CALIBRE

# Technical Memorandum

**To:** Julia Schwarz (Ecology), Bob Code (Fox Ave Building, LLC)
Craig Hopkins (Seattle Boiler Works)

**From:** Tom McKeon, P.E. CALIBRE

**Date:** February 26, 2024

**Subject:** Seattle Boiler Works Indoor Air and Sub-Slab Vapor Monitoring Summary

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This Technical Memorandum (Tech Memo) summarizes Indoor Air (IA) and sub-slab vapor monitoring results from samples collected at Seattle Boiler Works (SBW) as part of the Fox Avenue Site (the Site) in December 2023. This work was performed pursuant to Agreed Order No. 8985 between Fox Ave LLC and the Washington State Department of Ecology (Ecology; Ecology 2012a) and was completed by CALIBRE Systems, Inc. (CALIBRE). Ecology approved the IA and Soil Vapor Sampling Plan (CALIBRE, 2023) on February 15, 2023, the Access Agreement with SBW was finalized December 2023, and all samples were collected at the Site between December 12-13, 2023 (see sampling locations in Figure 1). The IA samples (plus ambient air sample) were collected on December 12, 2023 and the sub-slab samples were collected on the morning of the following day (December 13, 2023).

Following the approved sampling plan, one ambient air sample, two IA samples, and two sub-slab vapor samples were collected from previously sampled areas/locations at the Site. In addition, one added IA sample was collected at the request of Seattle Boiler Works from a location not previously sampled (an enclosed room on the east end of the Pipe Shop). A duplicate sample was collected from one of the sub-slab sample locations (SBW-SV-2). The IA samples included a period with a rising tide.

**Pre-Sampling Site Walkthrough**

Prior to sampling, SBW was notified of the planned IA and sub-slab sampling. CALIBRE accessed the site on December 11, 2023 to locate the previously installed soil vapor probes and complete a walkthrough of the facility to identify potential background sources containing VOCs. A chemical inventory list of products stored/used in the sampling areas was generated during the walkthrough. VOC containing products were identified while accessing the site, including work vehicles stored in the pipe shop, spray paint cans, various protective coatings and sealers for metal and wood, cleaning solvents, and disinfecting sprays. Attachment A includes an Indoor Air Quality Questionnaire, a list of various products/chemicals observed, and photos taken during the walkthrough.

**Summary of Sampling Approach**

On December 12, 2023, six-liter summa canisters (received from Eurofins AirToxics) were positioned at the ambient air and IA sampling locations. The ambient air and IA summa canisters included flow controllers calibrated for sample collection at a rate of approximately 12 milliliters per minute to achieve an 8-hour sample collection time. The ambient air sample was collected from the vegetated area near the front door to

the SBW office, sample PS-1 was collected within the Pipe Shop, sample PO-1 was collected from the Pipe Shop office, and sample L-1 was collected from the lunchroom inside the SBW Pipe Shop building. Sample collection for the outdoor ambient air sample was started prior to the IA samples and continued through the end of IA sampling period.

Sub-slab vapor samples were collected on December 13, 2023. Samples were collected from existing soil vapor probes within the Pipe Shop (SV-2) and the lunchroom inside the Pipe Shop building (SV-3). Prior to sub-slab sample collection, a helium tracer test using a shroud was completed at each sub-slab vapor sample location to confirm there were no appreciable leaks within the sample train. Helium leak testing of the sampling train was completed following the project standard operating procedures (SOPs). No significant leaks were detected in any of the sample locations; i.e. helium detections within the sampling train were less than 5% of the helium concentrations within the shroud. Helium concentrations within the shrouds used for leak detection were between 80-90% helium and the highest helium detection from a sample train was 2.5%, approximately 2.9% of the shroud concentration.

Following the helium leak testing, one-liter summa canisters were used to collect the sub-slab vapor samples. The sampling train from the sub-slab vapor connection point to the summa canister was purged with a hand pump prior to sample collection; the purge volume exceeded 2 liters, more than 20 times the volume of the sample line. A duplicate sample was collected from the SV-2 sub-slab location using a stainless-steel sampling "T" (provided by the laboratory) to allow the parent and duplicate sample to be collected at the same time. Sample sheets are provided in Attachment B. Photos of the ambient air, IA, and sub-slab vapor locations are included in Attachment C.

The summa canisters were shipped to Eurofins Air Toxics and the air samples were analyzed for VOCs by USEPA Method TO-15. The laboratory data packages for all samples (ambient air, IA, and sub-slab samples) are included in Attachment D. The ambient air summa canister sample was noted as being at ambient pressure upon receipt at the lab. Low level detections of freon 11, ethanol, acetone, and methylene chloride were observed in the ambient air sample however no detections of volatile chemicals of concern (COCs; tetrachloroethene [PCE], trichloroethene [TCE], cis-1,2-dichloroethene [cis-1,2-DCE], and vinyl chloride [VC]) were detected in the sample. The purpose of the ambient air sample is to identify any VOCs that may be contributing to IA concentrations (Ecology, 2022). If the COCs are detected in the ambient sample, that would indicate the IA samples could include both background and vapor intrusion impacts.

Typical procedures are to subtract the COC ambient air concentrations from the measured IA concentrations for a representative measure of vapor intrusion. Because the IA sampling results in December 2023 are below the MTCA Method B IA cleanup levels applicable to the Site, any ambient air detections, if present, would not impact decisions for the Site with regard to comparing the IA monitoring with cleanup levels in the CAP.

Weather data including temperature, wind speed and direction, and barometric pressure covering the sampling period were downloaded from NOAA and are included in Attachment E. The tide information from a nearby tide station on the Duwamish Waterway is included in Attachment E. The temperature during ambient/IA sampling ranged from 39 to 45 degrees F on December 12, 2023 and 35 to 38 degrees F during sub-slab monitoring on December 13, 2023. The reported wind speed at Boeing Field ranged from calm to 3

mph, typically from the N, on December 12, 2023. The reported barometric pressure at Boeing Field ranged from 30.21 in Hg decreasing slightly to 30.17 in Hg on December 12, 2023. The north end of Boeing Field (King County International Airport) is approximately 3,500 feet east of this Site.

**Summary of Sampling Results**

The laboratory results for Site COCs (PCE, TCE, cis-1,2-DCE, and VC) are presented in Table 1. 1,1-dichloroethene was non-detect in all IA samples. The monitoring results demonstrate all IA samples for the Site COCs are below the MTCA Method B IA cleanup levels established in the Cleanup Action Plan (CAP, Ecology 2012b and 2013). The data from this current sampling (2023) are consistent with prior IA monitoring at SBW completed in 2010, 2012, and 2013 (i.e., historical samples were also below the MTCA Method B IA cleanup levels, with the exception of one prior sample [in 2012] which showed TCE and VC slightly above the Method B IA cleanup levels) (Floyd-Snider, 2013).

Table 2 includes the recent monitoring results along with the building-specific vapor attenuation factors (VAFs), as defined in Ecology guidance for evaluating vapor intrusion (Ecology 2022). The VAFs based on PCE and TCE results range from <0.015 to 0.0003 from the December 2023 sampling. The calculated VAFs for this specific building are similar with results from prior testing (as summarized in the work plan, CALIBRE 2023) and demonstrate the rationale why empirical demonstration of compliance with the IA cleanup levels was selected in the CAP.

**References**

CALIBRE, 2023. Indoor Air and Soil Vapor Sampling Plan, Rev. 3. Prepared for Fox Avenue Building LLC. July 28, 2023.

Ecology, 2012a. Agreed Order with Fox Avenue Building, LLC. Dated June 4, 2012.

Ecology, 2012b. Final Cleanup Action Plan, Fox Avenue Site, Seattle, WA

Ecology, 2013. First Amendment to Agreed Order with Fox Avenue Building, LLC. Dated May 8, 2013.

Ecology, 2022. Guidance for Evaluating Vapor Intrusion in Washington State. Investigation and Remedial Action. Toxics Cleanup Program, Washington State Department of Ecology. March 2022.

Floyd-Snider, 2013. Fox Avenue Site, Construction Completion Report, Prepared for Fox Avenue Building LLC. September 2013.

Tables

Table 1 Measured Indoor Air and Sub-slab VOC Concentrations at SBW - December 2023

| **Indoor Air** | | | | | | |
|---|---|---|---|---|---|---|
| Sample Date | Sample ID | PCE ($\mu g/m^3$) | TCE ($\mu g/m^3$) | cis-1,2-DCE ($\mu g/m^3$) | VC ($\mu g/m^3$) | Notes |
| MTCA Method B IA CULs | | ***9.6*** | ***0.33*** | ***18*** | ***0.28*** | |
| 12/12/2023 | SBW AA-1 | <0.15 | <0.12 | <0.086 | <0.028 | Ambient Air |
| 12/12/2023 | SBW PS-1 | 0.53 | <0.12 | <0.088 | <0.028 | Pipe Shop |
| 12/12/2023 | SBW PO-1 | 0.28 | <0.12 | <0.093 | <0.030 | Pipe Shop Office |
| 12/12/2023 | SBW L-1 | 1.2 | <0.12 | <0.092 | <0.030 | Lunch Room |
| **Sub Slab** | | | | | | |
| Sample Date | Sample ID | PCE ($\mu g/m^3$) | TCE ($\mu g/m^3$) | cis-1,2-DCE ($\mu g/m^3$) | VC ($\mu g/m^3$) | Notes |
| 12/13/2023 | SBW SV-2 | 1,700 | 69 | <4.2 | <2.7 | Pipe Shop |
| 12/13/2023 | DUP (SBW SV-2) | 1,600 | 69 | <3.8 | <2.4 | Pipe Shop duplicate |
| 12/13/2023 | SBW SV-3 | 500 | 7.9 | <3.6 | <2.3 | Lunch Room |

MTCA Method B Indoor Air CULs are applied to the Seattle Boiler Works.
The IA levels listed above are NOT corrected for ambient background (all are below CULs)
$\mu g/m^3$ = micrograms per cubic meter
CUL = cleanup level
SBW = Seattle Boiler Works
PCE = tetrachloroethene
TCE = trichloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene
VC = vinyl chloride

Table 2 Measured Indoor Air Concentrations at SBW coupled with Sub-slab Data and Calculated Building –Specific VAFs

| **Indoor Air** | | | | **Sub Slab** | | | | **Building Specific VAFs (unit less)** | |
|---|---|---|---|---|---|---|---|---|---|
| Sample Date | Sample ID | PCE (µg/m3) | TCE (µg/m3) | Sample Date | Sample ID | PCE (µg/m3) | TCE (µg/m3) | PCE | TCE |
| 12/12/2023 | SBW PS-1 | 0.53 | <0.12 | 12/13/2023 | SBW SV-2 | 1,700 | 69 | 0.0003 | <0.002 |
| 12/12/2023 | SBW L-1 | 1.2 | <0.12 | 12/13/2023 | SBW SV-3 | 500 | 7.9 | 0.0024 | <0.015 |

µg/$m^3$ = micrograms per cubic meter

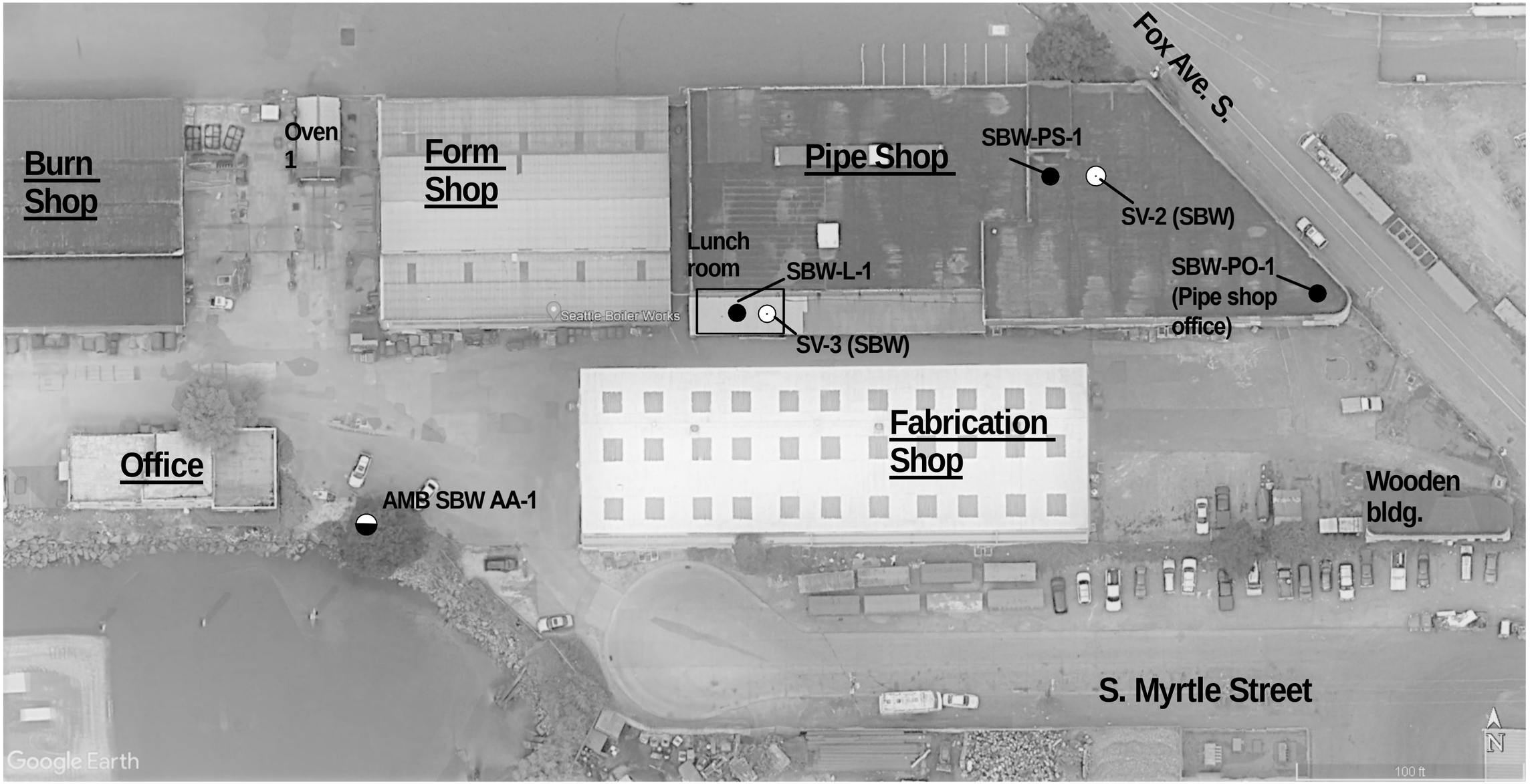
SBW = Seattle Boiler Works

VAF = vapor attenuation factor

PCE = tetrachloroethene

TCE = trichloroethene

Figures




0 50 100 ft

⊙ Sub-slab vapor sample location

● Indoor air sample location

◒ Ambient air sample location

Vapor Instrusion Monitoring at SBW Fox Ave Site

(all locations are tentative pending suitable access agreement)

**Figure 1**
**Soil Vapor and Indoor Air Monitoring Locations in SBW Fox Ave Site**

Attachment A
Indoor Air Quality Questionnaire and Walkthrough Photos

**NEW YORK STATE DEPARTMENT OF HEALTH**
**INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY**
**CENTER FOR ENVIRONMENTAL HEALTH**

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Justin Nesta Date/Time Prepared 12/11/23

Preparer's Affiliation CALIBRE Phone No. 360-981-5606

Purpose of Investigation Pre inspection for Indoor Air monitoring

**1. OCCUPANT:**

**Interviewed:** (Y) / N

Last Name: Hopkins First Name: Craig

Address: 500 S Myrtle St Seattle, WA 98108

County: King

Home Phone: _____ Office Phone: 206-762-0737

Number of Occupants/persons at this location 30 Age of Occupants Adult

**2. OWNER OR LANDLORD:** (Check if same as occupant ✓)

**Interviewed:** (Y) / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

**3. BUILDING CHARACTERISTICS**

**Type of Building:** (Circle appropriate response)

| | | |
|---|---|---|
| Residential | School | Commercial/Multi-use |
| ~~Industrial~~ | Church | Other: _____ |

**If the property is residential, type?** (Circle appropriate response)

| | | |
|---|---|---|
| Ranch | 2-Family | 3-Family |
| Raised Ranch | Split Level | Colonial |
| Cape Cod | Contemporary | Mobile Home |
| Duplex | Apartment House | Townhouses/Condos |
| Modular | Log Home | Other:_____ |

**If multiple units, how many?** _____

**If the property is commercial, type?**

Business Type(s) Boiler Manufacturer

Does it include residences (i.e., multi-use)? Y / (N) If yes, how many? _____

**Other characteristics:**

Number of floors 2 Building age ~1940s

Is the building insulated? Y / (N) How air tight? Tight / Average / (Not Tight)

## 4. AIRFLOW

**Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:**

Airflow between floors

Pipe shop is open floor w/ stairs to loft area & roof access.

Outdoor air infiltration

~~Airflow near source~~

Multiple gaps & holes in corrugated siding, window panes missing sliding exterior doors do not seal completely allowing outdoor airflow inside Pipeshop area. Small office & lunch area are heated.

Airflow near source

~~Outdoor air infiltration~~

Infiltration into air ducts

No ducts

**5. BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply)

| | | | | |
|---|---|---|---|---|
| **a. Above grade construction:** | wood frame (Roof) | concrete (Slab+walls) | stone | brick |
| **b. Basement type:** | full | crawlspace | slab | other NA |
| **c. Basement floor:** | concrete | dirt | stone | other NA |
| **d. Basement floor:** | uncovered | covered | covered with NA | |
| **e. Concrete floor:** | unsealed | sealed | sealed with office area has wood floor. | |
| **f. Foundation walls:** | poured concrete | block | stone | other |
| **g. Foundation walls:** | unsealed | sealed (Paint) | sealed with | |
| **h. The basement is:** | wet | damp | dry | moldy NA |
| **i. The basement is:** | finished | unfinished | partially finished NA | |
| **j. Sump present?** | Y / N NA | | | |
| **k. Water in sump?** | Y / N / ~~not applicable~~ | | | |

**Basement/Lowest level depth below grade:** NA (feet)

**Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)**

_____

_____

**6. HEATING, VENTING and AIR CONDITIONING** (Circle all that apply)

**Type of heating system(s) used in this building: (circle all that apply – note primary)** offices, Lunchroom, Restroom

| | | | |
|---|---|---|---|
| Hot air circulation | Heat pump | Hot water baseboard | |
| ~~Space Heaters~~ | Stream radiation | Radiant floor | |
| Electric baseboard | Wood stove | Outdoor wood boiler | Other |

**The primary type of fuel used is:**

| | | |
|---|---|---|
| Natural Gas | Fuel Oil | Kerosene |
| ~~Electric~~ | Propane | Solar |
| Wood | Coal | |

**Domestic hot water tank fueled by:** Electric

**Boiler/furnace located in:** Basement Outdoors Main Floor Other NA

**Air conditioning:** Central Air Window units Open Windows None

**Are there air distribution ducts present?** Y (N)

**Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.**

_____

_____

_____

_____

## 7. OCCUPANCY

**Is basement/lowest level occupied?** (Full-time) Occasionally Seldom Almost Never

| **Level** | **General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)** |
|---|---|
| Basement | NA |
| 1st Floor | Welding, Pipe work, Vehicle Storage |
| 2nd Floor | Loft + roof access. |
| 3rd Floor | NA |
| 4th Floor | NA |

## 8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

**a. Is there an attached garage?** Y / (N)

**b. Does the garage have a separate heating unit?** Y / N / (NA)

**c. Are petroleum-powered machines or vehicles stored in the garage** (e.g., lawnmower, atv, car) (Y) / N / NA
Please specify Vehicles + Forklifts

**d. Has the building ever had a fire?** Y / (N) When? _____

**e. Is a kerosene or unvented gas space heater present?** Y / (N) Where? _____

**f. Is there a workshop or hobby/craft area?** (Y) / N Where & Type? Welding, Pipework, Maintenance + Storage in Pipe Shop.

