cis-1,3-Dichloropropene | 1.2 | Not Detected | 5.6 | Not Detected |
| 4-Methyl-2-pentanone | 1.2 | Not Detected | 5.1 | Not Detected |
| Toluene | 1.2 | Not Detected | 4.7 | Not Detected |
| trans-1,3-Dichloropropene | 1.2 | Not Detected | 5.6 | Not Detected |
| 1,1,2-Trichloroethane | 1.2 | Not Detected | 6.8 | Not Detected |
| Tetrachloroethene | 1.2 | Not Detected | 8.4 | Not Detected |
| 2-Hexanone | 5.0 | Not Detected | 20 | Not Detected |

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**Client Sample ID: AWS INLET**

**Lab ID#: 2002141A-04A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021228** | **Date of Collection: 2/3/20 2:00:00 PM** | |
| **Dil. Factor:** | **2.48** | **Date of Analysis: 2/13/20 12:45 AM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Dibromochloromethane | 1.2 | Not Detected | 10 | Not Detected |
| 1,2-Dibromoethane (EDB) | 1.2 | Not Detected | 9.5 | Not Detected |
| Chlorobenzene | 1.2 | Not Detected | 5.7 | Not Detected |
| Ethyl Benzene | 1.2 | Not Detected | 5.4 | Not Detected |
| m,p-Xylene | 1.2 | Not Detected | 5.4 | Not Detected |
| o-Xylene | 1.2 | Not Detected | 5.4 | Not Detected |
| Styrene | 1.2 | Not Detected | 5.3 | Not Detected |
| Bromoform | 1.2 | Not Detected | 13 | Not Detected |
| Cumene | 1.2 | Not Detected | 6.1 | Not Detected |
| 1,1,2,2-Tetrachloroethane | 1.2 | Not Detected | 8.5 | Not Detected |
| Propylbenzene | 1.2 | Not Detected | 6.1 | Not Detected |
| 4-Ethyltoluene | 1.2 | Not Detected | 6.1 | Not Detected |
| 1,3,5-Trimethylbenzene | 1.2 | Not Detected | 6.1 | Not Detected |
| 1,2,4-Trimethylbenzene | 1.2 | Not Detected | 6.1 | Not Detected |
| 1,3-Dichlorobenzene | 1.2 | Not Detected | 7.4 | Not Detected |
| 1,4-Dichlorobenzene | 1.2 | Not Detected | 7.4 | Not Detected |
| alpha-Chlorotoluene | 1.2 | Not Detected | 6.4 | Not Detected |
| 1,2-Dichlorobenzene | 1.2 | Not Detected | 7.4 | Not Detected |
| 1,2,4-Trichlorobenzene | 5.0 | Not Detected | 37 | Not Detected |
| Hexachlorobutadiene | 5.0 | Not Detected | 53 | Not Detected |
| Naphthalene | 2.5 | Not Detected | 13 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 120 | 3200 | 510 | 13000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 103 | 70-130 |
| 1,2-Dichloroethane-d4 | 99 | 70-130 |
| 4-Bromofluorobenzene | 118 | 70-130 |

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**Client Sample ID: Lab Blank**

**Lab ID#: 2002141A-05A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021212** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/12/20 02:39 PM** | |

| 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#: 2002141A-05A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021212** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/12/20 02:39 PM** | |

| 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 | 101 | 70-130 |
| 1,2-Dichloroethane-d4 | 91 | 70-130 |
| 4-Bromofluorobenzene | 105 | 70-130 |

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**Client Sample ID: Lab Blank**

**Lab ID#: 2002141A-05B**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021408** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/14/20 01:46 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 | 101 | 70-130 |
| Toluene-d8 | 97 | 70-130 |
| 4-Bromofluorobenzene | 119 | 70-130 |

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**Client Sample ID: CCV**

**Lab ID#: 2002141A-06A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | |
|---|---|---|
| **File Name:** | **a021206** | **Date of Collection: NA** |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/12/20 11:19 AM** |

| Compound | %Recovery |
|---|---|
| Freon 12 | 102 |
| Freon 114 | 103 |
| Chloromethane | 90 |
| Vinyl Chloride | 94 |
| 1,3-Butadiene | 91 |
| Bromomethane | 86 |
| Chloroethane | 90 |
| Freon 11 | 98 |
| Ethanol | 86 |
| Freon 113 | 94 |
| 1,1-Dichloroethene | 102 |
| Acetone | 102 |
| 2-Propanol | 79 |
| Carbon Disulfide | 90 |
| 3-Chloropropene | 89 |
| Methylene Chloride | 91 |
| Methyl tert-butyl ether | 85 |
| trans-1,2-Dichloroethene | 102 |
| Hexane | 89 |
| 1,1-Dichloroethane | 93 |
| 2-Butanone (Methyl Ethyl Ketone) | 86 |
| cis-1,2-Dichloroethene | 103 |
| Tetrahydrofuran | 84 |
| Chloroform | 97 |
| 1,1,1-Trichloroethane | 94 |
| Cyclohexane | 91 |
| Carbon Tetrachloride | 96 |
| 2,2,4-Trimethylpentane | 91 |
| Benzene | 94 |
| 1,2-Dichloroethane | 95 |
| Heptane | 89 |
| Trichloroethene | 98 |
| 1,2-Dichloropropane | 92 |
| 1,4-Dioxane | 88 |
| Bromodichloromethane | 98 |
| cis-1,3-Dichloropropene | 92 |
| 4-Methyl-2-pentanone | 77 |
| Toluene | 93 |
| trans-1,3-Dichloropropene | 98 |
| 1,1,2-Trichloroethane | 106 |
| Tetrachloroethene | 102 |
| 2-Hexanone | 74 |

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**Client Sample ID: CCV**

**Lab ID#: 2002141A-06A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021206** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/12/20 11:19 AM** | |

| Compound | %Recovery |
|---|---|
| Dibromochloromethane | 110 |
| 1,2-Dibromoethane (EDB) | 107 |
| Chlorobenzene | 98 |
| Ethyl Benzene | 104 |
| m,p-Xylene | 104 |
| o-Xylene | 102 |
| Styrene | 98 |
| Bromoform | 119 |
| Cumene | 104 |
| 1,1,2,2-Tetrachloroethane | 106 |
| Propylbenzene | 101 |
| 4-Ethyltoluene | 104 |
| 1,3,5-Trimethylbenzene | 100 |
| 1,2,4-Trimethylbenzene | 102 |
| 1,3-Dichlorobenzene | 111 |
| 1,4-Dichlorobenzene | 111 |
| alpha-Chlorotoluene | 87 |
| 1,2-Dichlorobenzene | 114 |
| 1,2,4-Trichlorobenzene | 119 |
| Hexachlorobutadiene | 123 |
| Naphthalene | 93 |
| TPH ref. to Gasoline (MW=100) | 100 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 100 | 70-130 |
| 1,2-Dichloroethane-d4 | 92 | 70-130 |
| 4-Bromofluorobenzene | 116 | 70-130 |

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**Client Sample ID: CCV**

**Lab ID#: 2002141A-06B**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021402** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/14/20 09:59 AM** | |

| Compound | %Recovery |
|---|---|
| Benzene | 96 |
| Ethyl Benzene | 98 |
| Toluene | 94 |
| m,p-Xylene | 97 |
| o-Xylene | 95 |
| Naphthalene | 100 |
| TPH ref. to Gasoline (MW=100) | 100 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 92 | 70-130 |
| Toluene-d8 | 98 | 70-130 |
| 4-Bromofluorobenzene | 90 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 2002141A-07A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021207** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/12/20 11:46 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 101 | 70-130 |
| Freon 114 | 101 | 70-130 |
| Chloromethane | 80 | 70-130 |
| Vinyl Chloride | 91 | 70-130 |
| 1,3-Butadiene | 83 | 70-130 |
| Bromomethane | 72 | 70-130 |
| Chloroethane | 92 | 70-130 |
| Freon 11 | 96 | 70-130 |
| Ethanol | 91 | 70-130 |
| Freon 113 | 97 | 70-130 |
| 1,1-Dichloroethene | 105 | 70-130 |
| Acetone | 87 | 70-130 |
| 2-Propanol | 88 | 70-130 |
| Carbon Disulfide | 96 | 70-130 |
| 3-Chloropropene | 94 | 70-130 |
| Methylene Chloride | 98 | 70-130 |
| Methyl tert-butyl ether | 83 | 70-130 |
| trans-1,2-Dichloroethene | 108 | 70-130 |
| Hexane | 89 | 70-130 |
| 1,1-Dichloroethane | 90 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 88 | 70-130 |
| cis-1,2-Dichloroethene | 93 | 70-130 |
| Tetrahydrofuran | 84 | 70-130 |
| Chloroform | 96 | 70-130 |
| 1,1,1-Trichloroethane | 93 | 70-130 |
| Cyclohexane | 94 | 70-130 |
| Carbon Tetrachloride | 95 | 70-130 |
| 2,2,4-Trimethylpentane | 92 | 70-130 |
| Benzene | 94 | 70-130 |
| 1,2-Dichloroethane | 96 | 70-130 |
| Heptane | 91 | 70-130 |
| Trichloroethene | 115 | 70-130 |
| 1,2-Dichloropropane | 90 | 70-130 |
| 1,4-Dioxane | 89 | 70-130 |
| Bromodichloromethane | 98 | 70-130 |
| cis-1,3-Dichloropropene | 94 | 70-130 |
| 4-Methyl-2-pentanone | 82 | 70-130 |
| Toluene | 90 | 70-130 |
| trans-1,3-Dichloropropene | 88 | 70-130 |
| 1,1,2-Trichloroethane | 94 | 70-130 |
| Tetrachloroethene | 83 | 70-130 |
| 2-Hexanone | 82 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 2002141A-07A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021207** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/12/20 11:46 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 99 | 70-130 |
| 1,2-Dibromoethane (EDB) | 97 | 70-130 |
| Chlorobenzene | 94 | 70-130 |
| Ethyl Benzene | 93 | 70-130 |
| m,p-Xylene | 93 | 70-130 |
| o-Xylene | 93 | 70-130 |
| Styrene | 95 | 70-130 |
| Bromoform | 106 | 70-130 |
| Cumene | 92 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 81 | 70-130 |
| Propylbenzene | 92 | 70-130 |
| 4-Ethyltoluene | 100 | 70-130 |
| 1,3,5-Trimethylbenzene | 94 | 70-130 |
| 1,2,4-Trimethylbenzene | 96 | 70-130 |
| 1,3-Dichlorobenzene | 95 | 70-130 |
| 1,4-Dichlorobenzene | 100 | 70-130 |
| alpha-Chlorotoluene | 92 | 70-130 |
| 1,2-Dichlorobenzene | 102 | 70-130 |
| 1,2,4-Trichlorobenzene | 102 | 70-130 |
| Hexachlorobutadiene | 93 | 70-130 |
| Naphthalene | 114 | 60-140 |
| TPH ref. to Gasoline (MW=100) | Not Spiked | |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 97 | 70-130 |
| 1,2-Dichloroethane-d4 | 98 | 70-130 |
| 4-Bromofluorobenzene | 101 | 70-130 |

