CALIBRE

Technical Memorandum

To: Julia Schwarz (Ecology), Bob Code and Bob Sollesvik (Fox Ave Building, LLC)

From: Tom McKeon, CALIBRE

Date: March 23, 2023

Subject: Indoor Air and Sub-Slab Vapor Monitoring Summary

The purpose of this Technical Memorandum (Tech Memo) is to document the Indoor Air (IA) and sub-slab vapor monitoring results from samples collected at the Fox Avenue Site (the Site) in March 2023. The work described in this report 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 Indoor Air and Soil Vapor Sampling Plan (CALIBRE, 2023) on February 15, 2023 and all samples were collected at the Site between March 1-2, 2023 (see sampling locations in Figure 1). The Indoor Air samples (plus ambient air sample) were collected on March 1, 2023 and the sub-slab samples were collected on the morning of the following day (March 2, 2023).

Following the sampling plan, one ambient air sample, three Indoor Air samples, and three sub-slab vapor samples were collected from previously sampled locations at the Site. A duplicate sample was collected from one of the sub-slab sample locations (CCD-SV-2).

Pre-Sampling Site Walkthrough

Prior to sampling, Cascade Columbia Distribution (CCD) was notified of the intended Indoor Air and sub-slab sampling. CALIBRE accessed the site on February 24, 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 sold by CCD was provided to CALIBRE during the walk through (CCD is a chemical distributor). Besides the chemicals sold by CCD, additional VOC containing products were identified while accessing the site, including gas cans for leaf blowers, spray paint cans for touching up drums or covering container labels, and soaps, cleaners, and disinfecting wipes. Attachment A includes an Indoor Air Quality Questionnaire, the chemical list provided by CCD, and photos taken during the walkthrough.

Summary of Sampling Approach

On March 1, 2023 six-liter summa canisters (received from Eurofins AirToxics) were positioned at the ambient air and Indoor Air sampling locations. The ambient air summa canister included a flow controller calibrated for sample collection at a rate of approximately 9 milliliters per minute to achieve a 9-hour sample collection time. The Indoor Air summa canisters included flow controllers calibrated for sample collection at a rate of approximately 10 milliliters per minute to achieve a 7-hour sample collection time. The ambient air sample was collected from the planter box near the front door to the CCD office while IA-1 was collected within the first-floor office space, IA-2 was collected from inside the men's restroom, and IA-3 was collected from the

breakroom inside the CCD warehouse. The outdoor ambient air sample collection was started prior to the Indoor Air samples and continued through the conclusion of the period for Indoor Air sampling.

On March 2, 2023 sub-slab vapor samples were collected from within the first-floor office space (SV-1), the men's restroom (SV-2), and from the breakroom inside the CCD warehouse (SV-3). The original soil vapor probe for SV-3 could not be located during the pre-sampling Site walkthrough. CCD indicated that the breakroom floor had been re-sealed within the last 5 years and it is likely that SV-3 was inadvertently covered during the sealing process. Ecology was notified of this and approved temporary installation of a soil vapor probe by means of using a roto-hammer to access the sub-slab vapor in this location. A 1" hammer drill bit was used to drill through the cement slab inside the breakroom to a depth of approximately 1'. ¼" polyethylene tubing was inserted inside the hole and sealed with approximately 8" of compressible closed-cell foam, a rubber washer, and approximately 1" of modeling clay up to the surface. The modelling clay pounded into the hole with a rod and mallet and was allowed to harden for approximately 30 minutes prior to sampling.

Prior to 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 either 0 ppm or less than 5% of the helium concentrations within the shroud. Helium concentrations within the leak detection shrouds were between 40-50% helium and the highest helium detection from a sample train was 50 ppm, approximately 0.01% 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, Indoor Air, 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, Indoor Air, and sub-slab samples) are included in Attachment D.

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 temperature during ambient/Indoor Air sampling ranged from 28.9 to 43.0 degrees F on March 1, 2023 and 37.0 to 39.9 degrees F during sub-slab monitoring on March 2, 2023. The reported wind speed at Boeing Field ranged from calm to 8 mph, typically from the SE, on March 1, 2023. The reported barometric pressure at Boeing Field ranged from 30.0 in Hg increasing slightly to 30.12 in Hg on March 1, 2023. The north end of Boeing Field (King County International Airport) is approximately 3,000 feet east of this Site.

Summary of Sampling Results

The results for volatile chemicals of concern (COCs; tetrachloroethene [PCE], trichloroethene [TCE], cis-1,2-dichloroethene [cis-1,2-DCE], and vinyl chloride [VC]) are presented in Table 1. 1,1-dichloroethene was non-detect in all Indoor Air samples. The Indoor Air monitoring results demonstrate all detections of COCs are below the MTCA Method C Indoor Air cleanup levels established in the Cleanup Action Plan (CAP, Ecology 2012b and 2013).

The data from this current sampling (2023) indicate an Indoor Air concentration reduction[1] of about 96% from prior peak PCE concentrations in 2009 (prior to the remedial actions under the interim action and the CAP). This is generally consistent with the soil vapor extraction (SVE) system operations in the immediate area which demonstrated a 95% reduction in vapors (in the SVE system influent) in the first six months of SVE operations under the CAP (as reported in the Construction Completion Report, 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 0.0001 to 0.0002 from the March 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 Indoor Air cleanup levels was selected in the CAP.

References

CALIBRE, 2023. Indoor Air and Soil Vapor Sampling Plan, Rev. 2. Prepared for Fox Avenue Building LLC. February 15, 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.

[1] Concentration reduction 96% = 1- 2.9/75
with 75 µg/m^3 as prior peak PCE Indoor Air concentration in 2009.

Tables

Table 1 Measured Indoor Air and Sub-slab VOC Concentrations at CCD - March 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 ($\mu g/m^3$)
MTCA Method C IA CULs		***40***	***2.0***	***40***	***2.8***
3/1/2023	CCD AA-1	0.26	<0.15	<0.11	<0.036
3/1/2023	CCD IA-1	2.8	0.14	<0.10	<0.032
3/1/2023	CCD IA-2	2.0	<0.14	<0.10	<0.032
3/1/2023	CCD IA-3	2.9	0.30	<0.097	<0.031
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 ($\mu g/m^3$)
3/2/2023	CCD SV-1	16,000	620	<42	<27
3/2/2023	CCD SV-2	8,500	180	<22	<14
3/2/2023	DUP (CCD SV-2)	8,400	180	<24	<15
3/2/2023	CCD SV-3	26,000	2,300	530	<36

MTCA Method C Air CULs are applied to the Cascade Columbia building.

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

CCD = Cascade Columbia Distribution

PCE = tetrachloroethene

TCE = trichloroethene

cis-1,2-DCE = cis-1,2-Dichloroethene

VC = vinyl chloride

All IA concentration are also less than MTCA Method B levels listed below

	PCE	TCE	c1,2DCE	VC
MTCA B IA Levels	*9.6* ($\mu g/m^3$)	*0.37* ($\mu g/m^3$)	*18* ($\mu g/m^3$)	*0.28* ($\mu g/m^3$)

The IA concentrations for 1,1-Dichloroethene were non detect for all IA samples with detection limits ranging from 0.048 to 0.05 $\mu g/m^3$, see data reports in Attachment D

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

Indoor Air				**Sub Slab**				**Building Specific VAFs (unit less)**	
Sample Date	Sample ID	PCE ($\mu g/m^3$)	TCE ($\mu g/m^3$)	Sample Date	Sample ID	PCE ($\mu g/m^3$)	TCE ($\mu g/m^3$)	PCE	TCE
3/1/2023	CCD IA-1	2.8	0.14	3/2/2023	CCD SV-1	16,000	620	0.0002	0.0002
3/1/2023	CCD IA-2	2.0	<0.14	3/2/2023	CCD SV-2	8,500	180	0.0002	<0.0008
3/1/2023	CCD IA-3	2.9	0.30	3/2/2023	CCD SV-3	26,000	2,300	0.0001	0.0001

$\mu g/m^3$ = micrograms per cubic meter

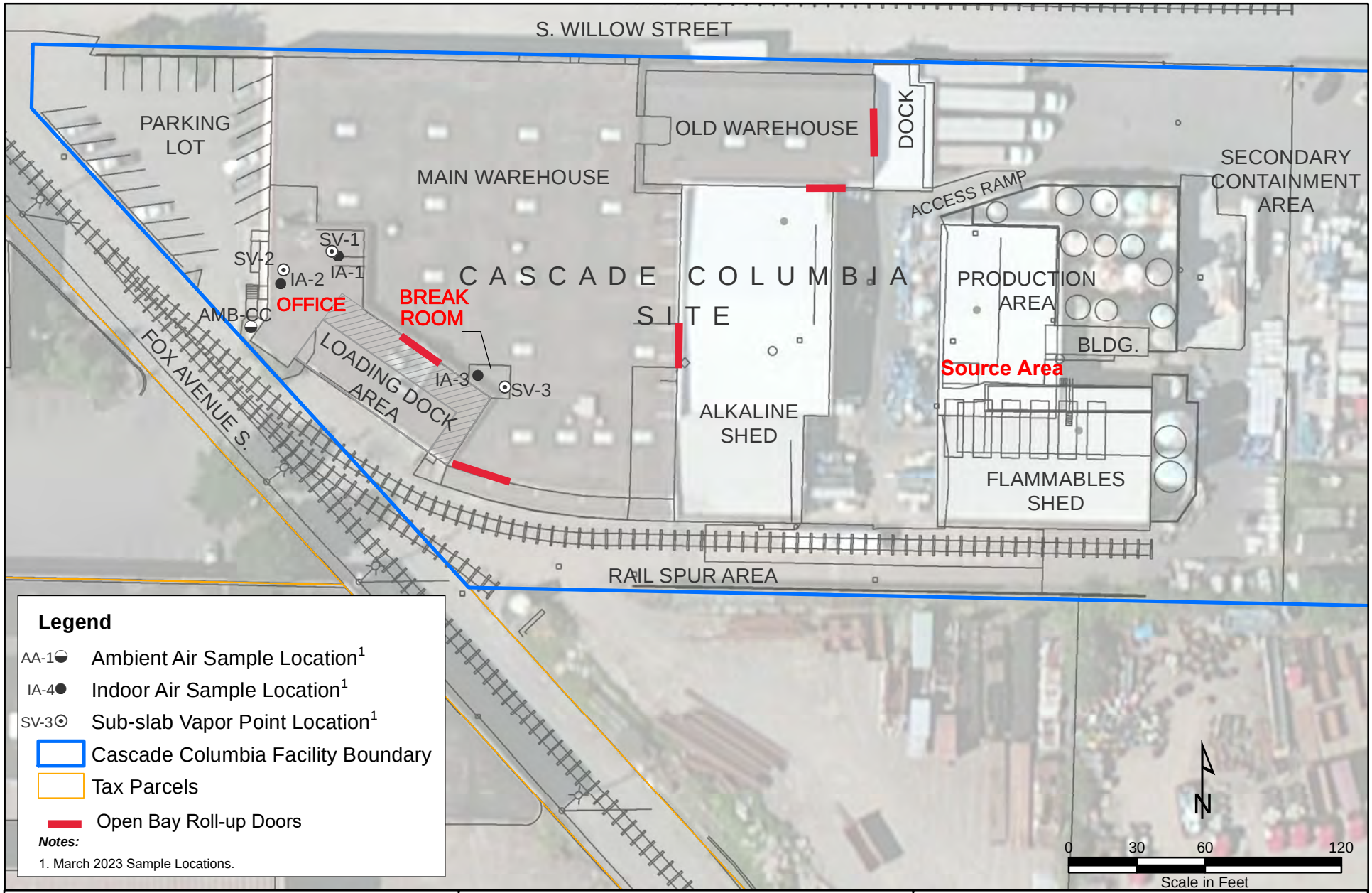
CCD = Cascade Columbia Distribution

VAF = vapor attenuation factor

PCE = tetrachloroethene

TCE = trichloroethene

Figures



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Vapor Intrusion Monitoring at Cascade Columbia Fox Avenue Site Seattle, Washington

Figure 1
Indoor Air Monitoring Locations at Cascade Columbia Site

Copied from FloydSnider, 2013

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 Nagel Date/Time Prepared 2/24/23 1200

Preparer's Affiliation CALIBRE Systems Phone No. 3609815606

Purpose of Investigation Walk through prior to indoor air monitoring

1. OCCUPANT:

Interviewed: (Y) / N

Last Name: Sollesvik First Name: Bob

Address: 6900 Fort Ave S. Seattle, WA 98108

County: King

Home Phone: NA Office Phone: (206) 282-6334

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) Chemical Distributor

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

Other characteristics:

Number of floors 2 Building age 1959 '59 ish

Is the building insulated? Y / N (yes) 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

(yes), open stairwell w/ door on first floor into office

Airflow near source

Outdoor air infiltration

Office doors to outside open/close frequently as customers or employees enter/exit the building. Rollup doors @ loading dock & warehouse open during office hours for forklift access.

Infiltration into air ducts

Discharge vents for heating/cooling in the ceiling.

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 No basement
c. Basement floor:	concrete	dirt	stone	other N/A
d. Basement floor:	uncovered	covered	covered with N/A	
e. Concrete floor:	unsealed	(sealed)	sealed with Vinyl flooring in office / Bath	
f. Foundation walls:	(poured)	block	stone	other _____
g. Foundation walls:	unsealed	(sealed)	sealed with paint	
h. The basement is:	wet	damp	dry	moldy N/A
i. The basement is:	finished	unfinished	partially finished N/A	
j. Sump present?	Y / N N/A			
k. Water in sump?	Y / N / (not applicable)			

Basement/Lowest level depth below grade: N/A (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)

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

The primary type of fuel used is:

(Natural Gas)	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: _____

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other Between levels 1 & 2 for 1st floor + roof for 2nd floor
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.

Vents in ceiling on first floor, return near sink in office. Ducting & vents visible in upstairs offices near ceiling

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	N/A
1st Floor	Office, Bathrooms, Lab area
2nd Floor	office, storage
3rd Floor	N/A
4th Floor	N/A

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 forklifts, leaf blowers in warehouse

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? Tool shed in detached shed

g. Is there smoking in the building? Y / (N) How frequently? _____

h. Have cleaning products been used recently? (Y) / N When & Type? Hand soap in bathrooms

i. Have cosmetic products been used recently? Y / N When & Type? Most likely in office or bathroom

j. Has painting/staining been done in the last 6 months? Y / (N) Where & When? _____

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

l. Have air fresheners been used recently? Y / N When & Type? _____

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? _____

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? Bait stations, rodent, months

Are there odors in the building? Y / (N)
If yes, please describe: _____

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? Spray paints, distributing repackaging chemicals for sale

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

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

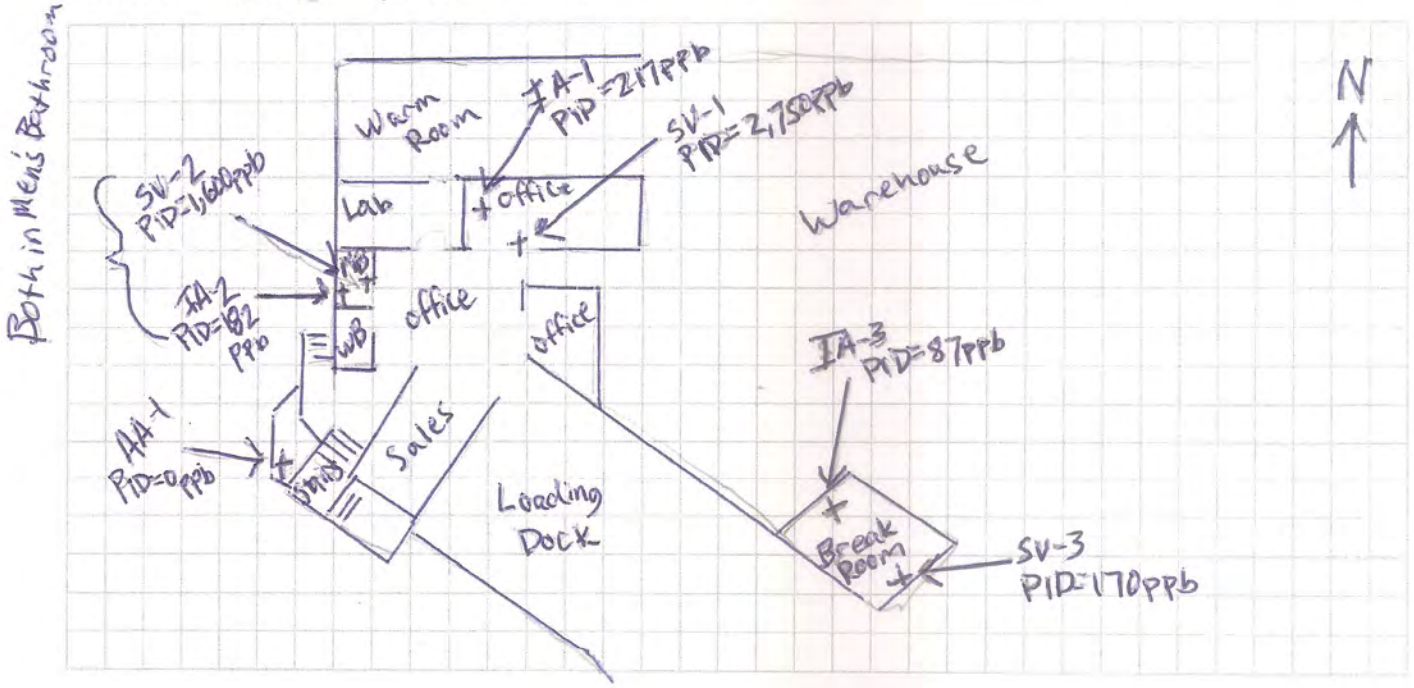
d. Relocation package provided and explained to residents? Y / N