**g. Is there smoking in the building?** Y / N How frequently? Not Allowed

**h. Have cleaning products been used recently?** (Y) / N When & Type? Solvents for pipes, All purpose Surface Cleaners Regularly

**i. Have cosmetic products been used recently?** Y / (N) When & Type? _____

**j. Has painting/staining been done in the last 6 months?** (Y) / N Where & When? Pipe Shop, periodically

**k. Is there new carpet, drapes or other textiles?** Y (N) Where & When? _____

**l. Have air fresheners been used recently?** Y / N When & Type? Possible, bathroom Lunch room office.

**m. Is there a kitchen exhaust fan?** Y / (N) If yes, where vented? _____

**n. Is there a bathroom exhaust fan?** Y / (N) If yes, where vented? Not in bathroom but in work area

**o. Is there a clothes dryer?** Y / (N) If yes, is it vented outside? Y / N

**p. Has there been a pesticide application?** (Y) / N When & Type? monthly, rodent control

**Are there odors in the building?** (Y) / N
If yes, please describe: metallic / welding odor in pipeshop

**Do any of the building occupants use solvents at work?** (Y) / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? Painting, some solvent use for cleaning pipe

If yes, are their clothes washed at work? Y / (N)

**Do any of the building occupants regularly use or work at a dry-cleaning service?** (Circle appropriate response)

✓ Yes, use dry-cleaning regularly (weekly) — No
Yes, use dry-cleaning infrequently (monthly or less) — Unknown
Yes, work at a dry-cleaning service

**Is there a radon mitigation system for the building/structure?** Y / (N) Date of Installation: _____
**Is the system active or passive?** Active/Passive NA

## 9. WATER AND SEWAGE

**Water Supply:** (Public Water) Drilled Well Driven Well Dug Well Other: _____

**Sewage Disposal:** (Public Sewer) Septic Tank Leach Field Dry Well Other: _____

## 10. RELOCATION INFORMATION (for oil spill residential emergency)

**a. Provide reasons why relocation is recommended:** _____

**b. Residents choose to:** remain in home relocate to friends/family relocate to hotel/motel

**c. Responsibility for costs associated with reimbursement explained?** Y / N

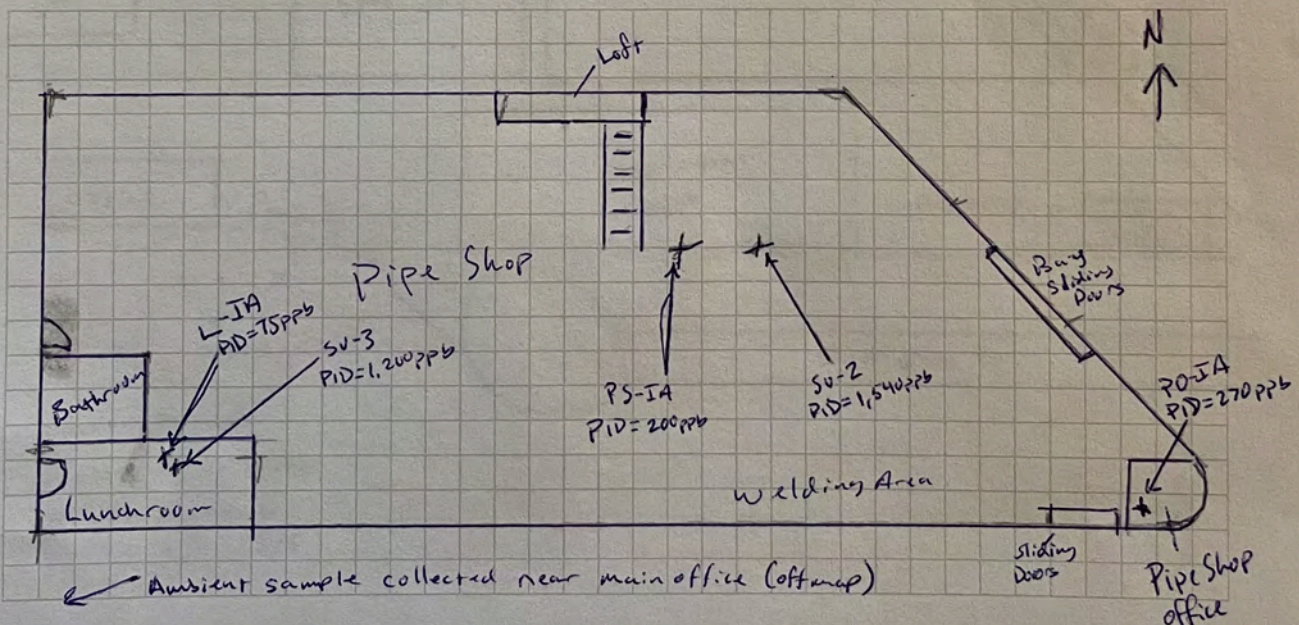
**d. Relocation package provided and explained to residents?** Y / N

**11. FLOOR PLANS**

**Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.**

**Basement:** N/A

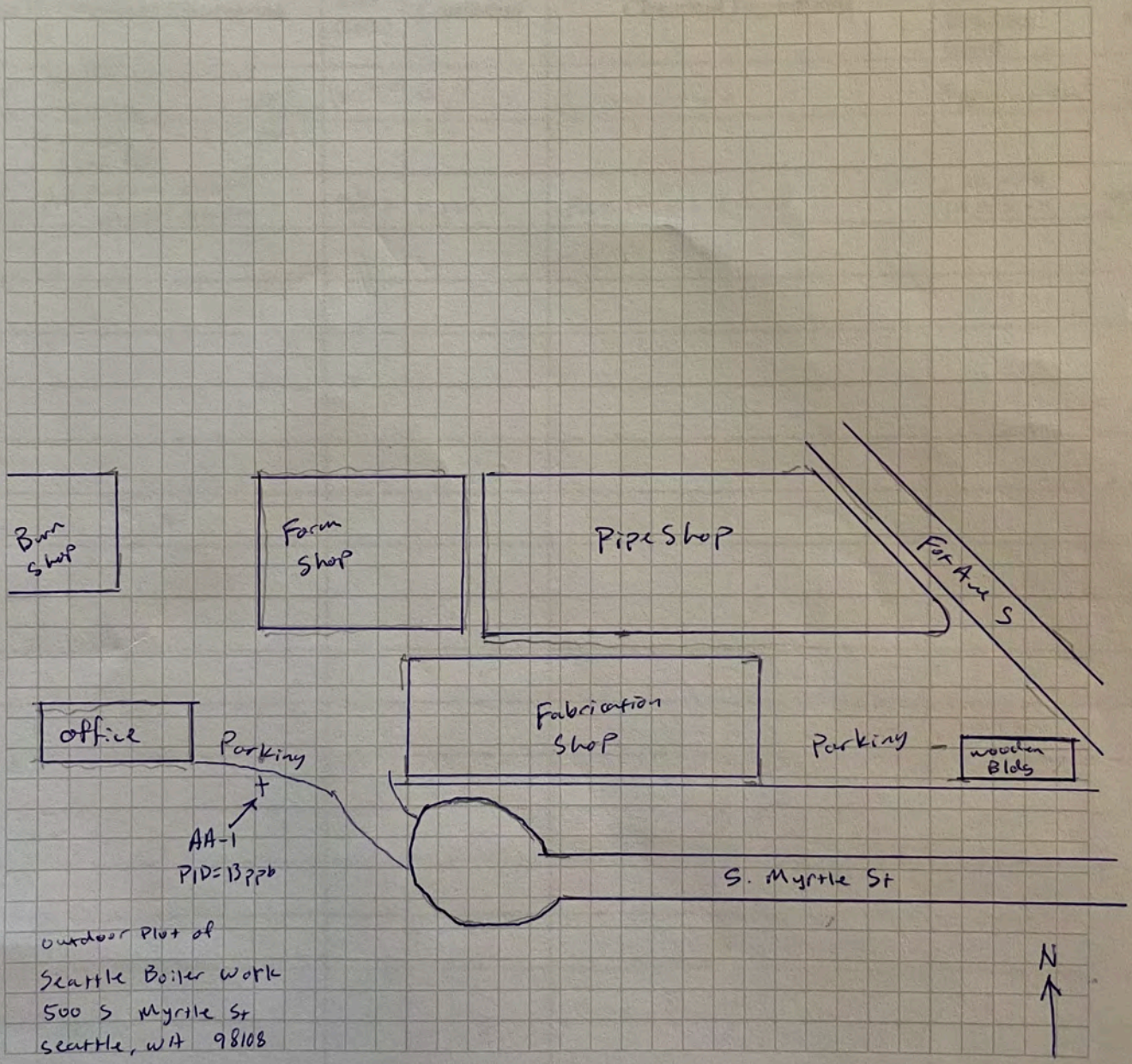
**First Floor:**



**12. OUTDOOR PLOT**

**Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.**

**Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.**



**13. PRODUCT INVENTORY FORM**

**Make & Model of field instrument used:** PPB RAE 3000

**List specific products found in the residence that have the potential to affect indoor air quality.**

| Location | Product Description | Size (units) | Condition* | Chemical Ingredients | Field Instrument Reading (units) | Photo ** Y / N |
|---|---|---|---|---|---|---|
| Pipe Shop area | Various spray paints, degreasers, motor oil, wood sealer | Various | Used | Various Brands | 0 ppb in area | Y |
| | + vehicles stored in pipe shop Bldg. | | | | | |
| Pipe Shop office | All purpose cleaner Bleach solution | 32oz | Used | Fantastik Brand | ~200 ppb in office | Y |
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* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Photo 1- Interior of Pipe Shop Building

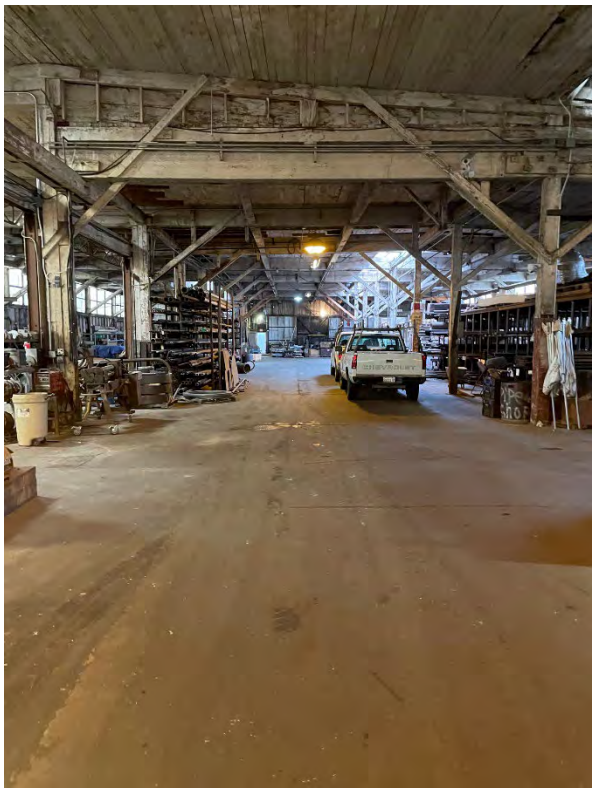
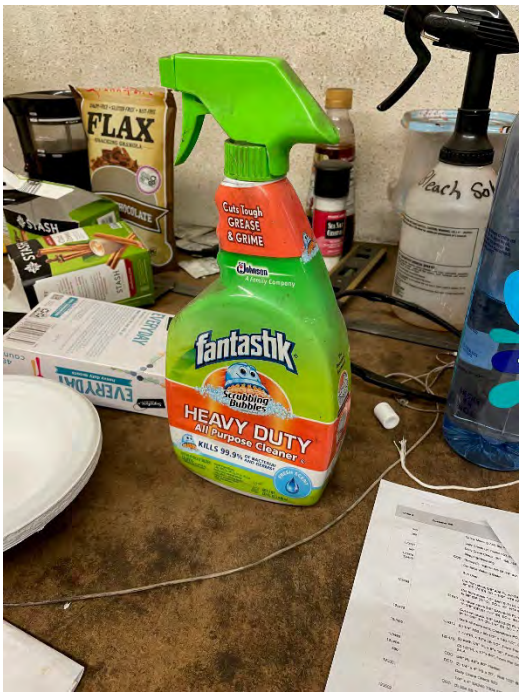


Photo 2 – Pipe Shop cleaners and sealers

Photo 3 – Pipe shop spray paint/aersol cans


Photo 4 – Pipe Shop Office cleaning supplies



Attachment B
Field Sampling Sheets

# Indoor air sampling form

| | |
|---|---|
| Site | Fox Avenue |
| Sampler | T Mckeon + J Nesse |
| Date | 12/12/23 + 12/13/23 |
| Sample Building(s): | Seattle Boiler Works (SBW) – Lunchroom and Pipe-shop |

| Sample Name | Location | Analysis | Volume (Liters) | Summa # | Start: Time, Vacuum (HH:MM, "$H_2O$) | End: Time, Vacuum (HH:MM, "$H_2O$) | Total Time (Minutes) | Field Duplicate |
|---|---|---|---|---|---|---|---|---|
| shop SBW PS-IA-1__date | Pipe-shop | TO-15 | 6 L | 6L2032 | 29.5"Hg 0745 200ppb | 2.5 | 15:32 | |
| Lunch SBWL IA-1_date | Lunchroom | TO-15 | 6 L | 6L3744 | 30"Hg 75ppb 0735 | ~2 | 15:28 | |
| ~~Dup-2_date~~ | ~~Lunch~~ | ~~TO-15~~ | ~~6 L~~ | | | | | ~~SBWLIA-1~~ |
| office SBW-PS-IA-1_121223 | Pipeshop office | TO-15 | 6L | 6L 3753 | 28"Hg 0750 270ppb | ~2 | 15:35 | |
| SBW-AA-1_date | Ambient air/Outside | TO-15 | 6 L | 6L0210 | 27" Hg 0725 13ppb | 1 | 15:46 | |
| | | | | | | | | |
| SBWSV-2_date | Pipe-shop | TO-15 | 1 L | 1L4141 | 25"Hg 0805 | 4"Hg 0808 | ~3 | |
| SBWSV-3_date | Lunchroom | TO-15 | 1 L | 1L2408 | 30"Hg 0840 | 4"Hg 0848 | ~3 | |
| SBW-Dup01-121323 | Pipeshop | TO-15 | 1L | 1L1621 | 28"Hg 0805 | 5"Hg 0808 | ~3 | SV-2 |
| | | | | | | | | |

Notes: Weather, building condition, PID readings, airflow/draft, any other notes

12/12/23 0700 ~40°F cloudy

12/13/23 0700 ~35°F

# Vapor Monitoring Data Sheet

| | | | |
|---|---|---|---|
| Date | 12/13/23 | Site Location | Fort Ord - SBW |
| Samplers | TM JN | Well ID | SV-2 Pipeshop |
| | | Constructed Depth | |

Sample Train Leak Test:

| | |
|---|---|
| Zero Time Vacuum | |
| 1-min Vacuum | |
| 5-min Vacuum | |

Or

Shroud Test:

| | |
|---|---|
| Gas Used | Helium |
| Elapsed Time | ~0750 - 0810 |
| Gas Detected | 2.5% (shroud @ 87%) |

Purge Volume:

| | | | |
|---|---|---|---|
| Sample Train Length (ft) | | | |
| Tube Diameter (in) | | | |
| Volume (L) | | | |

Volume Reference Table:

| Hose Diameter (in) | Volume (L/ft) |
|---|---|
| 0.125 (1/8) | 0.0024 |
| 0.25 (1/4) | 0.0096 |
| 0.375 (3/8) | 0.0217 |
| 0.5 (1/2) | 0.0386 |
| 1 (1) | 0.1543 |

Vapor Sample Purge Data:

| | 87% | 82% | | | | | |
|---|---|---|---|---|---|---|---|
| Time | 0737 | 0745 | | | | | |
| Flow Rate (mL/min) | ~1L/min | ~1L/min | | | | | |
| PID (note ppm or ppb) | | 1,540ppb | | | | | |
| Oxygen | | | | | | | |
| Carbon Dioxide | | | | | | | |
| Trace Gas | 2.5% | 2.1% | | | | | |

Sampling Data:

| | |
|---|---|
| Time | 0805 |
| Sample ID | SBW-SV-2-121323 |
| Duplicate | SBW-Dup01-121323 |
| PID Reading | 1,540 ppb |

Analyses Performed:

| | |
|---|---|
| VOCs (8260/TO-15) | TO-15 |
| | |
| | |

Sampling Device:

| | | | |
|---|---|---|---|
| Summa | 1L 4141 | Tedlar Bag | |
| Summa Flow Rate | Grab | Dup can 1L1621 | |
| Summa Start Vacuum | 25" Hg | 28" Hg | |
| Summa End Vacuum | 4" Hg | 5" Hg | |

Sampling Notes:

Calibrate PID @ 0630. Setup Helium shroud @ SV-2. Filled shroud - 87% Helium. Filled tedlar through sample train. = 2.5% Helium. Repeat process - shroud = 82% Helium. Filled tedlar, tedlar read 2.1% Helium. PID = 1,540 ppb. Collected Dup w/ "T" fitting from lab.