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**Client Sample ID: LCSD**

**Lab ID#: 2002141A-07AA**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021208** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/12/20 12:13 PM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 104 | 70-130 |
| Freon 114 | 108 | 70-130 |
| Chloromethane | 82 | 70-130 |
| Vinyl Chloride | 96 | 70-130 |
| 1,3-Butadiene | 86 | 70-130 |
| Bromomethane | 75 | 70-130 |
| Chloroethane | 93 | 70-130 |
| Freon 11 | 100 | 70-130 |
| Ethanol | 84 | 70-130 |
| Freon 113 | 97 | 70-130 |
| 1,1-Dichloroethene | 102 | 70-130 |
| Acetone | 85 | 70-130 |
| 2-Propanol | 81 | 70-130 |
| Carbon Disulfide | 95 | 70-130 |
| 3-Chloropropene | 94 | 70-130 |
| Methylene Chloride | 93 | 70-130 |
| Methyl tert-butyl ether | 88 | 70-130 |
| trans-1,2-Dichloroethene | 112 | 70-130 |
| Hexane | 92 | 70-130 |
| 1,1-Dichloroethane | 92 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 92 | 70-130 |
| cis-1,2-Dichloroethene | 96 | 70-130 |
| Tetrahydrofuran | 86 | 70-130 |
| Chloroform | 97 | 70-130 |
| 1,1,1-Trichloroethane | 96 | 70-130 |
| Cyclohexane | 96 | 70-130 |
| Carbon Tetrachloride | 98 | 70-130 |
| 2,2,4-Trimethylpentane | 91 | 70-130 |
| Benzene | 94 | 70-130 |
| 1,2-Dichloroethane | 92 | 70-130 |
| Heptane | 90 | 70-130 |
| Trichloroethene | 113 | 70-130 |
| 1,2-Dichloropropane | 91 | 70-130 |
| 1,4-Dioxane | 92 | 70-130 |
| Bromodichloromethane | 98 | 70-130 |
| cis-1,3-Dichloropropene | 96 | 70-130 |
| 4-Methyl-2-pentanone | 85 | 70-130 |
| Toluene | 93 | 70-130 |
| trans-1,3-Dichloropropene | 90 | 70-130 |
| 1,1,2-Trichloroethane | 96 | 70-130 |
| Tetrachloroethene | 95 | 70-130 |
| 2-Hexanone | 85 | 70-130 |

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**Client Sample ID: LCSD**

**Lab ID#: 2002141A-07AA**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021208** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/12/20 12:13 PM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 102 | 70-130 |
| 1,2-Dibromoethane (EDB) | 97 | 70-130 |
| Chlorobenzene | 96 | 70-130 |
| Ethyl Benzene | 96 | 70-130 |
| m,p-Xylene | 94 | 70-130 |
| o-Xylene | 93 | 70-130 |
| Styrene | 96 | 70-130 |
| Bromoform | 107 | 70-130 |
| Cumene | 94 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 82 | 70-130 |
| Propylbenzene | 93 | 70-130 |
| 4-Ethyltoluene | 103 | 70-130 |
| 1,3,5-Trimethylbenzene | 95 | 70-130 |
| 1,2,4-Trimethylbenzene | 84 | 70-130 |
| 1,3-Dichlorobenzene | 99 | 70-130 |
| 1,4-Dichlorobenzene | 101 | 70-130 |
| alpha-Chlorotoluene | 92 | 70-130 |
| 1,2-Dichlorobenzene | 102 | 70-130 |
| 1,2,4-Trichlorobenzene | 108 | 70-130 |
| Hexachlorobutadiene | 101 | 70-130 |
| Naphthalene | 124 | 60-140 |
| TPH ref. to Gasoline (MW=100) | Not Spiked | |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 99 | 70-130 |
| 1,2-Dichloroethane-d4 | 95 | 70-130 |
| 4-Bromofluorobenzene | 103 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 2002141A-07B**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021403** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/14/20 10:24 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Benzene | 88 | 70-130 |
| Ethyl Benzene | 92 | 70-130 |
| Toluene | 84 | 70-130 |
| m,p-Xylene | 90 | 70-130 |
| o-Xylene | 90 | 70-130 |
| Naphthalene | 79 | 60-140 |
| TPH ref. to Gasoline (MW=100) | Not Spiked | |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | 70-130 |
| Toluene-d8 | 91 | 70-130 |
| 4-Bromofluorobenzene | 104 | 70-130 |

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**Client Sample ID: LCSD**

**Lab ID#: 2002141A-07BB**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a021404** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/14/20 10:49 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Benzene | 88 | 70-130 |
| Ethyl Benzene | 94 | 70-130 |
| Toluene | 87 | 70-130 |
| m,p-Xylene | 91 | 70-130 |
| o-Xylene | 91 | 70-130 |
| Naphthalene | 87 | 60-140 |
| TPH ref. to Gasoline (MW=100) | Not Spiked | |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | 70-130 |
| Toluene-d8 | 96 | 70-130 |
| 4-Bromofluorobenzene | 103 | 70-130 |

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3/13/2020
Mr. Chris Rhea
EES Environmental Consulting, Inc.
240 N Broadway
Suite 203
Portland OR 97227

Project Name: PP# 112
Project #: 1179-04
Workorder #: 2003056A

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 3/3/2020 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 #: 2003056A

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 | **BILL TO:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 |
| **PHONE:** | 530-847-2740 | **P.O. #** | |
| **FAX:** | | **PROJECT #** | 1179-04 PP# 112 |
| **DATE RECEIVED:** | 03/03/2020 | **CONTACT:** | Kelly Buettner |
| **DATE COMPLETED:** | 03/13/2020 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 01A | SVE-6 | TO-15 | 4.5 "Hg | 15.4 psi |
| 02A | SVE-7 | TO-15 | 5.1 "Hg | 15 psi |
| 03A | SVE-8 | TO-15 | 4.3 "Hg | 16 psi |
| 04A | AWS-INLET | TO-15 | 4.5 "Hg | 15.2 psi |
| 05A | Lab Blank | TO-15 | NA | NA |
| 06A | CCV | TO-15 | NA | NA |
| 07A | LCS | TO-15 | NA | NA |
| 07AA | LCSD | TO-15 | NA | NA |

CERTIFIED BY: Heidi Hayes DATE: 03/13/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC 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) 351-8279

**LABORATORY NARRATIVE**
**EPA Method TO-15**
**EES Environmental Consulting, Inc.**
**Workorder# 2003056A**

Four 1 Liter Summa Canister samples were received on March 03, 2020. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

## Receiving Notes

There were no receiving discrepancies.

## Analytical Notes

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

Dilution was performed on samples SVE-7, SVE-8 and AWS-INLET due to the presence of high level target species.

The hydrocarbon profile present in samples SVE-7, SVE-8 and AWS-INLET did not resemble that of commercial gasoline. Results were calculated using the response factor derived from the gasoline calibration.

## Definition of Data Qualifying Flags

Ten 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.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

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-6**

**Lab ID#: 2003056A-01A**

No Detections Were Found.

**Client Sample ID: SVE-7**

**Lab ID#: 2003056A-02A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 2400 | 20000 | 10000 | 82000 |

**Client Sample ID: SVE-8**

**Lab ID#: 2003056A-03A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 2400 | 36000 | 10000 | 150000 |

**Client Sample ID: AWS-INLET**

**Lab ID#: 2003056A-04A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Ethanol | 9.6 | 10 | 18 | 19 |
| 2-Propanol | 9.6 | 38 | 23 | 93 |
| Heptane | 2.4 | 4.2 | 9.8 | 17 |
| 1,3-Dichlorobenzene | 2.4 | 3.2 | 14 | 19 |
| TPH ref. to Gasoline (MW=100) | 240 | 3200 | 980 | 13000 |

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**Client Sample ID: SVE-6**

**Lab ID#: 2003056A-01A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17031017** | **Date of Collection: 3/2/20 11:43:00 AM** | |
| **Dil. Factor:** | **2.41** | **Date of Analysis: 3/10/20 07:53 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 | Not Detected | 4.5 | Not Detected |
| m,p-Xylene | 1.2 | Not Detected | 5.2 | Not Detected |
| 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 | Not Detected | 490 | Not Detected |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | 70-130 |
| Toluene-d8 | 100 | 70-130 |
| 4-Bromofluorobenzene | 98 | 70-130 |

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**Client Sample ID: SVE-7**

**Lab ID#: 2003056A-02A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17031026** | **Date of Collection: 3/2/20 11:48:00 AM** | |
| **Dil. Factor:** | **48.7** | **Date of Analysis: 3/11/20 02:32 AM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 24 | Not Detected | 78 | Not Detected |
| Ethyl Benzene | 24 | Not Detected | 100 | Not Detected |
| Toluene | 24 | Not Detected | 92 | Not Detected |
| m,p-Xylene | 24 | Not Detected | 100 | Not Detected |
| o-Xylene | 24 | Not Detected | 100 | Not Detected |
| Naphthalene | 49 | Not Detected | 260 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 2400 | 20000 | 10000 | 82000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | 70-130 |
| Toluene-d8 | 106 | 70-130 |
| 4-Bromofluorobenzene | 97 | 70-130 |

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**Client Sample ID: SVE-8**

**Lab ID#: 2003056A-03A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17031027** | **Date of Collection: 3/2/20 11:55:00 AM** | |
| **Dil. Factor:** | **48.8** | **Date of Analysis: 3/11/20 03:00 AM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 24 | Not Detected | 78 | Not Detected |
| Ethyl Benzene | 24 | Not Detected | 100 | Not Detected |
| Toluene | 24 | Not Detected | 92 | Not Detected |
| m,p-Xylene | 24 | Not Detected | 100 | Not Detected |
| o-Xylene | 24 | Not Detected | 100 | Not Detected |
| Naphthalene | 49 | Not Detected | 260 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 2400 | 36000 | 10000 | 150000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | 70-130 |
| Toluene-d8 | 110 | 70-130 |
| 4-Bromofluorobenzene | 98 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: AWS-INLET**

