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October 31, 2024
Project No. M0624.04.016

Chris DeBoer, LHG
Washington State Department of Ecology
15700 Dayton Ave N
Shoreline, Washington 98133

Re: Quarterly Progress Report—3rd Quarter 2024
Northern State Multi Service Center Site
Facility Site ID: 65415931; Cleanup Site ID: 10048
Agreed Order No. DE 16309
2070 Northern State Road, Sedro-Woolley, Washington

Dear Chris DeBoer:

On behalf of the Port of Skagit, this letter serves as a progress report for the third quarter of 2024 for the former Northern State Multi Service Center Site (the site), located at 2070 Northern State Road in Sedro-Woolley, Washington. The site is also referred to as the Sedro-Woolley Innovation for Tomorrow Center. This report fulfills the progress reporting requirement specified in Section VII of Agreed Order No. DE 16309.

Project Status

The following items were completed in the third quarter of 2024:

- A completion report documenting the interim cleanup action described in the interim action cleanup action plan and engineering design report (IA CAP & EDR) for AOC 4 was finalized on September 11, 2024. The area associated with AOC 4 is being observed to monitor seasonal variations in moisture conditions.
- The third compliance monitoring event associated with the AOC 1 interim remedial action was completed on August 21 and 22, 2024. Compliance monitoring activities completed are described in the attached memorandum.
- Fieldwork activities associated with the supplemental investigation work plan, dated May 29, 2024, were completed between August 5 and 9, 2024. These field activities were conducted to support the completion of the remedial investigation for the site.

On-Site Field Activities

The following on-site field activities were completed in the reporting period:

- Between August 5 and 9, 2024, a supplemental field investigation to support completion of the remedial investigation was completed. This included the following activities:
  - Collection of soil and groundwater data to support resolution of data gaps for AOCs 1, 4, 5, and 7.

- On August 21 and 22, 2024, the third compliance monitoring event associated with the AOC 1 interim remedial action was completed. This included the following activities (see attachment):
  - Collection of indoor and outdoor ambient air samples as well as vent stack air samples
  - Collection of differential pressure measurements at sub-slab vapor pin locations.
- On October 3, 2024, personnel from the Port, Ecology and MFA completed a site walk at the site to discuss project status and timeline for upcoming activities.

Deviations from Required Tasks

There were no deviations from required tasks.

Deviations from Scope of Work, Schedule, and Cleanup Action Plan

There were no deviations from scope of work, schedule, and cleanup action plan during the reporting period.

Data

Ambient and vent stack air data were generated from the on-site field activities at AOC 1, as described above.

Soil and groundwater data were generated from the on-site field activities associated with the supplemental remedial investigation, as described above.

All analytical results collected during the third quarter of 2024 will be submitted into the Ecology Electronic Information Management System during the fourth quarter of 2024.

Upcoming Deliverables and Deadlines

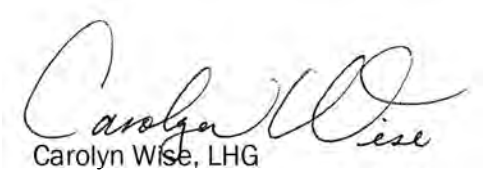
A fourth compliance monitoring event for AOC 1 is planned for the fourth quarter of 2024.

A revised draft remedial investigation report for the site will be prepared for Ecology review by December 6, 2024 (90 days of receiving final laboratory data, per Agreed Order).

If you have any questions regarding this letter, please feel free to contact either of us.

Sincerely,

Maul Foster & Alongi, Inc.



Carolyn Wise, LHG
Senior Hydrogeologist

Phil Wiescher, PhD
Principal Environmental Scientist

Attachment

August 2024 Compliance Monitoring—AOC 1

cc: Heather Rogerson, Port of Skagit

Attachment

August 2024 Compliance Monitoring—AOC 1

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Technical Memorandum

To: Chris DeBoer, LHG, Washington State Department of Ecology
Amy Baker, U.S. Environmental Protection Agency

Date: October 11, 2024

From: Carolyn Wise, LHG

Project No.: M0624.04.024

Re: August 2024 Compliance Monitoring–AOC 1
Northern State Multi Service Center, Sedro-Woolley, Washington
Agreed Order No. DE 16309, Cleanup ID: 10048