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

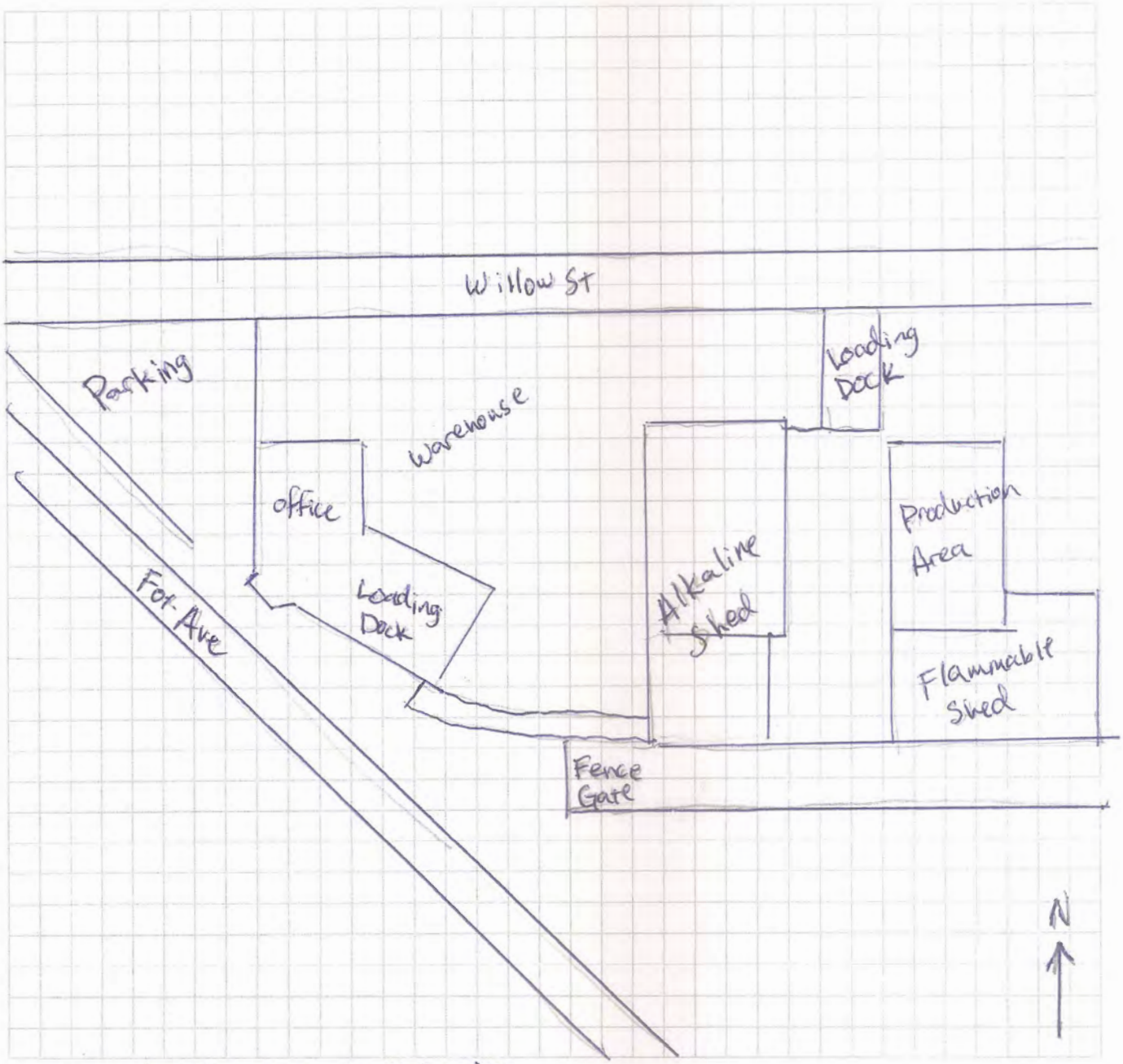
First Floor: CCD - First Floor + Warehouse



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.



Cascade Columbia Distribution
6900 Fox Ave S
Seattle, WA 98108

13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: ppb RAE 3000 PID

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
See attached list of products						

* 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.

Cascade Columbia Distribution Company

Seattle Location
6900 Fox Avenue South
Seattle, Washington 98108
Toll Free: (800) 533-6334
Local: (206) 282-6334
Fax: (206) 282-6334

Name
Account Manager
Direct: (***) ***-****
Email: ******@cascadecolumbia.com
www.cascadecolumbia.com

Portland Location
14200 SW Tualatin-Sherwood Road
Sherwood, Oregon 97140
Toll Free: (877) 625-5293
Local: (503) 625-5293
Fax: (503) 625-4335

Products offered by Cascade Columbia

- Acetic Acid
- Acetone
- Alkyl Polyglucosides
- Aluminum Chloride liquid
- Aluminum Chlorohydrate
- Aluminum Sulfate dry & liquid
- Ammonium Bicarbonate
- Ammonium Bifluoride
- Ammonium Chloride
- Ammonium Nitrate
- Ammonium Persulfate
- Ammonium Sulfate
- Amphoteric Surfactants
- Anionic Surfactants
- Anodes
- Anthraquinone
- Antifoams
- Aqua Ammonia
- Ascorbic Acid
- Barium Chloride
- Borax anhy, 5mol, 10 mol
- Boric Acid
- Britesil
- Calcium Chloride 35% soln
- Calcium Chloride 94-97%
- Calcium Hydroxide (Lime hydrate & quick)
- Calcium Hypochlorite
- Calcium Nitrate
- Calcium Sulfate
- Calgon Water Treatment Products
- Canola Oil
- Caustic Potash 45% soln
- Caustic Potash flake
- Caustic Soda 25% & 50%
- Caustic Soda pellets & flake
- CDB Clearon
- Cetyl Alcohol
- Chromic Acid
- Citric Acid
- Cobalt Chloride
- Coco Betaine
- Copper Sulfate
- Corn Starch
- Corn Syrup Solids
- Defoamers
- Diatomeous Earth
- Diethylene Glycol
- Diethylthiourea
- Disodium Phosphate
- d-Limonene
- EDTA 100, 4Na
- Enzymes
- Epsom Salts
- Ethyl Acetate
- Ethyl Alcohol
- Ethylene Glycol
- Ferric Chloride
- Ferrous Chloride
- Ferrous Sulfate
- Flocculants
- Formaldehyde
- Formic Acid
- Fragrances
- Glycerine
- Glyceryl Monostearate
- Glycol Ethers
- Heat Transfer Fluids
- Heptane
- Henkel Products
- Hexane
- Hexylene Glycol
- Hydrated Lime
- Hydrochloric Acid (Muriatic)
- Hydrochloric Acid inhibited
- Hydrofluoric Acid
- Hydrofluorosilicic Acid
- Hydrogen Peroxide 35% & 50%
- Hydroxyacetic Acid
- Inhibitors
- Isocyanurates
- Isopropyl Alcohol
- Kasil
- LAS-99
- Magnesium Chloride
- Magnesium Hydroxide 50%
- Magnesium Oxide
- Malic Acid
- Manganesse Dioxide
- Metal Mag
- Methanol
- Methyl Ethyl Ketone
- Methyl Isobutyl Ketone
- Methylene Chloride
- Metso 20, 2048, 66, 200
- Mineral Oil
- Mineral Spirits
- Monoethanolamine
- n-Butyl Acetate
- Neatsfoot Oil
- Neodol Surfactants
- Nickel Acetate
- Nickel Anodes
- Nickel Bromide
- Nickel Carbonate
- Nickel Chloride
- Nickel Sulfamate
- Nickel Sulfate
- Nitric Acid
- Nonionic Surfactants
- Nonyl Phenol Ethoxylates
- Norfox Products
- Oakite Products
- Octyl Phenol Ethoxylates
- Odor Masking Agents
- Oil & Grease Absorbants
- Oleic Acid
- Oxalic Acid
- Pentane
- Perchloroethylene
- Phosphate Esters
- Phosphates
- Phosphonates
- Phosphoric Acid
- Pine Oil
- Plating Chemicals
- Polyaluminum Chloride
- Polyethylene Glycols
- Polymers
- Polysorbates
- Potassium Bichromate
- Potassium Carbonate
- Potassium Chloride
- Potassium Cyanide
- Potassium Metabisulfite
- Potassium Permanganate
- Potassium Silicate
- Potassium Sorbate
- Potassium Tripolyphosphate
- Preservatives
- Propylene Glycol
- Quaternaries
- Quicksorb
- Salt
- S-Carb
- Silicones
- Soda Ash
- Sodium Acetate
- Sodium Acid Pyrophosphate
- Sodium Benzoate
- Sodium Bicarbonate
- Sodium Bichromate
- Sodium Bisulfite
- Sodium Chromate
- Sodium Citrate
- Sodium CMC
- Sodium Cyanide
- Sodium Fluoride
- Sodium Fluorosilicate
- Sodium Glucoheptonate
- Sodium Gluconate
- Sodium Hexametaphosphate
- Sodium Hydrosulfide
- Sodium Hypochlorite (Bleach)
- Sodium Hypophosphite
- Sodium Hyposulfite
- Sodium Lauryl Sulfate
- Sodium Metabisulfite
- Sodium Metasilicate
- Sodium Nitrate
- Sodium Nitrite
- Sodium Perborate
- Sodium Percarbonate
- Sodium Persulfate
- Sodium Sesquicarbonate
- Sodium Silicate
- Sodium Silicofluoride
- Sodium Sulfate
- Sodium Sulfide
- Sodium Sulfite
- Sodium Thiosulfate
- Sodium Tripolyphosphate
- Sodium Xylene Sulfonates (SXS)
- Solvents
- Sorbitol, dry & 70%
- Stannous Chloride
- Stannous Sulfate
- Stearic Acid
- Sulfamic Acid
- Sulfonic Acid LAS-99
- Sulfuric Acid
- Sunflower Oil
- Surfactants
- Tall Oil
- Tetrapotassium pyrophosphate (TKPP)
- Tetrasodium pyrophosphate (TSPP)
- Toluene
- Trichloroethylene
- Triethanolamine
- Triethylene Glycol
- Trisodium Citrate
- Trisodium Phosphate (TSP)
- Unhib
- Urea
- Valfor
- Wastewater Treatment Chemicals
- Water Treatment Chemicals
- Xantham Gum
- Xylene
- Zinc Anode Balls
- Zinc Chloride
- Zinc Dust
- Zinc Sulfate

Distributing high quality chemicals throughout the Northwest since 1926.

Cascade Columbia Distribution Company

Seattle Location
6900 Fox Avenue South
Seattle, Washington 98108
Toll Free: (800) 533-6334
Local: (206) 282-6334
Fax: (206) 282-6334

Portland Location
14200 SW Tualatin-Sherwood Road
Sherwood, Oregon 97140
Toll Free: (877) 625-5293
Local: (503) 625-5293
Fax: (503) 625-4335

Food Industry Products:

FOOD ADDITIVES

ACIDS

Acetic Acid
Ascorbic Acid USP
Citric Acid
Erythorbic Acid
Fumaric Acid
Gluconic Acid
Hydrochloric acid FCC
Lactic Acid 88 FCC
Malic Acid FCC
Oleic Acid
Phosphoric acid 75% FCC
Sorbic Acid
Sulfuric Acid FCC
Stearic Acid FCC
Tartaric Acid USP/FCC
Vinegar

SWEETENERS

Corn Syrup Solids
Dextrose
Maltodextrin
Sodium Saccharin USP
Sorbitol 70 USP/FCC
Sorbitol, dry (Hydrex 100)

PRESERVATIVES

Calcium Propionate
Potassium Benzoate
Potassium Sorbate
Sodium Acetate
Sodium Benzoate
Sodium Propionate

GUMS

Accacia
Arabic
Guar
Xanthan

PHOSPHATES

Dicalcium Phosphate powder FCC
Dicalcium Phosphate dehydrate FCC
Dipotassium Phosphate FCC
Disodium Phosphate FCC
Disodium Phosphate anhydrous FCC
Disodium Phosphate duohydrate FCC
Monocalcium Phosphate monohydrate FCC
Monopotassium Phosphate FCC
Monosodium Phosphate anhydrous FCC
Monosodium Phosphate monohydrate FCC
Potassium Tripolyphosphate FCC
Sodium Acid Pyrophosphate FCC
Sodium Hexametaphosphate FCC
Sodium Tripolyphosphate FCC
Tetrapotassium Phosphate FCC
Tetrasodium Phosphate FCC
Tricalcium Phosphate FCC
Trisodium Phosphate anhydrous FCC
Trisodium Phosphate cyrstal FCC

GENERAL PRODUCTS

Ammonium Bicarbonate
Ammonium Sulfate
Bamboo Fiber
Bleach
Caffeine USP
Calcium Carbonate FCC
Calcium Chloride FCC
Calcium Chloride briners grade
Calcium Citrate
Calcium Gluconate
Calcium Lactate Gluconate
Calcium Sulfate (Terra Alba)
Canola Oil
Caustic soda 25% & 50% FCC
Coconut Oil
Corn Starch FCC
Cottonseed Oil
Creat of Tartar BP
Defoamers
Diatomaeous Earth
Durkex
Epsom Salt USP
Ferrous Sulfate USP/FCC
Gluco Delta Lactone
Glycerine
HO Sunflower Oil
Hydrogen Peroxide FCC
Hydrogen Peroxide aseptic grade
Isolated Soy Protein
Lanolin
Lecthin
Magnesium Chloride
Magnesium Hydroxide
Magnesium Sulfate USP
Mineral Oil
Pea Fiber
Potato Starch
Potassium Chloride
Potassium Citrate
Potassium Gluconate
Potassium Hydroxide 45% FCC
Potassium Metabisulfite
Propylene Glycol USP
Rice Bran Oil
Rochelle Salt FCC
Salt
Sodium Bicarbonate FCC
Sodium Chlorite solution
Sodium Citrate FCC
Sodium Erythorbate FCC
Sodium Gluconate FCC
Sodium Metabisulfite
Soy Oils, high stability
Soy Protein
Tapioca Flour
Titanium Dioxide FCC
Tricalcium Citrate
Tripotassium Citrate
Wheat Starch
Vinegar 10,12,15,20%
Vinegar (cider, wine, balsamic, & white distilled)

SANITATION CHEMICALS

PARACETIC ACID PRODUCTS

Perasan A
Bioside HS-15%
Reflex (Acid Sanitizer)
Test Strips

BROMIDE PRODUCTS

BCDMH Tablets
EnviroBrom Granular
EnviroBrom Tablets

SPECIALTY PRODUCTS

Brewery Wash (Caustic free cleaners)
Foam Chlor 50 (Chlorinated Alkali Degreaser/Cleaner)
Santi Clean (EPA Registered Quat Sanitizer)

SQF NSF

Distributing high quality chemicals throughout the Northwest since 1926.

RESPONSIBLE DISTRIBUTION nacd VERIFIED

Cascade Columbia Distribution Company

Seattle Location
6900 Fox Avenue South
Seattle, Washington 98108
Toll Free: (800) 533-6334
Local: (206) 282-6334
Fax: (206) 282-6334

Name
Account Manager
Direct: (***) ***-****
Email: ******@cascadecolumbia.com
www.cascadecolumbia.com

Portland Location
14200 SW Tualatin-Sherwood Road
Sherwood, Oregon 97140
Toll Free: (877) 625-5293
Local: (503) 625-5293
Fax: (503) 625-4335

Compounding Chemical Products:

ACETIC ACID
ACL-56, OCCIDENTAL
ALCOHOL ETHOXYLATE SURFACTANTS (APE)
ALUMINIM SULFATE
ALUMINUM CHLOROHYDRATE (XL-19)
ALUMINUM SULFATE 48%, LIQUID
ALKYL POLYGLUCOSIDES
AMMONIUM BLIFUORIDE
AMMONIUM HYDROXIDE 26' Be
AMMONIUM LAURYL ETHER SULFATE
AMMONIUM LAURYL SULFATE
AMPHOTERICS
AMYL ACETATE
ANITFOAM A420 FG
ANTIFOAM 410 FG 10%
AOS-40%
ASCORBIC ACID
BARIUM CHLORIDE
BEROL 226 SA
BEROL 260
BORAX 10 MOL
BORAX 5 MOL
BORAX, ANHYDOUS
BORIC ACID, GRANULAR
BRITESIL H24
BURCO TME
CALCIUM CHLORIDE
CALCIUM HYPOCHLORITE
CALCIUM HYPOCHLORITE 3" TABS
CALSOFT T-60 (PILOT)
CAUSTIC POTASH FLAKE
CAUSTIC POTASH, 45% FOOD GRADE
CAUSTIC POTASH, 45% TECHNICAL
CAUSTIC SODA 25%
CAUSTIC SODA 50%, DIAPHRAM
CAUSTIC SODA 50%, LF (LOW FREEZE)
CAUSTIC SODA 50%, MEMBRANE
CAUSTIC SODA, BEADS/PELLETS
CAUSTIC SODA, FLAKE
CDB 56, CLEARON
CETYL ALCOHOL, IMPORT (INDIA)
CHLORINATED TSP
CITRIC ACID
COCAMIDE DEA
COCAMIDOPROPYL BETAINE
COPPER SULFATE FINE 20
DICALCIUM PHOSPHATE DIHYDRATE
DICALITE SPEED FLOW
DICALITE SPEED PLUS
DICALITE SPEED PLUS (LOW BSI)
DICALITE SUPER AID/UF(SA/UF)
DICALITE SWIM POOL
DIPROPYLENE GLYCOL
DISDODIUM PHOSPHATE, USP
D-LIMONENE
DMDM HYDANTOIN
ECOSOLV
EDTA 39%
EDTA 4NA, POWDER
EPSOM SALTS
ETHANOL
FERRIC CHLORIDE
FERRIC SULFATE LIQUID
FERROUS SULFATE
FORMALDEHYDE, TECHNICAL (37/70)
FORMIC ACID
GLUCO DELTA LACTONE
GLYCERIN
GLYCOL ETHER'S
GLYCOSPERSE O-20 FG
HEPTANE
HYDROCHLORIC ACID, KOSHER
HYDROFLUORIC ACID 49%
HYDROFLUORIC ACID 70% IMPORT
HYDROGEN PEROXIDE 31% (KANTO)
HYDROGEN PEROXIDE 35% FOOD GRADE
HYDROGEN PEROXIDE 35% TECHNICAL
HYDROGEN PEROXIDE 50% FOOD GRADE
HYDROGEN PEROXIDE 50% TECHNICAL
HYDROXYACETIC ACID
ISOPROPYL ALCOHOL 99%
KASIL #6
LACTIC ACID 88%
LAS 99 (DODECYLBENZENE SULFONIC ACID)
LAURAMINE OXIDE
LIME, HYDRATED
MAGNESIUM CHLORIDE 30% SOLN
MAGNESIUM CHLORIDE FREEZGARD
METAL MAG
METHANOL
METSO 20 (PENTAHYDRATE)
METSO 2048 (ANYDROUS)
MINERAL OIL, DUOPRIME 90
MONOETHANOLAMINE
MONOSODIUM PHOSPHATE
MURIATIC ACID (HCL)
MURIATIC ACID, INHIBITED
NATROSOL 250 HR
NITRIC ACID
NORFOX 90
NORFOX 92
NORFOX COCONUT FATTY ACID
NORFOX MICROMULSE (WIO)
NORFOX MSY (SOY METHYL ESTER)
NORFOX OP-100
NORFOX OP-114
NORFOX X
NTA
ODORLESS MINERAL SPIRITS
OLEIC ACID, KOSHER, FG, IMPORT
OXALIC ACID
PASS-C (POLYALUMINIM CHLORIDE)
PASS-CX (PAC/POLYAMINE BLEND)
PEG 600
PHOSPHATE ESTER
PHOSPHORIC ACID 75%, FOOD GRADE
PHOSPHORIC ACID 75%, TECHNICAL
POLYSORBATES
POTASSIUM CARBONATE
POTASSIUM CHLORIDE
POTASSIUM CHLORIDE UNTREATED
POTASSIUM METABISULFITE, FOOD GRADE
POTASSIUM NITRATE
POTASSIUM PERMANGANATE
POTASSIUM SORBATE
PROPYLENE GLYCOL USP
PROPYLENE GLYCOL, TECHNICAL
PROTHERM 720 (INHIBITED PG)
QUATERNARY AMMONIUM CHLORIDES
QUICK SORB
RULE 66 SOLVENT
SALT, FG FINE NASC
SODA ASH DENSE
SODA ASH, LIGHT
SODIUM ACID PYROPHOSPHATE
SODIUM BENZOATE
SODIUM BICARBONATE, GRANULAR, USP
SODIUM BICARBONATE, TECHNICAL
SODIUM BICARBONATE, USP POWDER
SODIUM BICHROMATE
SODIUM BISULFITE 38%
SODIUM CHLORITE 15%
SODIUM CHLORITE 25%
SODIUM CITRATE
SODIUM CMC
SODIUM ERYTHORBATE
SODIUM ETHYLHEXYL SULFATE
SODIUM GLUCOHEPTONATE
SODIUM HEXAMETAPHOSPHATE
SODIUM HYPOCHLORITE 12.5%
SODIUM LAURYL ETHER SULFATE
SODIUM LAURYL SULFATE
SODIUM METABISULFITE
SODIUM NITRATE
SODIUM NITRITE
SODIUM PERCARBONATE, UNCOATED
SODIUM PERCARBONATE, COATED
SODIUM SESQUICARBONATE
SODIUM SILICATE D
SODIUM SILICATE N
SODIUM SULFATE
SODIUM SULFIDE
SODIUM SULFITE, CATALYZED
SODIUM SULFITE, TECHNICAL
SODIUM THIOSULFATE
SORBITAN ESTERS
SORBITOL 70%
SOYBEAN OIL
SPANS & TWEENS
STEARIC ACID, IMPORT, VEG GRADE
STPP DENSE
STPP LIGHT
SULFAMIC ACID
SULFURIC ACID 50% (1.400)
SULFURIC ACID 50%, FCC
SULFURIC ACID 93%
SURFACTANT N-12
SURFACTANT N-4
SURFACTANT N-6
SURFACTANT N-9
SXS-40%
TALL OIL FATTY ACID FA-2
TEA-99 (TRIETHANOLAMINE 99%)
TEA-99 LF (TEA-99% cut to 85% w/ water)
TETRAPOTASSIUM PYROPHOSPHATE (TKPP)
TETRASODIUM PYROPHOSPHATE (TSPP)
TOLUENE
TRICALCIUM PHOSPHATE
TRICALCIUM PHOSPHATE, FG
TRIETHYLENE GLYCOL
TRISODIUM PHOSPHATE, ANHYDROUS
TRISODIUM PHOSPHATE, CHLORINATED
TRISODIUM PHOSPHATE, CRYSTALS
UREA
XANTHAN GUM
XYLENE
ZINC CHLORIDE, LIQUID
ZINC OXIDE
ZINC SULFATE

Distributing high quality chemicals throughout the Northwest since 1926.

Photo 1- Break room – spray paint can

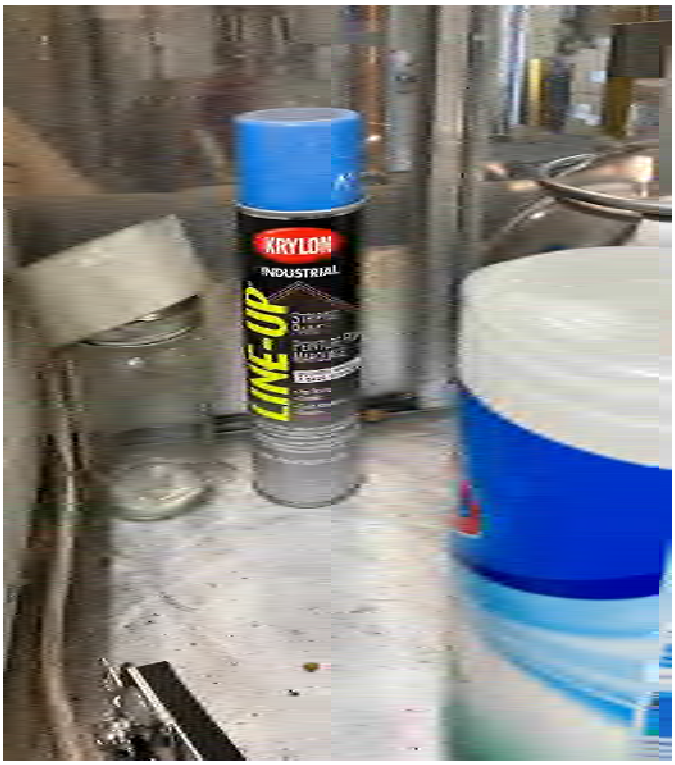


Photo 2 – Break room spray paint cans

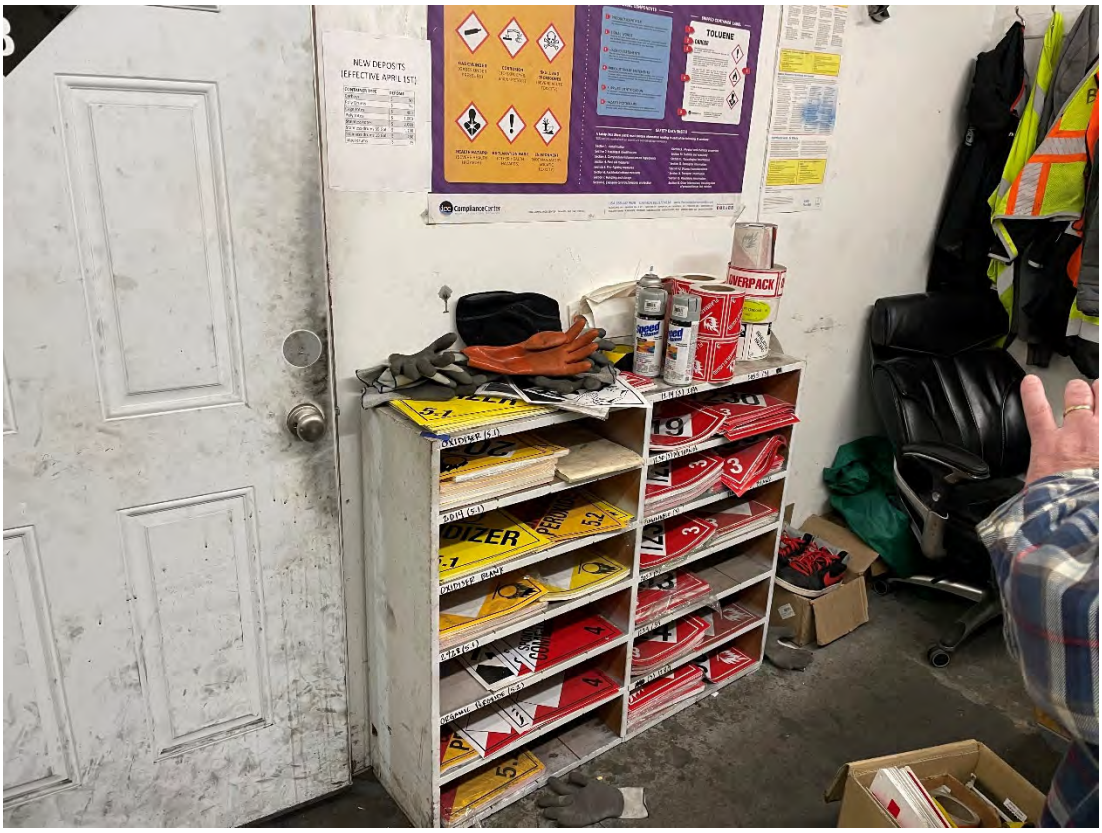


Photo 3 – Bathroom cleaning supplies

Photo 4 – Lab Supplies

Photo 5 – Lab Supplies

Photo 6 – Lab Supplies

Attachment B
Field Sampling Sheets

Indoor air sampling form

Site	Fox Avenue							
Sampler	[illegible]							
Date	[illegible]							
Sample Building(s):	cascade Colombia Distribution (CCD) - Office and breakroom in warehouse							
Sample Name	Location	Analysis	Volume (Liters)	Summa#	Start: Time, Vacuum (HH:MM, "H2O)	End: Time, Vacuum (HH:MM, "H2O)	Total Time (Minutes)	Field Duplicate
3/2 SV-1_date	Office	TO-15	1 l	[illegible]	[illegible]	[illegible]	5	
3/2 SV-2_date	Bathroom	TO-15	1 l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3/2 SV-3_date	Breakroom	TO-15	1 l	[illegible]	[illegible]	[illegible]	[illegible]	
3/1 IA-1_date	Office	TO-15	6 l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3/1 IA-2_date	Office	TO-15	6L	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
~~[illegible]_date~~			6L					IA_J
3/1 IA-3_date	Breakroom	TO-15	6L	[illegible]	[illegible]	[illegible]	4'53	[illegible]
3/1 M-1_date	Ambient air/Outside	TO-15	6L	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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

3/1 [illegible] - [illegible] - 30"r

[illegible] - [illegible] - 31"f

c) room at ≈ 150 ppm

d) [illegible]

a) He 17.5% in shroud

b) rm. down to 0 ppm

Vapor Monitoring Data Sheet

Date	3/2/23	Site Location	Fox Ave - CCD
Samplers	TM JN	Well ID	SV-2 - Bathroom
		Constructed Depth	

Sample Train Leak Test:

Zero Time Vacuum	
1-min Vacuum	
5-min Vacuum	

Or

Shroud Test:

Gas Used	Helium
Elapsed Time	0740
Gas Detected	47.9%

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:

Time	0746						
Flow Rate (mL/min)	1L/min						
PID (note ppm or ppb)	1,600 ppb						
Oxygen							
Carbon Dioxide							
Trace Gas - Helium	25 ppm						

Sampling Data:

Time	0749-0752
Sample ID	CCD-SV-2-030223
Duplicate	CCD-Dup-01-030223
PID Reading	1,600 PPB

Analyses Performed:

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

Sampling Device:

Summa	1L3616 / 1L3180	Tedlar Bag	
Summa Flow Rate	Grab		
Summa Start Vacuum	30 → 4 "Hg	parent	
Summa End Vacuum	30 → 3 "Hg	Dup	

Sampling Notes:

Calibrate PID- set up shroud over SV-2. Fill w/ Helium. Shroud @ 47.9% Helium. Background in room is 150 ppm Helium. Purge sample line for 5 min. Test helium w/ Tedlar - drifts slowly down to 25 ppm. PID = 1,600 ppb

Sample w/ duplicate "T" fitting.

Vapor Monitoring Data Sheet

Date	3/2/23	Site Location	Fox Ave - CCD
Samplers	TM JN	Well ID	SV-1 (In office)
		Constructed Depth	

Sample Train Leak Test:

Zero Time Vacuum	
1-min Vacuum	
5-min Vacuum	

Or

Shroud Test:

Gas Used	Helium
Elapsed Time	Start - 0810
Gas Detected	44.4%

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:

Time	0818						
Flow Rate (mL/min)	1 L/min						
PID (note ppm or ppb)	2,750 ppb						
Oxygen							
Carbon Dioxide							
Trace Gas (Helium)	0 ppm						

Sampling Data:

Time	0858
Sample ID	CCD-SV-1-030223
Duplicate	—
PID Reading	2,750 ppb

Analyses Performed:

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

Sampling Device:

Summa	1L 3279	Tedlar Bag	
Summa Flow Rate	Grab		
Summa Start Vacuum	28.0 "Hg		
Summa End Vacuum	5.0 "Hg		

Sampling Notes:

Set up Shroud @ SV-1 in office. Fill w/ Helium - Shroud @ 44.4%
Ambient Helium @ 425 ppm. Purge SV-1 w/ hand pump for 5 min. Check
w/ Tedlar - Helium drift down to 0 ppm from background. PID w/ Tedlar = 2,750 ppb

Vapor Monitoring Data Sheet

Date	3/2/23	Site Location	Fortuna - CCD
Samplers	TM IN	Well ID	SV-3 (Breakroom)
		Constructed Depth	12"

Sample Train Leak Test:

Zero Time Vacuum	
1-min Vacuum	
5-min Vacuum	

Or

Shroud Test:

Gas Used	Helium
Elapsed Time	10 14
Gas Detected	47.7%

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:

Time	10 20						
Flow Rate (mL/min)	1 L/min						
PID (note ppm or ppb)	170 ppb						
Oxygen							
Carbon Dioxide							
Trace Gas - Helium	50 ppm						

Sampling Data:

Time	1031
Sample ID	CCD-SV-3-030223
Duplicate	—
PID Reading	170 ppb

Analyses Performed:

VOCs (8260/TO-15)	TO-15

Sampling Device:

Summa	1L3774	Tedlar Bag	
Summa Flow Rate	Grab		
Summa Start Vacuum	30 "Hg		
Summa End Vacuum	3.0 "Hg		

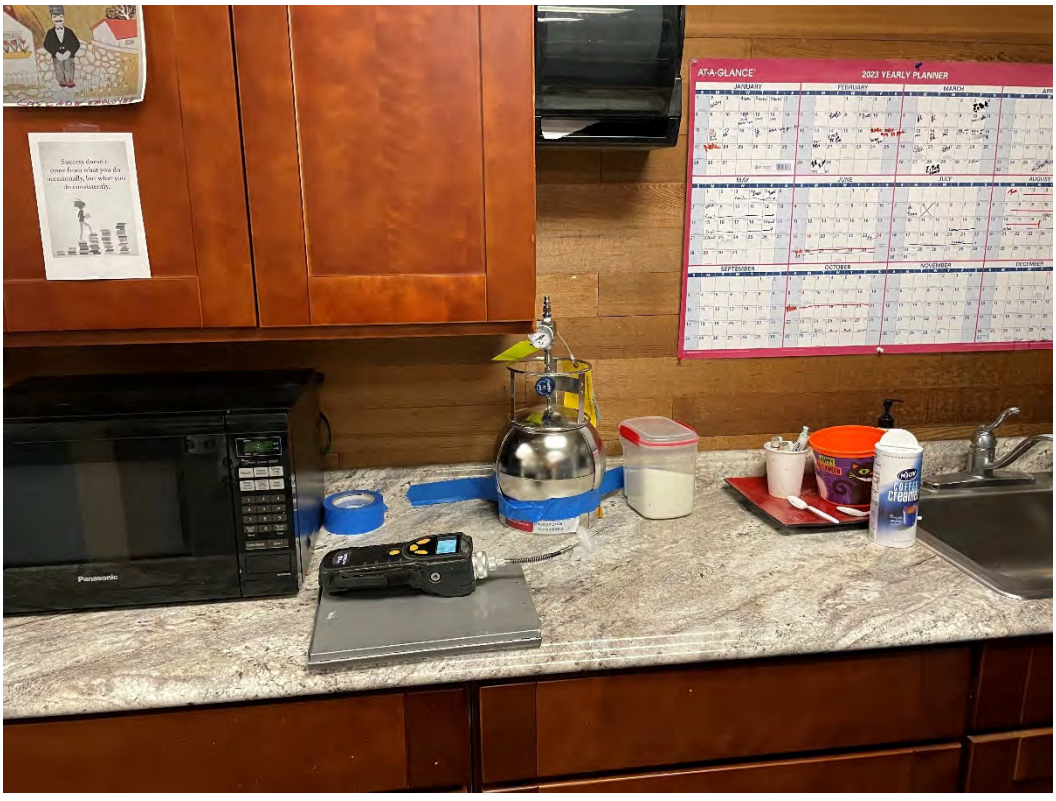
Sampling Notes:

Used hammer drill to drill hole in breakroom for SV-3. Slab = 6" Used concrete spike to drill hole 6" additional depth. TD = 12", Install Tube w/ ~8" from followed w/ rubber washer, washer is ~1" below surface. Filled Top 1" w/ clay. Place helium shroud - 47% in shroud. Ambient = 75 ppm helium Purge line for 5 min + Test w/ Tedlar. Helium drift down from 75 ppm to 50 ppm Re-check inside shroud - Helium = 41.1% + PID w/ Tedlar = 170 ppb. Sample/Summa. Remove tubing, foam, washer + clay. Fill hole w/ cement.