**Lab ID#: 2003056A-04A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17031018** | **Date of Collection: 3/2/20 12:00:00 PM** | |
| **Dil. Factor:** | **4.78** | **Date of Analysis: 3/10/20 08:19 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 2.4 | Not Detected | 12 | Not Detected |
| Freon 114 | 2.4 | Not Detected | 17 | Not Detected |
| Chloromethane | 24 | Not Detected | 49 | Not Detected |
| Vinyl Chloride | 2.4 | Not Detected | 6.1 | Not Detected |
| 1,3-Butadiene | 2.4 | Not Detected | 5.3 | Not Detected |
| Bromomethane | 24 | Not Detected | 93 | Not Detected |
| Chloroethane | 9.6 | Not Detected | 25 | Not Detected |
| Freon 11 | 2.4 | Not Detected | 13 | Not Detected |
| Ethanol | 9.6 | 10 | 18 | 19 |
| Freon 113 | 2.4 | Not Detected | 18 | Not Detected |
| 1,1-Dichloroethene | 2.4 | Not Detected | 9.5 | Not Detected |
| Acetone | 24 | Not Detected | 57 | Not Detected |
| 2-Propanol | 9.6 | 38 | 23 | 93 |
| Carbon Disulfide | 9.6 | Not Detected | 30 | Not Detected |
| 3-Chloropropene | 9.6 | Not Detected | 30 | Not Detected |
| Methylene Chloride | 24 | Not Detected | 83 | Not Detected |
| Methyl tert-butyl ether | 9.6 | Not Detected | 34 | Not Detected |
| trans-1,2-Dichloroethene | 2.4 | Not Detected | 9.5 | Not Detected |
| Hexane | 2.4 | Not Detected | 8.4 | Not Detected |
| 1,1-Dichloroethane | 2.4 | Not Detected | 9.7 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 9.6 | Not Detected | 28 | Not Detected |
| cis-1,2-Dichloroethene | 2.4 | Not Detected | 9.5 | Not Detected |
| Tetrahydrofuran | 2.4 | Not Detected | 7.0 | Not Detected |
| Chloroform | 2.4 | Not Detected | 12 | Not Detected |
| 1,1,1-Trichloroethane | 2.4 | Not Detected | 13 | Not Detected |
| Cyclohexane | 2.4 | Not Detected | 8.2 | Not Detected |
| Carbon Tetrachloride | 2.4 | Not Detected | 15 | Not Detected |
| 2,2,4-Trimethylpentane | 2.4 | Not Detected | 11 | Not Detected |
| Benzene | 2.4 | Not Detected | 7.6 | Not Detected |
| 1,2-Dichloroethane | 2.4 | Not Detected | 9.7 | Not Detected |
| Heptane | 2.4 | 4.2 | 9.8 | 17 |
| Trichloroethene | 2.4 | Not Detected | 13 | Not Detected |
| 1,2-Dichloropropane | 2.4 | Not Detected | 11 | Not Detected |
| 1,4-Dioxane | 9.6 | Not Detected | 34 | Not Detected |
| Bromodichloromethane | 2.4 | Not Detected | 16 | Not Detected |
| cis-1,3-Dichloropropene | 2.4 | Not Detected | 11 | Not Detected |
| 4-Methyl-2-pentanone | 2.4 | Not Detected | 9.8 | Not Detected |
| Toluene | 2.4 | Not Detected | 9.0 | Not Detected |
| trans-1,3-Dichloropropene | 2.4 | Not Detected | 11 | Not Detected |
| 1,1,2-Trichloroethane | 2.4 | Not Detected | 13 | Not Detected |
| Tetrachloroethene | 2.4 | Not Detected | 16 | Not Detected |
| 2-Hexanone | 9.6 | Not Detected | 39 | Not Detected |

eurofins | Air Toxics

**Client Sample ID: AWS-INLET**

**Lab ID#: 2003056A-04A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17031018** | **Date of Collection: 3/2/20 12:00:00 PM** | |
| **Dil. Factor:** | **4.78** | **Date of Analysis: 3/10/20 08:19 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Dibromochloromethane | 2.4 | Not Detected | 20 | Not Detected |
| 1,2-Dibromoethane (EDB) | 2.4 | Not Detected | 18 | Not Detected |
| Chlorobenzene | 2.4 | Not Detected | 11 | Not Detected |
| Ethyl Benzene | 2.4 | Not Detected | 10 | Not Detected |
| m,p-Xylene | 2.4 | Not Detected | 10 | Not Detected |
| o-Xylene | 2.4 | Not Detected | 10 | Not Detected |
| Styrene | 2.4 | Not Detected | 10 | Not Detected |
| Bromoform | 2.4 | Not Detected | 25 | Not Detected |
| Cumene | 2.4 | Not Detected | 12 | Not Detected |
| 1,1,2,2-Tetrachloroethane | 2.4 | Not Detected | 16 | Not Detected |
| Propylbenzene | 2.4 | Not Detected | 12 | Not Detected |
| 4-Ethyltoluene | 2.4 | Not Detected | 12 | Not Detected |
| 1,3,5-Trimethylbenzene | 2.4 | Not Detected | 12 | Not Detected |
| 1,2,4-Trimethylbenzene | 2.4 | Not Detected | 12 | Not Detected |
| 1,3-Dichlorobenzene | 2.4 | 3.2 | 14 | 19 |
| 1,4-Dichlorobenzene | 2.4 | Not Detected | 14 | Not Detected |
| alpha-Chlorotoluene | 2.4 | Not Detected | 12 | Not Detected |
| 1,2-Dichlorobenzene | 2.4 | Not Detected | 14 | Not Detected |
| 1,2,4-Trichlorobenzene | 9.6 | Not Detected | 71 | Not Detected |
| Hexachlorobutadiene | 9.6 | Not Detected | 100 | Not Detected |
| Naphthalene | 4.8 | Not Detected | 25 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 240 | 3200 | 980 | 13000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 106 | 70-130 |
| 1,2-Dichloroethane-d4 | 107 | 70-130 |
| 4-Bromofluorobenzene | 97 | 70-130 |

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**Client Sample ID: Lab Blank**

**Lab ID#: 2003056A-05A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17031007** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 3/10/20 02:05 PM** | |

| 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#: 2003056A-05A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17031007** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 3/10/20 02:05 PM** | |

| 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 | 99 | 70-130 |
| 1,2-Dichloroethane-d4 | 106 | 70-130 |
| 4-Bromofluorobenzene | 99 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: CCV**

**Lab ID#: 2003056A-06A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | |
|---|---|---|
| **File Name:** | **17031002** | **Date of Collection: NA** |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 3/10/20 11:00 AM** |

| Compound | %Recovery |
|---|---|
| Freon 12 | 113 |
| Freon 114 | 108 |
| Chloromethane | 108 |
| Vinyl Chloride | 106 |
| 1,3-Butadiene | 116 |
| Bromomethane | 110 |
| Chloroethane | 108 |
| Freon 11 | 112 |
| Ethanol | 102 |
| Freon 113 | 103 |
| 1,1-Dichloroethene | 113 |
| Acetone | 108 |
| 2-Propanol | 107 |
| Carbon Disulfide | 104 |
| 3-Chloropropene | 104 |
| Methylene Chloride | 110 |
| Methyl tert-butyl ether | 107 |
| trans-1,2-Dichloroethene | 113 |
| Hexane | 113 |
| 1,1-Dichloroethane | 106 |
| 2-Butanone (Methyl Ethyl Ketone) | 106 |
| cis-1,2-Dichloroethene | 107 |
| Tetrahydrofuran | 110 |
| Chloroform | 105 |
| 1,1,1-Trichloroethane | 105 |
| Cyclohexane | 104 |
| Carbon Tetrachloride | 108 |
| 2,2,4-Trimethylpentane | 110 |
| Benzene | 101 |
| 1,2-Dichloroethane | 112 |
| Heptane | 109 |
| Trichloroethene | 103 |
| 1,2-Dichloropropane | 101 |
| 1,4-Dioxane | 99 |
| Bromodichloromethane | 104 |
| cis-1,3-Dichloropropene | 106 |
| 4-Methyl-2-pentanone | 108 |
| Toluene | 101 |
| trans-1,3-Dichloropropene | 109 |
| 1,1,2-Trichloroethane | 100 |
| Tetrachloroethene | 100 |
| 2-Hexanone | 103 |

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**Client Sample ID: CCV**

**Lab ID#: 2003056A-06A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17031002** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 3/10/20 11:00 AM** | |

| Compound | %Recovery |
|---|---|
| Dibromochloromethane | 102 |
| 1,2-Dibromoethane (EDB) | 100 |
| Chlorobenzene | 98 |
| Ethyl Benzene | 106 |
| m,p-Xylene | 102 |
| o-Xylene | 105 |
| Styrene | 106 |
| Bromoform | 100 |
| Cumene | 107 |
| 1,1,2,2-Tetrachloroethane | 94 |
| Propylbenzene | 104 |
| 4-Ethyltoluene | 109 |
| 1,3,5-Trimethylbenzene | 104 |
| 1,2,4-Trimethylbenzene | 107 |
| 1,3-Dichlorobenzene | 100 |
| 1,4-Dichlorobenzene | 99 |
| alpha-Chlorotoluene | 105 |
| 1,2-Dichlorobenzene | 99 |
| 1,2,4-Trichlorobenzene | 100 |
| Hexachlorobutadiene | 100 |
| Naphthalene | 101 |
| TPH ref. to Gasoline (MW=100) | 100 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 100 | 70-130 |
| 1,2-Dichloroethane-d4 | 104 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: LCS**

**Lab ID#: 2003056A-07A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17031003** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 3/10/20 11:26 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 109 | 70-130 |
| Freon 114 | 105 | 70-130 |
| Chloromethane | 106 | 70-130 |
| Vinyl Chloride | 106 | 70-130 |
| 1,3-Butadiene | 105 | 70-130 |
| Bromomethane | 105 | 70-130 |
| Chloroethane | 109 | 70-130 |
| Freon 11 | 109 | 70-130 |
| Ethanol | 100 | 70-130 |
| Freon 113 | 100 | 70-130 |
| 1,1-Dichloroethene | 109 | 70-130 |
| Acetone | 101 | 70-130 |
| 2-Propanol | 106 | 70-130 |
| Carbon Disulfide | 103 | 70-130 |
| 3-Chloropropene | 107 | 70-130 |
| Methylene Chloride | 104 | 70-130 |
| Methyl tert-butyl ether | 104 | 70-130 |
| trans-1,2-Dichloroethene | 117 | 70-130 |
| Hexane | 112 | 70-130 |
| 1,1-Dichloroethane | 102 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 101 | 70-130 |
| cis-1,2-Dichloroethene | 90 | 70-130 |
| Tetrahydrofuran | 108 | 70-130 |
| Chloroform | 102 | 70-130 |
| 1,1,1-Trichloroethane | 106 | 70-130 |
| Cyclohexane | 103 | 70-130 |
| Carbon Tetrachloride | 103 | 70-130 |
| 2,2,4-Trimethylpentane | 107 | 70-130 |
| Benzene | 96 | 70-130 |
| 1,2-Dichloroethane | 105 | 70-130 |
| Heptane | 108 | 70-130 |
| Trichloroethene | 97 | 70-130 |
| 1,2-Dichloropropane | 98 | 70-130 |
| 1,4-Dioxane | 94 | 70-130 |
| Bromodichloromethane | 99 | 70-130 |
| cis-1,3-Dichloropropene | 106 | 70-130 |
| 4-Methyl-2-pentanone | 106 | 70-130 |
| Toluene | 95 | 70-130 |
| trans-1,3-Dichloropropene | 108 | 70-130 |
| 1,1,2-Trichloroethane | 103 | 70-130 |
| Tetrachloroethene | 103 | 70-130 |
| 2-Hexanone | 108 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 2003056A-07A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17031003** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 3/10/20 11:26 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 103 | 70-130 |
| 1,2-Dibromoethane (EDB) | 100 | 70-130 |
| Chlorobenzene | 100 | 70-130 |
| Ethyl Benzene | 108 | 70-130 |
| m,p-Xylene | 106 | 70-130 |
| o-Xylene | 108 | 70-130 |
| Styrene | 109 | 70-130 |
| Bromoform | 105 | 70-130 |
| Cumene | 110 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 98 | 70-130 |
| Propylbenzene | 108 | 70-130 |
| 4-Ethyltoluene | 113 | 70-130 |
| 1,3,5-Trimethylbenzene | 108 | 70-130 |
| 1,2,4-Trimethylbenzene | 111 | 70-130 |
| 1,3-Dichlorobenzene | 102 | 70-130 |
| 1,4-Dichlorobenzene | 105 | 70-130 |
| alpha-Chlorotoluene | 118 | 70-130 |
| 1,2-Dichlorobenzene | 102 | 70-130 |
| 1,2,4-Trichlorobenzene | 96 | 70-130 |
| Hexachlorobutadiene | 104 | 70-130 |
| Naphthalene | 104 | 60-140 |
| TPH ref. to Gasoline (MW=100) | Not Spiked | |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 97 | 70-130 |
| 1,2-Dichloroethane-d4 | 109 | 70-130 |
| 4-Bromofluorobenzene | 103 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: LCSD**