On behalf of the Port of Skagit (the Port), Maul Foster & Alongi, Inc. (MFA), has prepared this technical memorandum summarizing the third quarterly post-installation compliance monitoring event completed at the former laundry building area of concern (AOC 1) at the Northern State Multi Service Center (former Northern State Hospital site) (the Site). This Site is located at the Sedro-Woolley Innovation for Tomorrow Center property at 2070 Northern State Road in Sedro-Woolley, Washington (the Property) (see Figure 1). The Site is listed with the Washington State Department of Ecology (Ecology) under facility site ID 65415931 and cleanup site ID 10048.

Background

A summary of the interim remedial action, completed at AOC 1 between December 2023 and February 2024, is provided in the final completion report (MFA 2024a). Additional information regarding the Property background, site conditions, and interim sub-slab depressurization system (SSDS) construction details are provided in the interim action work plan (IAWP) and completion report (MFA 2024a, 2023).

Compliance Monitoring

Indoor and Ambient Air Sampling

On August 22, 2024, MFA collected three indoor air samples (INAIR01-082224 through INAIR03-082224) and one ambient air sample (OUTAIR04-082224) at AOC 1 (see Figure 2). Air samples were collected using 6-liter stainless steel Summa canisters with 8-hour flow controllers and analyzed for chlorinated volatile organic compounds (cVOCs). Sample canisters were placed 3 to 5 feet above the ground to allow for sample collection within the breathing zone. Photographs from the sampling event are provided in Attachment A. Field data were recorded on field sampling data sheets, provided as Attachment B.

Indoor air samples were collected to:

- Confirm that the construction process did not result in preferential pathways for vapor intrusion into the former laundry building, and
- Confirm the effectiveness of the SSDS.

The outdoor air sample was positioned outside and upwind of the building to capture potential ambient cVOC sources for the 8-hour indoor air sample collection period. Field staff deployed the sampler in a location that was free of discernible ambient sources of cVOCs. Atmospheric data (including wind speed and direction) from the nearest weather station was used to position the sample upwind of the building. Wind was forecasted to blow from the north and the west on August 22, 2024; therefore, the ambient air sample was positioned on the northwest corner of the building (see Figure 2). The reported wind directions throughout the day were from the north to west.

Analytical results are presented in Table 1, laboratory analytical reports are provided in Attachment C, and a data validation memorandum is presented in Attachment D.

Indoor and outdoor air sample results were screened to Model Toxics Control Act (MTCA) Method B cleanup levels for indoor air. No indoor or outdoor air results exceeded MTCA Method B cleanup levels. All cVOCs were non-detect, with the exception of 1,2-dichloroethane (1,2-DCA).

Low concentrations of 1,2-DCA were detected in the sample at INAIR02 at a concentration of 0.045 micrograms per cubic meter (ug/m^3), as well as in the outdoor air sample at 0.040 ug/m^3. Low concentrations of 1,2-DCA have been detected in indoor and outdoor air during the previous compliance monitoring events on May 22, 2024 and February 14, 2024, and during the remedial investigation vapor sampling on April 6, 2021 (MFA 2024a, 2024b, 2022). 1,2-DCA has not been detected in sub-slab soil gas samples collected within the building (MFA 2022). All concentrations of 1,2-DCA detected to date were below the MTCA Method B cancer cleanup level (0.096 ug/m^3). Given the lack of sub-slab detections and low detections observed in both indoor and outdoor air or sub-slab soil gas, it is likely these detections are associated with an ambient source in the general surrounding area outside of the building.

Air Emissions Sampling from Vents

On August 21, 2024, MFA collected five air emissions samples (VENT01-082124 through VENT05-082124) from vent risers associated with the SSDS. Air samples were collected using 1-liter stainless steel Summa canisters with 5-minute flow controllers and analyzed for cVOCs. Field data were recorded on field sampling data sheets, provided as Appendix B.

Analytical results are presented in Table 2, laboratory analytical reports are provided in Attachment C, and a data validation memorandum is presented in Attachment D.