Attachment C
Sample Location Photos

AA-1 Ambient Air Sample Location

IA-1 Indoor Air Sample Location

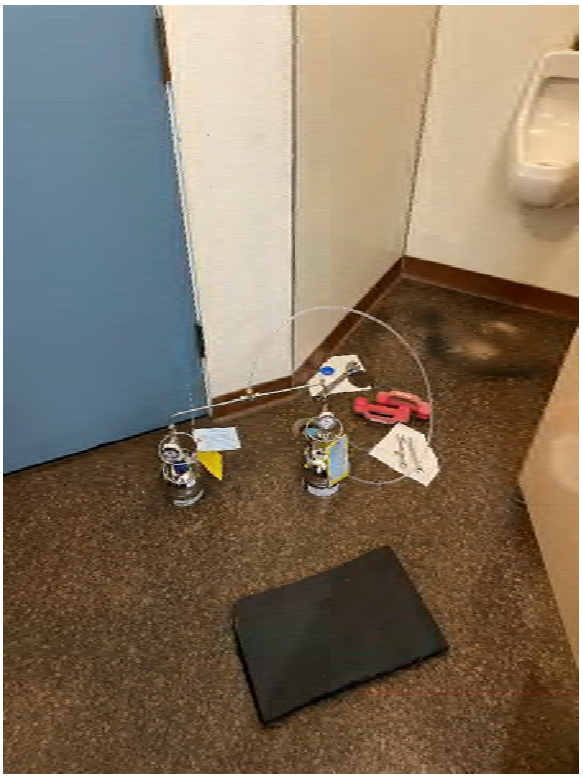


IA-2 Indoor Air Sample Location

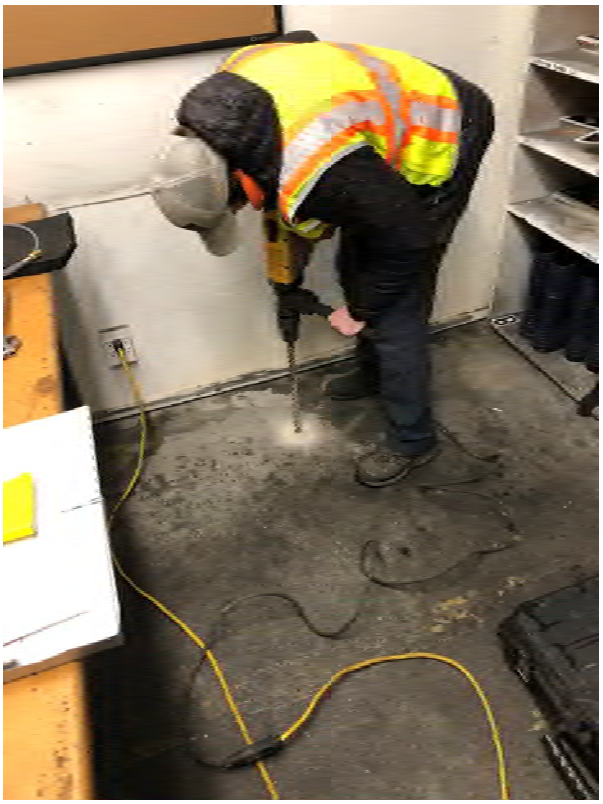
IA-3 Sample Location

SV-1 Sub-Slab Sample Location – Helium Shroud Setup

SV-2 Sub-Slab Sample Location – Summa Canisters with Duplicate “T”



SV-3 Sub-Slab Sample Location – Hammer Drill Installation



SV-3 Sub-Slab Sample Location – Tube in place with modeling clay

SV-3 Sub-Slab Sample Location – Helium Shroud

SV-3 Sub-Slab Sample Location – Sealed with Cement Post Sampling

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.

eurofins | Air Toxics

Analytical Report

3/17/2023

Mr. Justin Neste

CALIBRE, Environmental Technology Solutions

20926 Pugh Rd NE

Poulsbo WA 98370

Project Name: Fox Avenue

Project #:

Workorder #: 2303206A

Dear Mr. Justin Neste

The following report includes the data for the above referenced project for sample(s) received on 3/6/2023 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

eurofins | Air Toxics

WORK ORDER #: 2303206A

Work Order Summary

CLIENT:	Mr. Justin Neste CALIBRE, Environmental Technology Solutions 20926 Pugh Rd NE Poulsbo, WA 98370	**BILL TO:**	Accounts Payable CALIBRE, Environmental Technology Solutions 6354 Walker Lane, Suite 300 Metro Park
PHONE:	360-981-5606	**P.O. #**	
FAX:		**PROJECT #**	Fox Avenue
DATE RECEIVED:	03/06/2023	**CONTACT:**	Monica Tran
DATE COMPLETED:	03/17/2023		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	CCD-AA-1-030123	Modified TO-15	6.0 "Hg	2 psi
01B	CCD-AA-1-030123	Modified TO-15	6.0 "Hg	2 psi
02A	CCD-IA-1-030123	Modified TO-15	3.0 "Hg	2 psi
02B	CCD-IA-1-030123	Modified TO-15	3.0 "Hg	2 psi
03A	CCD-IA-3-030123	Modified TO-15	2.0 "Hg	2 psi
03B	CCD-IA-3-030123	Modified TO-15	2.0 "Hg	2 psi
04A	CCD-IA-2-030123	Modified TO-15	3.0 "Hg	2 psi
04B	CCD-IA-2-030123	Modified TO-15	3.0 "Hg	2 psi
05A	Lab Blank	Modified TO-15	NA	NA
05B	Lab Blank	Modified TO-15	NA	NA
05C	Lab Blank	Modified TO-15	NA	NA
05D	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
06B	CCV	Modified TO-15	NA	NA
06C	CCV	Modified TO-15	NA	NA
06D	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
07C	LCS	Modified TO-15	NA	NA
07CC	LCSD	Modified TO-15	NA	NA
07D	LCS	Modified TO-15	NA	NA

Continued on next page

eurofins | Air Toxics

WORK ORDER #: 2303206A

Work Order Summary

CLIENT:	Mr. Justin Neste CALIBRE, Environmental Technology Solutions 20926 Pugh Rd NE Poulsbo, WA 98370	**BILL TO:**	Accounts Payable CALIBRE, Environmental Technology Solutions 6354 Walker Lane, Suite 300 Metro Park
PHONE:	360-981-5606	**P.O. #**	
FAX:		**PROJECT #**	Fox Avenue
DATE RECEIVED:	03/06/2023	**CONTACT:**	Monica Tran
DATE COMPLETED:	03/17/2023		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
07DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 03/17/23

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.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
CALIBRE, Environmental Technology Solutions
Workorder# 2303206A

Four 6 Liter Summa Canister (100% SIM Ambient) samples were received on March 06, 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 liters 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 Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: 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	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

There were no receiving discrepancies.

Analytical Notes

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

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.

Definition of Data Qualifying Flags

Nine 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.

CN - See case narrative explanation

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

Client Sample ID: CCD-AA-1-030123

Lab ID#: 2303206A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.14	0.44	0.80	2.4
Ethanol	2.8	3.7	5.4	7.0
Acetone	2.8	5.0	6.7	12
4-Ethyltoluene	0.14	0.22	0.70	1.1
1,2,4-Trimethylbenzene	0.14	0.22	0.70	1.1

Client Sample ID: CCD-AA-1-030123

Lab ID#: 2303206A-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.071	0.52	0.35	2.6
Carbon Tetrachloride	0.028	0.070	0.18	0.44
Benzene	0.071	0.44	0.23	1.4
Toluene	0.071	0.96	0.27	3.6
Tetrachloroethene	0.028	0.039	0.19	0.26
Ethyl Benzene	0.028	0.25	0.12	1.1
m,p-Xylene	0.057	0.71	0.25	3.1
o-Xylene	0.028	0.25	0.12	1.1

Client Sample ID: CCD-IA-1-030123

Lab ID#: 2303206A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.13	0.15	0.28	0.33
Freon 11	0.13	0.52	0.71	2.9
Ethanol	2.5	470 E	4.7	880 E
Acetone	2.5	28	6.0	67
2-Propanol	2.5	24	6.2	58
Methylene Chloride	0.25	0.94	0.88	3.3
Hexane	0.63	1.6	2.2	5.5
2-Butanone (Methyl Ethyl Ketone)	0.63	0.88	1.8	2.6
Heptane	0.63	0.88	2.6	3.6
4-Methyl-2-pentanone	0.13	1.4	0.52	5.7

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

Client Sample ID: CCD-IA-1-030123

Lab ID#: 2303206A-02A

Styrene	0.13	0.18	0.54	0.76
4-Ethyltoluene	0.13	0.18	0.62	0.91
1,2,4-Trimethylbenzene	0.13	0.20	0.62	1.0

Client Sample ID: CCD-IA-1-030123

Lab ID#: 2303206A-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.063	0.50	0.31	2.5
Chloromethane	0.63	0.70	1.3	1.4
Chloroform	0.025	0.17	0.12	0.85
Carbon Tetrachloride	0.025	0.070	0.16	0.44
Benzene	0.063	0.47	0.20	1.5
1,2-Dichloroethane	0.025	0.036	0.10	0.15
Trichloroethene	0.025	0.025	0.14	0.14
Toluene	0.063	1.5	0.24	5.7
Tetrachloroethene	0.025	0.41	0.17	2.8
Ethyl Benzene	0.025	0.31	0.11	1.3
m,p-Xylene	0.050	0.96	0.22	4.2
o-Xylene	0.025	0.36	0.11	1.6

Client Sample ID: CCD-IA-3-030123

Lab ID#: 2303206A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.12	0.13	0.27	0.28
Freon 11	0.12	0.43	0.68	2.4
Ethanol	2.4	44	4.6	83
Acetone	2.4	11	5.8	26
2-Propanol	2.4	9.0	6.0	22
Methylene Chloride	0.24	0.80	0.85	2.8
2-Butanone (Methyl Ethyl Ketone)	0.61	0.70	1.8	2.0
Styrene	0.12	0.16	0.52	0.66
4-Ethyltoluene	0.12	0.22	0.60	1.1

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

Client Sample ID: CCD-IA-3-030123

Lab ID#: 2303206A-03A

1,2,4-Trimethylbenzene	0.12	0.24	0.60	1.2

Client Sample ID: CCD-IA-3-030123

Lab ID#: 2303206A-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.061	0.50	0.30	2.5
Chloromethane	0.61	0.60 J	1.2	1.2 J
Chloroform	0.024	0.12	0.12	0.59
Carbon Tetrachloride	0.024	0.070	0.15	0.44
Benzene	0.061	0.55	0.19	1.7
1,2-Dichloroethane	0.024	0.027	0.099	0.11
Trichloroethene	0.024	0.056	0.13	0.30
Toluene	0.061	1.5	0.23	5.7
Tetrachloroethene	0.024	0.42	0.16	2.9
Ethyl Benzene	0.024	0.30	0.10	1.3
m,p-Xylene	0.049	0.88	0.21	3.8
o-Xylene	0.024	0.33	0.10	1.4

Client Sample ID: CCD-IA-2-030123

Lab ID#: 2303206A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.13	0.48	0.71	2.7
Ethanol	2.5	210 E	4.7	400 E
Acetone	2.5	20	6.0	49
2-Propanol	2.5	16	6.2	38
Methylene Chloride	0.25	0.69	0.88	2.4
Hexane	0.63	1.0	2.2	3.7
2-Butanone (Methyl Ethyl Ketone)	0.63	0.69	1.8	2.0
4-Methyl-2-pentanone	0.13	0.74	0.52	3.0
Styrene	0.13	0.14	0.54	0.61
4-Ethyltoluene	0.13	0.16	0.62	0.77
1,2,4-Trimethylbenzene	0.13	0.18	0.62	0.90

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

Client Sample ID: CCD-IA-2-030123

Lab ID#: 2303206A-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.063	0.49	0.31	2.4
Chloromethane	0.63	1.6	1.3	3.4
Chloroethane	0.063	0.070	0.17	0.18
Chloroform	0.025	0.51	0.12	2.5
Carbon Tetrachloride	0.025	0.068	0.16	0.43
Benzene	0.063	0.45	0.20	1.4
1,2-Dichloroethane	0.025	0.032	0.10	0.13
Toluene	0.063	1.3	0.24	5.0
Tetrachloroethene	0.025	0.29	0.17	2.0
Ethyl Benzene	0.025	0.24	0.11	1.0
m,p-Xylene	0.050	0.74	0.22	3.2
o-Xylene	0.025	0.27	0.11	1.2

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Client Sample ID: CCD-AA-1-030123

Lab ID#: 2303206A-01A

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

File Name:	**20031511**	**Date of Collection: 3/1/23 4:25:00 PM**	
Dil. Factor:	**1.42**	**Date of Analysis: 3/15/23 03:42 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.14	Not Detected	0.31	Not Detected
Bromomethane	7.1	Not Detected	28	Not Detected
Freon 11	0.14	0.44	0.80	2.4
Ethanol	2.8	3.7	5.4	7.0
Freon 113	0.14	Not Detected	1.1	Not Detected
Acetone	2.8	5.0	6.7	12
2-Propanol	2.8	Not Detected	7.0	Not Detected
Carbon Disulfide	0.71	Not Detected	2.2	Not Detected
3-Chloropropene	0.71	Not Detected	2.2	Not Detected
Methylene Chloride	0.28	Not Detected	0.99	Not Detected
Hexane	0.71	Not Detected	2.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.71	Not Detected	2.1	Not Detected
Tetrahydrofuran	0.71	Not Detected	2.1	Not Detected
Cyclohexane	0.71	Not Detected	2.4	Not Detected
2,2,4-Trimethylpentane	0.71	Not Detected	3.3	Not Detected
Heptane	0.71	Not Detected	2.9	Not Detected
1,2-Dichloropropane	0.14	Not Detected	0.66	Not Detected
1,4-Dioxane	0.14	Not Detected	0.51	Not Detected
Bromodichloromethane	0.14	Not Detected	0.95	Not Detected
cis-1,3-Dichloropropene	0.14	Not Detected	0.64	Not Detected
4-Methyl-2-pentanone	0.14	Not Detected	0.58	Not Detected
trans-1,3-Dichloropropene	0.14	Not Detected	0.64	Not Detected
2-Hexanone	0.71	Not Detected	2.9	Not Detected
Dibromochloromethane	0.14	Not Detected	1.2	Not Detected
Chlorobenzene	0.14	Not Detected	0.65	Not Detected
Styrene	0.14	Not Detected	0.60	Not Detected
Bromoform	0.14	Not Detected	1.5	Not Detected
Cumene	0.14	Not Detected	0.70	Not Detected
Propylbenzene	0.14	Not Detected	0.70	Not Detected
4-Ethyltoluene	0.14	0.22	0.70	1.1
1,3,5-Trimethylbenzene	0.14	Not Detected	0.70	Not Detected
1,2,4-Trimethylbenzene	0.14	0.22	0.70	1.1
1,3-Dichlorobenzene	0.14	Not Detected	0.85	Not Detected
alpha-Chlorotoluene	0.14	Not Detected	0.74	Not Detected
1,2-Dichlorobenzene	0.14	Not Detected	0.85	Not Detected
1,2,4-Trichlorobenzene	0.71	Not Detected	5.3	Not Detected
Hexachlorobutadiene	0.71	Not Detected	7.6	Not Detected

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

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

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Client Sample ID: CCD-AA-1-030123

Lab ID#: 2303206A-01A

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

File Name:	**20031511**	**Date of Collection:**	**3/1/23 4:25:00 PM**
Dil. Factor:	**1.42**	**Date of Analysis:**	**3/15/23 03:42 PM**

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
4-Bromofluorobenzene	85	70-130

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Client Sample ID: CCD-AA-1-030123

Lab ID#: 2303206A-01B

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

File Name:	**20031511sim**	**Date of Collection:**	**3/1/23 4:25:00 PM**
Dil. Factor:	**1.42**	**Date of Analysis:**	**3/15/23 03:42 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.071	0.52	0.35	2.6
Freon 114	0.028	Not Detected	0.20	Not Detected
Chloromethane	0.71	Not Detected	1.5	Not Detected
Vinyl Chloride	0.014	Not Detected	0.036	Not Detected
Chloroethane	0.071	Not Detected	0.19	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.056	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.56	Not Detected
Methyl tert-butyl ether	0.14	Not Detected	0.51	Not Detected
1,1-Dichloroethane	0.028	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.028	Not Detected	0.11	Not Detected
Chloroform	0.028	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.028	Not Detected	0.15	Not Detected
Carbon Tetrachloride	0.028	0.070	0.18	0.44
Benzene	0.071	0.44	0.23	1.4
1,2-Dichloroethane	0.028	Not Detected	0.11	Not Detected
Trichloroethene	0.028	Not Detected	0.15	Not Detected
Toluene	0.071	0.96	0.27	3.6
1,1,2-Trichloroethane	0.028	Not Detected	0.15	Not Detected
Tetrachloroethene	0.028	0.039	0.19	0.26
1,2-Dibromoethane (EDB)	0.028	Not Detected	0.22	Not Detected
Ethyl Benzene	0.028	0.25	0.12	1.1
m,p-Xylene	0.057	0.71	0.25	3.1
o-Xylene	0.028	0.25	0.12	1.1
1,1,2,2-Tetrachloroethane	0.028	Not Detected	0.19	Not Detected
1,4-Dichlorobenzene	0.028	Not Detected	0.17	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: CCD-IA-1-030123

Lab ID#: 2303206A-02A

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

File Name:	**20031512**	**Date of Collection: 3/1/23 3:58:00 PM**	
Dil. Factor:	**1.26**	**Date of Analysis: 3/15/23 04:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.13	0.15	0.28	0.33
Bromomethane	6.3	Not Detected	24	Not Detected
Freon 11	0.13	0.52	0.71	2.9
Ethanol	2.5	470 E	4.7	880 E
Freon 113	0.13	Not Detected	0.96	Not Detected
Acetone	2.5	28	6.0	67
2-Propanol	2.5	24	6.2	58
Carbon Disulfide	0.63	Not Detected	2.0	Not Detected
3-Chloropropene	0.63	Not Detected	2.0	Not Detected
Methylene Chloride	0.25	0.94	0.88	3.3
Hexane	0.63	1.6	2.2	5.5
2-Butanone (Methyl Ethyl Ketone)	0.63	0.88	1.8	2.6
Tetrahydrofuran	0.63	Not Detected	1.8	Not Detected
Cyclohexane	0.63	Not Detected	2.2	Not Detected
2,2,4-Trimethylpentane	0.63	Not Detected	2.9	Not Detected
Heptane	0.63	0.88	2.6	3.6
1,2-Dichloropropane	0.13	Not Detected	0.58	Not Detected
1,4-Dioxane	0.13	Not Detected	0.45	Not Detected
Bromodichloromethane	0.13	Not Detected	0.84	Not Detected
cis-1,3-Dichloropropene	0.13	Not Detected	0.57	Not Detected
4-Methyl-2-pentanone	0.13	1.4	0.52	5.7
trans-1,3-Dichloropropene	0.13	Not Detected	0.57	Not Detected
2-Hexanone	0.63	Not Detected	2.6	Not Detected
Dibromochloromethane	0.13	Not Detected	1.1	Not Detected
Chlorobenzene	0.13	Not Detected	0.58	Not Detected
Styrene	0.13	0.18	0.54	0.76
Bromoform	0.13	Not Detected	1.3	Not Detected
Cumene	0.13	Not Detected	0.62	Not Detected
Propylbenzene	0.13	Not Detected	0.62	Not Detected
4-Ethyltoluene	0.13	0.18	0.62	0.91
1,3,5-Trimethylbenzene	0.13	Not Detected	0.62	Not Detected
1,2,4-Trimethylbenzene	0.13	0.20	0.62	1.0
1,3-Dichlorobenzene	0.13	Not Detected	0.76	Not Detected
alpha-Chlorotoluene	0.13	Not Detected	0.65	Not Detected
1,2-Dichlorobenzene	0.13	Not Detected	0.76	Not Detected
1,2,4-Trichlorobenzene	0.63	Not Detected	4.7	Not Detected
Hexachlorobutadiene	0.63	Not Detected	6.7	Not Detected

E = Exceeds instrument calibration range.