# Vapor Monitoring Data Sheet

| | | | |
|---|---|---|---|
| Date | 12/13/23 | Site Location | Former SBW |
| Samplers | TM JN | Well ID | SV-3 Lunch Room |
| | | Constructed Depth | |

**Sample Train Leak Test:**

| | |
|---|---|
| Zero Time Vacuum | |
| 1-min Vacuum | |
| 5-min Vacuum | |

Or

**Shroud Test:**

| | |
|---|---|
| Gas Used | Helium |
| Elapsed Time | 0830 - 0843 |
| Gas Detected | 16,000 ppm (shroud @ 80%) |

**Purge Volume:**

| | | | |
|---|---|---|---|
| Sample Train Length (ft) | | | |
| Tube Diameter (in) | | | |
| Volume (L) | | | |

**Volume Reference Table:**

| Hose Diameter (in) | Volume (L/ft) |
|---|---|
| 0.125 (1/8) | 0.0024 |
| 0.25 (1/4) | 0.0096 |
| 0.375 (3/8) | 0.0217 |
| 0.5 (1/2) | 0.0386 |
| 1 (1) | 0.1543 |

**Vapor Sample Purge Data:** 80%

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Time | 0833 | | | | | | |
| Flow Rate (mL/min) | ~1 L/min | | | | | | |
| PID (note ppm or ppb) | 1200 ppb | | | | | | |
| Oxygen | | | | | | | |
| Carbon Dioxide | | | | | | | |
| Trace Gas | 16,000 ppm | | | | | | |

**Sampling Data:**

| | |
|---|---|
| Time | 0840 |
| Sample ID | SBW-SV-3-121323 |
| Duplicate | NA |
| PID Reading | 1,200 ppb |

**Analyses Performed:**

| | |
|---|---|
| VOCs (8260/TO-15) | TO-15 |
| | |
| | |

**Sampling Device:**

| | | | |
|---|---|---|---|
| Summa | 1L 2408 | Tedlar Bag | |
| Summa Flow Rate | Grab | | |
| Summa Start Vacuum | 30 "Hg | | |
| Summa End Vacuum | 4" Hg | | |

**Sampling Notes:**

Set up helium shroud @ SV-3 (Lunch room) Filled shroud - 80% helium. Filled Tedlar through sample train = 16,000 ppm helium. Background PID = 324 ppb. Filled Tedlar for PID = 1,200 ppb.

Attachment C
Sample Location Photos

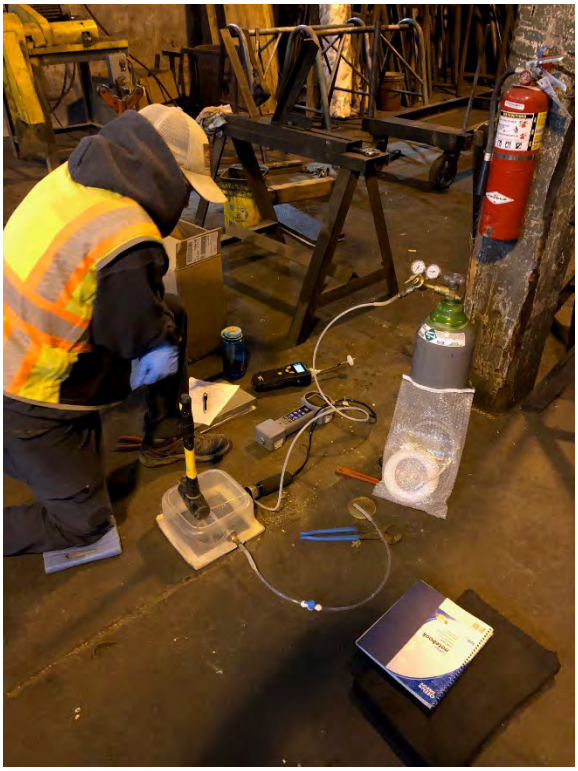
SBW AA-1 Ambient Air Sample Location


SBW PS-1 Indoor Air Sample Location

SBW PO-1 Indoor Air Sample Location


SBW L-1 Sample Location

SBW SV-2 Sub-Slab Sample Location – Helium Shroud Setup



SBW SV-3 Sub-Slab Sample Location – Helium Shroud Setup

Attachment D
Laboratory Data Packages

**Data Quality Evaluation**

Eurofins AirToxics analyzed the air samples for VOCs by gas chromatography/mass spectroscopy (GC/MS). The samples were analyzed in accordance with procedures described in Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air.

Eurofins conducted an initial data and internal quality control (QC) review prior to issuing analytical laboratory reports for the samples collected during each sampling event. Eurofins reviewed all analytical results against the laboratory QC acceptance criteria and no deficiencies were identified. The laboratory followed method specific QC procedures to evaluate performance and compare results with precision and accuracy criteria as minimum guidelines for data validation.

CALIBRE completed an independent review and assessment of the data upon receipt of the laboratory data package. The project quality assurance (QA) scope includes a Tier 1a/1b data review and application of specific data qualifiers, where necessary. The data review concluded:

1. The chain-of-custody was complete.
2. Sample preservatives were suitable and holding times were met.
3. Required data and documentation were present in the data package.
4. Sample results and associated laboratory QC sample summary forms (including checking method QC criteria; method blank, laboratory control samples (LCS), laboratory control sample duplicate (LCSD), surrogates, and other method-specific QC, as appropriate) were present and complete.
5. The field duplicate(s) provided representative/comparable results with the parent sample(s).
6. The data were in correct physical units and dilution factors were correctly applied.
7. Qualifiers were applied as necessary.

CALIBRE's data review indicated that the data quality is suitable for the intended purpose and is considered usable as qualified.

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1/2/2024
Mr. Justin Neste
CALIBRE, Environmental Technology Solutions
20926 Pugh Rd NE

Poulsbo WA 98370

Project Name: Fox Ave
Project #:
Workorder #: 2312384A

Dear Mr. Justin Neste

The following report includes the data for the above referenced project for sample(s) received on 12/14/2023 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by Modified 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 LLC. 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: Monica Tran at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Monica Tran

Project Manager

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# WORK ORDER #: 2312384A

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Justin Neste<br>CALIBRE, Environmental Technology Solutions<br>20926 Pugh Rd NE<br>Poulsbo, WA 98370 | **BILL TO:** | Accounts Payable<br>CALIBRE, Environmental Technology Solutions<br>6354 Walker Lane, Suite 300<br>Metro Park |
| **PHONE:** | 360-981-5606 | **P.O. #** | |
| **FAX:** | | **PROJECT #** | Fox Ave |
| **DATE RECEIVED:** | 12/14/2023 | **CONTACT:** | Monica Tran |
| **DATE COMPLETED:** | 01/02/2024 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 01A | SBW-AA-1-121223 | Modified TO-15 | 0.2 psi | 1.5 psi |
| 01B | SBW-AA-1-121223 | Modified TO-15 | 0.2 psi | 1.5 psi |
| 02A | SBW-PS-IA-1-121223 | Modified TO-15 | 0.4 "Hg | 1.4 psi |
| 02B | SBW-PS-IA-1-121223 | Modified TO-15 | 0.4 "Hg | 1.4 psi |
| 03A | SBW-L-IA-1-121223 | Modified TO-15 | 1.6 "Hg | 1.5 psi |
| 03B | SBW-L-IA-1-121223 | Modified TO-15 | 1.6 "Hg | 1.5 psi |
| 04A | SBW-PO-IA-1-121223 | Modified TO-15 | 2.2 "Hg | 1.3 psi |
| 04B | SBW-PO-IA-1-121223 | Modified TO-15 | 2.2 "Hg | 1.3 psi |
| 05A | Lab Blank | Modified TO-15 | NA | NA |
| 05B | Lab Blank | Modified TO-15 | NA | NA |
| 06A | CCV | Modified TO-15 | NA | NA |
| 06B | CCV | Modified TO-15 | NA | NA |
| 07A | LCS | Modified TO-15 | NA | NA |
| 07AA | LCSD | Modified TO-15 | NA | NA |
| 07B | LCS | Modified TO-15 | NA | NA |
| 07BB | LCSD | Modified TO-15 | NA | NA |

CERTIFIED BY: Heidi Hayes DATE: 01/02/24

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA ELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-017
Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

**LABORATORY NARRATIVE**
**Modified TO-15 Std Full Scan/SIM**
**CALIBRE, Environmental Technology Solutions**
**Workorder# 2312384A**

Four 6 Liter Summa Canister (100% SIM Ambient) samples were received on December 14, 2023. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liter of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the EATL modifications.

| ***Requirement*** | ***TO-15*** | ***ATL Modifications*** |
|---|---|---|
| ICAL %RSD acceptance criteria | </=30% RSD with 2 compounds allowed out to </= 40% RSD | For SIM only:<br>Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to </= 40% RSD |
| Daily Calibration | +- 30% Difference | For Std. Full Scan:<br></= 30% Difference with two allowed out up to </=40%.; flag and narrate outliers<br><br>For SIM:<br>Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers |
| Blank and standards | Zero air | For SIM only: Nitrogen |
| Method Detection Limit | Follow 40CFR Pt.136 App. B | The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases |

## Receiving Notes

Despite the use of flow controllers for sample collection, the final canister vacuum for sample SBW-AA-1-121223 was measured at ambient pressure at the laboratory.

## Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

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.

## Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

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

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

**Client Sample ID: SBW-AA-1-121223**

**Lab ID#: 2312384A-01A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 11 | 0.11 | 0.47 | 0.61 | 2.6 |
| Ethanol | 2.2 | 3.8 | 4.1 | 7.1 |
| Acetone | 2.2 | 2.6 | 5.2 | 6.3 |
| Methylene Chloride | 0.22 | 0.25 | 0.76 | 0.88 |

**Client Sample ID: SBW-AA-1-121223**

**Lab ID#: 2312384A-01B**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 0.054 | 0.61 | 0.27 | 3.0 |
| Chloroform | 0.022 | 0.023 | 0.11 | 0.11 |
| Carbon Tetrachloride | 0.022 | 0.077 | 0.14 | 0.49 |
| Benzene | 0.054 | 0.24 | 0.17 | 0.78 |
| 1,2-Dichloroethane | 0.022 | 0.025 | 0.088 | 0.10 |
| Toluene | 0.054 | 0.70 | 0.20 | 2.6 |
| Ethyl Benzene | 0.022 | 0.10 | 0.095 | 0.44 |
| m,p-Xylene | 0.044 | 0.37 | 0.19 | 1.6 |
| o-Xylene | 0.022 | 0.14 | 0.095 | 0.62 |

**Client Sample ID: SBW-PS-IA-1-121223**

**Lab ID#: 2312384A-02A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 11 | 0.11 | 0.37 | 0.62 | 2.1 |
| Ethanol | 2.2 | 9.9 | 4.2 | 19 |
| Acetone | 2.2 | 3.8 | 5.3 | 9.2 |
| Methylene Chloride | 0.22 | 16 | 0.77 | 57 |
| Hexane | 0.56 | 0.70 | 2.0 | 2.5 |
| 1,2,4-Trimethylbenzene | 0.11 | 0.23 | 0.54 | 1.1 |

**Client Sample ID: SBW-PS-IA-1-121223**

**Lab ID#: 2312384A-02B**

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

**Client Sample ID: SBW-PS-IA-1-121223**

**Lab ID#: 2312384A-02B**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 0.056 | 0.54 | 0.27 | 2.7 |
| trans-1,2-Dichloroethene | 0.11 | 0.11 | 0.44 | 0.44 |
| Chloroform | 0.022 | 0.030 | 0.11 | 0.14 |
| Carbon Tetrachloride | 0.022 | 0.078 | 0.14 | 0.49 |
| Benzene | 0.056 | 0.83 | 0.18 | 2.6 |
| 1,2-Dichloroethane | 0.022 | 0.025 | 0.090 | 0.10 |
| Toluene | 0.056 | 2.6 | 0.21 | 10 |
| Tetrachloroethene | 0.022 | 0.078 | 0.15 | 0.53 |
| Ethyl Benzene | 0.022 | 0.32 | 0.096 | 1.4 |
| m,p-Xylene | 0.044 | 1.3 | 0.19 | 5.6 |
| o-Xylene | 0.022 | 0.45 | 0.096 | 2.0 |
| 1,4-Dichlorobenzene | 0.022 | 0.37 | 0.13 | 2.2 |

**Client Sample ID: SBW-L-IA-1-121223**

**Lab ID#: 2312384A-03A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 11 | 0.12 | 0.36 | 0.65 | 2.0 |
| Ethanol | 2.3 | 69 E | 4.4 | 130 E |
| Acetone | 2.3 | 6.1 | 5.5 | 14 |
| Methylene Chloride | 0.23 | 5.1 | 0.80 | 18 |

**Client Sample ID: SBW-L-IA-1-121223**

**Lab ID#: 2312384A-03B**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 0.058 | 0.54 | 0.29 | 2.7 |
| Chloroform | 0.023 | 0.20 | 0.11 | 0.97 |
| Carbon Tetrachloride | 0.023 | 0.078 | 0.14 | 0.49 |
| Benzene | 0.058 | 0.30 | 0.18 | 0.96 |
| 1,2-Dichloroethane | 0.023 | 0.025 | 0.094 | 0.10 |
| Toluene | 0.058 | 1.5 | 0.22 | 5.8 |
| Tetrachloroethene | 0.023 | 0.18 | 0.16 | 1.2 |

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

**Client Sample ID: SBW-L-IA-1-121223**

**Lab ID#: 2312384A-03B**

| | | | | |
|---|---|---|---|---|
| Ethyl Benzene | 0.023 | 0.34 | 0.10 | 1.5 |
| m,p-Xylene | 0.046 | 1.2 | 0.20 | 5.2 |
| o-Xylene | 0.023 | 0.34 | 0.10 | 1.5 |
| 1,4-Dichlorobenzene | 0.023 | 0.54 | 0.14 | 3.3 |

**Client Sample ID: SBW-PO-IA-1-121223**

**Lab ID#: 2312384A-04A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 11 | 0.12 | 0.40 | 0.66 | 2.3 |
| Ethanol | 2.3 | 140 E | 4.4 | 250 E |
| Acetone | 2.3 | 17 | 5.6 | 40 |
| Methylene Chloride | 0.23 | 30 | 0.81 | 110 |
| 1,2,4-Trimethylbenzene | 0.12 | 0.16 | 0.58 | 0.77 |

**Client Sample ID: SBW-PO-IA-1-121223**

**Lab ID#: 2312384A-04B**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 0.058 | 0.55 | 0.29 | 2.7 |
| Chloroform | 0.023 | 0.030 | 0.11 | 0.14 |
| Carbon Tetrachloride | 0.023 | 0.076 | 0.15 | 0.48 |
| Benzene | 0.058 | 0.69 | 0.19 | 2.2 |
| 1,2-Dichloroethane | 0.023 | 0.024 | 0.095 | 0.096 |
| Toluene | 0.058 | 2.5 | 0.22 | 9.3 |
| Tetrachloroethene | 0.023 | 0.042 | 0.16 | 0.28 |
| Ethyl Benzene | 0.023 | 0.29 | 0.10 | 1.2 |
| m,p-Xylene | 0.047 | 0.99 | 0.20 | 4.3 |
| o-Xylene | 0.023 | 0.35 | 0.10 | 1.5 |
| 1,4-Dichlorobenzene | 0.023 | 0.17 | 0.14 | 1.0 |

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**Client Sample ID: SBW-AA-1-121223**

**Lab ID#: 2312384A-01A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122308** | **Date of Collection: 12/12/23 3:40:00 PM** | |
| **Dil. Factor:** | **1.09** | **Date of Analysis: 12/23/23 02:17 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| 1,3-Butadiene | 0.11 | Not Detected | 0.24 | Not Detected |
| Bromomethane | 5.4 | Not Detected | 21 | Not Detected |
| Freon 11 | 0.11 | 0.47 | 0.61 | 2.6 |
| Ethanol | 2.2 | 3.8 | 4.1 | 7.1 |
| Freon 113 | 0.11 | Not Detected | 0.84 | Not Detected |
| Acetone | 2.2 | 2.6 | 5.2 | 6.3 |
| 2-Propanol | 2.2 | Not Detected | 5.4 | Not Detected |
| Carbon Disulfide | 0.54 | Not Detected | 1.7 | Not Detected |
| 3-Chloropropene | 0.54 | Not Detected | 1.7 | Not Detected |
| Methylene Chloride | 0.22 | 0.25 | 0.76 | 0.88 |
| Hexane | 0.54 | Not Detected | 1.9 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 0.54 | Not Detected | 1.6 | Not Detected |
| Tetrahydrofuran | 0.54 | Not Detected | 1.6 | Not Detected |
| Cyclohexane | 0.54 | Not Detected | 1.9 | Not Detected |
| 2,2,4-Trimethylpentane | 0.54 | Not Detected | 2.5 | Not Detected |
| Heptane | 0.54 | Not Detected | 2.2 | Not Detected |
| 1,2-Dichloropropane | 0.11 | Not Detected | 0.50 | Not Detected |
| 1,4-Dioxane | 0.11 | Not Detected | 0.39 | Not Detected |
| Bromodichloromethane | 0.11 | Not Detected | 0.73 | Not Detected |
| cis-1,3-Dichloropropene | 0.11 | Not Detected | 0.49 | Not Detected |
| 4-Methyl-2-pentanone | 0.11 | Not Detected | 0.45 | Not Detected |
| trans-1,3-Dichloropropene | 0.11 | Not Detected | 0.49 | Not Detected |
| 2-Hexanone | 0.54 | Not Detected | 2.2 | Not Detected |
| Dibromochloromethane | 0.11 | Not Detected | 0.93 | Not Detected |
| Chlorobenzene | 0.11 | Not Detected | 0.50 | Not Detected |
| Styrene | 0.11 | Not Detected | 0.46 | Not Detected |
| Bromoform | 0.11 | Not Detected | 1.1 | Not Detected |
| Cumene | 0.11 | Not Detected | 0.54 | Not Detected |
| Propylbenzene | 0.11 | Not Detected | 0.54 | Not Detected |
| 4-Ethyltoluene | 0.11 | Not Detected | 0.54 | Not Detected |
| 1,3,5-Trimethylbenzene | 0.11 | Not Detected | 0.54 | Not Detected |
| 1,2,4-Trimethylbenzene | 0.11 | Not Detected | 0.54 | Not Detected |
| 1,3-Dichlorobenzene | 0.11 | Not Detected | 0.66 | Not Detected |
| alpha-Chlorotoluene | 0.11 | Not Detected | 0.56 | Not Detected |
| 1,2-Dichlorobenzene | 0.11 | Not Detected | 0.66 | Not Detected |
| 1,2,4-Trichlorobenzene | 0.54 | Not Detected | 4.0 | Not Detected |
| Hexachlorobutadiene | 0.54 | Not Detected | 5.8 | Not Detected |

**Container Type: 6 Liter Summa Canister (100% SIM Ambient)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | 70-130 |

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**Client Sample ID: SBW-AA-1-121223**

**Lab ID#: 2312384A-01A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122308** | **Date of Collection:** | **12/12/23 3:40:00 PM** |
| **Dil. Factor:** | **1.09** | **Date of Analysis:** | **12/23/23 02:17 PM** |

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 103 | 70-130 |
| 4-Bromofluorobenzene | 84 | 70-130 |

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**Client Sample ID: SBW-AA-1-121223**