**Lab ID#: 2003056A-07AA**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17031004** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 3/10/20 11:53 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 111 | 70-130 |
| Freon 114 | 101 | 70-130 |
| Chloromethane | 106 | 70-130 |
| Vinyl Chloride | 109 | 70-130 |
| 1,3-Butadiene | 109 | 70-130 |
| Bromomethane | 104 | 70-130 |
| Chloroethane | 113 | 70-130 |
| Freon 11 | 108 | 70-130 |
| Ethanol | 102 | 70-130 |
| Freon 113 | 100 | 70-130 |
| 1,1-Dichloroethene | 106 | 70-130 |
| Acetone | 99 | 70-130 |
| 2-Propanol | 111 | 70-130 |
| Carbon Disulfide | 104 | 70-130 |
| 3-Chloropropene | 107 | 70-130 |
| Methylene Chloride | 106 | 70-130 |
| Methyl tert-butyl ether | 104 | 70-130 |
| trans-1,2-Dichloroethene | 118 | 70-130 |
| Hexane | 113 | 70-130 |
| 1,1-Dichloroethane | 103 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 102 | 70-130 |
| cis-1,2-Dichloroethene | 94 | 70-130 |
| Tetrahydrofuran | 110 | 70-130 |
| Chloroform | 101 | 70-130 |
| 1,1,1-Trichloroethane | 103 | 70-130 |
| Cyclohexane | 104 | 70-130 |
| Carbon Tetrachloride | 106 | 70-130 |
| 2,2,4-Trimethylpentane | 108 | 70-130 |
| Benzene | 99 | 70-130 |
| 1,2-Dichloroethane | 104 | 70-130 |
| Heptane | 113 | 70-130 |
| Trichloroethene | 100 | 70-130 |
| 1,2-Dichloropropane | 98 | 70-130 |
| 1,4-Dioxane | 100 | 70-130 |
| Bromodichloromethane | 101 | 70-130 |
| cis-1,3-Dichloropropene | 108 | 70-130 |
| 4-Methyl-2-pentanone | 112 | 70-130 |
| Toluene | 99 | 70-130 |
| trans-1,3-Dichloropropene | 107 | 70-130 |
| 1,1,2-Trichloroethane | 99 | 70-130 |
| Tetrachloroethene | 100 | 70-130 |
| 2-Hexanone | 109 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: LCSD**

**Lab ID#: 2003056A-07AA**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17031004** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 3/10/20 11:53 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 104 | 70-130 |
| 1,2-Dibromoethane (EDB) | 99 | 70-130 |
| Chlorobenzene | 99 | 70-130 |
| Ethyl Benzene | 106 | 70-130 |
| m,p-Xylene | 104 | 70-130 |
| o-Xylene | 108 | 70-130 |
| Styrene | 109 | 70-130 |
| Bromoform | 103 | 70-130 |
| Cumene | 108 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 96 | 70-130 |
| Propylbenzene | 107 | 70-130 |
| 4-Ethyltoluene | 113 | 70-130 |
| 1,3,5-Trimethylbenzene | 106 | 70-130 |
| 1,2,4-Trimethylbenzene | 111 | 70-130 |
| 1,3-Dichlorobenzene | 101 | 70-130 |
| 1,4-Dichlorobenzene | 106 | 70-130 |
| alpha-Chlorotoluene | 117 | 70-130 |
| 1,2-Dichlorobenzene | 101 | 70-130 |
| 1,2,4-Trichlorobenzene | 97 | 70-130 |
| Hexachlorobutadiene | 106 | 70-130 |
| Naphthalene | 107 | 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 | 107 | 70-130 |
| 4-Bromofluorobenzene | 102 | 70-130 |

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4/28/2020
Mr. Chris Rhea
EES Environmental Consulting, Inc.
240 N Broadway
Suite 203
Portland OR 97227

Project Name: Plaid Pantry #112
Project #: 1179-04
Workorder #: 2004398A

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 4/21/2020 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: Alexandra Winslow at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Alexandra Winslow

Project Manager

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# WORK ORDER #: 2004398A

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 | **BILL TO:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 |
| **PHONE:** | 530-847-2740 | **P.O. #** | |
| **FAX:** | | **PROJECT #** | 1179-04 Plaid Pantry #112 |
| **DATE RECEIVED:** | 04/21/2020 | **CONTACT:** | Alexandra Winslow |
| **DATE COMPLETED:** | 04/27/2020 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 03A | AWS INLET | TO-15 | 4.1 "Hg | 15.3 psi |
| 04A | Lab Blank | TO-15 | NA | NA |
| 05A | CCV | TO-15 | NA | NA |
| 06A | LCS | TO-15 | NA | NA |
| 06AA | LCSD | TO-15 | NA | NA |

CERTIFIED BY: Heidi Hayes DATE: 04/27/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC 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) 351-8279

**LABORATORY NARRATIVE**
**EPA Method TO-15**
**EES Environmental Consulting, Inc.**
**Workorder# 2004398A**

One 1 Liter Summa Canister sample was received on April 21, 2020. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

## 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

Ten 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.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

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: AWS INLET**

**Lab ID#: 2004398A-03A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Ethanol | 4.7 | 12 | 8.9 | 23 |
| Acetone | 12 | 13 | 28 | 32 |
| 2-Propanol | 4.7 | 13 | 12 | 31 |
| Tetrahydrofuran | 1.2 | 3.2 | 3.5 | 9.4 |
| Heptane | 1.2 | 3.2 | 4.8 | 13 |
| 1,3-Dichlorobenzene | 1.2 | 2.0 | 7.1 | 12 |
| TPH ref. to Gasoline (MW=100) | 120 | 4300 | 480 | 18000 |

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**Client Sample ID: AWS INLET**

**Lab ID#: 2004398A-03A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042212** | **Date of Collection:** | **4/1/20 12:10:00** |
| **Dil. Factor:** | **2.36** | **Date of Analysis:** | **4/22/20 03:46 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 1.2 | Not Detected | 5.8 | Not Detected |
| Freon 114 | 1.2 | Not Detected | 8.2 | Not Detected |
| Chloromethane | 12 | Not Detected | 24 | Not Detected |
| Vinyl Chloride | 1.2 | Not Detected | 3.0 | Not Detected |
| 1,3-Butadiene | 1.2 | Not Detected | 2.6 | Not Detected |
| Bromomethane | 12 | Not Detected | 46 | Not Detected |
| Chloroethane | 4.7 | Not Detected | 12 | Not Detected |
| Freon 11 | 1.2 | Not Detected | 6.6 | Not Detected |
| Ethanol | 4.7 | 12 | 8.9 | 23 |
| Freon 113 | 1.2 | Not Detected | 9.0 | Not Detected |
| 1,1-Dichloroethene | 1.2 | Not Detected | 4.7 | Not Detected |
| Acetone | 12 | 13 | 28 | 32 |
| 2-Propanol | 4.7 | 13 | 12 | 31 |
| Carbon Disulfide | 4.7 | Not Detected | 15 | Not Detected |
| 3-Chloropropene | 4.7 | Not Detected | 15 | Not Detected |
| Methylene Chloride | 12 | Not Detected | 41 | Not Detected |
| Methyl tert-butyl ether | 4.7 | Not Detected | 17 | Not Detected |
| trans-1,2-Dichloroethene | 1.2 | Not Detected | 4.7 | Not Detected |
| Hexane | 1.2 | Not Detected | 4.2 | Not Detected |
| 1,1-Dichloroethane | 1.2 | Not Detected | 4.8 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 4.7 | Not Detected | 14 | Not Detected |
| cis-1,2-Dichloroethene | 1.2 | Not Detected | 4.7 | Not Detected |
| Tetrahydrofuran | 1.2 | 3.2 | 3.5 | 9.4 |
| Chloroform | 1.2 | Not Detected | 5.8 | Not Detected |
| 1,1,1-Trichloroethane | 1.2 | Not Detected | 6.4 | Not Detected |
| Cyclohexane | 1.2 | Not Detected | 4.1 | Not Detected |
| Carbon Tetrachloride | 1.2 | Not Detected | 7.4 | Not Detected |
| 2,2,4-Trimethylpentane | 1.2 | Not Detected | 5.5 | Not Detected |
| Benzene | 1.2 | Not Detected | 3.8 | Not Detected |
| 1,2-Dichloroethane | 1.2 | Not Detected | 4.8 | Not Detected |
| Heptane | 1.2 | 3.2 | 4.8 | 13 |
| Trichloroethene | 1.2 | Not Detected | 6.3 | Not Detected |
| 1,2-Dichloropropane | 1.2 | Not Detected | 5.4 | Not Detected |
| 1,4-Dioxane | 4.7 | Not Detected | 17 | Not Detected |
| Bromodichloromethane | 1.2 | Not Detected | 7.9 | Not Detected |
| cis-1,3-Dichloropropene | 1.2 | Not Detected | 5.4 | Not Detected |
| 4-Methyl-2-pentanone | 1.2 | Not Detected | 4.8 | Not Detected |
| Toluene | 1.2 | Not Detected | 4.4 | Not Detected |
| trans-1,3-Dichloropropene | 1.2 | Not Detected | 5.4 | Not Detected |
| 1,1,2-Trichloroethane | 1.2 | Not Detected | 6.4 | Not Detected |
| Tetrachloroethene | 1.2 | Not Detected | 8.0 | Not Detected |
| 2-Hexanone | 4.7 | Not Detected | 19 | Not Detected |