MFA calculated air emissions from the SSDS against the small quantity emission rates (SQERs) defined in WAC 173-460-150 (see calculations in Attachment E). The calculated result for tetrachloroethene (PCE, also referred to as perchloroethylene) and trichloroethene (TCE, also referred to as trichloroethylene) SQERs associated with the SSDS are three orders of magnitude lower than the respective SQER value. Therefore, concentrations of PCE and TCE vented via the SSDS do not exceed the SQER threshold. These results are consistent with the previous air emissions sampling from vents in February 2024 (MFA 2024a).

The Northwest Clean Air Agency regulates emissions in Skagit County; however, there is a procedural exemption for an air discharge permit for the Site as the operation of the SSDS is being conducted under an AO, in accordance with WAC 173-340-710(9)(b).

Sub-Slab Pressure Measurements

On August 22, 2024, MFA measured the differential pressure at the three permanent sub-slab vapor pin locations (SB01 through SB03) to assess whether a vacuum was being generated across the slab of the former laundry building. The differential pressure was measured for approximately 5 minutes at each sub-slab vapor pin location until readings stabilized. The final differential pressure reading, date, time, and location were recorded on the SSDS inspection form (see Attachment F).

The differential pressure measurements from SB01 through SB03 were above the vacuum (i.e., negative pressure) goal of 0.001 inches of water column. The negative differential pressure measurements at each measuring point confirm continued effective differential pressure between the sub-slab and the indoor air.

Vent Pressure Monitoring

On August 21, 2024, MFA observed the vacuum (pressure differential) from the U-tube manometers at each vent riser pipe (VENT01 through VENT05) to confirm that the fans were functioning and that each vent riser was properly sealed. The differential pressure reading, date, time, and location were recorded on the SSDS inspection form (see Attachment F).

Manometer vacuum (i.e., negative pressure) readings at the five vent locations ranged from 1.8 to 2.9 inches of water column, above the anticipated pressure goal of 0.5 and 1.75 inches of water column. The observed pressure readings at each of the vent risers indicate that the SSDS is pulling a sufficient vacuum at the vent locations.

Conclusions

The negative differential pressure readings from the sub-slab vapor pins and U-tube manometers on the SSDS vents indicate that the system is operating as anticipated.

All cVOCs were non-detect in indoor and outdoor air samples, with the exception of low detections of 1,2-DCA below the MTCA Method B cancer cleanup level for indoor air. These low detections levels are consistent across indoor and outdoor air samples and are likely associated with an ambient source in the general surrounding area.

The results of the third compliance monitoring indicate the system is functioning within the anticipated operating conditions. In accordance with the schedule provided in the IAWP, the next post-installation compliance monitoring event is scheduled as follows:

- November 2024

Following each compliance monitoring event, data will be provided to Ecology in quarterly progress reports or technical memorandums within 90 days of the completion of each event. Recommendations for future compliance monitoring associated with the SSDS will be provided in the next compliance monitoring event memorandum with the completion of four quarters of post-installation sampling per the IAWP.

The remedial action described in the completion report is considered an interim remedial action at this time. A final remedial action for this AOC on the Site will be evaluated in the remedial investigation and feasibility study and documented in the forthcoming cleanup action plan.

Attachments

References

Limitations

Figures

Tables

A—Field Photographs

B—Field Sampling Data Sheets

C—Analytical Laboratory Reports

D—Data Validation Memorandum

E—Air Emissions Calculations

F—Sub-slab Depressurization Inspection Form

References

MFA. 2022. *Draft Remedial Investigation Report, Former Northern State Hospital, Sedro-Woolley, Washington.* Maul Foster & Alongi, Inc. Bellingham, Washington. June 9.

MFA. 2023. *Interim Action Work Plan—AOC 1, Northern State Multi Service Center, Sedro-Woolley, Washington.* Maul Foster & Alongi, Inc. Bellingham, Washington. August 24.

MFA. 2024a. *Completion Report—AOC 1, Northern State Multi Service Center, Sedro-Woolley, Washington.* Maul Foster & Alongi, Inc. Bellingham, Washington. June 18.

MFA. 2024b. Carolyn Wise, LHG, Maul Foster & Alongi, Inc. *May 2024 Compliance Monitoring—AOC 1, Northern State Multi Service Center, Sedro-Woolley, Washington, Agreed Order No. DE 16309, Cleanup ID: 10048.* Letter to Chris DeBoer, LHG, Washington State Department of Ecology, and Amy Baker, U.S. Environmental Protection Agency. July 15.