**Lab ID#: 2312384A-01B**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122308sim** | **Date of Collection:** | **12/12/23 3:40:00 PM** |
| **Dil. Factor:** | **1.09** | **Date of Analysis:** | **12/23/23 02:17 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 0.054 | 0.61 | 0.27 | 3.0 |
| Freon 114 | 0.022 | Not Detected | 0.15 | Not Detected |
| Chloromethane | 0.54 | Not Detected | 1.1 | Not Detected |
| Vinyl Chloride | 0.011 | Not Detected | 0.028 | Not Detected |
| Chloroethane | 0.054 | Not Detected | 0.14 | Not Detected |
| 1,1-Dichloroethene | 0.011 | Not Detected | 0.043 | Not Detected |
| trans-1,2-Dichloroethene | 0.11 | Not Detected | 0.43 | Not Detected |
| Methyl tert-butyl ether | 0.11 | Not Detected | 0.39 | Not Detected |
| 1,1-Dichloroethane | 0.022 | Not Detected | 0.088 | Not Detected |
| cis-1,2-Dichloroethene | 0.022 | Not Detected | 0.086 | Not Detected |
| Chloroform | 0.022 | 0.023 | 0.11 | 0.11 |
| 1,1,1-Trichloroethane | 0.022 | Not Detected | 0.12 | Not Detected |
| Carbon Tetrachloride | 0.022 | 0.077 | 0.14 | 0.49 |
| Benzene | 0.054 | 0.24 | 0.17 | 0.78 |
| 1,2-Dichloroethane | 0.022 | 0.025 | 0.088 | 0.10 |
| Trichloroethene | 0.022 | Not Detected | 0.12 | Not Detected |
| Toluene | 0.054 | 0.70 | 0.20 | 2.6 |
| 1,1,2-Trichloroethane | 0.022 | Not Detected | 0.12 | Not Detected |
| Tetrachloroethene | 0.022 | Not Detected | 0.15 | Not Detected |
| 1,2-Dibromoethane (EDB) | 0.022 | Not Detected | 0.17 | Not Detected |
| Ethyl Benzene | 0.022 | 0.10 | 0.095 | 0.44 |
| m,p-Xylene | 0.044 | 0.37 | 0.19 | 1.6 |
| o-Xylene | 0.022 | 0.14 | 0.095 | 0.62 |
| 1,1,2,2-Tetrachloroethane | 0.022 | Not Detected | 0.15 | Not Detected |
| 1,4-Dichlorobenzene | 0.022 | Not Detected | 0.13 | Not Detected |

**Container Type: 6 Liter Summa Canister (100% SIM Ambient)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | 70-130 |
| Toluene-d8 | 105 | 70-130 |
| 4-Bromofluorobenzene | 86 | 70-130 |

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**Client Sample ID: SBW-PS-IA-1-121223**

**Lab ID#: 2312384A-02A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122309** | **Date of Collection:** | **12/12/23 3:32:00 PM** |
| **Dil. Factor:** | **1.11** | **Date of Analysis:** | **12/23/23 03:00 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| 1,3-Butadiene | 0.11 | Not Detected | 0.24 | Not Detected |
| Bromomethane | 5.6 | Not Detected | 22 | Not Detected |
| Freon 11 | 0.11 | 0.37 | 0.62 | 2.1 |
| Ethanol | 2.2 | 9.9 | 4.2 | 19 |
| Freon 113 | 0.11 | Not Detected | 0.85 | Not Detected |
| Acetone | 2.2 | 3.8 | 5.3 | 9.2 |
| 2-Propanol | 2.2 | Not Detected | 5.4 | Not Detected |
| Carbon Disulfide | 0.56 | Not Detected | 1.7 | Not Detected |
| 3-Chloropropene | 0.56 | Not Detected | 1.7 | Not Detected |
| Methylene Chloride | 0.22 | 16 | 0.77 | 57 |
| Hexane | 0.56 | 0.70 | 2.0 | 2.5 |
| 2-Butanone (Methyl Ethyl Ketone) | 0.56 | Not Detected | 1.6 | Not Detected |
| Tetrahydrofuran | 0.56 | Not Detected | 1.6 | Not Detected |
| Cyclohexane | 0.56 | Not Detected | 1.9 | Not Detected |
| 2,2,4-Trimethylpentane | 0.56 | Not Detected | 2.6 | Not Detected |
| Heptane | 0.56 | Not Detected | 2.3 | Not Detected |
| 1,2-Dichloropropane | 0.11 | Not Detected | 0.51 | Not Detected |
| 1,4-Dioxane | 0.11 | Not Detected | 0.40 | Not Detected |
| Bromodichloromethane | 0.11 | Not Detected | 0.74 | Not Detected |
| cis-1,3-Dichloropropene | 0.11 | Not Detected | 0.50 | Not Detected |
| 4-Methyl-2-pentanone | 0.11 | Not Detected | 0.45 | Not Detected |
| trans-1,3-Dichloropropene | 0.11 | Not Detected | 0.50 | Not Detected |
| 2-Hexanone | 0.56 | Not Detected | 2.3 | Not Detected |
| Dibromochloromethane | 0.11 | Not Detected | 0.94 | Not Detected |
| Chlorobenzene | 0.11 | Not Detected | 0.51 | Not Detected |
| Styrene | 0.11 | Not Detected | 0.47 | Not Detected |
| Bromoform | 0.11 | Not Detected | 1.1 | Not Detected |
| Cumene | 0.11 | Not Detected | 0.54 | Not Detected |
| Propylbenzene | 0.11 | Not Detected | 0.54 | Not Detected |
| 4-Ethyltoluene | 0.11 | Not Detected | 0.54 | Not Detected |
| 1,3,5-Trimethylbenzene | 0.11 | Not Detected | 0.54 | Not Detected |
| 1,2,4-Trimethylbenzene | 0.11 | 0.23 | 0.54 | 1.1 |
| 1,3-Dichlorobenzene | 0.11 | Not Detected | 0.67 | Not Detected |
| alpha-Chlorotoluene | 0.11 | Not Detected | 0.57 | Not Detected |
| 1,2-Dichlorobenzene | 0.11 | Not Detected | 0.67 | Not Detected |
| 1,2,4-Trichlorobenzene | 0.56 | Not Detected | 4.1 | Not Detected |
| Hexachlorobutadiene | 0.56 | Not Detected | 5.9 | Not Detected |

**Container Type: 6 Liter Summa Canister (100% SIM Ambient)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: SBW-PS-IA-1-121223**

**Lab ID#: 2312384A-02A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122309** | **Date of Collection: 12/12/23 3:32:00 PM** | |
| **Dil. Factor:** | **1.11** | **Date of Analysis: 12/23/23 03:00 PM** | |

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 100 | 70-130 |
| 4-Bromofluorobenzene | 90 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: SBW-PS-IA-1-121223**

**Lab ID#: 2312384A-02B**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122309sim** | **Date of Collection: 12/12/23 3:32:00 PM** | |
| **Dil. Factor:** | **1.11** | **Date of Analysis: 12/23/23 03:00 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 0.056 | 0.54 | 0.27 | 2.7 |
| Freon 114 | 0.022 | Not Detected | 0.16 | Not Detected |
| Chloromethane | 0.56 | Not Detected | 1.1 | Not Detected |
| Vinyl Chloride | 0.011 | Not Detected | 0.028 | Not Detected |
| Chloroethane | 0.056 | Not Detected | 0.15 | Not Detected |
| 1,1-Dichloroethene | 0.011 | Not Detected | 0.044 | Not Detected |
| trans-1,2-Dichloroethene | 0.11 | 0.11 | 0.44 | 0.44 |
| Methyl tert-butyl ether | 0.11 | Not Detected | 0.40 | Not Detected |
| 1,1-Dichloroethane | 0.022 | Not Detected | 0.090 | Not Detected |
| cis-1,2-Dichloroethene | 0.022 | Not Detected | 0.088 | Not Detected |
| Chloroform | 0.022 | 0.030 | 0.11 | 0.14 |
| 1,1,1-Trichloroethane | 0.022 | Not Detected | 0.12 | Not Detected |
| Carbon Tetrachloride | 0.022 | 0.078 | 0.14 | 0.49 |
| Benzene | 0.056 | 0.83 | 0.18 | 2.6 |
| 1,2-Dichloroethane | 0.022 | 0.025 | 0.090 | 0.10 |
| Trichloroethene | 0.022 | Not Detected | 0.12 | Not Detected |
| Toluene | 0.056 | 2.6 | 0.21 | 10 |
| 1,1,2-Trichloroethane | 0.022 | Not Detected | 0.12 | Not Detected |
| Tetrachloroethene | 0.022 | 0.078 | 0.15 | 0.53 |
| 1,2-Dibromoethane (EDB) | 0.022 | Not Detected | 0.17 | Not Detected |
| Ethyl Benzene | 0.022 | 0.32 | 0.096 | 1.4 |
| m,p-Xylene | 0.044 | 1.3 | 0.19 | 5.6 |
| o-Xylene | 0.022 | 0.45 | 0.096 | 2.0 |
| 1,1,2,2-Tetrachloroethane | 0.022 | Not Detected | 0.15 | Not Detected |
| 1,4-Dichlorobenzene | 0.022 | 0.37 | 0.13 | 2.2 |

**Container Type: 6 Liter Summa Canister (100% SIM Ambient)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | 70-130 |
| Toluene-d8 | 102 | 70-130 |
| 4-Bromofluorobenzene | 92 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: SBW-L-IA-1-121223**

**Lab ID#: 2312384A-03A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122310** | **Date of Collection:** | **12/12/23 3:28:00 PM** |
| **Dil. Factor:** | **1.16** | **Date of Analysis:** | **12/23/23 03:44 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| 1,3-Butadiene | 0.12 | Not Detected | 0.26 | Not Detected |
| Bromomethane | 5.8 | Not Detected | 22 | Not Detected |
| Freon 11 | 0.12 | 0.36 | 0.65 | 2.0 |
| Ethanol | 2.3 | 69 E | 4.4 | 130 E |
| Freon 113 | 0.12 | Not Detected | 0.89 | Not Detected |
| Acetone | 2.3 | 6.1 | 5.5 | 14 |
| 2-Propanol | 2.3 | Not Detected | 5.7 | Not Detected |
| Carbon Disulfide | 0.58 | Not Detected | 1.8 | Not Detected |
| 3-Chloropropene | 0.58 | Not Detected | 1.8 | Not Detected |
| Methylene Chloride | 0.23 | 5.1 | 0.80 | 18 |
| Hexane | 0.58 | Not Detected | 2.0 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 0.58 | Not Detected | 1.7 | Not Detected |
| Tetrahydrofuran | 0.58 | Not Detected | 1.7 | Not Detected |
| Cyclohexane | 0.58 | Not Detected | 2.0 | Not Detected |
| 2,2,4-Trimethylpentane | 0.58 | Not Detected | 2.7 | Not Detected |
| Heptane | 0.58 | Not Detected | 2.4 | Not Detected |
| 1,2-Dichloropropane | 0.12 | Not Detected | 0.54 | Not Detected |
| 1,4-Dioxane | 0.12 | Not Detected | 0.42 | Not Detected |
| Bromodichloromethane | 0.12 | Not Detected | 0.78 | Not Detected |
| cis-1,3-Dichloropropene | 0.12 | Not Detected | 0.53 | Not Detected |
| 4-Methyl-2-pentanone | 0.12 | Not Detected | 0.48 | Not Detected |
| trans-1,3-Dichloropropene | 0.12 | Not Detected | 0.53 | Not Detected |
| 2-Hexanone | 0.58 | Not Detected | 2.4 | Not Detected |
| Dibromochloromethane | 0.12 | Not Detected | 0.99 | Not Detected |
| Chlorobenzene | 0.12 | Not Detected | 0.53 | Not Detected |
| Styrene | 0.12 | Not Detected | 0.49 | Not Detected |
| Bromoform | 0.12 | Not Detected | 1.2 | Not Detected |
| Cumene | 0.12 | Not Detected | 0.57 | Not Detected |
| Propylbenzene | 0.12 | Not Detected | 0.57 | Not Detected |
| 4-Ethyltoluene | 0.12 | Not Detected | 0.57 | Not Detected |
| 1,3,5-Trimethylbenzene | 0.12 | Not Detected | 0.57 | Not Detected |
| 1,2,4-Trimethylbenzene | 0.12 | Not Detected | 0.57 | Not Detected |
| 1,3-Dichlorobenzene | 0.12 | Not Detected | 0.70 | Not Detected |
| alpha-Chlorotoluene | 0.12 | Not Detected | 0.60 | Not Detected |
| 1,2-Dichlorobenzene | 0.12 | Not Detected | 0.70 | Not Detected |
| 1,2,4-Trichlorobenzene | 0.58 | Not Detected | 4.3 | Not Detected |
| Hexachlorobutadiene | 0.58 | Not Detected | 6.2 | Not Detected |

E = Exceeds instrument calibration range.

**Container Type: 6 Liter Summa Canister (100% SIM Ambient)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|

eurofins | Air Toxics

**Client Sample ID: SBW-L-IA-1-121223**

**Lab ID#: 2312384A-03A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122310** | **Date of Collection:** | **12/12/23 3:28:00 PM** |
| **Dil. Factor:** | **1.16** | **Date of Analysis:** | **12/23/23 03:44 PM** |

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | 70-130 |
| Toluene-d8 | 102 | 70-130 |
| 4-Bromofluorobenzene | 92 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: SBW-L-IA-1-121223**

**Lab ID#: 2312384A-03B**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122310sim** | **Date of Collection:** | **12/12/23 3:28:00 PM** |
| **Dil. Factor:** | **1.16** | **Date of Analysis:** | **12/23/23 03:44 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 0.058 | 0.54 | 0.29 | 2.7 |
| Freon 114 | 0.023 | Not Detected | 0.16 | Not Detected |
| Chloromethane | 0.58 | Not Detected | 1.2 | Not Detected |
| Vinyl Chloride | 0.012 | Not Detected | 0.030 | Not Detected |
| Chloroethane | 0.058 | Not Detected | 0.15 | Not Detected |
| 1,1-Dichloroethene | 0.012 | Not Detected | 0.046 | Not Detected |
| trans-1,2-Dichloroethene | 0.12 | Not Detected | 0.46 | Not Detected |
| Methyl tert-butyl ether | 0.12 | Not Detected | 0.42 | Not Detected |
| 1,1-Dichloroethane | 0.023 | Not Detected | 0.094 | Not Detected |
| cis-1,2-Dichloroethene | 0.023 | Not Detected | 0.092 | Not Detected |
| Chloroform | 0.023 | 0.20 | 0.11 | 0.97 |
| 1,1,1-Trichloroethane | 0.023 | Not Detected | 0.13 | Not Detected |
| Carbon Tetrachloride | 0.023 | 0.078 | 0.14 | 0.49 |
| Benzene | 0.058 | 0.30 | 0.18 | 0.96 |
| 1,2-Dichloroethane | 0.023 | 0.025 | 0.094 | 0.10 |
| Trichloroethene | 0.023 | Not Detected | 0.12 | Not Detected |
| Toluene | 0.058 | 1.5 | 0.22 | 5.8 |
| 1,1,2-Trichloroethane | 0.023 | Not Detected | 0.13 | Not Detected |
| Tetrachloroethene | 0.023 | 0.18 | 0.16 | 1.2 |
| 1,2-Dibromoethane (EDB) | 0.023 | Not Detected | 0.18 | Not Detected |
| Ethyl Benzene | 0.023 | 0.34 | 0.10 | 1.5 |
| m,p-Xylene | 0.046 | 1.2 | 0.20 | 5.2 |
| o-Xylene | 0.023 | 0.34 | 0.10 | 1.5 |
| 1,1,2,2-Tetrachloroethane | 0.023 | Not Detected | 0.16 | Not Detected |
| 1,4-Dichlorobenzene | 0.023 | 0.54 | 0.14 | 3.3 |

**Container Type: 6 Liter Summa Canister (100% SIM Ambient)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | 70-130 |
| Toluene-d8 | 104 | 70-130 |
| 4-Bromofluorobenzene | 94 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: SBW-PO-IA-1-121223**

**Lab ID#: 2312384A-04A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122311** | **Date of Collection: 12/12/23 3:35:00 PM** | |
| **Dil. Factor:** | **1.17** | **Date of Analysis: 12/23/23 04:28 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| 1,3-Butadiene | 0.12 | Not Detected | 0.26 | Not Detected |
| Bromomethane | 5.8 | Not Detected | 23 | Not Detected |
| Freon 11 | 0.12 | 0.40 | 0.66 | 2.3 |
| Ethanol | 2.3 | 140 E | 4.4 | 250 E |
| Freon 113 | 0.12 | Not Detected | 0.90 | Not Detected |
| Acetone | 2.3 | 17 | 5.6 | 40 |
| 2-Propanol | 2.3 | Not Detected | 5.8 | Not Detected |
| Carbon Disulfide | 0.58 | Not Detected | 1.8 | Not Detected |
| 3-Chloropropene | 0.58 | Not Detected | 1.8 | Not Detected |
| Methylene Chloride | 0.23 | 30 | 0.81 | 110 |
| Hexane | 0.58 | Not Detected | 2.1 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 0.58 | Not Detected | 1.7 | Not Detected |
| Tetrahydrofuran | 0.58 | Not Detected | 1.7 | Not Detected |
| Cyclohexane | 0.58 | Not Detected | 2.0 | Not Detected |
| 2,2,4-Trimethylpentane | 0.58 | Not Detected | 2.7 | Not Detected |
| Heptane | 0.58 | Not Detected | 2.4 | Not Detected |
| 1,2-Dichloropropane | 0.12 | Not Detected | 0.54 | Not Detected |
| 1,4-Dioxane | 0.12 | Not Detected | 0.42 | Not Detected |
| Bromodichloromethane | 0.12 | Not Detected | 0.78 | Not Detected |
| cis-1,3-Dichloropropene | 0.12 | Not Detected | 0.53 | Not Detected |
| 4-Methyl-2-pentanone | 0.12 | Not Detected | 0.48 | Not Detected |
| trans-1,3-Dichloropropene | 0.12 | Not Detected | 0.53 | Not Detected |
| 2-Hexanone | 0.58 | Not Detected | 2.4 | Not Detected |
| Dibromochloromethane | 0.12 | Not Detected | 1.0 | Not Detected |
| Chlorobenzene | 0.12 | Not Detected | 0.54 | Not Detected |
| Styrene | 0.12 | Not Detected | 0.50 | Not Detected |
| Bromoform | 0.12 | Not Detected | 1.2 | Not Detected |
| Cumene | 0.12 | Not Detected | 0.58 | Not Detected |
| Propylbenzene | 0.12 | Not Detected | 0.58 | Not Detected |
| 4-Ethyltoluene | 0.12 | Not Detected | 0.58 | Not Detected |
| 1,3,5-Trimethylbenzene | 0.12 | Not Detected | 0.58 | Not Detected |
| 1,2,4-Trimethylbenzene | 0.12 | 0.16 | 0.58 | 0.77 |
| 1,3-Dichlorobenzene | 0.12 | Not Detected | 0.70 | Not Detected |
| alpha-Chlorotoluene | 0.12 | Not Detected | 0.60 | Not Detected |
| 1,2-Dichlorobenzene | 0.12 | Not Detected | 0.70 | Not Detected |
| 1,2,4-Trichlorobenzene | 0.58 | Not Detected | 4.3 | Not Detected |
| Hexachlorobutadiene | 0.58 | Not Detected | 6.2 | Not Detected |

E = Exceeds instrument calibration range.