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**Client Sample ID: AWS INLET**

**Lab ID#: 2004398A-03A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042212** | **Date of Collection:** | **4/1/20 12:10:00** |
| **Dil. Factor:** | **2.36** | **Date of Analysis:** | **4/22/20 03:46 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Dibromochloromethane | 1.2 | Not Detected | 10 | Not Detected |
| 1,2-Dibromoethane (EDB) | 1.2 | Not Detected | 9.1 | Not Detected |
| Chlorobenzene | 1.2 | Not Detected | 5.4 | Not Detected |
| Ethyl Benzene | 1.2 | Not Detected | 5.1 | Not Detected |
| m,p-Xylene | 1.2 | Not Detected | 5.1 | Not Detected |
| o-Xylene | 1.2 | Not Detected | 5.1 | Not Detected |
| Styrene | 1.2 | Not Detected | 5.0 | Not Detected |
| Bromoform | 1.2 | Not Detected | 12 | Not Detected |
| Cumene | 1.2 | Not Detected | 5.8 | Not Detected |
| 1,1,2,2-Tetrachloroethane | 1.2 | Not Detected | 8.1 | Not Detected |
| Propylbenzene | 1.2 | Not Detected | 5.8 | Not Detected |
| 4-Ethyltoluene | 1.2 | Not Detected | 5.8 | Not Detected |
| 1,3,5-Trimethylbenzene | 1.2 | Not Detected | 5.8 | Not Detected |
| 1,2,4-Trimethylbenzene | 1.2 | Not Detected | 5.8 | Not Detected |
| 1,3-Dichlorobenzene | 1.2 | 2.0 | 7.1 | 12 |
| 1,4-Dichlorobenzene | 1.2 | Not Detected | 7.1 | Not Detected |
| alpha-Chlorotoluene | 1.2 | Not Detected | 6.1 | Not Detected |
| 1,2-Dichlorobenzene | 1.2 | Not Detected | 7.1 | Not Detected |
| 1,2,4-Trichlorobenzene | 4.7 | Not Detected | 35 | Not Detected |
| Hexachlorobutadiene | 4.7 | Not Detected | 50 | Not Detected |
| Naphthalene | 2.4 | Not Detected | 12 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 120 | 4300 | 480 | 18000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 103 | 70-130 |
| 1,2-Dichloroethane-d4 | 97 | 70-130 |
| 4-Bromofluorobenzene | 101 | 70-130 |

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**Client Sample ID: Lab Blank**

**Lab ID#: 2004398A-04A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042207** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 4/22/20 12:21 PM** | |

| 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#: 2004398A-04A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042207** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 4/22/20 12:21 PM** | |

| 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 | 103 | 70-130 |
| 1,2-Dichloroethane-d4 | 94 | 70-130 |
| 4-Bromofluorobenzene | 99 | 70-130 |

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**Client Sample ID: CCV**

**Lab ID#: 2004398A-05A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | |
|---|---|---|
| **File Name:** | **a042203** | **Date of Collection: NA** |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 4/22/20 10:15 AM** |

| Compound | %Recovery |
|---|---|
| Freon 12 | 91 |
| Freon 114 | 91 |
| Chloromethane | 96 |
| Vinyl Chloride | 94 |
| 1,3-Butadiene | 91 |
| Bromomethane | 98 |
| Chloroethane | 88 |
| Freon 11 | 89 |
| Ethanol | 90 |
| Freon 113 | 87 |
| 1,1-Dichloroethene | 90 |
| Acetone | 91 |
| 2-Propanol | 89 |
| Carbon Disulfide | 91 |
| 3-Chloropropene | 90 |
| Methylene Chloride | 91 |
| Methyl tert-butyl ether | 87 |
| trans-1,2-Dichloroethene | 92 |
| Hexane | 90 |
| 1,1-Dichloroethane | 92 |
| 2-Butanone (Methyl Ethyl Ketone) | 93 |
| cis-1,2-Dichloroethene | 93 |
| Tetrahydrofuran | 94 |
| Chloroform | 92 |
| 1,1,1-Trichloroethane | 90 |
| Cyclohexane | 90 |
| Carbon Tetrachloride | 90 |
| 2,2,4-Trimethylpentane | 97 |
| Benzene | 93 |
| 1,2-Dichloroethane | 90 |
| Heptane | 94 |
| Trichloroethene | 92 |
| 1,2-Dichloropropane | 94 |
| 1,4-Dioxane | 94 |
| Bromodichloromethane | 94 |
| cis-1,3-Dichloropropene | 98 |
| 4-Methyl-2-pentanone | 96 |
| Toluene | 92 |
| trans-1,3-Dichloropropene | 93 |
| 1,1,2-Trichloroethane | 90 |
| Tetrachloroethene | 88 |
| 2-Hexanone | 92 |

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**Client Sample ID: CCV**

**Lab ID#: 2004398A-05A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042203** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 4/22/20 10:15 AM** | |

| Compound | %Recovery |
|---|---|
| Dibromochloromethane | 91 |
| 1,2-Dibromoethane (EDB) | 92 |
| Chlorobenzene | 90 |
| Ethyl Benzene | 90 |
| m,p-Xylene | 91 |
| o-Xylene | 91 |
| Styrene | 92 |
| Bromoform | 92 |
| Cumene | 90 |
| 1,1,2,2-Tetrachloroethane | 91 |
| Propylbenzene | 91 |
| 4-Ethyltoluene | 91 |
| 1,3,5-Trimethylbenzene | 93 |
| 1,2,4-Trimethylbenzene | 92 |
| 1,3-Dichlorobenzene | 88 |
| 1,4-Dichlorobenzene | 88 |
| alpha-Chlorotoluene | 92 |
| 1,2-Dichlorobenzene | 88 |
| 1,2,4-Trichlorobenzene | 89 |
| Hexachlorobutadiene | 92 |
| Naphthalene | 88 |
| TPH ref. to Gasoline (MW=100) | 100 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 103 | 70-130 |
| 1,2-Dichloroethane-d4 | 95 | 70-130 |
| 4-Bromofluorobenzene | 102 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 2004398A-06A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042204** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 4/22/20 10:40 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 92 | 70-130 |
| Freon 114 | 89 | 70-130 |
| Chloromethane | 96 | 70-130 |
| Vinyl Chloride | 95 | 70-130 |
| 1,3-Butadiene | 89 | 70-130 |
| Bromomethane | 96 | 70-130 |
| Chloroethane | 91 | 70-130 |
| Freon 11 | 89 | 70-130 |
| Ethanol | 96 | 70-130 |
| Freon 113 | 87 | 70-130 |
| 1,1-Dichloroethene | 89 | 70-130 |
| Acetone | 91 | 70-130 |
| 2-Propanol | 90 | 70-130 |
| Carbon Disulfide | 92 | 70-130 |
| 3-Chloropropene | 94 | 70-130 |
| Methylene Chloride | 93 | 70-130 |
| Methyl tert-butyl ether | 89 | 70-130 |
| trans-1,2-Dichloroethene | 100 | 70-130 |
| Hexane | 93 | 70-130 |
| 1,1-Dichloroethane | 93 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 96 | 70-130 |
| cis-1,2-Dichloroethene | 87 | 70-130 |
| Tetrahydrofuran | 94 | 70-130 |
| Chloroform | 91 | 70-130 |
| 1,1,1-Trichloroethane | 91 | 70-130 |
| Cyclohexane | 94 | 70-130 |
| Carbon Tetrachloride | 91 | 70-130 |
| 2,2,4-Trimethylpentane | 99 | 70-130 |
| Benzene | 93 | 70-130 |
| 1,2-Dichloroethane | 89 | 70-130 |
| Heptane | 96 | 70-130 |
| Trichloroethene | 93 | 70-130 |
| 1,2-Dichloropropane | 95 | 70-130 |
| 1,4-Dioxane | 94 | 70-130 |
| Bromodichloromethane | 95 | 70-130 |
| cis-1,3-Dichloropropene | 103 | 70-130 |
| 4-Methyl-2-pentanone | 95 | 70-130 |
| Toluene | 94 | 70-130 |
| trans-1,3-Dichloropropene | 94 | 70-130 |
| 1,1,2-Trichloroethane | 92 | 70-130 |
| Tetrachloroethene | 89 | 70-130 |
| 2-Hexanone | 91 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 2004398A-06A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042204** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 4/22/20 10:40 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 92 | 70-130 |
| 1,2-Dibromoethane (EDB) | 92 | 70-130 |
| Chlorobenzene | 90 | 70-130 |
| Ethyl Benzene | 91 | 70-130 |
| m,p-Xylene | 93 | 70-130 |
| o-Xylene | 93 | 70-130 |
| Styrene | 94 | 70-130 |
| Bromoform | 94 | 70-130 |
| Cumene | 91 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 90 | 70-130 |
| Propylbenzene | 92 | 70-130 |
| 4-Ethyltoluene | 94 | 70-130 |
| 1,3,5-Trimethylbenzene | 91 | 70-130 |
| 1,2,4-Trimethylbenzene | 91 | 70-130 |
| 1,3-Dichlorobenzene | 87 | 70-130 |
| 1,4-Dichlorobenzene | 86 | 70-130 |
| alpha-Chlorotoluene | 94 | 70-130 |
| 1,2-Dichlorobenzene | 86 | 70-130 |
| 1,2,4-Trichlorobenzene | 80 | 70-130 |
| Hexachlorobutadiene | 85 | 70-130 |
| Naphthalene | 77 | 60-140 |
| TPH ref. to Gasoline (MW=100) | Not Spiked | |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 102 | 70-130 |
| 1,2-Dichloroethane-d4 | 95 | 70-130 |
| 4-Bromofluorobenzene | 99 | 70-130 |

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**Client Sample ID: LCSD**

**Lab ID#: 2004398A-06AA**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042205** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 4/22/20 11:05 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 84 | 70-130 |
| Freon 114 | 83 | 70-130 |
| Chloromethane | 89 | 70-130 |
| Vinyl Chloride | 88 | 70-130 |
| 1,3-Butadiene | 84 | 70-130 |
| Bromomethane | 92 | 70-130 |
| Chloroethane | 85 | 70-130 |
| Freon 11 | 83 | 70-130 |
| Ethanol | 85 | 70-130 |
| Freon 113 | 79 | 70-130 |
| 1,1-Dichloroethene | 81 | 70-130 |
| Acetone | 84 | 70-130 |
| 2-Propanol | 83 | 70-130 |
| Carbon Disulfide | 85 | 70-130 |
| 3-Chloropropene | 87 | 70-130 |
| Methylene Chloride | 84 | 70-130 |
| Methyl tert-butyl ether | 81 | 70-130 |
| trans-1,2-Dichloroethene | 94 | 70-130 |
| Hexane | 86 | 70-130 |
| 1,1-Dichloroethane | 85 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 86 | 70-130 |
| cis-1,2-Dichloroethene | 80 | 70-130 |
| Tetrahydrofuran | 87 | 70-130 |
| Chloroform | 84 | 70-130 |
| 1,1,1-Trichloroethane | 84 | 70-130 |
| Cyclohexane | 86 | 70-130 |
| Carbon Tetrachloride | 84 | 70-130 |
| 2,2,4-Trimethylpentane | 91 | 70-130 |
| Benzene | 85 | 70-130 |
| 1,2-Dichloroethane | 82 | 70-130 |
| Heptane | 89 | 70-130 |
| Trichloroethene | 86 | 70-130 |
| 1,2-Dichloropropane | 87 | 70-130 |
| 1,4-Dioxane | 84 | 70-130 |
| Bromodichloromethane | 88 | 70-130 |
| cis-1,3-Dichloropropene | 95 | 70-130 |
| 4-Methyl-2-pentanone | 88 | 70-130 |
| Toluene | 86 | 70-130 |
| trans-1,3-Dichloropropene | 87 | 70-130 |
| 1,1,2-Trichloroethane | 84 | 70-130 |
| Tetrachloroethene | 81 | 70-130 |
| 2-Hexanone | 85 | 70-130 |