Limitations

The services undertaken in completing this technical memorandum were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This technical memorandum is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this technical memorandum apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this technical memorandum.

Figures

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Path: X:\0624.04 Port of Skagit\18\Projects\Fig1-1 PropertyVicinity.mxd

TRACT A

Hansen Creek

Maintenance Building

Former Laundry Building

Powerhouse

POWERHOUSE DRIVE

DIV. 8

DIV. 9

Athletic Field

DIV. 5

TRACT C

TURNING POINT COURT

PLANTERS ROAD

Smith Hall

DIV. 6

Trevennen Building

Thompson Hall

Wilkes Hall

Valdez Hall

DIV. 7

HUB DRIVE

NORTHERN STATE ROAD

Denny Building

NORTH SOUND DRIVE

DIV. 2

Former Ward Building Area

DIV. 4

Douglas Building

Coleman Building

Brickyard Creek

DIV. 3

THOMPSON DRIVE

TRACT C

CHARLES JONES MEMORIAL CIRCLE

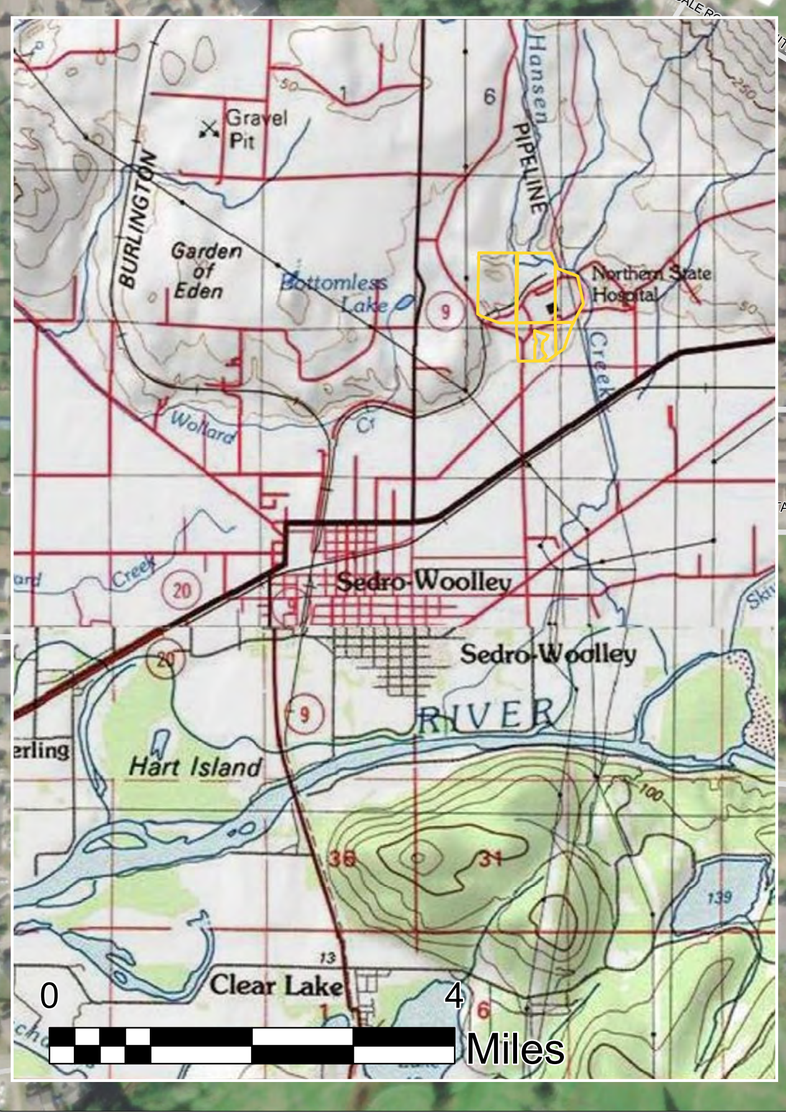
CHARLES JONES MEMORIAL CIRCLE

DIV. 1

FRUITDALE ROAD

TRACT B

STARFLOWER LANE



Source: Aerial photograph obtained from Esri ArcGIS Online; parcels and roads and streams data sets obtained from Skagit County; city limits data set obtained from City of Sedro-Woolley.