**Container Type: 6 Liter Summa Canister (100% SIM Ambient)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|

eurofins | Air Toxics

**Client Sample ID: SBW-PO-IA-1-121223**

**Lab ID#: 2312384A-04A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122311** | **Date of Collection:** | **12/12/23 3:35:00 PM** |
| **Dil. Factor:** | **1.17** | **Date of Analysis:** | **12/23/23 04:28 PM** |

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | 70-130 |
| Toluene-d8 | 102 | 70-130 |
| 4-Bromofluorobenzene | 92 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: SBW-PO-IA-1-121223**

**Lab ID#: 2312384A-04B**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122311sim** | **Date of Collection: 12/12/23 3:35:00 PM** | |
| **Dil. Factor:** | **1.17** | **Date of Analysis: 12/23/23 04:28 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 0.058 | 0.55 | 0.29 | 2.7 |
| Freon 114 | 0.023 | Not Detected | 0.16 | Not Detected |
| Chloromethane | 0.58 | Not Detected | 1.2 | Not Detected |
| Vinyl Chloride | 0.012 | Not Detected | 0.030 | Not Detected |
| Chloroethane | 0.058 | Not Detected | 0.15 | Not Detected |
| 1,1-Dichloroethene | 0.012 | Not Detected | 0.046 | Not Detected |
| trans-1,2-Dichloroethene | 0.12 | Not Detected | 0.46 | Not Detected |
| Methyl tert-butyl ether | 0.12 | Not Detected | 0.42 | Not Detected |
| 1,1-Dichloroethane | 0.023 | Not Detected | 0.095 | Not Detected |
| cis-1,2-Dichloroethene | 0.023 | Not Detected | 0.093 | Not Detected |
| Chloroform | 0.023 | 0.030 | 0.11 | 0.14 |
| 1,1,1-Trichloroethane | 0.023 | Not Detected | 0.13 | Not Detected |
| Carbon Tetrachloride | 0.023 | 0.076 | 0.15 | 0.48 |
| Benzene | 0.058 | 0.69 | 0.19 | 2.2 |
| 1,2-Dichloroethane | 0.023 | 0.024 | 0.095 | 0.096 |
| Trichloroethene | 0.023 | Not Detected | 0.12 | Not Detected |
| Toluene | 0.058 | 2.5 | 0.22 | 9.3 |
| 1,1,2-Trichloroethane | 0.023 | Not Detected | 0.13 | Not Detected |
| Tetrachloroethene | 0.023 | 0.042 | 0.16 | 0.28 |
| 1,2-Dibromoethane (EDB) | 0.023 | Not Detected | 0.18 | Not Detected |
| Ethyl Benzene | 0.023 | 0.29 | 0.10 | 1.2 |
| m,p-Xylene | 0.047 | 0.99 | 0.20 | 4.3 |
| o-Xylene | 0.023 | 0.35 | 0.10 | 1.5 |
| 1,1,2,2-Tetrachloroethane | 0.023 | Not Detected | 0.16 | Not Detected |
| 1,4-Dichlorobenzene | 0.023 | 0.17 | 0.14 | 1.0 |

**Container Type: 6 Liter Summa Canister (100% SIM Ambient)**

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

eurofins | Air Toxics

**Client Sample ID: Lab Blank**

**Lab ID#: 2312384A-05A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122307** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/23/23 12:51 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| 1,3-Butadiene | 0.10 | Not Detected | 0.22 | Not Detected |
| Bromomethane | 5.0 | Not Detected | 19 | Not Detected |
| Freon 11 | 0.10 | Not Detected | 0.56 | Not Detected |
| Ethanol | 2.0 | Not Detected | 3.8 | Not Detected |
| Freon 113 | 0.10 | Not Detected | 0.77 | Not Detected |
| Acetone | 2.0 | Not Detected | 4.8 | Not Detected |
| 2-Propanol | 2.0 | Not Detected | 4.9 | Not Detected |
| Carbon Disulfide | 0.50 | Not Detected | 1.6 | Not Detected |
| 3-Chloropropene | 0.50 | Not Detected | 1.6 | Not Detected |
| Methylene Chloride | 0.20 | Not Detected | 0.69 | Not Detected |
| Hexane | 0.50 | Not Detected | 1.8 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 0.50 | Not Detected | 1.5 | Not Detected |
| Tetrahydrofuran | 0.50 | Not Detected | 1.5 | Not Detected |
| Cyclohexane | 0.50 | Not Detected | 1.7 | Not Detected |
| 2,2,4-Trimethylpentane | 0.50 | Not Detected | 2.3 | Not Detected |
| Heptane | 0.50 | Not Detected | 2.0 | Not Detected |
| 1,2-Dichloropropane | 0.10 | Not Detected | 0.46 | Not Detected |
| 1,4-Dioxane | 0.10 | Not Detected | 0.36 | Not Detected |
| Bromodichloromethane | 0.10 | Not Detected | 0.67 | Not Detected |
| cis-1,3-Dichloropropene | 0.10 | Not Detected | 0.45 | Not Detected |
| 4-Methyl-2-pentanone | 0.10 | Not Detected | 0.41 | Not Detected |
| trans-1,3-Dichloropropene | 0.10 | Not Detected | 0.45 | Not Detected |
| 2-Hexanone | 0.50 | Not Detected | 2.0 | Not Detected |
| Dibromochloromethane | 0.10 | Not Detected | 0.85 | Not Detected |
| Chlorobenzene | 0.10 | Not Detected | 0.46 | Not Detected |
| Styrene | 0.10 | Not Detected | 0.42 | Not Detected |
| Bromoform | 0.10 | Not Detected | 1.0 | Not Detected |
| Cumene | 0.10 | Not Detected | 0.49 | Not Detected |
| Propylbenzene | 0.10 | Not Detected | 0.49 | Not Detected |
| 4-Ethyltoluene | 0.10 | Not Detected | 0.49 | Not Detected |
| 1,3,5-Trimethylbenzene | 0.10 | Not Detected | 0.49 | Not Detected |
| 1,2,4-Trimethylbenzene | 0.10 | Not Detected | 0.49 | Not Detected |
| 1,3-Dichlorobenzene | 0.10 | Not Detected | 0.60 | Not Detected |
| alpha-Chlorotoluene | 0.10 | Not Detected | 0.52 | Not Detected |
| 1,2-Dichlorobenzene | 0.10 | Not Detected | 0.60 | Not Detected |
| 1,2,4-Trichlorobenzene | 0.50 | Not Detected | 3.7 | Not Detected |
| Hexachlorobutadiene | 0.50 | Not Detected | 5.3 | Not Detected |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: Lab Blank**

**Lab ID#: 2312384A-05A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122307** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/23/23 12:51 PM** | |

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 101 | 70-130 |
| 4-Bromofluorobenzene | 79 | 70-130 |

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**Client Sample ID: Lab Blank**

**Lab ID#: 2312384A-05B**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122307sim** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/23/23 12:51 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 0.050 | Not Detected | 0.25 | Not Detected |
| Freon 114 | 0.020 | Not Detected | 0.14 | Not Detected |
| Chloromethane | 0.50 | Not Detected | 1.0 | Not Detected |
| Vinyl Chloride | 0.010 | Not Detected | 0.026 | Not Detected |
| Chloroethane | 0.050 | Not Detected | 0.13 | Not Detected |
| 1,1-Dichloroethene | 0.010 | Not Detected | 0.040 | Not Detected |
| trans-1,2-Dichloroethene | 0.10 | Not Detected | 0.40 | Not Detected |
| Methyl tert-butyl ether | 0.10 | Not Detected | 0.36 | Not Detected |
| 1,1-Dichloroethane | 0.020 | Not Detected | 0.081 | Not Detected |
| cis-1,2-Dichloroethene | 0.020 | Not Detected | 0.079 | Not Detected |
| Chloroform | 0.020 | Not Detected | 0.098 | Not Detected |
| 1,1,1-Trichloroethane | 0.020 | Not Detected | 0.11 | Not Detected |
| Carbon Tetrachloride | 0.020 | Not Detected | 0.12 | Not Detected |
| Benzene | 0.050 | Not Detected | 0.16 | Not Detected |
| 1,2-Dichloroethane | 0.020 | Not Detected | 0.081 | Not Detected |
| Trichloroethene | 0.020 | Not Detected | 0.11 | Not Detected |
| Toluene | 0.050 | Not Detected | 0.19 | Not Detected |
| 1,1,2-Trichloroethane | 0.020 | Not Detected | 0.11 | Not Detected |
| Tetrachloroethene | 0.020 | Not Detected | 0.14 | Not Detected |
| 1,2-Dibromoethane (EDB) | 0.020 | Not Detected | 0.15 | Not Detected |
| Ethyl Benzene | 0.020 | Not Detected | 0.087 | Not Detected |
| m,p-Xylene | 0.040 | Not Detected | 0.17 | Not Detected |
| o-Xylene | 0.020 | Not Detected | 0.087 | Not Detected |
| 1,1,2,2-Tetrachloroethane | 0.020 | Not Detected | 0.14 | Not Detected |
| 1,4-Dichlorobenzene | 0.020 | Not Detected | 0.12 | Not Detected |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | 70-130 |
| Toluene-d8 | 102 | 70-130 |
| 4-Bromofluorobenzene | 85 | 70-130 |

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**Client Sample ID: CCV**

**Lab ID#: 2312384A-06A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122303** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/23/23 10:00 AM** | |

| Compound | %Recovery |
|---|---|
| 1,3-Butadiene | 102 |
| Bromomethane | 103 |
| Freon 11 | 96 |
| Ethanol | 108 |
| Freon 113 | 95 |
| Acetone | 103 |
| 2-Propanol | 98 |
| Carbon Disulfide | 109 |
| 3-Chloropropene | 97 |
| Methylene Chloride | 107 |
| Hexane | 109 |
| 2-Butanone (Methyl Ethyl Ketone) | 113 |
| Tetrahydrofuran | 97 |
| Cyclohexane | 108 |
| 2,2,4-Trimethylpentane | 113 |
| Heptane | 124 |
| 1,2-Dichloropropane | 118 |
| 1,4-Dioxane | 131 Q |
| Bromodichloromethane | 115 |
| cis-1,3-Dichloropropene | 107 |
| 4-Methyl-2-pentanone | 104 |
| trans-1,3-Dichloropropene | 111 |
| 2-Hexanone | 119 |
| Dibromochloromethane | 105 |
| Chlorobenzene | 104 |
| Styrene | 125 |
| Bromoform | 106 |
| Cumene | 117 |
| Propylbenzene | 116 |
| 4-Ethyltoluene | 127 |
| 1,3,5-Trimethylbenzene | 123 |
| 1,2,4-Trimethylbenzene | 126 |
| 1,3-Dichlorobenzene | 107 |
| alpha-Chlorotoluene | 114 |
| 1,2-Dichlorobenzene | 106 |
| 1,2,4-Trichlorobenzene | 96 |
| Hexachlorobutadiene | 103 |

Q = Exceeds Quality Control limits.

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|

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**Client Sample ID: CCV**

**Lab ID#: 2312384A-06A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122303** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/23/23 10:00 AM** | |

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | 70-130 |
| Toluene-d8 | 109 | 70-130 |
| 4-Bromofluorobenzene | 106 | 70-130 |

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**Client Sample ID: CCV**

**Lab ID#: 2312384A-06B**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122303sim** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/23/23 10:00 AM** | |

| Compound | %Recovery |
|---|---|
| Freon 12 | 96 |
| Freon 114 | 91 |
| Chloromethane | 108 |
| Vinyl Chloride | 104 |
| Chloroethane | 106 |
| 1,1-Dichloroethene | 102 |
| trans-1,2-Dichloroethene | 108 |
| Methyl tert-butyl ether | 115 |
| 1,1-Dichloroethane | 107 |
| cis-1,2-Dichloroethene | 104 |
| Chloroform | 101 |
| 1,1,1-Trichloroethane | 98 |
| Carbon Tetrachloride | 98 |
| Benzene | 106 |
| 1,2-Dichloroethane | 101 |
| Trichloroethene | 99 |
| Toluene | 105 |
| 1,1,2-Trichloroethane | 112 |
| Tetrachloroethene | 103 |
| 1,2-Dibromoethane (EDB) | 109 |
| Ethyl Benzene | 121 |
| m,p-Xylene | 125 |
| o-Xylene | 117 |
| 1,1,2,2-Tetrachloroethane | 114 |
| 1,4-Dichlorobenzene | 106 |

**Container Type: NA - Not Applicable**

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

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**Client Sample ID: LCS**

**Lab ID#: 2312384A-07A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122304** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/23/23 10:42 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| 1,3-Butadiene | 110 | 70-130 |
| Bromomethane | 108 | 70-130 |
| Freon 11 | 98 | 70-130 |
| Ethanol | 117 | 70-130 |
| Freon 113 | 92 | 70-130 |
| Acetone | 102 | 70-130 |
| 2-Propanol | 85 | 70-130 |
| Carbon Disulfide | 112 | 70-130 |
| 3-Chloropropene | 105 | 70-130 |
| Methylene Chloride | 104 | 70-130 |
| Hexane | 111 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 107 | 70-130 |
| Tetrahydrofuran | 105 | 70-130 |
| Cyclohexane | 112 | 70-130 |
| 2,2,4-Trimethylpentane | 113 | 70-130 |
| Heptane | 126 | 70-130 |
| 1,2-Dichloropropane | 114 | 70-130 |
| 1,4-Dioxane | 103 | 70-130 |
| Bromodichloromethane | 104 | 70-130 |
| cis-1,3-Dichloropropene | 109 | 70-130 |
| 4-Methyl-2-pentanone | 100 | 70-130 |
| trans-1,3-Dichloropropene | 103 | 70-130 |
| 2-Hexanone | 94 | 70-130 |
| Dibromochloromethane | 92 | 70-130 |
| Chlorobenzene | 94 | 70-130 |
| Styrene | 113 | 70-130 |
| Bromoform | 88 | 70-130 |
| Cumene | 105 | 70-130 |
| Propylbenzene | 103 | 70-130 |
| 4-Ethyltoluene | 111 | 70-130 |
| 1,3,5-Trimethylbenzene | 111 | 70-130 |
| 1,2,4-Trimethylbenzene | 114 | 70-130 |
| 1,3-Dichlorobenzene | 94 | 70-130 |
| alpha-Chlorotoluene | 98 | 70-130 |
| 1,2-Dichlorobenzene | 93 | 70-130 |
| 1,2,4-Trichlorobenzene | 85 | 70-130 |
| Hexachlorobutadiene | 94 | 70-130 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | 70-130 |

**Client Sample ID: LCS**

**Lab ID#: 2312384A-07A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122304** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/23/23 10:42 AM** | |

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 110 | 70-130 |
| 4-Bromofluorobenzene | 102 | 70-130 |

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**Client Sample ID: LCSD**

**Lab ID#: 2312384A-07AA**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122305** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/23/23 11:25 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| 1,3-Butadiene | 114 | 70-130 |
| Bromomethane | 109 | 70-130 |
| Freon 11 | 100 | 70-130 |
| Ethanol | 127 | 70-130 |
| Freon 113 | 93 | 70-130 |
| Acetone | 103 | 70-130 |
| 2-Propanol | 91 | 70-130 |
| Carbon Disulfide | 115 | 70-130 |
| 3-Chloropropene | 107 | 70-130 |
| Methylene Chloride | 104 | 70-130 |
| Hexane | 115 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 109 | 70-130 |
| Tetrahydrofuran | 110 | 70-130 |
| Cyclohexane | 115 | 70-130 |
| 2,2,4-Trimethylpentane | 117 | 70-130 |
| Heptane | 123 | 70-130 |
| 1,2-Dichloropropane | 113 | 70-130 |
| 1,4-Dioxane | 101 | 70-130 |
| Bromodichloromethane | 102 | 70-130 |
| cis-1,3-Dichloropropene | 110 | 70-130 |
| 4-Methyl-2-pentanone | 102 | 70-130 |
| trans-1,3-Dichloropropene | 106 | 70-130 |
| 2-Hexanone | 99 | 70-130 |
| Dibromochloromethane | 93 | 70-130 |
| Chlorobenzene | 95 | 70-130 |
| Styrene | 114 | 70-130 |
| Bromoform | 90 | 70-130 |
| Cumene | 103 | 70-130 |
| Propylbenzene | 103 | 70-130 |
| 4-Ethyltoluene | 111 | 70-130 |
| 1,3,5-Trimethylbenzene | 109 | 70-130 |
| 1,2,4-Trimethylbenzene | 114 | 70-130 |
| 1,3-Dichlorobenzene | 94 | 70-130 |
| alpha-Chlorotoluene | 99 | 70-130 |
| 1,2-Dichlorobenzene | 93 | 70-130 |
| 1,2,4-Trichlorobenzene | 88 | 70-130 |
| Hexachlorobutadiene | 94 | 70-130 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | 70-130 |

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**Client Sample ID: LCSD**

**Lab ID#: 2312384A-07AA**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122305** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/23/23 11:25 AM** | |

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 106 | 70-130 |
| 4-Bromofluorobenzene | 108 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 2312384A-07B**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122304sim** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/23/23 10:42 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 98 | 70-130 |
| Freon 114 | 90 | 70-130 |
| Chloromethane | 113 | 70-130 |
| Vinyl Chloride | 109 | 70-130 |
| Chloroethane | 109 | 70-130 |
| 1,1-Dichloroethene | 101 | 70-130 |
| trans-1,2-Dichloroethene | 107 | 70-130 |
| Methyl tert-butyl ether | 114 | 70-130 |
| 1,1-Dichloroethane | 109 | 70-130 |
| cis-1,2-Dichloroethene | 105 | 70-130 |
| Chloroform | 97 | 70-130 |
| 1,1,1-Trichloroethane | 99 | 70-130 |
| Carbon Tetrachloride | 86 | 70-130 |
| Benzene | 102 | 70-130 |
| 1,2-Dichloroethane | 99 | 70-130 |
| Trichloroethene | 96 | 70-130 |
| Toluene | 98 | 70-130 |
| 1,1,2-Trichloroethane | 103 | 70-130 |
| Tetrachloroethene | 92 | 70-130 |
| 1,2-Dibromoethane (EDB) | 100 | 70-130 |
| Ethyl Benzene | 110 | 70-130 |
| m,p-Xylene | 111 | 70-130 |
| o-Xylene | 107 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 102 | 70-130 |
| 1,4-Dichlorobenzene | 93 | 70-130 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | 70-130 |
| Toluene-d8 | 110 | 70-130 |
| 4-Bromofluorobenzene | 104 | 70-130 |

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**Client Sample ID: LCSD**

**Lab ID#: 2312384A-07BB**

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

| | | | |
|---|---|---|---|
| **File Name:** | **60122305sim** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/23/23 11:25 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 99 | 70-130 |
| Freon 114 | 90 | 70-130 |
| Chloromethane | 114 | 70-130 |
| Vinyl Chloride | 111 | 70-130 |
| Chloroethane | 111 | 70-130 |
| 1,1-Dichloroethene | 103 | 70-130 |
| trans-1,2-Dichloroethene | 108 | 70-130 |
| Methyl tert-butyl ether | 118 | 70-130 |
| 1,1-Dichloroethane | 110 | 70-130 |
| cis-1,2-Dichloroethene | 106 | 70-130 |
| Chloroform | 98 | 70-130 |
| 1,1,1-Trichloroethane | 101 | 70-130 |
| Carbon Tetrachloride | 87 | 70-130 |
| Benzene | 101 | 70-130 |
| 1,2-Dichloroethane | 98 | 70-130 |
| Trichloroethene | 95 | 70-130 |
| Toluene | 97 | 70-130 |
| 1,1,2-Trichloroethane | 104 | 70-130 |
| Tetrachloroethene | 93 | 70-130 |
| 1,2-Dibromoethane (EDB) | 102 | 70-130 |
| Ethyl Benzene | 113 | 70-130 |
| m,p-Xylene | 112 | 70-130 |
| o-Xylene | 111 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 102 | 70-130 |
| 1,4-Dichlorobenzene | 93 | 70-130 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | 70-130 |
| Toluene-d8 | 107 | 70-130 |
| 4-Bromofluorobenzene | 112 | 70-130 |

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1/2/2024
Mr. Justin Neste
CALIBRE, Environmental Technology Solutions
20926 Pugh Rd NE

Poulsbo WA 98370

Project Name: Fox Ave
Project #:
Workorder #: 2312384BR1

Dear Mr. Justin Neste

The following report includes the data for the above referenced project for sample(s) received on 12/14/2023 at Eurofins Air Toxics LLC.