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**Client Sample ID: LCSD**

**Lab ID#: 2004398A-06AA**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042205** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 4/22/20 11:05 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 84 | 70-130 |
| 1,2-Dibromoethane (EDB) | 84 | 70-130 |
| Chlorobenzene | 82 | 70-130 |
| Ethyl Benzene | 84 | 70-130 |
| m,p-Xylene | 85 | 70-130 |
| o-Xylene | 84 | 70-130 |
| Styrene | 86 | 70-130 |
| Bromoform | 86 | 70-130 |
| Cumene | 83 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 82 | 70-130 |
| Propylbenzene | 84 | 70-130 |
| 4-Ethyltoluene | 82 | 70-130 |
| 1,3,5-Trimethylbenzene | 87 | 70-130 |
| 1,2,4-Trimethylbenzene | 83 | 70-130 |
| 1,3-Dichlorobenzene | 79 | 70-130 |
| 1,4-Dichlorobenzene | 80 | 70-130 |
| alpha-Chlorotoluene | 88 | 70-130 |
| 1,2-Dichlorobenzene | 79 | 70-130 |
| 1,2,4-Trichlorobenzene | 76 | 70-130 |
| Hexachlorobutadiene | 80 | 70-130 |
| Naphthalene | 72 | 60-140 |
| TPH ref. to Gasoline (MW=100) | Not Spiked | |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 104 | 70-130 |
| 1,2-Dichloroethane-d4 | 96 | 70-130 |
| 4-Bromofluorobenzene | 98 | 70-130 |

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4/28/2020
Mr. Chris Rhea
EES Environmental Consulting, Inc.
240 N Broadway
Suite 203
Portland OR 97227

Project Name: Plaid Pantry #112
Project #: 1179-04
Workorder #: 2004398B

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 4/21/2020 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: Alexandra Winslow at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Alexandra Winslow

Project Manager

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# WORK ORDER #: 2004398B

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 | **BILL TO:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 |
| **PHONE:** | 530-847-2740 | **P.O. #** | |
| **FAX:** | | **PROJECT #** | 1179-04 Plaid Pantry #112 |
| **DATE RECEIVED:** | 04/21/2020 | **CONTACT:** | Alexandra Winslow |
| **DATE COMPLETED:** | 04/27/2020 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 01A | SVE-6 | TO-15 | 4.3 "Hg | 15.6 psi |
| 02A | SVE-7 | TO-15 | 4.9 "Hg | 15.1 psi |
| 05A | SVE-8 | TO-15 | 4.9 "Hg | 14.9 psi |
| 06A | Lab Blank | TO-15 | NA | NA |
| 07A | CCV | TO-15 | NA | NA |
| 08A | LCS | TO-15 | NA | NA |
| 08AA | LCSD | TO-15 | NA | NA |

CERTIFIED BY: Heidi Hayes DATE: 04/27/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards



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(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

**LABORATORY NARRATIVE**
**EPA Method TO-15**
**EES Environmental Consulting, Inc.**
**Workorder# 2004398B**

Three 1 Liter Summa Canister samples were received on April 21, 2020. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

## Receiving Notes

There were no receiving discrepancies.

## Analytical Notes

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

Dilution was performed on sample SVE-8 due to the presence of high level target species.

## Definition of Data Qualifying Flags

Ten 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.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

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-6**

**Lab ID#: 2004398B-01A**

No Detections Were Found.

**Client Sample ID: SVE-7**

**Lab ID#: 2004398B-02A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 120 | 7300 | 490 | 30000 |

**Client Sample ID: SVE-8**

**Lab ID#: 2004398B-05A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 240 | 34000 | 980 | 140000 |

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**Client Sample ID: SVE-6**

**Lab ID#: 2004398B-01A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042222** | **Date of Collection:** | **4/1/20 11:50:00** |
| **Dil. Factor:** | **2.41** | **Date of Analysis:** | **4/22/20 09:50 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 | Not Detected | 4.5 | Not Detected |
| m,p-Xylene | 1.2 | Not Detected | 5.2 | Not Detected |
| 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 | Not Detected | 490 | Not Detected |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | 70-130 |
| Toluene-d8 | 101 | 70-130 |
| 4-Bromofluorobenzene | 99 | 70-130 |

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**Client Sample ID: SVE-7**

**Lab ID#: 2004398B-02A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042214** | **Date of Collection: 4/1/20 11:55:00** | |
| **Dil. Factor:** | **2.42** | **Date of Analysis: 4/22/20 04:39 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 1.2 | Not Detected | 3.9 | Not Detected |
| Ethyl Benzene | 1.2 | Not Detected | 5.2 | Not Detected |
| Toluene | 1.2 | Not Detected | 4.6 | Not Detected |
| m,p-Xylene | 1.2 | Not Detected | 5.2 | Not Detected |
| 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 | 7300 | 490 | 30000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | 70-130 |
| Toluene-d8 | 103 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

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**Client Sample ID: SVE-8**

**Lab ID#: 2004398B-05A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042215** | **Date of Collection: 4/1/20 12:05:00** | |
| **Dil. Factor:** | **4.81** | **Date of Analysis: 4/22/20 05:04 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Benzene | 2.4 | Not Detected | 7.7 | Not Detected |
| Ethyl Benzene | 2.4 | Not Detected | 10 | Not Detected |
| Toluene | 2.4 | Not Detected | 9.1 | Not Detected |
| m,p-Xylene | 2.4 | Not Detected | 10 | Not Detected |
| o-Xylene | 2.4 | Not Detected | 10 | Not Detected |
| Naphthalene | 4.8 | Not Detected | 25 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 240 | 34000 | 980 | 140000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | 70-130 |
| Toluene-d8 | 101 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

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**Client Sample ID: Lab Blank**

**Lab ID#: 2004398B-06A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042207** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 4/22/20 12:21 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 | 94 | 70-130 |
| Toluene-d8 | 103 | 70-130 |
| 4-Bromofluorobenzene | 99 | 70-130 |

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**Client Sample ID: CCV**

**Lab ID#: 2004398B-07A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042203** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 4/22/20 10:15 AM** | |

| Compound | %Recovery |
|---|---|
| Benzene | 93 |
| Ethyl Benzene | 90 |
| Toluene | 92 |
| m,p-Xylene | 91 |
| o-Xylene | 91 |
| Naphthalene | 88 |
| TPH ref. to Gasoline (MW=100) | 100 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | 70-130 |
| Toluene-d8 | 103 | 70-130 |
| 4-Bromofluorobenzene | 102 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 2004398B-08A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042204** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 4/22/20 10:40 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Benzene | 93 | 70-130 |
| Ethyl Benzene | 91 | 70-130 |
| Toluene | 94 | 70-130 |
| m,p-Xylene | 93 | 70-130 |
| o-Xylene | 93 | 70-130 |
| Naphthalene | 77 | 60-140 |
| TPH ref. to Gasoline (MW=100) | Not Spiked | |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | 70-130 |
| Toluene-d8 | 102 | 70-130 |
| 4-Bromofluorobenzene | 99 | 70-130 |

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**Client Sample ID: LCSD**

**Lab ID#: 2004398B-08AA**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a042205** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 4/22/20 11:05 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Benzene | 85 | 70-130 |
| Ethyl Benzene | 84 | 70-130 |
| Toluene | 86 | 70-130 |
| m,p-Xylene | 85 | 70-130 |
| o-Xylene | 84 | 70-130 |
| Naphthalene | 72 | 60-140 |
| TPH ref. to Gasoline (MW=100) | Not Spiked | |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | 70-130 |
| Toluene-d8 | 104 | 70-130 |
| 4-Bromofluorobenzene | 98 | 70-130 |

eurofins | Air Toxics

7/29/2020
Mr. Chris Rhea
EES Environmental Consulting, Inc.
240 N Broadway
Suite 203
Portland OR 97227

Project Name: PLAID PANTRY #112
Project #: 1179-04
Workorder #: 2007448A

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 7/16/2020 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: Alexandra Winslow at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Alexandra Winslow

Project Manager

eurofins | Air Toxics

# WORK ORDER #: 2007448A

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 | **BILL TO:** | Mr. Chris Rhea<br>EES Environmental Consulting, Inc.<br>240 N Broadway<br>Suite 203<br>Portland, OR 97227 |
| **PHONE:** | 530-847-2740 | **P.O. #** | |
| **FAX:** | | **PROJECT #** | 1179-04 PLAID PANTRY #112 |
| **DATE RECEIVED:** | 07/16/2020 | **CONTACT:** | Alexandra Winslow |
| **DATE COMPLETED:** | 07/29/2020 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 01A | SVE-6 | TO-15 | 6.5 "Hg | 15 psi |
| 02A | SVE-8 | TO-15 | 6.0 "Hg | 15 psi |
| 03A | AWS INLET | TO-15 | 6.0 "Hg | 15 psi |
| 05A | SVE-7 | TO-15 | 6.5 "Hg | 15 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: 07/29/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC 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) 351-8279

**LABORATORY NARRATIVE**
**EPA Method TO-15**
**EES Environmental Consulting, Inc.**
**Workorder# 2007448A**

Four 1 Liter Summa Canister samples were received on July 16, 2020. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

## 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.

The hydrocarbon profile present in samples SVE-8, AWS INLET and SVE-7 did not resemble that of commercial gasoline. Results were calculated using the response factor derived from the gasoline calibration.