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

Surrogates	%Recovery	Method Limits

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Client Sample ID: CCD-IA-1-030123

Lab ID#: 2303206A-02A

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

File Name:	**20031512**	**Date of Collection:**	**3/1/23 3:58:00 PM**
Dil. Factor:	**1.26**	**Date of Analysis:**	**3/15/23 04:22 PM**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	87	70-130

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Client Sample ID: CCD-IA-1-030123

Lab ID#: 2303206A-02B

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

File Name:	**20031512sim**	**Date of Collection:**	**3/1/23 3:58:00 PM**
Dil. Factor:	**1.26**	**Date of Analysis:**	**3/15/23 04:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.063	0.50	0.31	2.5
Freon 114	0.025	Not Detected	0.18	Not Detected
Chloromethane	0.63	0.70	1.3	1.4
Vinyl Chloride	0.013	Not Detected	0.032	Not Detected
Chloroethane	0.063	Not Detected	0.17	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.050	Not Detected
trans-1,2-Dichloroethene	0.13	Not Detected	0.50	Not Detected
Methyl tert-butyl ether	0.13	Not Detected	0.45	Not Detected
1,1-Dichloroethane	0.025	Not Detected	0.10	Not Detected
cis-1,2-Dichloroethene	0.025	Not Detected	0.10	Not Detected
Chloroform	0.025	0.17	0.12	0.85
1,1,1-Trichloroethane	0.025	Not Detected	0.14	Not Detected
Carbon Tetrachloride	0.025	0.070	0.16	0.44
Benzene	0.063	0.47	0.20	1.5
1,2-Dichloroethane	0.025	0.036	0.10	0.15
Trichloroethene	0.025	0.025	0.14	0.14
Toluene	0.063	1.5	0.24	5.7
1,1,2-Trichloroethane	0.025	Not Detected	0.14	Not Detected
Tetrachloroethene	0.025	0.41	0.17	2.8
1,2-Dibromoethane (EDB)	0.025	Not Detected	0.19	Not Detected
Ethyl Benzene	0.025	0.31	0.11	1.3
m,p-Xylene	0.050	0.96	0.22	4.2
o-Xylene	0.025	0.36	0.11	1.6
1,1,2,2-Tetrachloroethane	0.025	Not Detected	0.17	Not Detected
1,4-Dichlorobenzene	0.025	Not Detected	0.15	Not Detected

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

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Client Sample ID: CCD-IA-3-030123

Lab ID#: 2303206A-03A

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

File Name:	**20031513**	**Date of Collection:**	**3/1/23 4:04:00 PM**
Dil. Factor:	**1.22**	**Date of Analysis:**	**3/15/23 05:02 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.12	0.13	0.27	0.28
Bromomethane	6.1	Not Detected	24	Not Detected
Freon 11	0.12	0.43	0.68	2.4
Ethanol	2.4	44	4.6	83
Freon 113	0.12	Not Detected	0.94	Not Detected
Acetone	2.4	11	5.8	26
2-Propanol	2.4	9.0	6.0	22
Carbon Disulfide	0.61	Not Detected	1.9	Not Detected
3-Chloropropene	0.61	Not Detected	1.9	Not Detected
Methylene Chloride	0.24	0.80	0.85	2.8
Hexane	0.61	Not Detected	2.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.61	0.70	1.8	2.0
Tetrahydrofuran	0.61	Not Detected	1.8	Not Detected
Cyclohexane	0.61	Not Detected	2.1	Not Detected
2,2,4-Trimethylpentane	0.61	Not Detected	2.8	Not Detected
Heptane	0.61	Not Detected	2.5	Not Detected
1,2-Dichloropropane	0.12	Not Detected	0.56	Not Detected
1,4-Dioxane	0.12	Not Detected	0.44	Not Detected
Bromodichloromethane	0.12	Not Detected	0.82	Not Detected
cis-1,3-Dichloropropene	0.12	Not Detected	0.55	Not Detected
4-Methyl-2-pentanone	0.12	Not Detected	0.50	Not Detected
trans-1,3-Dichloropropene	0.12	Not Detected	0.55	Not Detected
2-Hexanone	0.61	Not Detected	2.5	Not Detected
Dibromochloromethane	0.12	Not Detected	1.0	Not Detected
Chlorobenzene	0.12	Not Detected	0.56	Not Detected
Styrene	0.12	0.16	0.52	0.66
Bromoform	0.12	Not Detected	1.3	Not Detected
Cumene	0.12	Not Detected	0.60	Not Detected
Propylbenzene	0.12	Not Detected	0.60	Not Detected
4-Ethyltoluene	0.12	0.22	0.60	1.1
1,3,5-Trimethylbenzene	0.12	Not Detected	0.60	Not Detected
1,2,4-Trimethylbenzene	0.12	0.24	0.60	1.2
1,3-Dichlorobenzene	0.12	Not Detected	0.73	Not Detected
alpha-Chlorotoluene	0.12	Not Detected	0.63	Not Detected
1,2-Dichlorobenzene	0.12	Not Detected	0.73	Not Detected
1,2,4-Trichlorobenzene	0.61	Not Detected	4.5	Not Detected
Hexachlorobutadiene	0.61	Not Detected	6.5	Not Detected

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

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

eurofins | Air Toxics

Client Sample ID: CCD-IA-3-030123

Lab ID#: 2303206A-03A

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

File Name:	**20031513**	**Date of Collection: 3/1/23 4:04:00 PM**	
Dil. Factor:	**1.22**	**Date of Analysis: 3/15/23 05:02 PM**	

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
4-Bromofluorobenzene	89	70-130

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Client Sample ID: CCD-IA-3-030123

Lab ID#: 2303206A-03B

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

File Name:	**20031513sim**	**Date of Collection:**	**3/1/23 4:04:00 PM**
Dil. Factor:	**1.22**	**Date of Analysis:**	**3/15/23 05:02 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.061	0.50	0.30	2.5
Freon 114	0.024	Not Detected	0.17	Not Detected
Chloromethane	0.61	0.60 J	1.2	1.2 J
Vinyl Chloride	0.012	Not Detected	0.031	Not Detected
Chloroethane	0.061	Not Detected	0.16	Not Detected
1,1-Dichloroethene	0.012	Not Detected	0.048	Not Detected
trans-1,2-Dichloroethene	0.12	Not Detected	0.48	Not Detected
Methyl tert-butyl ether	0.12	Not Detected	0.44	Not Detected
1,1-Dichloroethane	0.024	Not Detected	0.099	Not Detected
cis-1,2-Dichloroethene	0.024	Not Detected	0.097	Not Detected
Chloroform	0.024	0.12	0.12	0.59
1,1,1-Trichloroethane	0.024	Not Detected	0.13	Not Detected
Carbon Tetrachloride	0.024	0.070	0.15	0.44
Benzene	0.061	0.55	0.19	1.7
1,2-Dichloroethane	0.024	0.027	0.099	0.11
Trichloroethene	0.024	0.056	0.13	0.30
Toluene	0.061	1.5	0.23	5.7
1,1,2-Trichloroethane	0.024	Not Detected	0.13	Not Detected
Tetrachloroethene	0.024	0.42	0.16	2.9
1,2-Dibromoethane (EDB)	0.024	Not Detected	0.19	Not Detected
Ethyl Benzene	0.024	0.30	0.10	1.3
m,p-Xylene	0.049	0.88	0.21	3.8
o-Xylene	0.024	0.33	0.10	1.4
1,1,2,2-Tetrachloroethane	0.024	Not Detected	0.17	Not Detected
1,4-Dichlorobenzene	0.024	Not Detected	0.15	Not Detected

J = Estimated value.

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	97	70-130

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Client Sample ID: CCD-IA-2-030123

Lab ID#: 2303206A-04A

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

File Name:	**20031608**	**Date of Collection: 3/1/23 4:11:00 PM**	
Dil. Factor:	**1.26**	**Date of Analysis: 3/16/23 03:37 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.13	Not Detected	0.28	Not Detected
Bromomethane	6.3	Not Detected	24	Not Detected
Freon 11	0.13	0.48	0.71	2.7
Ethanol	2.5	210 E	4.7	400 E
Freon 113	0.13	Not Detected	0.96	Not Detected
Acetone	2.5	20	6.0	49
2-Propanol	2.5	16	6.2	38
Carbon Disulfide	0.63	Not Detected	2.0	Not Detected
3-Chloropropene	0.63	Not Detected	2.0	Not Detected
Methylene Chloride	0.25	0.69	0.88	2.4
Hexane	0.63	1.0	2.2	3.7
2-Butanone (Methyl Ethyl Ketone)	0.63	0.69	1.8	2.0
Tetrahydrofuran	0.63	Not Detected	1.8	Not Detected
Cyclohexane	0.63	Not Detected	2.2	Not Detected
2,2,4-Trimethylpentane	0.63	Not Detected	2.9	Not Detected
Heptane	0.63	Not Detected	2.6	Not Detected
1,2-Dichloropropane	0.13	Not Detected	0.58	Not Detected
1,4-Dioxane	0.13	Not Detected	0.45	Not Detected
Bromodichloromethane	0.13	Not Detected	0.84	Not Detected
cis-1,3-Dichloropropene	0.13	Not Detected	0.57	Not Detected
4-Methyl-2-pentanone	0.13	0.74	0.52	3.0
trans-1,3-Dichloropropene	0.13	Not Detected	0.57	Not Detected
2-Hexanone	0.63	Not Detected	2.6	Not Detected
Dibromochloromethane	0.13	Not Detected	1.1	Not Detected
Chlorobenzene	0.13	Not Detected	0.58	Not Detected
Styrene	0.13	0.14	0.54	0.61
Bromoform	0.13	Not Detected	1.3	Not Detected
Cumene	0.13	Not Detected	0.62	Not Detected
Propylbenzene	0.13	Not Detected	0.62	Not Detected
4-Ethyltoluene	0.13	0.16	0.62	0.77
1,3,5-Trimethylbenzene	0.13	Not Detected	0.62	Not Detected
1,2,4-Trimethylbenzene	0.13	0.18	0.62	0.90
1,3-Dichlorobenzene	0.13	Not Detected	0.76	Not Detected
alpha-Chlorotoluene	0.13	Not Detected	0.65	Not Detected
1,2-Dichlorobenzene	0.13	Not Detected	0.76	Not Detected
1,2,4-Trichlorobenzene	0.63	Not Detected	4.7	Not Detected
Hexachlorobutadiene	0.63	Not Detected	6.7	Not Detected

E = Exceeds instrument calibration range.

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

Surrogates	%Recovery	Method Limits

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Client Sample ID: CCD-IA-2-030123

Lab ID#: 2303206A-04A

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

File Name:	**20031608**	**Date of Collection: 3/1/23 4:11:00 PM**	
Dil. Factor:	**1.26**	**Date of Analysis: 3/16/23 03:37 PM**	

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	86	70-130

eurofins | Air Toxics

Client Sample ID: CCD-IA-2-030123

Lab ID#: 2303206A-04B

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

File Name:	**20031608sim**	**Date of Collection:**	**3/1/23 4:11:00 PM**
Dil. Factor:	**1.26**	**Date of Analysis:**	**3/16/23 03:37 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.063	0.49	0.31	2.4
Freon 114	0.025	Not Detected	0.18	Not Detected
Chloromethane	0.63	1.6	1.3	3.4
Vinyl Chloride	0.013	Not Detected	0.032	Not Detected
Chloroethane	0.063	0.070	0.17	0.18
1,1-Dichloroethene	0.013	Not Detected	0.050	Not Detected
trans-1,2-Dichloroethene	0.13	Not Detected	0.50	Not Detected
Methyl tert-butyl ether	0.13	Not Detected	0.45	Not Detected
1,1-Dichloroethane	0.025	Not Detected	0.10	Not Detected
cis-1,2-Dichloroethene	0.025	Not Detected	0.10	Not Detected
Chloroform	0.025	0.51	0.12	2.5
1,1,1-Trichloroethane	0.025	Not Detected	0.14	Not Detected
Carbon Tetrachloride	0.025	0.068	0.16	0.43
Benzene	0.063	0.45	0.20	1.4
1,2-Dichloroethane	0.025	0.032	0.10	0.13
Trichloroethene	0.025	Not Detected	0.14	Not Detected
Toluene	0.063	1.3	0.24	5.0
1,1,2-Trichloroethane	0.025	Not Detected	0.14	Not Detected
Tetrachloroethene	0.025	0.29	0.17	2.0
1,2-Dibromoethane (EDB)	0.025	Not Detected	0.19	Not Detected
Ethyl Benzene	0.025	0.24	0.11	1.0
m,p-Xylene	0.050	0.74	0.22	3.2
o-Xylene	0.025	0.27	0.11	1.2
1,1,2,2-Tetrachloroethane	0.025	Not Detected	0.17	Not Detected
1,4-Dichlorobenzene	0.025	Not Detected	0.15	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2303206A-05A

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

File Name:	**20031507**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 11:29 AM**	

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	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2303206A-05A

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

File Name:	**20031507**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 11:29 AM**	

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
4-Bromofluorobenzene	84	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2303206A-05B

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

File Name:	**20031507sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 11:29 AM**	

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	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2303206A-05C

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

File Name:	**20031606**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/23 09:35 AM**	

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	102	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2303206A-05C

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

File Name:	**20031606**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/23 09:35 AM**	

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
4-Bromofluorobenzene	78	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2303206A-05D

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

File Name:	**20031606sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/23 09:35 AM**	

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	110	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	86	70-130

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Client Sample ID: CCV

Lab ID#: 2303206A-06A

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

File Name:	**20031502**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 06:48 AM**	

Compound	%Recovery
1,3-Butadiene	125
Bromomethane	104
Freon 11	103
Ethanol	120
Freon 113	94
Acetone	117
2-Propanol	122
Carbon Disulfide	121
3-Chloropropene	102
Methylene Chloride	109
Hexane	123
2-Butanone (Methyl Ethyl Ketone)	121
Tetrahydrofuran	119
Cyclohexane	112
2,2,4-Trimethylpentane	125
Heptane	121
1,2-Dichloropropane	116
1,4-Dioxane	112
Bromodichloromethane	97
cis-1,3-Dichloropropene	108
4-Methyl-2-pentanone	122
trans-1,3-Dichloropropene	105
2-Hexanone	118
Dibromochloromethane	97
Chlorobenzene	106
Styrene	105
Bromoform	90
Cumene	105
Propylbenzene	103
4-Ethyltoluene	99
1,3,5-Trimethylbenzene	107
1,2,4-Trimethylbenzene	96
1,3-Dichlorobenzene	93
alpha-Chlorotoluene	111
1,2-Dichlorobenzene	91
1,2,4-Trichlorobenzene	89
Hexachlorobutadiene	92

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130

Client Sample ID: CCV

Lab ID#: 2303206A-06A

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

File Name:	**20031502**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 06:48 AM**	

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: CCV

Lab ID#: 2303206A-06B

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

File Name:	**20031502sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 06:48 AM**	

Compound	%Recovery
Freon 12	96
Freon 114	101
Chloromethane	118
Vinyl Chloride	119
Chloroethane	124
1,1-Dichloroethene	110
trans-1,2-Dichloroethene	111
Methyl tert-butyl ether	104
1,1-Dichloroethane	117
cis-1,2-Dichloroethene	114
Chloroform	111
1,1,1-Trichloroethane	101
Carbon Tetrachloride	80
Benzene	107
1,2-Dichloroethane	101
Trichloroethene	100
Toluene	106
1,1,2-Trichloroethane	114
Tetrachloroethene	74
1,2-Dibromoethane (EDB)	112
Ethyl Benzene	109
m,p-Xylene	106
o-Xylene	102
1,1,2,2-Tetrachloroethane	110
1,4-Dichlorobenzene	93

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: CCV

Lab ID#: 2303206A-06C

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

File Name:	**20031602**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/23 07:01 AM**	

Compound	%Recovery
1,3-Butadiene	118
Bromomethane	106
Freon 11	102
Ethanol	110
Freon 113	95
Acetone	112
2-Propanol	115
Carbon Disulfide	120
3-Chloropropene	99
Methylene Chloride	107
Hexane	120
2-Butanone (Methyl Ethyl Ketone)	118
Tetrahydrofuran	127
Cyclohexane	111
2,2,4-Trimethylpentane	121
Heptane	120
1,2-Dichloropropane	117
1,4-Dioxane	112
Bromodichloromethane	103
cis-1,3-Dichloropropene	108
4-Methyl-2-pentanone	120
trans-1,3-Dichloropropene	109
2-Hexanone	119
Dibromochloromethane	104
Chlorobenzene	112
Styrene	112
Bromoform	98
Cumene	110
Propylbenzene	108
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	112
1,2,4-Trimethylbenzene	100
1,3-Dichlorobenzene	99
alpha-Chlorotoluene	117
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	94
Hexachlorobutadiene	98

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130

Client Sample ID: CCV

Lab ID#: 2303206A-06C

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

File Name:	**20031602**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/23 07:01 AM**	

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	104	70-130
4-Bromofluorobenzene	87	70-130

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Client Sample ID: CCV

Lab ID#: 2303206A-06D

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

File Name:	**20031602sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/23 07:01 AM**	