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 LLC. 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: Monica Tran at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Monica Tran

Project Manager

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# WORK ORDER #: 2312384BR1

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Justin Neste<br>CALIBRE, Environmental Technology Solutions<br>20926 Pugh Rd NE<br>Poulsbo, WA 98370 | **BILL TO:** | Accounts Payable<br>CALIBRE, Environmental Technology Solutions<br>6354 Walker Lane, Suite 300<br>Metro Park |
| **PHONE:** | 360-981-5606 | **P.O. #** | |
| **FAX:** | | **PROJECT #** | Fox Ave |
| **DATE RECEIVED:** | 12/14/2023 | **CONTACT:** | Monica Tran |
| **DATE COMPLETED:** | 01/02/2024 | | |
| **DATE REISSUED:** | 01/02/2024 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 05A | SBW-SV-2-121323 | TO-15 | 6.0 "Hg | 10psi |
| 06A | SBW-SV-3-121323 | TO-15 | 2.0 "Hg | 10psi |
| 07A | SBW-DUP01-121323 | TO-15 | 3.5 "Hg | 10psi |
| 08A | Lab Blank | TO-15 | NA | NA |
| 09A | CCV | TO-15 | NA | NA |
| 10A | LCS | TO-15 | NA | NA |
| 10AA | LCSD | TO-15 | NA | NA |

CERTIFIED BY: Heidi Hayes DATE: 01/02/24

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA ELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-017
Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

**LABORATORY NARRATIVE**
**EPA Method TO-15**
**CALIBRE, Environmental Technology Solutions**
**Workorder# 2312384BR1**

Three 1 Liter Summa Canister samples were received on December 14, 2023. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

## Receiving Notes

There were no receiving discrepancies.

The work order was reissued on 1/2/24 to correct identification of samples SBW-SV-2-121323 and SBW-SV-3-121323 due to laboratory transcription error.

## 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.

## 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: SBW-SV-2-121323**

**Lab ID#: 2312384BR1-05A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 11 | 1.0 | 1.1 | 5.9 | 6.1 |
| Ethanol | 10 | 77 | 20 | 140 |
| Acetone | 10 | 18 | 25 | 42 |
| 2-Butanone (Methyl Ethyl Ketone) | 4.2 | 16 | 12 | 48 |
| Tetrahydrofuran | 1.0 | 12 | 3.1 | 35 |
| 2,2,4-Trimethylpentane | 1.0 | 1.8 | 4.9 | 8.2 |
| Trichloroethene | 1.0 | 13 | 5.6 | 69 |
| Tetrachloroethene | 1.0 | 250 | 7.1 | 1700 |
| m,p-Xylene | 2.1 | 2.3 | 9.1 | 10 |

**Client Sample ID: SBW-SV-3-121323**

**Lab ID#: 2312384BR1-06A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Ethanol | 9.0 | 84 | 17 | 160 |
| Acetone | 9.0 | 19 | 21 | 46 |
| 2-Butanone (Methyl Ethyl Ketone) | 3.6 | 19 | 11 | 55 |
| Tetrahydrofuran | 0.90 | 15 | 2.6 | 45 |
| Benzene | 0.90 | 0.98 | 2.9 | 3.1 |
| Trichloroethene | 0.90 | 1.5 | 4.8 | 7.9 |
| Toluene | 1.8 | 3.8 | 6.8 | 14 |
| Tetrachloroethene | 0.90 | 74 | 6.1 | 500 |
| Ethyl Benzene | 0.90 | 0.91 | 3.9 | 4.0 |
| m,p-Xylene | 1.8 | 3.4 | 7.8 | 15 |
| o-Xylene | 0.90 | 1.2 | 3.9 | 5.3 |

**Client Sample ID: SBW-DUP01-121323**

**Lab ID#: 2312384BR1-07A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 11 | 0.95 | 1.1 | 5.3 | 6.2 |
| Ethanol | 9.5 | 66 | 18 | 120 |
| Acetone | 9.5 | 15 | 22 | 36 |

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

**Client Sample ID: SBW-DUP01-121323**

**Lab ID#: 2312384BR1-07A**

| | | | | |
|---|---|---|---|---|
| 2-Butanone (Methyl Ethyl Ketone) | 3.8 | 15 | 11 | 45 |
| Tetrahydrofuran | 0.95 | 11 | 2.8 | 34 |
| Trichloroethene | 0.95 | 13 | 5.1 | 69 |
| Tetrachloroethene | 0.95 | 240 | 6.4 | 1600 |
| m,p-Xylene | 1.9 | 1.9 | 8.2 | 8.2 |

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**Client Sample ID: SBW-SV-2-121323**

**Lab ID#: 2312384BR1-05A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **91122011** | **Date of Collection: 12/13/23 8:08:00 AM** | |
| **Dil. Factor:** | **2.10** | **Date of Analysis: 12/20/23 03:54 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 1.0 | Not Detected | 5.2 | Not Detected |
| Freon 114 | 1.0 | Not Detected | 7.3 | Not Detected |
| Chloromethane | 10 | Not Detected | 22 | Not Detected |
| Vinyl Chloride | 1.0 | Not Detected | 2.7 | Not Detected |
| 1,3-Butadiene | 1.0 | Not Detected | 2.3 | Not Detected |
| Bromomethane | 10 | Not Detected | 41 | Not Detected |
| Chloroethane | 4.2 | Not Detected | 11 | Not Detected |
| Freon 11 | 1.0 | 1.1 | 5.9 | 6.1 |
| Ethanol | 10 | 77 | 20 | 140 |
| Freon 113 | 1.0 | Not Detected | 8.0 | Not Detected |
| 1,1-Dichloroethene | 1.0 | Not Detected | 4.2 | Not Detected |
| Acetone | 10 | 18 | 25 | 42 |
| 2-Propanol | 4.2 | Not Detected | 10 | Not Detected |
| Carbon Disulfide | 4.2 | Not Detected | 13 | Not Detected |
| 3-Chloropropene | 4.2 | Not Detected | 13 | Not Detected |
| Methylene Chloride | 10 | Not Detected | 36 | Not Detected |
| Methyl tert-butyl ether | 4.2 | Not Detected | 15 | Not Detected |
| trans-1,2-Dichloroethene | 1.0 | Not Detected | 4.2 | Not Detected |
| Hexane | 1.0 | Not Detected | 3.7 | Not Detected |
| 1,1-Dichloroethane | 1.0 | Not Detected | 4.2 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 4.2 | 16 | 12 | 48 |
| cis-1,2-Dichloroethene | 1.0 | Not Detected | 4.2 | Not Detected |
| Tetrahydrofuran | 1.0 | 12 | 3.1 | 35 |
| Chloroform | 1.0 | Not Detected | 5.1 | Not Detected |
| 1,1,1-Trichloroethane | 1.0 | Not Detected | 5.7 | Not Detected |
| Cyclohexane | 1.0 | Not Detected | 3.6 | Not Detected |
| Carbon Tetrachloride | 1.0 | Not Detected | 6.6 | Not Detected |
| 2,2,4-Trimethylpentane | 1.0 | 1.8 | 4.9 | 8.2 |
| Benzene | 1.0 | Not Detected | 3.4 | Not Detected |
| 1,2-Dichloroethane | 1.0 | Not Detected | 4.2 | Not Detected |
| Heptane | 1.0 | Not Detected | 4.3 | Not Detected |
| Trichloroethene | 1.0 | 13 | 5.6 | 69 |
| 1,2-Dichloropropane | 1.0 | Not Detected | 4.8 | Not Detected |
| 1,4-Dioxane | 4.2 | Not Detected | 15 | Not Detected |
| Bromodichloromethane | 1.0 | Not Detected | 7.0 | Not Detected |
| cis-1,3-Dichloropropene | 1.0 | Not Detected | 4.8 | Not Detected |
| 4-Methyl-2-pentanone | 1.0 | Not Detected | 4.3 | Not Detected |
| Toluene | 2.1 | Not Detected | 7.9 | Not Detected |
| trans-1,3-Dichloropropene | 1.0 | Not Detected | 4.8 | Not Detected |
| 1,1,2-Trichloroethane | 1.0 | Not Detected | 5.7 | Not Detected |
| Tetrachloroethene | 1.0 | 250 | 7.1 | 1700 |
| 2-Hexanone | 4.2 | Not Detected | 17 | Not Detected |

eurofins | Air Toxics

**Client Sample ID: SBW-SV-2-121323**

**Lab ID#: 2312384BR1-05A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **91122011** | **Date of Collection: 12/13/23 8:08:00 AM** | |
| **Dil. Factor:** | **2.10** | **Date of Analysis: 12/20/23 03:54 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Dibromochloromethane | 1.0 | Not Detected | 8.9 | Not Detected |
| 1,2-Dibromoethane (EDB) | 1.0 | Not Detected | 8.1 | Not Detected |
| Chlorobenzene | 1.0 | Not Detected | 4.8 | Not Detected |
| Ethyl Benzene | 1.0 | Not Detected | 4.6 | Not Detected |
| m,p-Xylene | 2.1 | 2.3 | 9.1 | 10 |
| o-Xylene | 1.0 | Not Detected | 4.6 | Not Detected |
| Styrene | 1.0 | Not Detected | 4.5 | Not Detected |
| Bromoform | 1.0 | Not Detected | 11 | Not Detected |
| Cumene | 1.0 | Not Detected | 5.2 | Not Detected |
| 1,1,2,2-Tetrachloroethane | 1.0 | Not Detected | 7.2 | Not Detected |
| Propylbenzene | 1.0 | Not Detected | 5.2 | Not Detected |
| 4-Ethyltoluene | 1.0 | Not Detected | 5.2 | Not Detected |
| 1,3,5-Trimethylbenzene | 1.0 | Not Detected | 5.2 | Not Detected |
| 1,2,4-Trimethylbenzene | 1.0 | Not Detected | 5.2 | Not Detected |
| 1,3-Dichlorobenzene | 1.0 | Not Detected | 6.3 | Not Detected |
| 1,4-Dichlorobenzene | 1.0 | Not Detected | 6.3 | Not Detected |
| alpha-Chlorotoluene | 1.0 | Not Detected | 5.4 | Not Detected |
| 1,2-Dichlorobenzene | 1.0 | Not Detected | 6.3 | Not Detected |
| 1,2,4-Trichlorobenzene | 4.2 | Not Detected | 31 | Not Detected |
| Hexachlorobutadiene | 4.2 | Not Detected | 45 | Not Detected |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 102 | 70-130 |
| 1,2-Dichloroethane-d4 | 117 | 70-130 |
| 4-Bromofluorobenzene | 103 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: SBW-SV-3-121323**

**Lab ID#: 2312384BR1-06A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **91122012** | **Date of Collection: 12/13/23 8:48:00 AM** | |
| **Dil. Factor:** | **1.80** | **Date of Analysis: 12/20/23 04:19 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 0.90 | Not Detected | 4.4 | Not Detected |
| Freon 114 | 0.90 | Not Detected | 6.3 | Not Detected |
| Chloromethane | 9.0 | Not Detected | 18 | Not Detected |
| Vinyl Chloride | 0.90 | Not Detected | 2.3 | Not Detected |
| 1,3-Butadiene | 0.90 | Not Detected | 2.0 | Not Detected |
| Bromomethane | 9.0 | Not Detected | 35 | Not Detected |
| Chloroethane | 3.6 | Not Detected | 9.5 | Not Detected |
| Freon 11 | 0.90 | Not Detected | 5.0 | Not Detected |
| Ethanol | 9.0 | 84 | 17 | 160 |
| Freon 113 | 0.90 | Not Detected | 6.9 | Not Detected |
| 1,1-Dichloroethene | 0.90 | Not Detected | 3.6 | Not Detected |
| Acetone | 9.0 | 19 | 21 | 46 |
| 2-Propanol | 3.6 | Not Detected | 8.8 | Not Detected |
| Carbon Disulfide | 3.6 | Not Detected | 11 | Not Detected |
| 3-Chloropropene | 3.6 | Not Detected | 11 | Not Detected |
| Methylene Chloride | 9.0 | Not Detected | 31 | Not Detected |
| Methyl tert-butyl ether | 3.6 | Not Detected | 13 | Not Detected |
| trans-1,2-Dichloroethene | 0.90 | Not Detected | 3.6 | Not Detected |
| Hexane | 0.90 | Not Detected | 3.2 | Not Detected |
| 1,1-Dichloroethane | 0.90 | Not Detected | 3.6 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 3.6 | 19 | 11 | 55 |
| cis-1,2-Dichloroethene | 0.90 | Not Detected | 3.6 | Not Detected |
| Tetrahydrofuran | 0.90 | 15 | 2.6 | 45 |
| Chloroform | 0.90 | Not Detected | 4.4 | Not Detected |
| 1,1,1-Trichloroethane | 0.90 | Not Detected | 4.9 | Not Detected |
| Cyclohexane | 0.90 | Not Detected | 3.1 | Not Detected |
| Carbon Tetrachloride | 0.90 | Not Detected | 5.7 | Not Detected |
| 2,2,4-Trimethylpentane | 0.90 | Not Detected | 4.2 | Not Detected |
| Benzene | 0.90 | 0.98 | 2.9 | 3.1 |
| 1,2-Dichloroethane | 0.90 | Not Detected | 3.6 | Not Detected |
| Heptane | 0.90 | Not Detected | 3.7 | Not Detected |
| Trichloroethene | 0.90 | 1.5 | 4.8 | 7.9 |
| 1,2-Dichloropropane | 0.90 | Not Detected | 4.2 | Not Detected |
| 1,4-Dioxane | 3.6 | Not Detected | 13 | Not Detected |
| Bromodichloromethane | 0.90 | Not Detected | 6.0 | Not Detected |
| cis-1,3-Dichloropropene | 0.90 | Not Detected | 4.1 | Not Detected |
| 4-Methyl-2-pentanone | 0.90 | Not Detected | 3.7 | Not Detected |
| Toluene | 1.8 | 3.8 | 6.8 | 14 |
| trans-1,3-Dichloropropene | 0.90 | Not Detected | 4.1 | Not Detected |
| 1,1,2-Trichloroethane | 0.90 | Not Detected | 4.9 | Not Detected |
| Tetrachloroethene | 0.90 | 74 | 6.1 | 500 |
| 2-Hexanone | 3.6 | Not Detected | 15 | Not Detected |

eurofins | Air Toxics

**Client Sample ID: SBW-SV-3-121323**

**Lab ID#: 2312384BR1-06A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **91122012** | **Date of Collection: 12/13/23 8:48:00 AM** | |
| **Dil. Factor:** | **1.80** | **Date of Analysis: 12/20/23 04:19 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Dibromochloromethane | 0.90 | Not Detected | 7.7 | Not Detected |
| 1,2-Dibromoethane (EDB) | 0.90 | Not Detected | 6.9 | Not Detected |
| Chlorobenzene | 0.90 | Not Detected | 4.1 | Not Detected |
| Ethyl Benzene | 0.90 | 0.91 | 3.9 | 4.0 |
| m,p-Xylene | 1.8 | 3.4 | 7.8 | 15 |
| o-Xylene | 0.90 | 1.2 | 3.9 | 5.3 |
| Styrene | 0.90 | Not Detected | 3.8 | Not Detected |
| Bromoform | 0.90 | Not Detected | 9.3 | Not Detected |
| Cumene | 0.90 | Not Detected | 4.4 | Not Detected |
| 1,1,2,2-Tetrachloroethane | 0.90 | Not Detected | 6.2 | Not Detected |
| Propylbenzene | 0.90 | Not Detected | 4.4 | Not Detected |
| 4-Ethyltoluene | 0.90 | Not Detected | 4.4 | Not Detected |
| 1,3,5-Trimethylbenzene | 0.90 | Not Detected | 4.4 | Not Detected |
| 1,2,4-Trimethylbenzene | 0.90 | Not Detected | 4.4 | Not Detected |
| 1,3-Dichlorobenzene | 0.90 | Not Detected | 5.4 | Not Detected |
| 1,4-Dichlorobenzene | 0.90 | Not Detected | 5.4 | Not Detected |
| alpha-Chlorotoluene | 0.90 | Not Detected | 4.6 | Not Detected |
| 1,2-Dichlorobenzene | 0.90 | Not Detected | 5.4 | Not Detected |
| 1,2,4-Trichlorobenzene | 3.6 | Not Detected | 27 | Not Detected |
| Hexachlorobutadiene | 3.6 | Not Detected | 38 | Not Detected |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 102 | 70-130 |
| 1,2-Dichloroethane-d4 | 115 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: SBW-DUP01-121323**