## Definition of Data Qualifying Flags

Ten 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.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

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-6**

**Lab ID#: 2007448A-01A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Ethyl Benzene | 1.3 | 4.2 | 5.6 | 18 |
| Toluene | 1.3 | 3.8 | 4.9 | 14 |
| m,p-Xylene | 1.3 | 15 | 5.6 | 66 |
| o-Xylene | 1.3 | 7.8 | 5.6 | 34 |
| TPH ref. to Gasoline (MW=100) | 130 | 400 | 530 | 1600 |

**Client Sample ID: SVE-8**

**Lab ID#: 2007448A-02A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Ethyl Benzene | 1.3 | 6.2 | 5.5 | 27 |
| Toluene | 1.3 | 4.3 | 4.7 | 16 |
| m,p-Xylene | 1.3 | 23 | 5.5 | 100 |
| o-Xylene | 1.3 | 13 | 5.5 | 56 |
| TPH ref. to Gasoline (MW=100) | 130 | 37000 | 520 | 150000 |

**Client Sample ID: AWS INLET**

**Lab ID#: 2007448A-03A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Ethanol | 5.0 | 20 | 9.5 | 37 |
| Acetone | 13 | 78 | 30 | 190 |
| 2-Propanol | 5.0 | 6.2 | 12 | 15 |
| 2-Butanone (Methyl Ethyl Ketone) | 5.0 | 6.6 | 15 | 19 |
| Tetrahydrofuran | 1.3 | 4.6 | 3.7 | 14 |
| Toluene | 1.3 | 1.5 | 4.7 | 5.7 |
| Ethyl Benzene | 1.3 | 2.4 | 5.5 | 10 |
| m,p-Xylene | 1.3 | 8.2 | 5.5 | 36 |
| o-Xylene | 1.3 | 4.5 | 5.5 | 20 |
| 4-Ethyltoluene | 1.3 | 2.2 | 6.2 | 11 |
| 1,3,5-Trimethylbenzene | 1.3 | 1.7 | 6.2 | 8.3 |
| 1,2,4-Trimethylbenzene | 1.3 | 3.3 | 6.2 | 16 |
| 1,3-Dichlorobenzene | 1.3 | 1.5 | 7.6 | 9.0 |

eurofins | Air Toxics

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

**Client Sample ID: AWS INLET**

**Lab ID#: 2007448A-03A**

| | | | | |
|---|---|---|---|---|
| TPH ref. to Gasoline (MW=100) | 130 | 4900 | 520 | 20000 |

**Client Sample ID: SVE-7**

**Lab ID#: 2007448A-05A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Ethyl Benzene | 1.3 | 5.9 | 5.6 | 25 |
| Toluene | 1.3 | 3.8 | 4.9 | 14 |
| m,p-Xylene | 1.3 | 23 | 5.6 | 100 |
| o-Xylene | 1.3 | 12 | 5.6 | 52 |
| TPH ref. to Gasoline (MW=100) | 130 | 8000 | 530 | 33000 |

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**Client Sample ID: SVE-6**

**Lab ID#: 2007448A-01A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a072124** | **Date of Collection: 7/13/20 12:52:00 PM** | |
| **Dil. Factor:** | **2.58** | **Date of Analysis: 7/21/20 11:44 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 | 4.2 | 5.6 | 18 |
| Toluene | 1.3 | 3.8 | 4.9 | 14 |
| m,p-Xylene | 1.3 | 15 | 5.6 | 66 |
| o-Xylene | 1.3 | 7.8 | 5.6 | 34 |
| Naphthalene | 2.6 | Not Detected | 14 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 130 | 400 | 530 | 1600 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | 70-130 |
| Toluene-d8 | 98 | 70-130 |
| 4-Bromofluorobenzene | 96 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: SVE-8**

**Lab ID#: 2007448A-02A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a072125** | **Date of Collection: 7/13/20 1:11:00 PM** | |
| **Dil. Factor:** | **2.52** | **Date of Analysis: 7/22/20 12:10 AM** | |

| 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 | 6.2 | 5.5 | 27 |
| Toluene | 1.3 | 4.3 | 4.7 | 16 |
| m,p-Xylene | 1.3 | 23 | 5.5 | 100 |
| o-Xylene | 1.3 | 13 | 5.5 | 56 |
| Naphthalene | 2.5 | Not Detected | 13 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 130 | 37000 | 520 | 150000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | 70-130 |
| Toluene-d8 | 108 | 70-130 |
| 4-Bromofluorobenzene | 99 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: AWS INLET**

**Lab ID#: 2007448A-03A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a072126** | **Date of Collection:** | **7/13/20 1:16:00 PM** |
| **Dil. Factor:** | **2.52** | **Date of Analysis:** | **7/22/20 12:37 AM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 1.3 | Not Detected | 6.2 | Not Detected |
| Freon 114 | 1.3 | Not Detected | 8.8 | Not Detected |
| Chloromethane | 13 | Not Detected | 26 | Not Detected |
| Vinyl Chloride | 1.3 | Not Detected | 3.2 | Not Detected |
| 1,3-Butadiene | 1.3 | Not Detected | 2.8 | Not Detected |
| Bromomethane | 13 | Not Detected | 49 | Not Detected |
| Chloroethane | 5.0 | Not Detected | 13 | Not Detected |
| Freon 11 | 1.3 | Not Detected | 7.1 | Not Detected |
| Ethanol | 5.0 | 20 | 9.5 | 37 |
| Freon 113 | 1.3 | Not Detected | 9.6 | Not Detected |
| 1,1-Dichloroethene | 1.3 | Not Detected | 5.0 | Not Detected |
| Acetone | 13 | 78 | 30 | 190 |
| 2-Propanol | 5.0 | 6.2 | 12 | 15 |
| Carbon Disulfide | 5.0 | Not Detected | 16 | Not Detected |
| 3-Chloropropene | 5.0 | Not Detected | 16 | Not Detected |
| Methylene Chloride | 13 | Not Detected | 44 | Not Detected |
| Methyl tert-butyl ether | 5.0 | Not Detected | 18 | Not Detected |
| trans-1,2-Dichloroethene | 1.3 | Not Detected | 5.0 | Not Detected |
| Hexane | 1.3 | Not Detected | 4.4 | Not Detected |
| 1,1-Dichloroethane | 1.3 | Not Detected | 5.1 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 5.0 | 6.6 | 15 | 19 |
| cis-1,2-Dichloroethene | 1.3 | Not Detected | 5.0 | Not Detected |
| Tetrahydrofuran | 1.3 | 4.6 | 3.7 | 14 |
| Chloroform | 1.3 | Not Detected | 6.2 | Not Detected |
| 1,1,1-Trichloroethane | 1.3 | Not Detected | 6.9 | Not Detected |
| Cyclohexane | 1.3 | Not Detected | 4.3 | Not Detected |
| Carbon Tetrachloride | 1.3 | Not Detected | 7.9 | Not Detected |
| 2,2,4-Trimethylpentane | 1.3 | Not Detected | 5.9 | Not Detected |
| Benzene | 1.3 | Not Detected | 4.0 | Not Detected |
| 1,2-Dichloroethane | 1.3 | Not Detected | 5.1 | Not Detected |
| Heptane | 1.3 | Not Detected | 5.2 | Not Detected |
| Trichloroethene | 1.3 | Not Detected | 6.8 | Not Detected |
| 1,2-Dichloropropane | 1.3 | Not Detected | 5.8 | Not Detected |
| 1,4-Dioxane | 5.0 | Not Detected | 18 | Not Detected |
| Bromodichloromethane | 1.3 | Not Detected | 8.4 | Not Detected |
| cis-1,3-Dichloropropene | 1.3 | Not Detected | 5.7 | Not Detected |
| 4-Methyl-2-pentanone | 1.3 | Not Detected | 5.2 | Not Detected |
| Toluene | 1.3 | 1.5 | 4.7 | 5.7 |
| trans-1,3-Dichloropropene | 1.3 | Not Detected | 5.7 | Not Detected |
| 1,1,2-Trichloroethane | 1.3 | Not Detected | 6.9 | Not Detected |
| Tetrachloroethene | 1.3 | Not Detected | 8.5 | Not Detected |
| 2-Hexanone | 5.0 | Not Detected | 21 | Not Detected |

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**Client Sample ID: AWS INLET**

**Lab ID#: 2007448A-03A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a072126** | **Date of Collection:** | **7/13/20 1:16:00 PM** |
| **Dil. Factor:** | **2.52** | **Date of Analysis:** | **7/22/20 12:37 AM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Dibromochloromethane | 1.3 | Not Detected | 11 | Not Detected |
| 1,2-Dibromoethane (EDB) | 1.3 | Not Detected | 9.7 | Not Detected |
| Chlorobenzene | 1.3 | Not Detected | 5.8 | Not Detected |
| Ethyl Benzene | 1.3 | 2.4 | 5.5 | 10 |
| m,p-Xylene | 1.3 | 8.2 | 5.5 | 36 |
| o-Xylene | 1.3 | 4.5 | 5.5 | 20 |
| Styrene | 1.3 | Not Detected | 5.4 | Not Detected |
| Bromoform | 1.3 | Not Detected | 13 | Not Detected |
| Cumene | 1.3 | Not Detected | 6.2 | Not Detected |
| 1,1,2,2-Tetrachloroethane | 1.3 | Not Detected | 8.6 | Not Detected |
| Propylbenzene | 1.3 | Not Detected | 6.2 | Not Detected |
| 4-Ethyltoluene | 1.3 | 2.2 | 6.2 | 11 |
| 1,3,5-Trimethylbenzene | 1.3 | 1.7 | 6.2 | 8.3 |
| 1,2,4-Trimethylbenzene | 1.3 | 3.3 | 6.2 | 16 |
| 1,3-Dichlorobenzene | 1.3 | 1.5 | 7.6 | 9.0 |
| 1,4-Dichlorobenzene | 1.3 | Not Detected | 7.6 | Not Detected |
| alpha-Chlorotoluene | 1.3 | Not Detected | 6.5 | Not Detected |
| 1,2-Dichlorobenzene | 1.3 | Not Detected | 7.6 | Not Detected |
| 1,2,4-Trichlorobenzene | 5.0 | Not Detected | 37 | Not Detected |
| Hexachlorobutadiene | 5.0 | Not Detected | 54 | Not Detected |
| Naphthalene | 2.5 | Not Detected | 13 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 130 | 4900 | 520 | 20000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 105 | 70-130 |
| 1,2-Dichloroethane-d4 | 100 | 70-130 |
| 4-Bromofluorobenzene | 92 | 70-130 |

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**Client Sample ID: SVE-7**

**Lab ID#: 2007448A-05A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a072129** | **Date of Collection: 7/13/20 1:01:00 PM** | |
| **Dil. Factor:** | **2.58** | **Date of Analysis: 7/22/20 08:02 AM** | |

| 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 | 5.9 | 5.6 | 25 |
| Toluene | 1.3 | 3.8 | 4.9 | 14 |
| m,p-Xylene | 1.3 | 23 | 5.6 | 100 |
| o-Xylene | 1.3 | 12 | 5.6 | 52 |
| Naphthalene | 2.6 | Not Detected | 14 | Not Detected |
| TPH ref. to Gasoline (MW=100) | 130 | 8000 | 530 | 33000 |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | 70-130 |
| Toluene-d8 | 104 | 70-130 |
| 4-Bromofluorobenzene | 96 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: Lab Blank**