Compound	%Recovery
Freon 12	97
Freon 114	104
Chloromethane	112
Vinyl Chloride	116
Chloroethane	124
1,1-Dichloroethene	112
trans-1,2-Dichloroethene	113
Methyl tert-butyl ether	104
1,1-Dichloroethane	116
cis-1,2-Dichloroethene	116
Chloroform	112
1,1,1-Trichloroethane	102
Carbon Tetrachloride	81
Benzene	107
1,2-Dichloroethane	100
Trichloroethene	102
Toluene	106
1,1,2-Trichloroethane	121
Tetrachloroethene	80
1,2-Dibromoethane (EDB)	120
Ethyl Benzene	116
m,p-Xylene	112
o-Xylene	107
1,1,2,2-Tetrachloroethane	116
1,4-Dichlorobenzene	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: LCS

Lab ID#: 2303206A-07A

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

File Name:	**20031504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 08:27 AM**	

Compound	%Recovery	Method Limits
1,3-Butadiene	123	70-130
Bromomethane	136 Q	70-130
Freon 11	103	70-130
Ethanol	116	70-130
Freon 113	95	70-130
Acetone	110	70-130
2-Propanol	122	70-130
Carbon Disulfide	122	70-130
3-Chloropropene	76	70-130
Methylene Chloride	104	70-130
Hexane	114	70-130
2-Butanone (Methyl Ethyl Ketone)	117	70-130
Tetrahydrofuran	120	70-130
Cyclohexane	111	70-130
2,2,4-Trimethylpentane	114	70-130
Heptane	112	70-130
1,2-Dichloropropane	114	70-130
1,4-Dioxane	109	70-130
Bromodichloromethane	98	70-130
cis-1,3-Dichloropropene	109	70-130
4-Methyl-2-pentanone	115	70-130
trans-1,3-Dichloropropene	106	70-130
2-Hexanone	119	70-130
Dibromochloromethane	98	70-130
Chlorobenzene	102	70-130
Styrene	106	70-130
Bromoform	84	70-130
Cumene	101	70-130
Propylbenzene	103	70-130
4-Ethyltoluene	102	70-130
1,3,5-Trimethylbenzene	100	70-130
1,2,4-Trimethylbenzene	96	70-130
1,3-Dichlorobenzene	94	70-130
alpha-Chlorotoluene	111	70-130
1,2-Dichlorobenzene	92	70-130
1,2,4-Trichlorobenzene	95	70-130
Hexachlorobutadiene	100	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits

Client Sample ID: LCS

Lab ID#: 2303206A-07A

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

File Name:	**20031504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 08:27 AM**	

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	89	70-130

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Client Sample ID: LCSD

Lab ID#: 2303206A-07AA

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

File Name:	**20031505**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 10:07 AM**	

Compound	%Recovery	Method Limits
1,3-Butadiene	120	70-130
Bromomethane	140 Q	70-130
Freon 11	101	70-130
Ethanol	114	70-130
Freon 113	94	70-130
Acetone	108	70-130
2-Propanol	120	70-130
Carbon Disulfide	121	70-130
3-Chloropropene	75	70-130
Methylene Chloride	104	70-130
Hexane	112	70-130
2-Butanone (Methyl Ethyl Ketone)	115	70-130
Tetrahydrofuran	111	70-130
Cyclohexane	111	70-130
2,2,4-Trimethylpentane	113	70-130
Heptane	112	70-130
1,2-Dichloropropane	113	70-130
1,4-Dioxane	110	70-130
Bromodichloromethane	96	70-130
cis-1,3-Dichloropropene	108	70-130
4-Methyl-2-pentanone	113	70-130
trans-1,3-Dichloropropene	103	70-130
2-Hexanone	116	70-130
Dibromochloromethane	96	70-130
Chlorobenzene	101	70-130
Styrene	106	70-130
Bromoform	83	70-130
Cumene	102	70-130
Propylbenzene	104	70-130
4-Ethyltoluene	100	70-130
1,3,5-Trimethylbenzene	102	70-130
1,2,4-Trimethylbenzene	94	70-130
1,3-Dichlorobenzene	94	70-130
alpha-Chlorotoluene	109	70-130
1,2-Dichlorobenzene	93	70-130
1,2,4-Trichlorobenzene	92	70-130
Hexachlorobutadiene	99	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits

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Client Sample ID: LCSD

Lab ID#: 2303206A-07AA

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

File Name:	**20031505**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 10:07 AM**	

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: LCS

Lab ID#: 2303206A-07B

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

File Name:	**20031504sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 08:27 AM**	

Compound	%Recovery	Method Limits
Freon 12	98	70-130
Freon 114	105	70-130
Chloromethane	114	70-130
Vinyl Chloride	121	70-130
Chloroethane	133 Q	70-130
1,1-Dichloroethene	115	70-130
trans-1,2-Dichloroethene	116	70-130
Methyl tert-butyl ether	104	70-130
1,1-Dichloroethane	121	70-130
cis-1,2-Dichloroethene	117	70-130
Chloroform	107	70-130
1,1,1-Trichloroethane	105	70-130
Carbon Tetrachloride	72	60-140
Benzene	101	70-130
1,2-Dichloroethane	96	70-130
Trichloroethene	95	70-130
Toluene	96	70-130
1,1,2-Trichloroethane	120	70-130
Tetrachloroethene	74	70-130
1,2-Dibromoethane (EDB)	114	70-130
Ethyl Benzene	106	70-130
m,p-Xylene	102	70-130
o-Xylene	98	70-130
1,1,2,2-Tetrachloroethane	111	70-130
1,4-Dichlorobenzene	92	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: LCSD

Lab ID#: 2303206A-07BB

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

File Name:	**20031505sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 10:07 AM**	

Compound	%Recovery	Method Limits
Freon 12	99	70-130
Freon 114	106	70-130
Chloromethane	112	70-130
Vinyl Chloride	121	70-130
Chloroethane	133 Q	70-130
1,1-Dichloroethene	115	70-130
trans-1,2-Dichloroethene	117	70-130
Methyl tert-butyl ether	104	70-130
1,1-Dichloroethane	121	70-130
cis-1,2-Dichloroethene	118	70-130
Chloroform	109	70-130
1,1,1-Trichloroethane	105	70-130
Carbon Tetrachloride	72	60-140
Benzene	101	70-130
1,2-Dichloroethane	95	70-130
Trichloroethene	94	70-130
Toluene	96	70-130
1,1,2-Trichloroethane	117	70-130
Tetrachloroethene	72	70-130
1,2-Dibromoethane (EDB)	112	70-130
Ethyl Benzene	105	70-130
m,p-Xylene	102	70-130
o-Xylene	97	70-130
1,1,2,2-Tetrachloroethane	109	70-130
1,4-Dichlorobenzene	92	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

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

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Client Sample ID: LCS

Lab ID#: 2303206A-07C

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

File Name:	**20031603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/23 07:40 AM**	

Compound	%Recovery	Method Limits
1,3-Butadiene	116	70-130
Bromomethane	135 Q	70-130
Freon 11	101	70-130
Ethanol	111	70-130
Freon 113	93	70-130
Acetone	105	70-130
2-Propanol	115	70-130
Carbon Disulfide	118	70-130
3-Chloropropene	73	70-130
Methylene Chloride	102	70-130
Hexane	107	70-130
2-Butanone (Methyl Ethyl Ketone)	113	70-130
Tetrahydrofuran	114	70-130
Cyclohexane	108	70-130
2,2,4-Trimethylpentane	108	70-130
Heptane	109	70-130
1,2-Dichloropropane	112	70-130
1,4-Dioxane	108	70-130
Bromodichloromethane	97	70-130
cis-1,3-Dichloropropene	106	70-130
4-Methyl-2-pentanone	110	70-130
trans-1,3-Dichloropropene	103	70-130
2-Hexanone	113	70-130
Dibromochloromethane	97	70-130
Chlorobenzene	101	70-130
Styrene	106	70-130
Bromoform	85	70-130
Cumene	102	70-130
Propylbenzene	107	70-130
4-Ethyltoluene	105	70-130
1,3,5-Trimethylbenzene	102	70-130
1,2,4-Trimethylbenzene	97	70-130
1,3-Dichlorobenzene	97	70-130
alpha-Chlorotoluene	114	70-130
1,2-Dichlorobenzene	96	70-130
1,2,4-Trichlorobenzene	94	70-130
Hexachlorobutadiene	100	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits

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Client Sample ID: LCS

Lab ID#: 2303206A-07C

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

File Name:	**20031603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/23 07:40 AM**	

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: LCSD

Lab ID#: 2303206A-07CC

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

File Name:	**20031604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/23 08:18 AM**	

Compound	%Recovery	Method Limits
1,3-Butadiene	114	70-130
Bromomethane	135 Q	70-130
Freon 11	100	70-130
Ethanol	107	70-130
Freon 113	94	70-130
Acetone	103	70-130
2-Propanol	113	70-130
Carbon Disulfide	117	70-130
3-Chloropropene	71	70-130
Methylene Chloride	100	70-130
Hexane	109	70-130
2-Butanone (Methyl Ethyl Ketone)	112	70-130
Tetrahydrofuran	114	70-130
Cyclohexane	108	70-130
2,2,4-Trimethylpentane	109	70-130
Heptane	106	70-130
1,2-Dichloropropane	111	70-130
1,4-Dioxane	108	70-130
Bromodichloromethane	95	70-130
cis-1,3-Dichloropropene	105	70-130
4-Methyl-2-pentanone	107	70-130
trans-1,3-Dichloropropene	103	70-130
2-Hexanone	112	70-130
Dibromochloromethane	97	70-130
Chlorobenzene	102	70-130
Styrene	106	70-130
Bromoform	85	70-130
Cumene	103	70-130
Propylbenzene	108	70-130
4-Ethyltoluene	107	70-130
1,3,5-Trimethylbenzene	102	70-130
1,2,4-Trimethylbenzene	98	70-130
1,3-Dichlorobenzene	98	70-130
alpha-Chlorotoluene	112	70-130
1,2-Dichlorobenzene	96	70-130
1,2,4-Trichlorobenzene	94	70-130
Hexachlorobutadiene	102	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits

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Client Sample ID: LCSD

Lab ID#: 2303206A-07CC

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

File Name:	**20031604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/23 08:18 AM**	

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: LCS

Lab ID#: 2303206A-07D

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

File Name:	**20031603sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/23 07:40 AM**	

Compound	%Recovery	Method Limits
Freon 12	95	70-130
Freon 114	104	70-130
Chloromethane	103	70-130
Vinyl Chloride	114	70-130
Chloroethane	126	70-130
1,1-Dichloroethene	112	70-130
trans-1,2-Dichloroethene	114	70-130
Methyl tert-butyl ether	98	70-130
1,1-Dichloroethane	114	70-130
cis-1,2-Dichloroethene	114	70-130
Chloroform	106	70-130
1,1,1-Trichloroethane	102	70-130
Carbon Tetrachloride	69	60-140
Benzene	100	70-130
1,2-Dichloroethane	95	70-130
Trichloroethene	99	70-130
Toluene	96	70-130
1,1,2-Trichloroethane	120	70-130
Tetrachloroethene	75	70-130
1,2-Dibromoethane (EDB)	115	70-130
Ethyl Benzene	106	70-130
m,p-Xylene	102	70-130
o-Xylene	97	70-130
1,1,2,2-Tetrachloroethane	115	70-130
1,4-Dichlorobenzene	96	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 2303206A-07DD

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

File Name:	**20031604sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/23 08:18 AM**	

Compound	%Recovery	Method Limits
Freon 12	95	70-130
Freon 114	104	70-130
Chloromethane	105	70-130
Vinyl Chloride	114	70-130
Chloroethane	127	70-130
1,1-Dichloroethene	113	70-130
trans-1,2-Dichloroethene	115	70-130
Methyl tert-butyl ether	100	70-130
1,1-Dichloroethane	115	70-130
cis-1,2-Dichloroethene	115	70-130
Chloroform	106	70-130
1,1,1-Trichloroethane	103	70-130
Carbon Tetrachloride	70	60-140
Benzene	99	70-130
1,2-Dichloroethane	92	70-130
Trichloroethene	95	70-130
Toluene	96	70-130
1,1,2-Trichloroethane	118	70-130
Tetrachloroethene	74	70-130
1,2-Dibromoethane (EDB)	113	70-130
Ethyl Benzene	106	70-130
m,p-Xylene	102	70-130
o-Xylene	97	70-130
1,1,2,2-Tetrachloroethane	114	70-130
1,4-Dichlorobenzene	96	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	97	70-130

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Analytical Report

3/17/2023

Mr. Justin Neste

CALIBRE, Environmental Technology Solutions

20926 Pugh Rd NE

Poulsbo WA 98370

Project Name: Fox Avenue

Project #:

Workorder #: 2303206B

Dear Mr. Justin Neste

The following report includes the data for the above referenced project for sample(s) received on 3/6/2023 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 #: 2303206B

Work Order Summary

CLIENT:	Mr. Justin Neste CALIBRE, Environmental Technology Solutions 20926 Pugh Rd NE Poulsbo, WA 98370	**BILL TO:**	Accounts Payable CALIBRE, Environmental Technology Solutions 6354 Walker Lane, Suite 300 Metro Park
PHONE:	360-981-5606	**P.O. #**	
FAX:		**PROJECT #**	Fox Avenue
DATE RECEIVED:	03/06/2023	**CONTACT:**	Monica Tran
DATE COMPLETED:	03/17/2023		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
05A	CCD-SV-2-030223	TO-15	0.4 "Hg	10 psi
06A	CCD-DUP-01-030223	TO-15	2.2 "Hg	9.9 psi
07A	CCD-SV-1-030223	TO-15	6.1 "Hg	9.9 psi
08A	CCD-SV-3-030223	TO-15	6.1 "Hg	9.8 psi
09A	Lab Blank	TO-15	NA	NA
10A	CCV	TO-15	NA	NA
11A	LCS	TO-15	NA	NA
11AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 03/17/23

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.

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LABORATORY NARRATIVE
EPA Method TO-15
CALIBRE, Environmental Technology Solutions
Workorder# 2303206B

Four 1 Liter Summa Canister samples were received on March 06, 2023. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

Receiving Notes

Sample identification for sample CCD-SV-3-030223 was not provided on the sample tag. Therefore the information on the Chain of Custody was used to process and report the sample.

Analytical Notes

Dilution was performed on samples CCD-SV-2-030223, CCD-DUP-01-030223, CCD-SV-1-030223 and CCD-SV-3-030223 due to the presence of high level target species.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

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

CN - See Case Narrative.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: CCD-SV-2-030223

Lab ID#: 2303206B-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	5.7	34	31	180
Tetrachloroethene	5.7	1200	39	8500

Client Sample ID: CCD-DUP-01-030223

Lab ID#: 2303206B-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	6.0	33	32	180
Tetrachloroethene	6.0	1200	41	8400

Client Sample ID: CCD-SV-1-030223

Lab ID#: 2303206B-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	10	110	56	620
Tetrachloroethene	10	2400	71	16000

Client Sample ID: CCD-SV-3-030223

Lab ID#: 2303206B-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	14	130	55	530
Chloroform	14	22	68	110
Trichloroethene	14	420	75	2300
Tetrachloroethene	14	3800	95	26000

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Client Sample ID: CCD-SV-2-030223

Lab ID#: 2303206B-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031518**	**Date of Collection:**	**3/2/23 7:52:00 AM**
Dil. Factor:	**11.4**	**Date of Analysis:**	**3/15/23 10:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.7	Not Detected	28	Not Detected
Freon 114	5.7	Not Detected	40	Not Detected
Chloromethane	57	Not Detected	120	Not Detected
Vinyl Chloride	5.7	Not Detected	14	Not Detected
1,3-Butadiene	5.7	Not Detected	13	Not Detected
Bromomethane	57	Not Detected	220	Not Detected
Chloroethane	23	Not Detected	60	Not Detected
Freon 11	5.7	Not Detected	32	Not Detected
Ethanol	57	Not Detected	110	Not Detected
Freon 113	5.7	Not Detected	44	Not Detected
1,1-Dichloroethene	5.7	Not Detected	23	Not Detected
Acetone	57	Not Detected	140	Not Detected
2-Propanol	23	Not Detected	56	Not Detected
Carbon Disulfide	23	Not Detected	71	Not Detected
3-Chloropropene	23	Not Detected	71	Not Detected
Methylene Chloride	57	Not Detected	200	Not Detected
Methyl tert-butyl ether	23	Not Detected	82	Not Detected
trans-1,2-Dichloroethene	5.7	Not Detected	22	Not Detected
Hexane	5.7	Not Detected	20	Not Detected
1,1-Dichloroethane	5.7	Not Detected	23	Not Detected
2-Butanone (Methyl Ethyl Ketone)	23	Not Detected	67	Not Detected
cis-1,2-Dichloroethene	5.7	Not Detected	22	Not Detected
Tetrahydrofuran	5.7	Not Detected	17	Not Detected
Chloroform	5.7	Not Detected	28	Not Detected
1,1,1-Trichloroethane	5.7	Not Detected	31	Not Detected
Cyclohexane	5.7	Not Detected	20	Not Detected
Carbon Tetrachloride	5.7	Not Detected	36	Not Detected
2,2,4-Trimethylpentane	5.7	Not Detected	27	Not Detected
Benzene	5.7	Not Detected	18	Not Detected
1,2-Dichloroethane	5.7	Not Detected	23	Not Detected
Heptane	5.7	Not Detected	23	Not Detected
Trichloroethene	5.7	34	31	180
1,2-Dichloropropane	5.7	Not Detected	26	Not Detected
1,4-Dioxane	23	Not Detected	82	Not Detected
Bromodichloromethane	5.7	Not Detected	38	Not Detected
cis-1,3-Dichloropropene	5.7	Not Detected	26	Not Detected
4-Methyl-2-pentanone	5.7	Not Detected	23	Not Detected
Toluene	11	Not Detected	43	Not Detected
trans-1,3-Dichloropropene	5.7	Not Detected	26	Not Detected
1,1,2-Trichloroethane	5.7	Not Detected	31	Not Detected
Tetrachloroethene	5.7	1200	39	8500
2-Hexanone	23	Not Detected	93	Not Detected

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Client Sample ID: CCD-SV-2-030223