**Lab ID#: 2312384BR1-07A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **91122013** | **Date of Collection:** | **12/13/23 8:08:00 AM** |
| **Dil. Factor:** | **1.90** | **Date of Analysis:** | **12/20/23 04:44 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Freon 12 | 0.95 | Not Detected | 4.7 | Not Detected |
| Freon 114 | 0.95 | Not Detected | 6.6 | Not Detected |
| Chloromethane | 9.5 | Not Detected | 20 | Not Detected |
| Vinyl Chloride | 0.95 | Not Detected | 2.4 | Not Detected |
| 1,3-Butadiene | 0.95 | Not Detected | 2.1 | Not Detected |
| Bromomethane | 9.5 | Not Detected | 37 | Not Detected |
| Chloroethane | 3.8 | Not Detected | 10 | Not Detected |
| Freon 11 | 0.95 | 1.1 | 5.3 | 6.2 |
| Ethanol | 9.5 | 66 | 18 | 120 |
| Freon 113 | 0.95 | Not Detected | 7.3 | Not Detected |
| 1,1-Dichloroethene | 0.95 | Not Detected | 3.8 | Not Detected |
| Acetone | 9.5 | 15 | 22 | 36 |
| 2-Propanol | 3.8 | Not Detected | 9.3 | Not Detected |
| Carbon Disulfide | 3.8 | Not Detected | 12 | Not Detected |
| 3-Chloropropene | 3.8 | Not Detected | 12 | Not Detected |
| Methylene Chloride | 9.5 | Not Detected | 33 | Not Detected |
| Methyl tert-butyl ether | 3.8 | Not Detected | 14 | Not Detected |
| trans-1,2-Dichloroethene | 0.95 | Not Detected | 3.8 | Not Detected |
| Hexane | 0.95 | Not Detected | 3.3 | Not Detected |
| 1,1-Dichloroethane | 0.95 | Not Detected | 3.8 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 3.8 | 15 | 11 | 45 |
| cis-1,2-Dichloroethene | 0.95 | Not Detected | 3.8 | Not Detected |
| Tetrahydrofuran | 0.95 | 11 | 2.8 | 34 |
| Chloroform | 0.95 | Not Detected | 4.6 | Not Detected |
| 1,1,1-Trichloroethane | 0.95 | Not Detected | 5.2 | Not Detected |
| Cyclohexane | 0.95 | Not Detected | 3.3 | Not Detected |
| Carbon Tetrachloride | 0.95 | Not Detected | 6.0 | Not Detected |
| 2,2,4-Trimethylpentane | 0.95 | Not Detected | 4.4 | Not Detected |
| Benzene | 0.95 | Not Detected | 3.0 | Not Detected |
| 1,2-Dichloroethane | 0.95 | Not Detected | 3.8 | Not Detected |
| Heptane | 0.95 | Not Detected | 3.9 | Not Detected |
| Trichloroethene | 0.95 | 13 | 5.1 | 69 |
| 1,2-Dichloropropane | 0.95 | Not Detected | 4.4 | Not Detected |
| 1,4-Dioxane | 3.8 | Not Detected | 14 | Not Detected |
| Bromodichloromethane | 0.95 | Not Detected | 6.4 | Not Detected |
| cis-1,3-Dichloropropene | 0.95 | Not Detected | 4.3 | Not Detected |
| 4-Methyl-2-pentanone | 0.95 | Not Detected | 3.9 | Not Detected |
| Toluene | 1.9 | Not Detected | 7.2 | Not Detected |
| trans-1,3-Dichloropropene | 0.95 | Not Detected | 4.3 | Not Detected |
| 1,1,2-Trichloroethane | 0.95 | Not Detected | 5.2 | Not Detected |
| Tetrachloroethene | 0.95 | 240 | 6.4 | 1600 |
| 2-Hexanone | 3.8 | Not Detected | 16 | Not Detected |

eurofins | Air Toxics

**Client Sample ID: SBW-DUP01-121323**

**Lab ID#: 2312384BR1-07A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **91122013** | **Date of Collection: 12/13/23 8:08:00 AM** | |
| **Dil. Factor:** | **1.90** | **Date of Analysis: 12/20/23 04:44 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Dibromochloromethane | 0.95 | Not Detected | 8.1 | Not Detected |
| 1,2-Dibromoethane (EDB) | 0.95 | Not Detected | 7.3 | Not Detected |
| Chlorobenzene | 0.95 | Not Detected | 4.4 | Not Detected |
| Ethyl Benzene | 0.95 | Not Detected | 4.1 | Not Detected |
| m,p-Xylene | 1.9 | 1.9 | 8.2 | 8.2 |
| o-Xylene | 0.95 | Not Detected | 4.1 | Not Detected |
| Styrene | 0.95 | Not Detected | 4.0 | Not Detected |
| Bromoform | 0.95 | Not Detected | 9.8 | Not Detected |
| Cumene | 0.95 | Not Detected | 4.7 | Not Detected |
| 1,1,2,2-Tetrachloroethane | 0.95 | Not Detected | 6.5 | Not Detected |
| Propylbenzene | 0.95 | Not Detected | 4.7 | Not Detected |
| 4-Ethyltoluene | 0.95 | Not Detected | 4.7 | Not Detected |
| 1,3,5-Trimethylbenzene | 0.95 | Not Detected | 4.7 | Not Detected |
| 1,2,4-Trimethylbenzene | 0.95 | Not Detected | 4.7 | Not Detected |
| 1,3-Dichlorobenzene | 0.95 | Not Detected | 5.7 | Not Detected |
| 1,4-Dichlorobenzene | 0.95 | Not Detected | 5.7 | Not Detected |
| alpha-Chlorotoluene | 0.95 | Not Detected | 4.9 | Not Detected |
| 1,2-Dichlorobenzene | 0.95 | Not Detected | 5.7 | Not Detected |
| 1,2,4-Trichlorobenzene | 3.8 | Not Detected | 28 | Not Detected |
| Hexachlorobutadiene | 3.8 | Not Detected | 40 | Not Detected |

**Container Type: 1 Liter Summa Canister**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 100 | 70-130 |
| 1,2-Dichloroethane-d4 | 117 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: Lab Blank**

**Lab ID#: 2312384BR1-08A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **91122006a** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/20/23 12:34 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 | 5.0 | Not Detected | 9.4 | 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 | 1.0 | Not Detected | 3.8 | 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#: 2312384BR1-08A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **91122006a** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/20/23 12:34 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 | 1.0 | Not Detected | 4.3 | 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 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 102 | 70-130 |
| 1,2-Dichloroethane-d4 | 114 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: CCV**

**Lab ID#: 2312384BR1-09A**

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

| | | |
|---|---|---|
| **File Name:** | **91122003** | **Date of Collection: NA** |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/20/23 11:20 AM** |

| Compound | %Recovery |
|---|---|
| Freon 12 | 114 |
| Freon 114 | 104 |
| Chloromethane | 110 |
| Vinyl Chloride | 119 |
| 1,3-Butadiene | 112 |
| Bromomethane | 105 |
| Chloroethane | 116 |
| Freon 11 | 110 |
| Ethanol | 110 |
| Freon 113 | 103 |
| 1,1-Dichloroethene | 113 |
| Acetone | 107 |
| 2-Propanol | 113 |
| Carbon Disulfide | 111 |
| 3-Chloropropene | 112 |
| Methylene Chloride | 108 |
| Methyl tert-butyl ether | 108 |
| trans-1,2-Dichloroethene | 114 |
| Hexane | 104 |
| 1,1-Dichloroethane | 109 |
| 2-Butanone (Methyl Ethyl Ketone) | 110 |
| cis-1,2-Dichloroethene | 109 |
| Tetrahydrofuran | 109 |
| Chloroform | 110 |
| 1,1,1-Trichloroethane | 110 |
| Cyclohexane | 109 |
| Carbon Tetrachloride | 107 |
| 2,2,4-Trimethylpentane | 108 |
| Benzene | 109 |
| 1,2-Dichloroethane | 113 |
| Heptane | 114 |
| Trichloroethene | 108 |
| 1,2-Dichloropropane | 107 |
| 1,4-Dioxane | 120 |
| Bromodichloromethane | 112 |
| cis-1,3-Dichloropropene | 107 |
| 4-Methyl-2-pentanone | 102 |
| Toluene | 105 |
| trans-1,3-Dichloropropene | 110 |
| 1,1,2-Trichloroethane | 110 |
| Tetrachloroethene | 106 |
| 2-Hexanone | 105 |

eurofins | Air Toxics

**Client Sample ID: CCV**

**Lab ID#: 2312384BR1-09A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **91122003** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/20/23 11:20 AM** | |

| Compound | %Recovery |
|---|---|
| Dibromochloromethane | 106 |
| 1,2-Dibromoethane (EDB) | 116 |
| Chlorobenzene | 106 |
| Ethyl Benzene | 107 |
| m,p-Xylene | 105 |
| o-Xylene | 103 |
| Styrene | 107 |
| Bromoform | 103 |
| Cumene | 103 |
| 1,1,2,2-Tetrachloroethane | 107 |
| Propylbenzene | 102 |
| 4-Ethyltoluene | 107 |
| 1,3,5-Trimethylbenzene | 101 |
| 1,2,4-Trimethylbenzene | 100 |
| 1,3-Dichlorobenzene | 105 |
| 1,4-Dichlorobenzene | 100 |
| alpha-Chlorotoluene | 105 |
| 1,2-Dichlorobenzene | 102 |
| 1,2,4-Trichlorobenzene | 104 |
| Hexachlorobutadiene | 100 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 103 | 70-130 |
| 1,2-Dichloroethane-d4 | 106 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: LCS**

**Lab ID#: 2312384BR1-10A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **91122004** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/20/23 11:44 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 109 | 70-130 |
| Freon 114 | 102 | 70-130 |
| Chloromethane | 106 | 70-130 |
| Vinyl Chloride | 119 | 70-130 |
| 1,3-Butadiene | 111 | 70-130 |
| Bromomethane | 106 | 70-130 |
| Chloroethane | 111 | 70-130 |
| Freon 11 | 107 | 70-130 |
| Ethanol | 145 Q | 70-130 |
| Freon 113 | 97 | 70-130 |
| 1,1-Dichloroethene | 108 | 70-130 |
| Acetone | 110 | 70-130 |
| 2-Propanol | 130 | 70-130 |
| Carbon Disulfide | 114 | 70-130 |
| 3-Chloropropene | 108 | 70-130 |
| Methylene Chloride | 105 | 70-130 |
| Methyl tert-butyl ether | 108 | 70-130 |
| trans-1,2-Dichloroethene | 113 | 70-130 |
| Hexane | 102 | 70-130 |
| 1,1-Dichloroethane | 108 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 114 | 70-130 |
| cis-1,2-Dichloroethene | 110 | 70-130 |
| Tetrahydrofuran | 119 | 70-130 |
| Chloroform | 109 | 70-130 |
| 1,1,1-Trichloroethane | 110 | 70-130 |
| Cyclohexane | 111 | 70-130 |
| Carbon Tetrachloride | 106 | 70-130 |
| 2,2,4-Trimethylpentane | 112 | 70-130 |
| Benzene | 109 | 70-130 |
| 1,2-Dichloroethane | 114 | 70-130 |
| Heptane | 114 | 70-130 |
| Trichloroethene | 108 | 70-130 |
| 1,2-Dichloropropane | 105 | 70-130 |
| 1,4-Dioxane | 133 Q | 70-130 |
| Bromodichloromethane | 107 | 70-130 |
| cis-1,3-Dichloropropene | 106 | 70-130 |
| 4-Methyl-2-pentanone | 102 | 70-130 |
| Toluene | 105 | 70-130 |
| trans-1,3-Dichloropropene | 107 | 70-130 |
| 1,1,2-Trichloroethane | 105 | 70-130 |
| Tetrachloroethene | 103 | 70-130 |
| 2-Hexanone | 106 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: LCS**

**Lab ID#: 2312384BR1-10A**

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

| | | | |
|---|---|---|---|
| **File Name:** | **91122004** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/20/23 11:44 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 102 | 70-130 |
| 1,2-Dibromoethane (EDB) | 114 | 70-130 |
| Chlorobenzene | 104 | 70-130 |
| Ethyl Benzene | 108 | 70-130 |
| m,p-Xylene | 104 | 70-130 |
| o-Xylene | 102 | 70-130 |
| Styrene | 104 | 70-130 |
| Bromoform | 100 | 70-130 |
| Cumene | 102 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 106 | 70-130 |
| Propylbenzene | 101 | 70-130 |
| 4-Ethyltoluene | 104 | 70-130 |
| 1,3,5-Trimethylbenzene | 100 | 70-130 |
| 1,2,4-Trimethylbenzene | 102 | 70-130 |
| 1,3-Dichlorobenzene | 102 | 70-130 |
| 1,4-Dichlorobenzene | 97 | 70-130 |
| alpha-Chlorotoluene | 103 | 70-130 |
| 1,2-Dichlorobenzene | 100 | 70-130 |
| 1,2,4-Trichlorobenzene | 100 | 70-130 |
| Hexachlorobutadiene | 101 | 70-130 |

Q = Exceeds Quality Control limits.

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 104 | 70-130 |
| 1,2-Dichloroethane-d4 | 108 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: LCSD**

**Lab ID#: 2312384BR1-10AA**

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

| | | | |
|---|---|---|---|
| **File Name:** | **91122005** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/20/23 12:08 PM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Freon 12 | 110 | 70-130 |
| Freon 114 | 102 | 70-130 |
| Chloromethane | 105 | 70-130 |
| Vinyl Chloride | 120 | 70-130 |
| 1,3-Butadiene | 114 | 70-130 |
| Bromomethane | 107 | 70-130 |
| Chloroethane | 114 | 70-130 |
| Freon 11 | 108 | 70-130 |
| Ethanol | 148 Q | 70-130 |
| Freon 113 | 97 | 70-130 |
| 1,1-Dichloroethene | 110 | 70-130 |
| Acetone | 111 | 70-130 |
| 2-Propanol | 130 | 70-130 |
| Carbon Disulfide | 115 | 70-130 |
| 3-Chloropropene | 110 | 70-130 |
| Methylene Chloride | 108 | 70-130 |
| Methyl tert-butyl ether | 109 | 70-130 |
| trans-1,2-Dichloroethene | 115 | 70-130 |
| Hexane | 104 | 70-130 |
| 1,1-Dichloroethane | 111 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 114 | 70-130 |
| cis-1,2-Dichloroethene | 110 | 70-130 |
| Tetrahydrofuran | 121 | 70-130 |
| Chloroform | 110 | 70-130 |
| 1,1,1-Trichloroethane | 112 | 70-130 |
| Cyclohexane | 112 | 70-130 |
| Carbon Tetrachloride | 108 | 70-130 |
| 2,2,4-Trimethylpentane | 114 | 70-130 |
| Benzene | 109 | 70-130 |
| 1,2-Dichloroethane | 114 | 70-130 |
| Heptane | 112 | 70-130 |
| Trichloroethene | 109 | 70-130 |
| 1,2-Dichloropropane | 105 | 70-130 |
| 1,4-Dioxane | 133 Q | 70-130 |
| Bromodichloromethane | 109 | 70-130 |
| cis-1,3-Dichloropropene | 108 | 70-130 |
| 4-Methyl-2-pentanone | 104 | 70-130 |
| Toluene | 106 | 70-130 |
| trans-1,3-Dichloropropene | 110 | 70-130 |
| 1,1,2-Trichloroethane | 109 | 70-130 |
| Tetrachloroethene | 107 | 70-130 |
| 2-Hexanone | 108 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: LCSD**

**Lab ID#: 2312384BR1-10AA**

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

| | | | |
|---|---|---|---|
| **File Name:** | **91122005** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 12/20/23 12:08 PM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Dibromochloromethane | 103 | 70-130 |
| 1,2-Dibromoethane (EDB) | 106 | 70-130 |
| Chlorobenzene | 106 | 70-130 |
| Ethyl Benzene | 110 | 70-130 |
| m,p-Xylene | 105 | 70-130 |
| o-Xylene | 105 | 70-130 |
| Styrene | 105 | 70-130 |
| Bromoform | 102 | 70-130 |
| Cumene | 104 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 108 | 70-130 |
| Propylbenzene | 102 | 70-130 |
| 4-Ethyltoluene | 105 | 70-130 |
| 1,3,5-Trimethylbenzene | 103 | 70-130 |
| 1,2,4-Trimethylbenzene | 104 | 70-130 |
| 1,3-Dichlorobenzene | 104 | 70-130 |
| 1,4-Dichlorobenzene | 100 | 70-130 |
| alpha-Chlorotoluene | 104 | 70-130 |
| 1,2-Dichlorobenzene | 102 | 70-130 |
| 1,2,4-Trichlorobenzene | 104 | 70-130 |
| Hexachlorobutadiene | 104 | 70-130 |

Q = Exceeds Quality Control limits.

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| Toluene-d8 | 104 | 70-130 |
| 1,2-Dichloroethane-d4 | 108 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

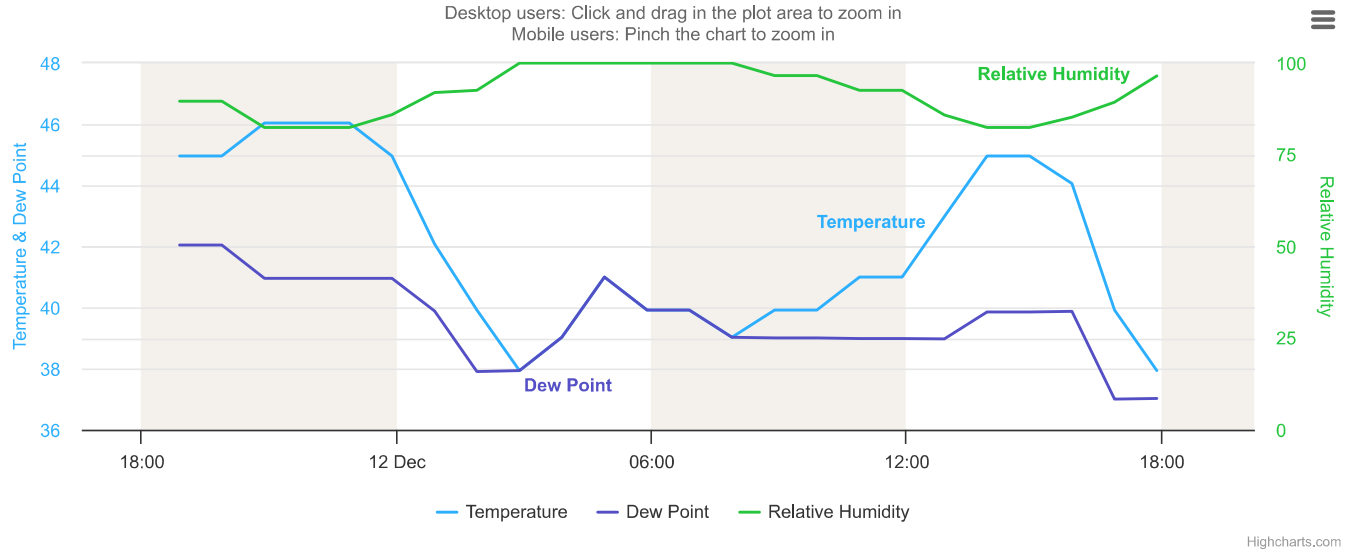
Attachment E
Local Weather during Sampling Period

# Boeing Field - King County International Airport



Western Region Headquarters
Regional Headquarters






**Weather conditions for:**
**Boeing Field - King County International Airport, WA (ASOS/AWOS - SEW)**
**Elev: 20.0 ft; Lat/Lon: 47.54548/-122.31470**

Get Yearly Precip Total (non QA/QC'd data)
Get Water Year Precip Total (non QA/QC'd data):
For selected observations near this location: click here