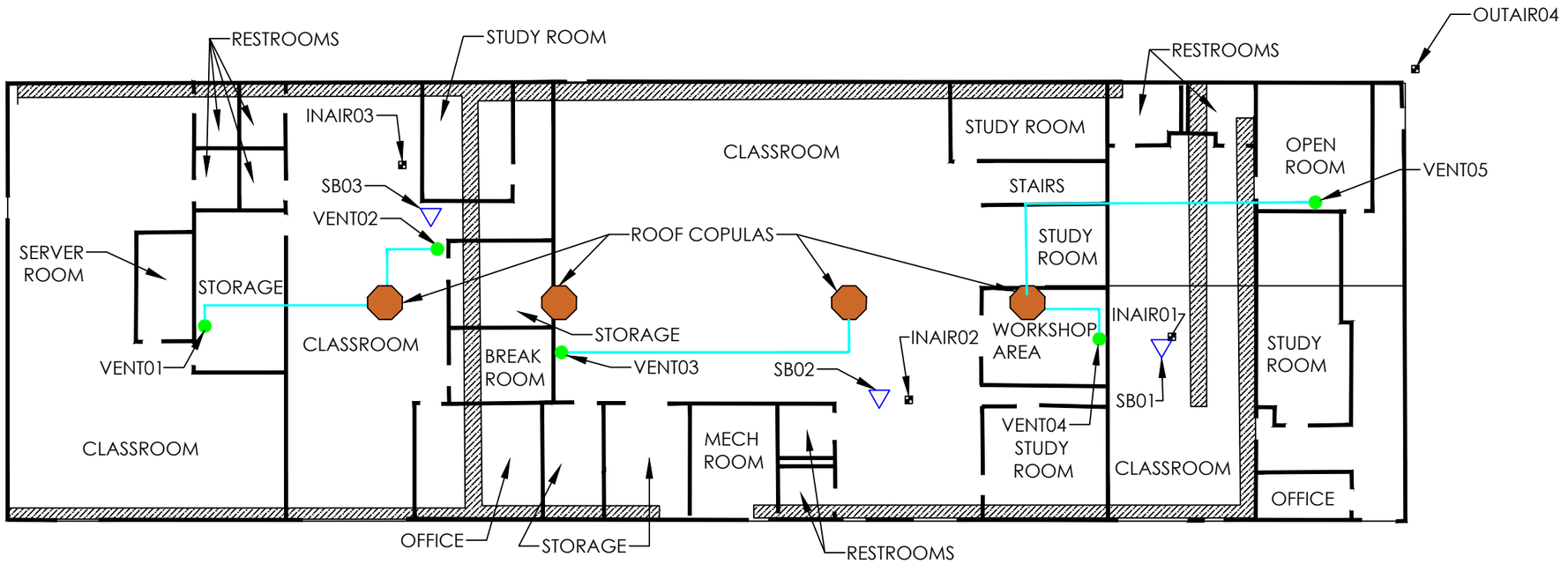
Legend

- Property Parcel and Parcel Name
- Northern State Recreational Area
- Sedro-Woolley City Limits (Post Annexation)
- Stream

Figure 1
Property Vicinity
Northern State Multi Service Center
Port of Skagit
Sedro-Woolley, Washington

0 500 1,000
Feet

Print Date: 6/7/2022
Approved By: cwise
Produced By: jroberts
Project: M0624.04.018



LEGEND:

- BUILDING FOOTPRINT
- VENT LOCATION/ FLOOR PENETRATION
- PIPE ROUTE
- INDOOR OR OUTDOOR AIR SAMPLE LOCATION
- SUB-SLAB VAPOR PIN
- PIPE TRENCH

NOTE:

1. INDOOR AND OUTDOOR AIR SAMPLE LOCATIONS AND PIPE TRENCH LOCATIONS ARE APPROXIMATE.

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DRAWING NOT TO SCALE

Figure 2
Sub-Slab Depressurization System As-Built

Northern State Multi Service Center
Sedro-Woolley, WA

Tables

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Table 1
AOC 1: Indoor and Ambient (Outdoor) Air Analytical Results
Northern State Multi Service Center
Sedro-Woolley, Washington