Lab ID#: 2303206B-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031518**	**Date of Collection:**	**3/2/23 7:52:00 AM**
Dil. Factor:	**11.4**	**Date of Analysis:**	**3/15/23 10:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	5.7	Not Detected	48	Not Detected
1,2-Dibromoethane (EDB)	5.7	Not Detected	44	Not Detected
Chlorobenzene	5.7	Not Detected	26	Not Detected
Ethyl Benzene	5.7	Not Detected	25	Not Detected
m,p-Xylene	5.7	Not Detected	25	Not Detected
o-Xylene	5.7	Not Detected	25	Not Detected
Styrene	5.7	Not Detected	24	Not Detected
Bromoform	5.7	Not Detected	59	Not Detected
Cumene	5.7	Not Detected	28	Not Detected
1,1,2,2-Tetrachloroethane	5.7	Not Detected	39	Not Detected
Propylbenzene	5.7	Not Detected	28	Not Detected
4-Ethyltoluene	5.7	Not Detected	28	Not Detected
1,3,5-Trimethylbenzene	5.7	Not Detected	28	Not Detected
1,2,4-Trimethylbenzene	5.7	Not Detected	28	Not Detected
1,3-Dichlorobenzene	5.7	Not Detected	34	Not Detected
1,4-Dichlorobenzene	5.7	Not Detected	34	Not Detected
alpha-Chlorotoluene	5.7	Not Detected	30	Not Detected
1,2-Dichlorobenzene	5.7	Not Detected	34	Not Detected
1,2,4-Trichlorobenzene	23	Not Detected	170	Not Detected
Hexachlorobutadiene	23	Not Detected	240	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCD-DUP-01-030223

Lab ID#: 2303206B-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031519**	**Date of Collection:**	**3/2/23 7:52:00 AM**
Dil. Factor:	**12.0**	**Date of Analysis:**	**3/15/23 10:47 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	6.0	Not Detected	30	Not Detected
Freon 114	6.0	Not Detected	42	Not Detected
Chloromethane	60	Not Detected	120	Not Detected
Vinyl Chloride	6.0	Not Detected	15	Not Detected
1,3-Butadiene	6.0	Not Detected	13	Not Detected
Bromomethane	60	Not Detected	230	Not Detected
Chloroethane	24	Not Detected	63	Not Detected
Freon 11	6.0	Not Detected	34	Not Detected
Ethanol	60	Not Detected	110	Not Detected
Freon 113	6.0	Not Detected	46	Not Detected
1,1-Dichloroethene	6.0	Not Detected	24	Not Detected
Acetone	60	Not Detected	140	Not Detected
2-Propanol	24	Not Detected	59	Not Detected
Carbon Disulfide	24	Not Detected	75	Not Detected
3-Chloropropene	24	Not Detected	75	Not Detected
Methylene Chloride	60	Not Detected	210	Not Detected
Methyl tert-butyl ether	24	Not Detected	86	Not Detected
trans-1,2-Dichloroethene	6.0	Not Detected	24	Not Detected
Hexane	6.0	Not Detected	21	Not Detected
1,1-Dichloroethane	6.0	Not Detected	24	Not Detected
2-Butanone (Methyl Ethyl Ketone)	24	Not Detected	71	Not Detected
cis-1,2-Dichloroethene	6.0	Not Detected	24	Not Detected
Tetrahydrofuran	6.0	Not Detected	18	Not Detected
Chloroform	6.0	Not Detected	29	Not Detected
1,1,1-Trichloroethane	6.0	Not Detected	33	Not Detected
Cyclohexane	6.0	Not Detected	21	Not Detected
Carbon Tetrachloride	6.0	Not Detected	38	Not Detected
2,2,4-Trimethylpentane	6.0	Not Detected	28	Not Detected
Benzene	6.0	Not Detected	19	Not Detected
1,2-Dichloroethane	6.0	Not Detected	24	Not Detected
Heptane	6.0	Not Detected	24	Not Detected
Trichloroethene	6.0	33	32	180
1,2-Dichloropropane	6.0	Not Detected	28	Not Detected
1,4-Dioxane	24	Not Detected	86	Not Detected
Bromodichloromethane	6.0	Not Detected	40	Not Detected
cis-1,3-Dichloropropene	6.0	Not Detected	27	Not Detected
4-Methyl-2-pentanone	6.0	Not Detected	24	Not Detected
Toluene	12	Not Detected	45	Not Detected
trans-1,3-Dichloropropene	6.0	Not Detected	27	Not Detected
1,1,2-Trichloroethane	6.0	Not Detected	33	Not Detected
Tetrachloroethene	6.0	1200	41	8400
2-Hexanone	24	Not Detected	98	Not Detected

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Client Sample ID: CCD-DUP-01-030223

Lab ID#: 2303206B-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031519**	**Date of Collection:**	**3/2/23 7:52:00 AM**
Dil. Factor:	**12.0**	**Date of Analysis:**	**3/15/23 10:47 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	6.0	Not Detected	51	Not Detected
1,2-Dibromoethane (EDB)	6.0	Not Detected	46	Not Detected
Chlorobenzene	6.0	Not Detected	28	Not Detected
Ethyl Benzene	6.0	Not Detected	26	Not Detected
m,p-Xylene	6.0	Not Detected	26	Not Detected
o-Xylene	6.0	Not Detected	26	Not Detected
Styrene	6.0	Not Detected	26	Not Detected
Bromoform	6.0	Not Detected	62	Not Detected
Cumene	6.0	Not Detected	29	Not Detected
1,1,2,2-Tetrachloroethane	6.0	Not Detected	41	Not Detected
Propylbenzene	6.0	Not Detected	29	Not Detected
4-Ethyltoluene	6.0	Not Detected	29	Not Detected
1,3,5-Trimethylbenzene	6.0	Not Detected	29	Not Detected
1,2,4-Trimethylbenzene	6.0	Not Detected	29	Not Detected
1,3-Dichlorobenzene	6.0	Not Detected	36	Not Detected
1,4-Dichlorobenzene	6.0	Not Detected	36	Not Detected
alpha-Chlorotoluene	6.0	Not Detected	31	Not Detected
1,2-Dichlorobenzene	6.0	Not Detected	36	Not Detected
1,2,4-Trichlorobenzene	24	Not Detected	180	Not Detected
Hexachlorobutadiene	24	Not Detected	260	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCD-SV-1-030223

Lab ID#: 2303206B-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031520**	**Date of Collection:**	**3/2/23 9:01:00 AM**
Dil. Factor:	**21.0**	**Date of Analysis:**	**3/15/23 11:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	10	Not Detected	52	Not Detected
Freon 114	10	Not Detected	73	Not Detected
Chloromethane	100	Not Detected	220	Not Detected
Vinyl Chloride	10	Not Detected	27	Not Detected
1,3-Butadiene	10	Not Detected	23	Not Detected
Bromomethane	100	Not Detected	410	Not Detected
Chloroethane	42	Not Detected	110	Not Detected
Freon 11	10	Not Detected	59	Not Detected
Ethanol	100	Not Detected	200	Not Detected
Freon 113	10	Not Detected	80	Not Detected
1,1-Dichloroethene	10	Not Detected	42	Not Detected
Acetone	100	Not Detected	250	Not Detected
2-Propanol	42	Not Detected	100	Not Detected
Carbon Disulfide	42	Not Detected	130	Not Detected
3-Chloropropene	42	Not Detected	130	Not Detected
Methylene Chloride	100	Not Detected	360	Not Detected
Methyl tert-butyl ether	42	Not Detected	150	Not Detected
trans-1,2-Dichloroethene	10	Not Detected	42	Not Detected
Hexane	10	Not Detected	37	Not Detected
1,1-Dichloroethane	10	Not Detected	42	Not Detected
2-Butanone (Methyl Ethyl Ketone)	42	Not Detected	120	Not Detected
cis-1,2-Dichloroethene	10	Not Detected	42	Not Detected
Tetrahydrofuran	10	Not Detected	31	Not Detected
Chloroform	10	Not Detected	51	Not Detected
1,1,1-Trichloroethane	10	Not Detected	57	Not Detected
Cyclohexane	10	Not Detected	36	Not Detected
Carbon Tetrachloride	10	Not Detected	66	Not Detected
2,2,4-Trimethylpentane	10	Not Detected	49	Not Detected
Benzene	10	Not Detected	34	Not Detected
1,2-Dichloroethane	10	Not Detected	42	Not Detected
Heptane	10	Not Detected	43	Not Detected
Trichloroethene	10	110	56	620
1,2-Dichloropropane	10	Not Detected	48	Not Detected
1,4-Dioxane	42	Not Detected	150	Not Detected
Bromodichloromethane	10	Not Detected	70	Not Detected
cis-1,3-Dichloropropene	10	Not Detected	48	Not Detected
4-Methyl-2-pentanone	10	Not Detected	43	Not Detected
Toluene	21	Not Detected	79	Not Detected
trans-1,3-Dichloropropene	10	Not Detected	48	Not Detected
1,1,2-Trichloroethane	10	Not Detected	57	Not Detected
Tetrachloroethene	10	2400	71	16000
2-Hexanone	42	Not Detected	170	Not Detected

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Client Sample ID: CCD-SV-1-030223

Lab ID#: 2303206B-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031520**	**Date of Collection:**	**3/2/23 9:01:00 AM**
Dil. Factor:	**21.0**	**Date of Analysis:**	**3/15/23 11:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	10	Not Detected	89	Not Detected
1,2-Dibromoethane (EDB)	10	Not Detected	81	Not Detected
Chlorobenzene	10	Not Detected	48	Not Detected
Ethyl Benzene	10	Not Detected	46	Not Detected
m,p-Xylene	10	Not Detected	46	Not Detected
o-Xylene	10	Not Detected	46	Not Detected
Styrene	10	Not Detected	45	Not Detected
Bromoform	10	Not Detected	110	Not Detected
Cumene	10	Not Detected	52	Not Detected
1,1,2,2-Tetrachloroethane	10	Not Detected	72	Not Detected
Propylbenzene	10	Not Detected	52	Not Detected
4-Ethyltoluene	10	Not Detected	52	Not Detected
1,3,5-Trimethylbenzene	10	Not Detected	52	Not Detected
1,2,4-Trimethylbenzene	10	Not Detected	52	Not Detected
1,3-Dichlorobenzene	10	Not Detected	63	Not Detected
1,4-Dichlorobenzene	10	Not Detected	63	Not Detected
alpha-Chlorotoluene	10	Not Detected	54	Not Detected
1,2-Dichlorobenzene	10	Not Detected	63	Not Detected
1,2,4-Trichlorobenzene	42	Not Detected	310	Not Detected
Hexachlorobutadiene	42	Not Detected	450	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCD-SV-3-030223

Lab ID#: 2303206B-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031521**	**Date of Collection:**	**3/2/23 10:35:00 AM**
Dil. Factor:	**27.9**	**Date of Analysis:**	**3/15/23 11:37 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	14	Not Detected	69	Not Detected
Freon 114	14	Not Detected	98	Not Detected
Chloromethane	140	Not Detected	290	Not Detected
Vinyl Chloride	14	Not Detected	36	Not Detected
1,3-Butadiene	14	Not Detected	31	Not Detected
Bromomethane	140	Not Detected	540	Not Detected
Chloroethane	56	Not Detected	150	Not Detected
Freon 11	14	Not Detected	78	Not Detected
Ethanol	140	Not Detected	260	Not Detected
Freon 113	14	Not Detected	110	Not Detected
1,1-Dichloroethene	14	Not Detected	55	Not Detected
Acetone	140	Not Detected	330	Not Detected
2-Propanol	56	Not Detected	140	Not Detected
Carbon Disulfide	56	Not Detected	170	Not Detected
3-Chloropropene	56	Not Detected	170	Not Detected
Methylene Chloride	140	Not Detected	480	Not Detected
Methyl tert-butyl ether	56	Not Detected	200	Not Detected
trans-1,2-Dichloroethene	14	Not Detected	55	Not Detected
Hexane	14	Not Detected	49	Not Detected
1,1-Dichloroethane	14	Not Detected	56	Not Detected
2-Butanone (Methyl Ethyl Ketone)	56	Not Detected	160	Not Detected
cis-1,2-Dichloroethene	14	130	55	530
Tetrahydrofuran	14	Not Detected	41	Not Detected
Chloroform	14	22	68	110
1,1,1-Trichloroethane	14	Not Detected	76	Not Detected
Cyclohexane	14	Not Detected	48	Not Detected
Carbon Tetrachloride	14	Not Detected	88	Not Detected
2,2,4-Trimethylpentane	14	Not Detected	65	Not Detected
Benzene	14	Not Detected	44	Not Detected
1,2-Dichloroethane	14	Not Detected	56	Not Detected
Heptane	14	Not Detected	57	Not Detected
Trichloroethene	14	420	75	2300
1,2-Dichloropropane	14	Not Detected	64	Not Detected
1,4-Dioxane	56	Not Detected	200	Not Detected
Bromodichloromethane	14	Not Detected	93	Not Detected
cis-1,3-Dichloropropene	14	Not Detected	63	Not Detected
4-Methyl-2-pentanone	14	Not Detected	57	Not Detected
Toluene	28	Not Detected	100	Not Detected
trans-1,3-Dichloropropene	14	Not Detected	63	Not Detected
1,1,2-Trichloroethane	14	Not Detected	76	Not Detected
Tetrachloroethene	14	3800	95	26000
2-Hexanone	56	Not Detected	230	Not Detected

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Client Sample ID: CCD-SV-3-030223

Lab ID#: 2303206B-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031521**	**Date of Collection:**	**3/2/23 10:35:00 AM**
Dil. Factor:	**27.9**	**Date of Analysis:**	**3/15/23 11:37 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	14	Not Detected	120	Not Detected
1,2-Dibromoethane (EDB)	14	Not Detected	110	Not Detected
Chlorobenzene	14	Not Detected	64	Not Detected
Ethyl Benzene	14	Not Detected	60	Not Detected
m,p-Xylene	14	Not Detected	60	Not Detected
o-Xylene	14	Not Detected	60	Not Detected
Styrene	14	Not Detected	59	Not Detected
Bromoform	14	Not Detected	140	Not Detected
Cumene	14	Not Detected	68	Not Detected
1,1,2,2-Tetrachloroethane	14	Not Detected	96	Not Detected
Propylbenzene	14	Not Detected	68	Not Detected
4-Ethyltoluene	14	Not Detected	68	Not Detected
1,3,5-Trimethylbenzene	14	Not Detected	68	Not Detected
1,2,4-Trimethylbenzene	14	Not Detected	68	Not Detected
1,3-Dichlorobenzene	14	Not Detected	84	Not Detected
1,4-Dichlorobenzene	14	Not Detected	84	Not Detected
alpha-Chlorotoluene	14	Not Detected	72	Not Detected
1,2-Dichlorobenzene	14	Not Detected	84	Not Detected
1,2,4-Trichlorobenzene	56	Not Detected	410	Not Detected
Hexachlorobutadiene	56	Not Detected	600	Not Detected

Container Type: 1 Liter Summa Canister

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

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Client Sample ID: Lab Blank

Lab ID#: 2303206B-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031507e**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 02:53 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

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Client Sample ID: Lab Blank

Lab ID#: 2303206B-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031507e**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 02:53 PM**	

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

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	112	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: CCV

Lab ID#: 2303206B-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031502**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 11:37 AM**

Compound	%Recovery
Freon 12	98
Freon 114	100
Chloromethane	119
Vinyl Chloride	102
1,3-Butadiene	99
Bromomethane	105
Chloroethane	107
Freon 11	104
Ethanol	87
Freon 113	96
1,1-Dichloroethene	89
Acetone	99
2-Propanol	105
Carbon Disulfide	96
3-Chloropropene	94
Methylene Chloride	108
Methyl tert-butyl ether	94
trans-1,2-Dichloroethene	89
Hexane	102
1,1-Dichloroethane	95
2-Butanone (Methyl Ethyl Ketone)	97
cis-1,2-Dichloroethene	88
Tetrahydrofuran	104
Chloroform	96
1,1,1-Trichloroethane	93
Cyclohexane	88
Carbon Tetrachloride	95
2,2,4-Trimethylpentane	102
Benzene	94
1,2-Dichloroethane	94
Heptane	85
Trichloroethene	93
1,2-Dichloropropane	88
1,4-Dioxane	92
Bromodichloromethane	94
cis-1,3-Dichloropropene	90
4-Methyl-2-pentanone	90
Toluene	94
trans-1,3-Dichloropropene	88
1,1,2-Trichloroethane	86
Tetrachloroethene	92
2-Hexanone	94

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Client Sample ID: CCV

Lab ID#: 2303206B-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031502**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 11:37 AM**	

Compound	%Recovery
Dibromochloromethane	93
1,2-Dibromoethane (EDB)	90
Chlorobenzene	89
Ethyl Benzene	90
m,p-Xylene	88
o-Xylene	88
Styrene	90
Bromoform	91
Cumene	90
1,1,2,2-Tetrachloroethane	85
Propylbenzene	90
4-Ethyltoluene	91
1,3,5-Trimethylbenzene	88
1,2,4-Trimethylbenzene	88
1,3-Dichlorobenzene	92
1,4-Dichlorobenzene	90
alpha-Chlorotoluene	89
1,2-Dichlorobenzene	91
1,2,4-Trichlorobenzene	88
Hexachlorobutadiene	91

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCS

Lab ID#: 2303206B-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 12:28 PM**	

Compound	%Recovery	Method Limits
Freon 12	98	70-130
Freon 114	98	70-130
Chloromethane	111	70-130
Vinyl Chloride	100	70-130
1,3-Butadiene	97	70-130
Bromomethane	100	70-130
Chloroethane	108	70-130
Freon 11	102	70-130
Ethanol	112	70-130
Freon 113	94	70-130
1,1-Dichloroethene	86	70-130
Acetone	100	70-130
2-Propanol	108	70-130
Carbon Disulfide	97	70-130
3-Chloropropene	95	70-130
Methylene Chloride	104	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	89	70-130
Hexane	101	70-130
1,1-Dichloroethane	95	70-130
2-Butanone (Methyl Ethyl Ketone)	98	70-130
cis-1,2-Dichloroethene	91	70-130
Tetrahydrofuran	112	70-130
Chloroform	94	70-130
1,1,1-Trichloroethane	95	70-130
Cyclohexane	91	70-130
Carbon Tetrachloride	97	70-130
2,2,4-Trimethylpentane	103	70-130
Benzene	96	70-130
1,2-Dichloroethane	97	70-130
Heptane	88	70-130
Trichloroethene	92	70-130
1,2-Dichloropropane	89	70-130
1,4-Dioxane	98	70-130
Bromodichloromethane	94	70-130
cis-1,3-Dichloropropene	92	70-130
4-Methyl-2-pentanone	96	70-130
Toluene	95	70-130
trans-1,3-Dichloropropene	90	70-130
1,1,2-Trichloroethane	90	70-130
Tetrachloroethene	93	70-130
2-Hexanone	100	70-130