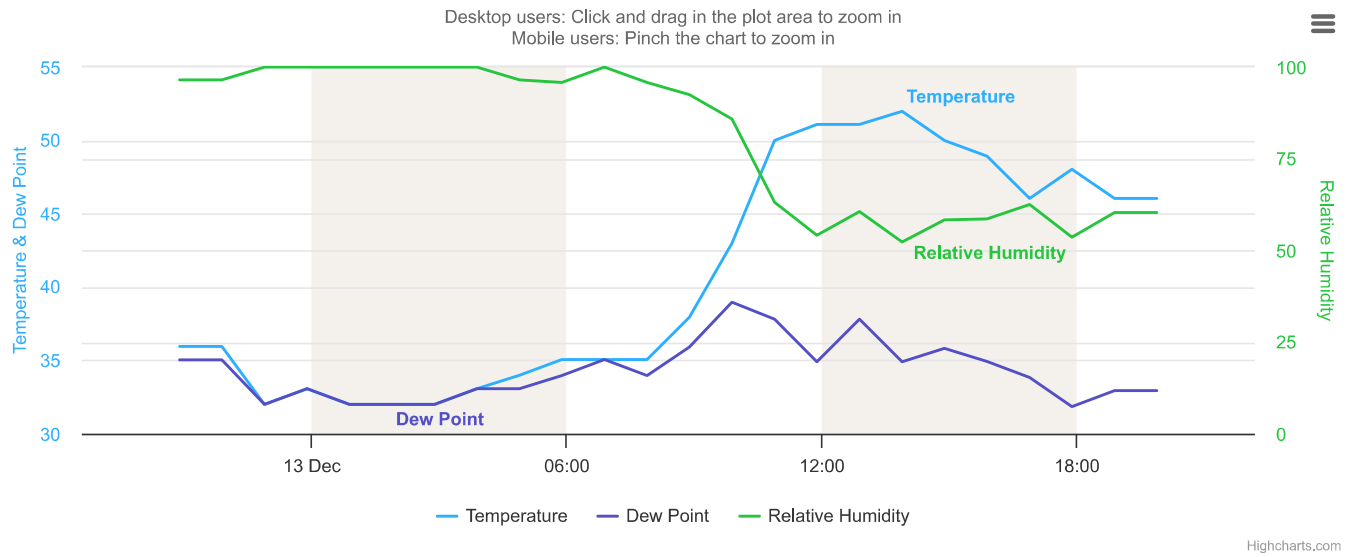
| Date/Time (L) | Temp. (°F) | Dew Point (°F) | Relative Humidity (%) | Wind Chill (°F) | Wind Direction | Wind Speed (mph) | Visibility (miles) | Weather | Clouds (x100 ft) | Sea Level Pressure (mb) | Station Pressure (in Hg) | Altimeter Setting (in Hg) | 6 Hr Max (°F) | 6 Hr Min (°F) | 24 Hr Max (°F) | 24 Hr Min (°F) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dec 12, 6:00 pm** | 37 | 36 | 96 | 31 | SSE | 8 | 0.50 | Fog | VV001 | | 30.16 | 30.18 | | | | |
| Dec 12, 5:53 pm | 38 | 37 | 97 | 32 | SSE | 8 | 6.00 | Mist | CLR | 1022.10 | 30.17 | 30.19 | | | | |
| Dec 12, 4:53 pm | 40 | 37 | 89 | 36 | SE | 6 | 10.00 | | CLR | 1022.40 | 30.17 | 30.19 | | | | |
| Dec 12, 3:53 pm | 44 | 40 | 85 | | N | 0 | 10.00 | | CLR | 1022.30 | 30.17 | 30.19 | 46 | 41 | | |
| Dec 12, 2:53 pm | 45 | 40 | 82 | | | 3 | 10.00 | | CLR | 1022.40 | 30.18 | 30.20 | | | | |
| Dec 12, 1:53 pm | 45 | 40 | 82 | | N | 0 | 9.00 | | SCT009 | 1022.40 | 30.17 | 30.19 | | | | |
| Dec 12, 12:53 pm | 43 | 39 | 86 | | N | 0 | 10.00 | | BKN009 | 1023.20 | 30.20 | 30.22 | | | | |
| Dec 12, 11:53 am | 41 | 39 | 93 | | N | 0 | 10.00 | | OVC006 | 1023.90 | 30.22 | 30.24 | | | | |
| Dec 12, 10:53 am | 41 | 39 | 93 | | NE | 3 | 10.00 | | OVC006 | 1024.60 | 30.24 | 30.26 | | | | |
| Dec 12, 9:53 am | 40 | 39 | 97 | | N | 0 | 10.00 | | OVC005 | 1024.50 | 30.24 | 30.26 | 41 | 39 | | |
| **Dec 12, 9:39 am** | 40 | 39 | 97 | | N | 0 | 10.00 | | OVC005 | | 30.24 | 30.26 | | | | |
| Dec 12, 8:53 am | 40 | 39 | 97 | | N | 0 | 4.00 | Mist | OVC004 | 1024.10 | 30.22 | 30.24 | | | | |
| **Dec 12, 8:00 am** | 39 | 39 | 100 | | N | 0 | 7.00 | | OVC003 | | 30.22 | 30.24 | | | | |
| Dec 12, 7:53 am | 39 | 39 | 100 | | | 3 | 1.00 | Mist | OVC003 | 1023.80 | 30.21 | 30.23 | | | | |
| Dec 12, 6:53 am | 40 | 40 | 100 | | N | 0 | 1.00 | Mist | VV003 | 1023.70 | 30.21 | 30.23 | | | | |
| Dec 12, 5:53 am | 40 | 40 | 100 | | N | 0 | 1.50 | Mist | OVC002 | 1023.80 | 30.22 | 30.24 | | | | |
| Dec 12, 4:53 am | 41 | 41 | 100 | | N | 0 | 1.50 | Mist | OVC002 | 1023.70 | 30.21 | 30.23 | | | | |
| **Dec 12, 4:27 am** | 41 | 41 | 100 | | N | 0 | 1.50 | Mist | OVC002 | | 30.22 | 30.24 | | | | |
| Dec 12, 3:53 am | 39 | 39 | 100 | | N | 0 | 8.00 | | BKN007 | 1024.20 | 30.23 | 30.25 | 46 | 36 | | |
| **Dec 12, 3:38 am** | 39 | 38 | 96 | | N | 0 | 8.00 | | BKN007 | | 30.23 | 30.25 | | | | |
| **Dec 12, 3:34 am** | 38 | 38 | 100 | | N | 0 | 10.00 | | SCT007 | | 30.23 | 30.25 | | | | |
| Dec 12, 2:53 am | 38 | 38 | 100 | | SSE | 5 | 3.00 | Mist | CLR | 1024.40 | 30.23 | 30.25 | | | | |
| Dec 12, 1:53 am | 40 | 38 | 93 | | N | 0 | 8.00 | | CLR | 1024.10 | 30.23 | 30.25 | | | | |
| Dec 12, 12:53 am | 42 | 40 | 92 | | N | 0 | 10.00 | | FEW011 FEW017 | 1023.90 | 30.22 | 30.24 | | | | |
| **Dec 12, 12:31 am** | 44 | 41 | 89 | | N | 0 | 10.00 | | SCT017 | | 30.22 | 30.24 | | | | |
| Dec 11, 11:53 pm | 45 | 41 | 86 | | N | 0 | 10.00 | | OVC018 | 1023.90 | 30.22 | 30.24 | | | | |
| Dec 11, 10:53 pm | 46 | 41 | 82 | | N | 0 | 10.00 | | OVC017 | 1024.10 | 30.23 | 30.25 | | | 48 | 45 |
| Dec 11, 9:53 pm | 46 | 41 | 82 | | N | 0 | 10.00 | | OVC017 | 1024.10 | 30.22 | 30.24 | 46 | 45 | | |
| Dec 11, 8:53 pm | 46 | 41 | 82 | | N | 0 | 10.00 | | OVC015 | 1023.80 | 30.22 | 30.24 | | | | |
| Dec 11, 7:53 pm | 45 | 42 | 90 | | NW | 5 | 10.00 | | OVC016 | 1023.80 | 30.21 | 30.23 | | | | |
| **Dec 11, 7:44 pm** | 45 | 42 | 90 | | | 5 | 10.00 | | SCT010 OVC016 | | 30.21 | 30.23 | | | | |
| Dec 11, 6:53 pm | 45 | 42 | 90 | | | 3 | 10.00 | | OVC008 | 1023.50 | 30.21 | 30.23 | | | | |

# Boeing Field - King County International Airport

Weather.gov > Western Region Headquarters > Time Series Viewer

**Western Region Headquarters**
Regional Headquarters

Select Graph ..... | 7 Days | Raw Observations | Show All Data | Switch to Metric Units | **Font:** A A **A** | Advanced Options | About This Page



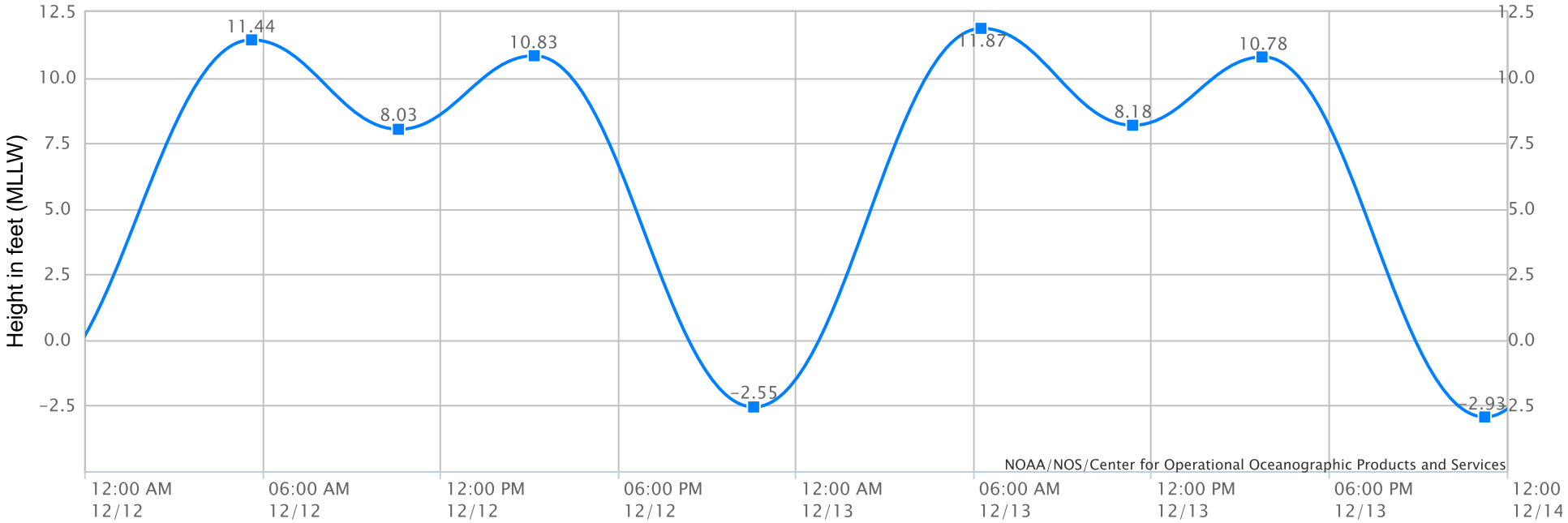

**Weather conditions for:**
**Boeing Field - King County International Airport, WA (ASOS/AWOS - SEW)**
**Elev: 20.0 ft; Lat/Lon: 47.54548/-122.31470**

Get Yearly Precip Total (non QA/QC'd data)
Get Water Year Precip Total (non QA/QC'd data):
For selected observations near this location: click here

| Date/Time (L) | Temp. (°F) | Dew Point (°F) | Relative Humidity (%) | Wind Chill (°F) | Wind Direction | Wind Speed (mph) | Visibility (miles) | Weather | Clouds (x100 ft) | Sea Level Pressure (mb) | Station Pressure (in Hg) | Altimeter Setting (in Hg) | 6 Hr Max (°F) | 6 Hr Min (°F) | 24 Hr Max (°F) | 24 Hr Min (°F) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dec 13, 7:53 pm | 46 | 33 | 60 | | N | 0 | 10.00 | | BKN110 | 1017.50 | 30.03 | 30.05 | | | | |
| Dec 13, 6:53 pm | 46 | 33 | 60 | | | 7 | 10.00 | | BKN110 | 1017.20 | 30.02 | 30.04 | | | | |
| Dec 13, 5:53 pm | 48 | 32 | 54 | | N | 0 | 10.00 | | CLR | 1017.20 | 30.02 | 30.04 | | | | |
| Dec 13, 4:53 pm | 46 | 34 | 63 | | SSE | 7 | 10.00 | | CLR | 1016.80 | 30.01 | 30.03 | | | | |
| Dec 13, 3:53 pm | 49 | 35 | 59 | | S | 7 | 10.00 | | CLR | 1016.60 | 30.00 | 30.02 | 52 | 43 | | |
| Dec 13, 2:53 pm | 50 | 36 | 58 | | | 6 | 10.00 | | CLR | 1016.80 | 30.01 | 30.03 | | | | |
| Dec 13, 1:53 pm | 52 | 35 | 52 | | S | 3 | 10.00 | | CLR | 1017.30 | 30.02 | 30.04 | | | | |
| Dec 13, 12:53 pm | 51 | 38 | 61 | | SSW | 5 | 10.00 | | CLR | 1017.60 | 30.03 | 30.05 | | | | |
| Dec 13, 11:53 am | 51 | 35 | 54 | | SSW | 6 | 10.00 | | CLR | 1018.00 | 30.04 | 30.06 | | | | |
| Dec 13, 10:53 am | 50 | 38 | 63 | | | 3 | 10.00 | | SCT160 | 1018.50 | 30.06 | 30.08 | | | | |
| Dec 13, 9:53 am | 43 | 39 | 86 | | S | 5 | 10.00 | | CLR | 1018.80 | 30.07 | 30.09 | 43 | 33 | | |
| Dec 13, 8:53 am | 38 | 36 | 92 | 33 | SE | 6 | 10.00 | | BKN140 BKN200 | 1018.80 | 30.07 | 30.09 | | | | |
| Dec 13, 7:53 am | 35 | 34 | 96 | | | 5 | 9.00 | | CLR | 1018.40 | 30.06 | 30.08 | | | | |
| Dec 13, 6:53 am | 35 | 35 | 100 | | N | 0 | 10.00 | | CLR | 1018.70 | 30.07 | 30.09 | | | | |
| Dec 13, 5:53 am | 35 | 34 | 96 | | N | 0 | 10.00 | | SCT002 | 1018.80 | 30.07 | 30.09 | | | | |
| Dec 13, 4:53 am | 34 | 33 | 96 | | N | 0 | 3.00 | Mist | SCT002 | 1019.10 | 30.08 | 30.10 | | | | |
| **Dec 13, 4:46 am** | 34 | 33 | 96 | | N | 0 | 3.00 | Mist | SCT002 | | 30.07 | 30.09 | | | | |
| **Dec 13, 4:17 am** | 33 | 33 | 100 | | N | 0 | 0.25 | Fog | VV002 | | 30.08 | 30.10 | | | | |
| Dec 13, 3:53 am | 33 | 33 | 100 | | N | 0 | 0.25 | Fog | VV002 | 1019.20 | 30.08 | 30.10 | 36 | 31 | | |
| **Dec 13, 3:22 am** | 33 | 33 | 100 | | N | 0 | 0.25 | Fog | VV002 | | 30.08 | 30.10 | | | | |
| **Dec 13, 3:14 am** | 33 | 33 | 100 | | N | 0 | 0.25 | Fog | VV001 | | 30.08 | 30.10 | | | | |
| Dec 13, 2:53 am | 32 | 32 | 100 | 26 | SSE | 6 | 0.25 | Fog | VV002 | 1019.40 | 30.09 | 30.11 | | | | |
| Dec 13, 1:53 am | 32 | 32 | 100 | | N | 0 | 0.25 | Fog | VV002 | 1019.60 | 30.09 | 30.11 | | | | |
| Dec 13, 12:53 am | 32 | 32 | 100 | | SSE | 3 | 0.25 | Fog | VV002 | 1019.70 | 30.09 | 30.11 | | | | |
| **Dec 13, 12:32 am** | 32 | 32 | 100 | | N | 0 | 0.25 | Fog | VV002 | | 30.10 | 30.12 | | | | |
| **Dec 13, 12:22 am** | 33 | 33 | 100 | | N | 0 | -0.25 | Fog | VV002 | | 30.10 | 30.12 | | | | |
| Dec 12, 11:53 pm | 33 | 33 | 100 | | SE | 3 | 0.25 | Fog | VV002 | 1020.30 | 30.11 | 30.13 | | | | |
| **Dec 12, 11:27 pm** | 34 | 33 | 96 | | N | 0 | 0.50 | Fog | VV002 | | 30.12 | 30.14 | | | | |
| Dec 12, 10:53 pm | 32 | 32 | 100 | 26 | S | 6 | 3.00 | Mist | SCT003 | 1020.90 | 30.13 | 30.15 | | | 46 | 32 |
| **Dec 12, 10:48 pm** | 34 | 32 | 93 | 28 | SSE | 7 | 4.00 | Mist | FEW003 | | 30.13 | 30.15 | | | | |
| Dec 12, 9:53 pm | 36 | 35 | 96 | | N | 0 | 6.00 | Mist | CLR | 1021.50 | 30.15 | 30.17 | 44 | 34 | | |
| Dec 12, 8:53 pm | 36 | 35 | 96 | | SE | 3 | 5.00 | Mist | FEW002 | 1021.60 | 30.15 | 30.17 | | | | |

Help Print

**NOAA/NOS/CO-OPS**
**Tide Predictions at 9447029, Duwamish Waterway, Eighth Ave. South WA**
**From 2023/12/12 12:00 AM LST/LDT to 2023/12/13 11:59 PM LST/LDT**
**Subordinate Station | Ref. Station (Seattle 9447130) | Time offsets (high: 10 min. low: 11 min.) | Height offsets (high: *0.97 ft. low: *0.95 ft.)**




Note: The interval is High/Low, the solid blue line depicts a curve fit between the high and low values and approximates the segments between.
Disclaimer: These data are based upon the latest information available as of the date of your request, and may differ from the published tide tables.

## High/Low Tide Prediction Data Listing

Station Name: Duwamish Waterway, Eighth Ave. South, WA
Action: Daily
Product: Tide Predictions
Start Date & Time: 2023/12/12 12:00 AM
End Date & Time: 2023/12/13 11:59 PM

Source: NOAA/NOS/CO-OPS
Prediction Type: Subordinate
Datum: MLLW
Height Units: Feet
Time Zone: LST/LDT

| Date | Day | Time | Hgt | Time | Hgt | Time | Hgt | Time | Hgt |
|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2023/12/12 | Tue | 05:36 AM | 11.44 H | 10:35 AM | 8.03 L | 3:09 PM | 10.83 H | 10:34 PM | -2.55 L |
| 2023/12/13 | Wed | 06:16 AM | 11.87 H | 11:22 AM | 8.18 L | 3:46 PM | 10.78 H | 11:16 PM | -2.93 L |