Location Type:	MTCA Method B, Vapor Intrusion, Indoor Air[1]		Indoor Air									Ambient Air[a]		
Location:			INAIR01			INAIR02			INAIR03			OUTAIR02	OUTAIR03	OUTAIR04
Sample Name:			INAIR01-021424	INAIR01-052224	INAIR01-082224	INAIR02-021424	INAIR02-052224	INAIR02-082224	INAIR03-021424	INAIR03-052224	INAIR03-082224	OUTAIR02-021424	OUTAIR03-052224	OUTAIR04-082224
Collection Date:	Cancer	Noncancer	02/14/2024	05/22/2024	08/22/2024	02/14/2024	05/22/2024	08/22/2024	02/14/2024	05/22/2024	08/22/2024	02/14/2024	05/22/2024	08/22/2024
VOCs (ug/m^3)														
1,1,1-Trichloroethane	NV	2,300	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
1,1,2-Trichloroethane	0.16	0.091	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
1,1-Dichloroethane	1.6	NV	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloroethene	NV	91	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethane	0.096	3.2	0.073	0.065	0.04 U	0.069	0.069	0.045	0.073	0.073	0.04 U	0.057	0.061	0.040
Chloroethane	NV	4,600	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
cis-1,2-Dichloroethene	NV	18	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Tetrachloroethene	9.6	18	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
trans-1,2-Dichloroethene	NV	18	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	0.33	0.91	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Vinyl chloride	0.28	46	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U

Notes

Detections were compared to screening criteria and no exceedances were identified; non-detects (U) were not compared with screening criteria.

AOC = area of concern.

MTCA = Model Toxics Control Act.

NV = no value.

U = result is non-detect at the method reporting limit.

ug/m^3 = micrograms per cubic meter.

VOC = volatile organic compound.

[a]Ambient air locations are positioned upwind of the building, and may vary between sampling events based on the wind direction the day of collection.

Reference

[1]Ecology. 2024. *Cleanup Levels and Risk Calculation (CLARC) table.* Washington State Department of Ecology, Toxics Cleanup Program. July.

Table 2
AOC 1: Vent Stack Air Analytical Results
Northern State Multi Service Center
Sedro-Woolley, Washington

Location:	VENT01		VENT02		VENT03		VENT04		VENT05	
Sample Name:	VENT01-021624	VENT01-082124	VENT02-021624	VENT02-082124	VENT03-021624	VENT03-082124	VENT04-021624	VENT04-082124	VENT05-021624	VENT05-082124
Collection Date:	02/16/2024	08/21/2024	02/16/2024	08/21/2024	02/16/2024	08/21/2024	02/16/2024	08/21/2024	02/16/2024	08/21/2024
VOCs (ug/m^3)										
1,1,1-Trichloroethane	0.34 UJ	0.11 UJ	1.8 UJ	0.11 UJ	0.24 UJ	0.11 UJ	0.21 UJ	0.12 UJ	0.35 UJ	0.11 UJ
1,1,2-Trichloroethane	0.37 UJ	0.18 UJ	1.9 UJ	0.19 UJ	0.26 UJ	0.18 UJ	0.23 UJ	0.19 UJ	0.37 UJ	0.17 UJ
1,1-Dichloroethane	0.20 UJ	0.12 UJ	0.98 UJ	0.13 UJ	0.14 UJ	0.12 UJ	0.12 UJ	0.13 UJ	0.20 UJ	0.12 UJ
1,1-Dichloroethene	0.35 UJ	0.33 UJ	1.8 UJ	0.34 UJ	0.25 UJ	0.33 UJ	0.22 UJ	0.35 UJ	0.36 UJ	0.32 UJ
1,2-Dichloroethane	0.20 UJ	0.14 UJ	0.98 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.12 UJ	0.14 UJ	0.20 UJ	0.13 UJ
Chloroethane	0.32 UJ	0.29 UJ	1.6 UJ	0.3 UJ	0.21 UJ	0.29 UJ	0.19 UJ	0.30 UJ	0.32 UJ	0.28 UJ
cis-1,2-Dichloroethene	0.16 UJ	0.28 UJ	0.84 UJ	0.29 UJ	0.12 UJ	0.28 UJ	0.10 UJ	0.29 UJ	0.17 UJ	0.27 UJ
Tetrachloroethene	7.5 J	5.4	7.5 UJ	1.4 J	8.8 J	8.0	27 J	30	4.9 J	10
trans-1,2-Dichloroethene	0.44 UJ	0.12 UJ	2.1 UJ	0.13 UJ	0.29 UJ	0.12 UJ	0.25 UJ	0.13 UJ	0.44 UJ	0.12 UJ
Trichloroethene	0.41 UJ	0.19 UJ	2.1 UJ	0.19 UJ	0.29 UJ	0.19 UJ	0.25 UJ	0.20 UJ	0.41 UJ	0.41 J
Vinyl chloride	0.091 UJ	0.19 UJ	0.46 UJ	0.19 UJ	0.064 UJ	0.19 UJ	0.056 UJ	0.20 UJ	0.092 UJ	0.18 UJ