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Client Sample ID: LCS

Lab ID#: 2303206B-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 12:28 PM**	

Compound	%Recovery	Method Limits
Dibromochloromethane	95	70-130
1,2-Dibromoethane (EDB)	93	70-130
Chlorobenzene	92	70-130
Ethyl Benzene	93	70-130
m,p-Xylene	90	70-130
o-Xylene	92	70-130
Styrene	93	70-130
Bromoform	93	70-130
Cumene	92	70-130
1,1,2,2-Tetrachloroethane	90	70-130
Propylbenzene	92	70-130
4-Ethyltoluene	92	70-130
1,3,5-Trimethylbenzene	89	70-130
1,2,4-Trimethylbenzene	91	70-130
1,3-Dichlorobenzene	94	70-130
1,4-Dichlorobenzene	92	70-130
alpha-Chlorotoluene	92	70-130
1,2-Dichlorobenzene	93	70-130
1,2,4-Trichlorobenzene	82	70-130
Hexachlorobutadiene	83	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCSD

Lab ID#: 2303206B-11AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031506**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 01:48 PM**	

Compound	%Recovery	Method Limits
Freon 12	99	70-130
Freon 114	100	70-130
Chloromethane	114	70-130
Vinyl Chloride	102	70-130
1,3-Butadiene	97	70-130
Bromomethane	102	70-130
Chloroethane	108	70-130
Freon 11	104	70-130
Ethanol	113	70-130
Freon 113	93	70-130
1,1-Dichloroethene	87	70-130
Acetone	100	70-130
2-Propanol	109	70-130
Carbon Disulfide	98	70-130
3-Chloropropene	96	70-130
Methylene Chloride	107	70-130
Methyl tert-butyl ether	95	70-130
trans-1,2-Dichloroethene	90	70-130
Hexane	101	70-130
1,1-Dichloroethane	96	70-130
2-Butanone (Methyl Ethyl Ketone)	96	70-130
cis-1,2-Dichloroethene	89	70-130
Tetrahydrofuran	112	70-130
Chloroform	95	70-130
1,1,1-Trichloroethane	95	70-130
Cyclohexane	90	70-130
Carbon Tetrachloride	95	70-130
2,2,4-Trimethylpentane	102	70-130
Benzene	93	70-130
1,2-Dichloroethane	95	70-130
Heptane	84	70-130
Trichloroethene	90	70-130
1,2-Dichloropropane	87	70-130
1,4-Dioxane	95	70-130
Bromodichloromethane	92	70-130
cis-1,3-Dichloropropene	89	70-130
4-Methyl-2-pentanone	92	70-130
Toluene	92	70-130
trans-1,3-Dichloropropene	90	70-130
1,1,2-Trichloroethane	88	70-130
Tetrachloroethene	93	70-130
2-Hexanone	100	70-130

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Client Sample ID: LCSD

Lab ID#: 2303206B-11AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3031506**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/15/23 01:48 PM**	

Compound	%Recovery	Method Limits
Dibromochloromethane	95	70-130
1,2-Dibromoethane (EDB)	93	70-130
Chlorobenzene	92	70-130
Ethyl Benzene	93	70-130
m,p-Xylene	90	70-130
o-Xylene	92	70-130
Styrene	93	70-130
Bromoform	93	70-130
Cumene	92	70-130
1,1,2,2-Tetrachloroethane	90	70-130
Propylbenzene	91	70-130
4-Ethyltoluene	92	70-130
1,3,5-Trimethylbenzene	89	70-130
1,2,4-Trimethylbenzene	91	70-130
1,3-Dichlorobenzene	94	70-130
1,4-Dichlorobenzene	92	70-130
alpha-Chlorotoluene	92	70-130
1,2-Dichlorobenzene	92	70-130
1,2,4-Trichlorobenzene	88	70-130
Hexachlorobutadiene	89	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	108	70-130

Attachment E
Local Weather during Sampling Period

Current Weather Conditions:
SEATTLE BOEING FIELD, WA, United States

NWS Point Forecast for KBFI

(KBFI) 47-33N 122-19W 4M

Conditions at	Feb 28, 2023 - 05:02 PM EST 2023.02.28 2202 UTC
Wind	from the NNE (020 degrees) at 3 MPH (3 KT)
Visibility	9 mile(s)
Sky conditions	overcast
Precipitation last hour	A trace
Temperature	39.0 F (3.9 C)
Dew Point	35.1 F (1.7 C)
Relative Humidity	85%
Pressure (altimeter)	29.6 in. Hg (1002 hPa)
ob	KBFI 282202Z 02003KT 9SM BKN020 OVC044 04/02 A2960 RMK AO2 RAE00 P0000 T00390017

Maximum and Minimum Temperatures

Maximum Temperature F (C)	Minimum Temperature F (C)	
39.0 (3.9)	37.0 (2.8)	In the **6 hours** preceding Feb 28, 2023 - 12:53 PM EST / 2023.02.28 1753 UTC
43.0 (6.1)	30.0 (-1.1)	In the **24 hours** preceding Feb 28, 2023 - 02:53 AM EST / 2023.02.28 0753 UTC

Precipitation Accumulation

Precipitation Amount	
A trace	In the **6 hours** preceding Feb 28, 2023 - 12:53 PM EST / 2023.02.28 1753 UTC
0.13 inches	In the **24 hours** preceding Feb 28, 2023 - 06:53 AM EST / 2023.02.28 1153 UTC

24 Hour Summary

	Time EST (UTC)	Temperature F (C)	Dew Point F (C)	Pressure Inches (hPa)	Wind MPH	Weather
Latest	5 PM (22) Feb 28	39.0 (3.9)	35.1 (1.7)	29.6 (1002)	NNE 3	light rain; mist
	4 PM (21) Feb 28	37.9 (3.3)	34.0 (1.1)	29.59 (1002)	WNW 7	light rain
	3 PM (20) Feb 28	41.0 (5.0)	32.0 (0.0)	29.57 (1001)	SSW 9	
	2 PM (19) Feb 28	39.9 (4.4)	33.1 (0.6)	29.55 (1000)	Variable 6	
	1 PM (18) Feb 28	39.0 (3.9)	32.0 (0.0)	29.53 (1000)	SSW 9	
	Noon (17) Feb 28	37.9 (3.3)	32.0 (0.0)	29.52 (999)	SSW 8	
	11 AM (16) Feb 28	37.0 (2.8)	32.0 (0.0)	29.49 (998)	S 7	
	10 AM (15) Feb 28	37.0 (2.8)	33.1 (0.6)	29.46 (997)	S 12	
	9 AM (14) Feb 28	37.0 (2.8)	33.1 (0.6)	29.43 (996)	S 12	
	8 AM (13) Feb 28	37.0 (2.8)	35.1 (1.7)	29.42 (996)	S 14	
	7 AM (12) Feb 28	36.0 (2.2)	35.1 (1.7)	29.4 (995)	S 10	mist
	6 AM (11) Feb 28	35.1 (1.7)	34.0 (1.1)	29.4 (995)	SE 8	
	5 AM (10) Feb 28	34.0 (1.1)	33.1 (0.6)	29.4 (995)	ESE 3	mist
	4 AM (9) Feb 28	33.1 (0.6)	32.0 (0.0)	29.39 (995)	Calm	
	3 AM (8) Feb 28	34.0 (1.1)	33.1 (0.6)	29.4 (995)	SE 8	light snow; mist
	2 AM (7) Feb 28	37.9 (3.3)	30.9 (-0.6)	29.39 (995)	S 13	light rain
	1 AM (6) Feb 28	37.0 (2.8)	28.9 (-1.7)	29.38 (994)	SE 7	
	Midnight (5) Feb 28	39.0 (3.9)	28.9 (-1.7)	29.38 (994)	ESE 6	
	11 PM (4) Feb 27	37.0 (2.8)	33.1 (0.6)	29.38 (994)	Calm	
	10 PM (3) Feb 27	39.9 (4.4)	34.0 (1.1)	29.4 (995)	Calm	
	9 PM (2) Feb 27	39.9 (4.4)	35.1 (1.7)	29.4 (995)	Calm	
	8 PM (1) Feb 27	39.9 (4.4)	34.0 (1.1)	29.42 (996)	Variable 5	light rain
	7 PM (0) Feb 27	41.0 (5.0)	34.0 (1.1)	29.43 (996)	Variable 3	light rain
Oldest	6 PM (23) Feb 27	42.1 (5.6)	34.0 (1.1)	29.45 (997)	Calm	
	Time EST (UTC)	**Temperature F(C)**	**Dew Point F(C)**	**Pressure Inches(hPa)**	**Wind (MPH)**	**Weather**

US Dept of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
1325 East West Highway
Silver Spring, MD 20910
Page Author: NWS Internet Services Team

Current Weather Conditions:
SEATTLE BOEING FIELD, WA, United States

NWS Point Forecast for KBFI

(KBFI) 47-33N 122-19W 4M

Conditions at Mar 01, 2023 - 10:53 PM EST
2023.03.02 0353 UTC

Wind from the S (170 degrees) at 10 MPH (9 KT)

Visibility 10 mile(s)

Sky conditions overcast

Temperature 41.0 F (5.0 C)

Dew Point 33.1 F (0.6 C)

Relative Humidity 73%

Pressure (altimeter) 30.1 in. Hg (1019 hPa)

ob KBFI 020353Z 17009KT 10SM SCT050 BKN060 OVC085 05/01 A3010 RMK AO2 SLP193 T00500006

Maximum and Minimum Temperatures

Maximum Temperature F (C)	Minimum Temperature F (C)	
45.0 (7.2)	35.1 (1.7)	In the **6 hours** preceding Mar 01, 2023 - 06:53 PM EST / 2023.03.01 2353 UTC
43.0 (6.1)	30.0 (-1.1)	In the **24 hours** preceding Mar 01, 2023 - 02:53 AM EST / 2023.03.01 0753 UTC

Precipitation Accumulation

Precipitation Amount	
0.01 inches	In the **24 hours** preceding Mar 01, 2023 - 06:53 AM EST / 2023.03.01 1153 UTC

24 Hour Summary

Time EST (UTC)	Temperature F (C)	Dew Point F (C)	Pressure Inches (hPa)	Wind MPH	Weather

	Time EST (UTC)	Temperature F(C)	Dew Point F(C)	Pressure Inches(hPa)	Wind (MPH)	Weather
Latest	11 PM (4) Mar 01	41.0 (5.0)	33.1 (0.6)	30.1 (1019)	S 10	
	10 PM (3) Mar 01	43.0 (6.1)	32.0 (0.0)	30.1 (1019)	Variable 7	
	9 PM (2) Mar 01	44.1 (6.7)	30.9 (-0.6)	30.1 (1019)	Variable 7	
	8 PM (1) Mar 01	44.1 (6.7)	32.0 (0.0)	30.1 (1019)	SSW 7	
	7 PM (0) Mar 01	45.0 (7.2)	30.9 (-0.6)	30.12 (1019)	SSW 6	
	6 PM (23) Mar 01	44.1 (6.7)	30.9 (-0.6)	30.12 (1019)	S 8	
	5 PM (22) Mar 01	43.0 (6.1)	30.9 (-0.6)	30.12 (1019)	SSW 5	light rain; mist
	4 PM (21) Mar 01	43.0 (6.1)	32.0 (0.0)	30.12 (1019)	SW 8	light rain
	3 PM (20) Mar 01	41.0 (5.0)	34.0 (1.1)	30.11 (1019)	Calm	
	2 PM (19) Mar 01	37.9 (3.3)	33.1 (0.6)	30.1 (1019)	Variable 7	
	1 PM (18) Mar 01	35.1 (1.7)	32.0 (0.0)	30.1 (1019)	SE 8	
	Noon (17) Mar 01	33.1 (0.6)	30.9 (-0.6)	30.08 (1018)	SSE 8	mist
	11 AM (16) Mar 01	30.9 (-0.6)	30.0 (-1.1)	30.06 (1017)	SE 9	
	10 AM (15) Mar 01	30.0 (-1.1)	28.9 (-1.7)	30.05 (1017)	S 7	
	9 AM (14) Mar 01	28.9 (-1.7)	28.9 (-1.7)	30.03 (1016)	SE 6	mist
	8 AM (13) Mar 01	30.0 (-1.1)	28.9 (-1.7)	30.02 (1016)	S 5	mist
	7 AM (12) Mar 01	30.9 (-0.6)	30.9 (-0.6)	30 (1015)	SSE 3	mist
	6 AM (11) Mar 01	32.0 (0.0)	32.0 (0.0)	29.95 (1014)	Calm	fog
	5 AM (10) Mar 01	32.0 (0.0)	32.0 (0.0)	29.91 (1012)	Calm	fog
	4 AM (9) Mar 01	32.0 (0.0)	32.0 (0.0)	29.89 (1012)	Calm	fog
	3 AM (8) Mar 01	32.0 (0.0)	32.0 (0.0)	29.88 (1011)	Calm	fog
	2 AM (7) Mar 01	32.0 (0.0)	30.0 (-1.1)	29.84 (1010)	Calm	light rain
	1 AM (6) Mar 01	32.0 (0.0)	30.0 (-1.1)	29.81 (1009)	Calm	
Oldest	Midnight (5) Mar 01	35.1 (1.7)	30.9 (-0.6)	29.77 (1008)	Calm	

The information presented here is taken from products produced by the U.S. National Weather Service and other national and international agencies

US Dept of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
1325 East West Highway
Silver Spring, MD 20910
Page Author: NWS Internet Services Team

Current Weather Conditions:
SEATTLE BOEING FIELD, WA, United States

NWS Point Forecast for KBFI (KBFI) 47-33N 122-19W 4M

Conditions at	Mar 02, 2023 - 11:10 PM EST 2023.03.03 0410 UTC
Wind	from the SW (230 degrees) at 7 MPH (6 KT)
Visibility	10 mile(s)
Sky conditions	mostly cloudy
Temperature	39.9 F (4.4 C)
Dew Point	32.0 F (0.0 C)
Relative Humidity	73%
Pressure (altimeter)	30.02 in. Hg (1016 hPa)
ob	KBFI 030410Z 23006KT 10SM BKN024 04/00 A3002 RMK AO2 T00440000

Maximum and Minimum Temperatures

Maximum Temperature F (C)	Minimum Temperature F (C)	
51.1 (10.6)	43.0 (6.1)	In the **6 hours** preceding Mar 02, 2023 - 06:53 PM EST / 2023.03.02 2353 UTC
45.0 (7.2)	28.0 (-2.2)	In the **24 hours** preceding Mar 02, 2023 - 02:53 AM EST / 2023.03.02 0753 UTC

Precipitation Accumulation

Precipitation Amount	
A trace	In the **6 hours** preceding Mar 02, 2023 - 06:53 PM EST / 2023.03.02 2353 UTC
0.03 inches	In the **24 hours** preceding Mar 02, 2023 - 06:53 AM EST / 2023.03.02 1153 UTC

24 Hour Summary

	Time EST (UTC)	Temperature F (C)	Dew Point F (C)	Pressure Inches (hPa)	Wind MPH	Weather
Latest	11 PM (4) Mar 02	39.9 (4.4)	32.0 (0.0)	30.02 (1016)	SW 7	

	Time EST (UTC)	Temperature F(C)	Dew Point F(C)	Pressure Inches(hPa)	Wind (MPH)	Weather
	10 PM (3) Mar 02	41.0 (5.0)	32.0 (0.0)	29.99 (1015)	SW 9	
	9 PM (2) Mar 02	44.1 (6.7)	30.0 (-1.1)	29.97 (1014)	WSW 9	
	8 PM (1) Mar 02	46.9 (8.3)	28.0 (-2.2)	29.95 (1014)	SW 8	
	7 PM (0) Mar 02	48.0 (8.9)	30.9 (-0.6)	29.94 (1013)	SSW 8	
	6 PM (23) Mar 02	50.0 (10.0)	35.1 (1.7)	29.92 (1013)	S 8	
	5 PM (22) Mar 02	50.0 (10.0)	35.1 (1.7)	29.91 (1012)	W 7	
	4 PM (21) Mar 02	48.9 (9.4)	37.9 (3.3)	29.92 (1013)	SSW 10	
	3 PM (20) Mar 02	45.0 (7.2)	39.0 (3.9)	29.92 (1013)	S 7	light rain
	2 PM (19) Mar 02	44.1 (6.7)	37.9 (3.3)	29.93 (1013)	SSW 8	
	1 PM (18) Mar 02	43.0 (6.1)	37.0 (2.8)	29.91 (1012)	SSW 9	
	Noon (17) Mar 02	39.9 (4.4)	36.0 (2.2)	29.88 (1011)	SSW 14	
	11 AM (16) Mar 02	39.9 (4.4)	36.0 (2.2)	29.86 (1011)	S 18	light rain
	10 AM (15) Mar 02	37.0 (2.8)	36.0 (2.2)	29.88 (1011)	SE 7	mist
	9 AM (14) Mar 02	37.9 (3.3)	35.1 (1.7)	29.9 (1012)	SSE 9	light rain; mist
	8 AM (13) Mar 02	37.9 (3.3)	35.1 (1.7)	29.92 (1013)	SSE 10	light rain
	7 AM (12) Mar 02	37.0 (2.8)	34.0 (1.1)	29.94 (1013)	SSE 15	light rain
	6 AM (11) Mar 02	37.0 (2.8)	35.1 (1.7)	29.98 (1015)	SSE 10	
	5 AM (10) Mar 02	37.9 (3.3)	35.1 (1.7)	30.01 (1016)	SSE 15	
	4 AM (9) Mar 02	39.0 (3.9)	35.1 (1.7)	30.05 (1017)	S 10	light rain
	3 AM (8) Mar 02	39.0 (3.9)	35.1 (1.7)	30.06 (1017)	S 13	light rain
	2 AM (7) Mar 02	39.0 (3.9)	36.0 (2.2)	30.07 (1018)	SSW 8	light rain; mist
	1 AM (6) Mar 02	39.9 (4.4)	33.1 (0.6)	30.09 (1018)	SSW 13	light rain
Oldest	Midnight (5) Mar 02	41.0 (5.0)	33.1 (0.6)	30.09 (1018)	S 9	light rain

The information presented here is taken from products produced by the U.S. National Weather Service and other national and international agencies

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