**Lab ID#: 2007448A-06A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a072111c** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 7/21/20 03:12 PM** | |

| 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 |

eurofins | Air Toxics

**Client Sample ID: Lab Blank**

**Lab ID#: 2007448A-06A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a072111c** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 7/21/20 03:12 PM** | |

| 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 | 102 | 70-130 |
| 4-Bromofluorobenzene | 90 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: CCV**

**Lab ID#: 2007448A-07A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | |
|---|---|---|
| **File Name:** | **a072102** | **Date of Collection: NA** |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 7/21/20 10:28 AM** |

| Compound | %Recovery |
|---|---|
| Freon 12 | 99 |
| Freon 114 | 95 |
| Chloromethane | 106 |
| Vinyl Chloride | 96 |
| 1,3-Butadiene | 90 |
| Bromomethane | 101 |
| Chloroethane | 95 |
| Freon 11 | 100 |
| Ethanol | 72 |
| Freon 113 | 90 |
| 1,1-Dichloroethene | 98 |
| Acetone | 95 |
| 2-Propanol | 82 |
| Carbon Disulfide | 101 |
| 3-Chloropropene | 96 |
| Methylene Chloride | 104 |
| Methyl tert-butyl ether | 96 |
| trans-1,2-Dichloroethene | 98 |
| Hexane | 97 |
| 1,1-Dichloroethane | 101 |
| 2-Butanone (Methyl Ethyl Ketone) | 96 |
| cis-1,2-Dichloroethene | 98 |
| Tetrahydrofuran | 91 |
| Chloroform | 100 |
| 1,1,1-Trichloroethane | 100 |
| Cyclohexane | 96 |
| Carbon Tetrachloride | 98 |
| 2,2,4-Trimethylpentane | 100 |
| Benzene | 97 |
| 1,2-Dichloroethane | 99 |
| Heptane | 98 |
| Trichloroethene | 96 |
| 1,2-Dichloropropane | 97 |
| 1,4-Dioxane | 71 |
| Bromodichloromethane | 96 |
| cis-1,3-Dichloropropene | 95 |
| 4-Methyl-2-pentanone | 88 |
| Toluene | 89 |
| trans-1,3-Dichloropropene | 99 |
| 1,1,2-Trichloroethane | 95 |
| Tetrachloroethene | 85 |
| 2-Hexanone | 91 |

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**Client Sample ID: CCV**

**Lab ID#: 2007448A-07A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a072102** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 7/21/20 10:28 AM** | |

| Compound | %Recovery |
|---|---|
| Dibromochloromethane | 92 |
| 1,2-Dibromoethane (EDB) | 94 |
| Chlorobenzene | 93 |
| Ethyl Benzene | 95 |
| m,p-Xylene | 93 |
| o-Xylene | 91 |
| Styrene | 102 |
| Bromoform | 93 |
| Cumene | 95 |
| 1,1,2,2-Tetrachloroethane | 95 |
| Propylbenzene | 95 |
| 4-Ethyltoluene | 94 |
| 1,3,5-Trimethylbenzene | 93 |
| 1,2,4-Trimethylbenzene | 92 |
| 1,3-Dichlorobenzene | 89 |
| 1,4-Dichlorobenzene | 88 |
| alpha-Chlorotoluene | 98 |
| 1,2-Dichlorobenzene | 87 |
| 1,2,4-Trichlorobenzene | 89 |
| Hexachlorobutadiene | 87 |
| Naphthalene | 85 |
| TPH ref. to Gasoline (MW=100) | 100 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 99 | 70-130 |
| 1,2-Dichloroethane-d4 | 107 | 70-130 |
| 4-Bromofluorobenzene | 97 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 2007448A-08A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a072105** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 7/21/20 11:46 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 111 | 70-130 |
| Freon 114 | 107 | 70-130 |
| Chloromethane | 109 | 70-130 |
| Vinyl Chloride | 110 | 70-130 |
| 1,3-Butadiene | 103 | 70-130 |
| Bromomethane | 118 | 70-130 |
| Chloroethane | 104 | 70-130 |
| Freon 11 | 111 | 70-130 |
| Ethanol | 90 | 70-130 |
| Freon 113 | 98 | 70-130 |
| 1,1-Dichloroethene | 108 | 70-130 |
| Acetone | 95 | 70-130 |
| 2-Propanol | 102 | 70-130 |
| Carbon Disulfide | 113 | 70-130 |
| 3-Chloropropene | 112 | 70-130 |
| Methylene Chloride | 111 | 70-130 |
| Methyl tert-butyl ether | 105 | 70-130 |
| trans-1,2-Dichloroethene | 120 | 70-130 |
| Hexane | 107 | 70-130 |
| 1,1-Dichloroethane | 110 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 107 | 70-130 |
| cis-1,2-Dichloroethene | 102 | 70-130 |
| Tetrahydrofuran | 107 | 70-130 |
| Chloroform | 110 | 70-130 |
| 1,1,1-Trichloroethane | 109 | 70-130 |
| Cyclohexane | 104 | 70-130 |
| Carbon Tetrachloride | 107 | 70-130 |
| 2,2,4-Trimethylpentane | 110 | 70-130 |
| Benzene | 106 | 70-130 |
| 1,2-Dichloroethane | 106 | 70-130 |
| Heptane | 109 | 70-130 |
| Trichloroethene | 104 | 70-130 |
| 1,2-Dichloropropane | 103 | 70-130 |
| 1,4-Dioxane | 99 | 70-130 |
| Bromodichloromethane | 109 | 70-130 |
| cis-1,3-Dichloropropene | 108 | 70-130 |
| 4-Methyl-2-pentanone | 98 | 70-130 |
| Toluene | 95 | 70-130 |
| trans-1,3-Dichloropropene | 108 | 70-130 |
| 1,1,2-Trichloroethane | 104 | 70-130 |
| Tetrachloroethene | 91 | 70-130 |
| 2-Hexanone | 107 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: LCS**

**Lab ID#: 2007448A-08A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a072105** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 7/21/20 11:46 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 103 | 70-130 |
| 1,2-Dibromoethane (EDB) | 102 | 70-130 |
| Chlorobenzene | 101 | 70-130 |
| Ethyl Benzene | 103 | 70-130 |
| m,p-Xylene | 101 | 70-130 |
| o-Xylene | 101 | 70-130 |
| Styrene | 113 | 70-130 |
| Bromoform | 103 | 70-130 |
| Cumene | 102 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 103 | 70-130 |
| Propylbenzene | 104 | 70-130 |
| 4-Ethyltoluene | 100 | 70-130 |
| 1,3,5-Trimethylbenzene | 108 | 70-130 |
| 1,2,4-Trimethylbenzene | 104 | 70-130 |
| 1,3-Dichlorobenzene | 98 | 70-130 |
| 1,4-Dichlorobenzene | 98 | 70-130 |
| alpha-Chlorotoluene | 123 | 70-130 |
| 1,2-Dichlorobenzene | 97 | 70-130 |
| 1,2,4-Trichlorobenzene | 108 | 70-130 |
| Hexachlorobutadiene | 104 | 70-130 |
| Naphthalene | 123 | 60-140 |
| TPH ref. to Gasoline (MW=100) | Not Spiked | |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 99 | 70-130 |
| 1,2-Dichloroethane-d4 | 108 | 70-130 |
| 4-Bromofluorobenzene | 97 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: LCSD**

**Lab ID#: 2007448A-08AA**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a072106** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 7/21/20 12:11 PM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 109 | 70-130 |
| Freon 114 | 105 | 70-130 |
| Chloromethane | 107 | 70-130 |
| Vinyl Chloride | 109 | 70-130 |
| 1,3-Butadiene | 100 | 70-130 |
| Bromomethane | 114 | 70-130 |
| Chloroethane | 107 | 70-130 |
| Freon 11 | 108 | 70-130 |
| Ethanol | 90 | 70-130 |
| Freon 113 | 99 | 70-130 |
| 1,1-Dichloroethene | 106 | 70-130 |
| Acetone | 97 | 70-130 |
| 2-Propanol | 102 | 70-130 |
| Carbon Disulfide | 110 | 70-130 |
| 3-Chloropropene | 107 | 70-130 |
| Methylene Chloride | 108 | 70-130 |
| Methyl tert-butyl ether | 104 | 70-130 |
| trans-1,2-Dichloroethene | 117 | 70-130 |
| Hexane | 107 | 70-130 |
| 1,1-Dichloroethane | 109 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 105 | 70-130 |
| cis-1,2-Dichloroethene | 101 | 70-130 |
| Tetrahydrofuran | 106 | 70-130 |
| Chloroform | 108 | 70-130 |
| 1,1,1-Trichloroethane | 105 | 70-130 |
| Cyclohexane | 106 | 70-130 |
| Carbon Tetrachloride | 106 | 70-130 |
| 2,2,4-Trimethylpentane | 108 | 70-130 |
| Benzene | 104 | 70-130 |
| 1,2-Dichloroethane | 106 | 70-130 |
| Heptane | 105 | 70-130 |
| Trichloroethene | 102 | 70-130 |
| 1,2-Dichloropropane | 103 | 70-130 |
| 1,4-Dioxane | 98 | 70-130 |
| Bromodichloromethane | 108 | 70-130 |
| cis-1,3-Dichloropropene | 110 | 70-130 |
| 4-Methyl-2-pentanone | 99 | 70-130 |
| Toluene | 96 | 70-130 |
| trans-1,3-Dichloropropene | 110 | 70-130 |
| 1,1,2-Trichloroethane | 106 | 70-130 |
| Tetrachloroethene | 94 | 70-130 |
| 2-Hexanone | 107 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: LCSD**

**Lab ID#: 2007448A-08AA**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **a072106** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 7/21/20 12:11 PM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 105 | 70-130 |
| 1,2-Dibromoethane (EDB) | 103 | 70-130 |
| Chlorobenzene | 103 | 70-130 |
| Ethyl Benzene | 104 | 70-130 |
| m,p-Xylene | 102 | 70-130 |
| o-Xylene | 101 | 70-130 |
| Styrene | 114 | 70-130 |
| Bromoform | 105 | 70-130 |
| Cumene | 102 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 102 | 70-130 |
| Propylbenzene | 103 | 70-130 |
| 4-Ethyltoluene | 106 | 70-130 |
| 1,3,5-Trimethylbenzene | 104 | 70-130 |
| 1,2,4-Trimethylbenzene | 104 | 70-130 |
| 1,3-Dichlorobenzene | 98 | 70-130 |
| 1,4-Dichlorobenzene | 99 | 70-130 |
| alpha-Chlorotoluene | 123 | 70-130 |
| 1,2-Dichlorobenzene | 98 | 70-130 |
| 1,2,4-Trichlorobenzene | 111 | 70-130 |
| Hexachlorobutadiene | 105 | 70-130 |
| Naphthalene | 128 | 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 | 104 | 70-130 |
| 4-Bromofluorobenzene | 99 | 70-130 |