Notes

AOC = area of concern.

J = result is estimated.

UJ = result is non-detect with an estimated method detection limit.

ug/m^3 = micrograms per cubic meter.

VOC = volatile organic compound.

Attachment A

Field Photographs

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Photographs

Project Name: Northern State Multi Service Center—AOC 1 Interim Action Completion Report
Project Number: M0624.04.024
Location: Sedro-Woolley, Washington

Photo No. 1.

Description

Outdoor air sample OUTAIR04 on the northwest side of the building, collected on August 22, 2024.

Photo No. 2.

Description

Indoor air sample INAIR01 in the northern portion of the building, collected on August 22, 2024.

Photographs

Project Name: Northern State Multi Service Center—AOC 1 Interim Action Completion Report
Project Number: M0624.04.024
Location: Sedro-Woolley, Washington

Photo No. 3.

Description

Indoor air sample INAIR03 in the southern portion of the building, collected on August 22, 2024.

Photo No. 4.

Description

Switch lock on SSDS fan power switch for the VENT02 location, installed on August 22, 2024.

Photographs

Project Name: Northern State Multi Service Center—AOC 1 Interim Action Completion Report
Project Number: M0624.04.024
Location: Sedro-Woolley, Washington

Photo No. 5.

Description

Vent sampling at VENT01 on August 22, 2024.

Photo No. 6.

Description

Caulk seal around vent pipe concrete seal at VENT01 location, completed on August 22, 2024, after vent sample collection.

Attachment B

Field Sampling Data Sheets

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Sampler(s): B. Murphy

Vapor Field Sampling Data Sheet
Project: Northern State Multi Service Center
Location: 2070 Northern State Road, Sedro-Woolley, Washington

Sample ID	Sample Type	Date	Summa Canister ID	Manifold ID	Canister Size (L)	Collection Duration	Sample			
							Begin Time	End Time	Initial Pressure ("Hg)[a]	Final Pressure ("Hg)
INAIR01-082224	Indoor Air	8/22/2024	40707	5356	6	8 hour	7:45	15:45	-30	-3
INAIR02-082224	Indoor Air	8/22/2024	40709	15214	6	8 hour	7:36	15:36	-30	-2
INAIR03-082224	Indoor Air	8/22/2024	40706	7853	6	8 hour	7:28	15:28	-30+	-3
OUTAIR04-082224	Ambient Air	8/22/2024	18575	6606	6	8 hour	7:18	15:18	-30	-4
VENT01-082124	Vent Stack	8/21/2024	4180	243	1	5 minutes	7:01	7:06	-29	-5
VENT02-082124	Vent Stack	8/21/2024	8535	53	1	5 minutes	7:24	7:29	-30	-5
VENT03-082124	Vent Stack	8/21/2024	9990	74	1	5 minutes	7:42	7:47	-30	-5
VENT04-082124	Vent Stack	8/21/2024	8255	307	1	5 minutes	7:58	8:03	-30+	-5
VENT05-082124	Vent Stack	8/21/2024	9898	73	1	5 minutes	8:20	8:25	-30+	-5

Notes

"Hg = inches of mercury.

ID = identification.

L = liter.

ppm = parts per million.

[a]-30+ indicates that the vacuum gauge was above the maximum pressure value of 30"Hg.

Attachment C

Analytical Laboratory Reports

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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

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September 13, 2024

Carolyn Wise, Project Manager
Maul Foster Alongi
1329 N State St, Suite 301
Bellingham, WA 98225

Dear Ms Wise:

Included is the amended report from the testing of material submitted on August 22, 2024 from the Swift Center - AOC 1 M0624.04.024, F&BI 408365 project. Per your request, the results were reported to the method detection limit.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
MFA0830R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
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5500 4th Ave South
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office@friedmanandbruya.com
www.friedmanandbruya.com

August 30, 2024

Carolyn Wise, Project Manager
Maul Foster Alongi
1329 N State St, Suite 301
Bellingham, WA 98225

Dear Ms Wise:

Included are the results from the testing of material submitted on August 22, 2024 from the Swift Center - AOC 1 M0624.04.024, F&BI 408365 project. There are 9 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
MFA0830R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 22, 2024 by Friedman & Bruya, Inc. from the Maul Foster Alongi Swift Center - AOC 1 M0624.04.024, F&BI 408365 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Maul Foster Alongi
408365 -01	VENT01-082124
408365 -02	VENT02-082124
408365 -03	VENT03-082124
408365 -04	VENT04-082124
408365 -05	VENT05-082124

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VENT01-082124	Client:	Maul Foster Alongi
Date Received:	08/22/24	Project:	Swift Center - AOC 1
Date Collected:	08/21/24	Lab ID:	408365-01 1/5.3
Date Analyzed:	08/26/24	Data File:	082616.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	95	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.19 j	<0.075 j
Chloroethane	<0.29 j	<0.11 j
1,1-Dichloroethene	<0.33 j	<0.085 j
trans-1,2-Dichloroethene	<0.12 j	<0.030 j
1,1-Dichloroethane	<0.12 j	<0.030 j
cis-1,2-Dichloroethene	<0.28 j	<0.069 j
1,2-Dichloroethane (EDC)	<0.14 j	<0.032 j
1,1,1-Trichloroethane	<0.11 j	<0.019 j
Trichloroethene	<0.19 j	<0.034 j
1,1,2-Trichloroethane	<0.18 j	<0.032 j
Tetrachloroethene	5.4	0.79

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VENT02-082124	Client:	Maul Foster Alongi
Date Received:	08/22/24	Project:	Swift Center - AOC 1
Date Collected:	08/21/24	Lab ID:	408365-02 1/5.5
Date Analyzed:	08/26/24	Data File:	082615.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.19 j	<0.077 j
Chloroethane	<0.30 j	<0.11 j
1,1-Dichloroethene	<0.34 j	<0.088 j
trans-1,2-Dichloroethene	<0.13 j	<0.031 j
1,1-Dichloroethane	<0.13 j	<0.031 j
cis-1,2-Dichloroethene	<0.29 j	<0.072 j
1,2-Dichloroethane (EDC)	<0.14 j	<0.033 j
1,1,1-Trichloroethane	<0.11 j	<0.020 j
Trichloroethene	<0.19 j	<0.035 j
1,1,2-Trichloroethane	<0.19 j	<0.033 j
Tetrachloroethene	1.4 j	0.20 j

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VENT03-082124	Client:	Maul Foster Alongi
Date Received:	08/22/24	Project:	Swift Center - AOC 1
Date Collected:	08/21/24	Lab ID:	408365-03 1/5.4
Date Analyzed:	08/26/24	Data File:	082617.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.19 j	<0.076 j
Chloroethane	<0.29 j	<0.11 j
1,1-Dichloroethene	<0.33 j	<0.087 j
trans-1,2-Dichloroethene	<0.12 j	<0.030 j
1,1-Dichloroethane	<0.12 j	<0.030 j
cis-1,2-Dichloroethene	<0.28 j	<0.070 j
1,2-Dichloroethane (EDC)	<0.14 j	<0.033 j
1,1,1-Trichloroethane	<0.11 j	<0.019 j
Trichloroethene	<0.19 j	<0.035 j
1,1,2-Trichloroethane	<0.18 j	<0.033 j
Tetrachloroethene	8.0	1.2

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VENT04-082124	Client:	Maul Foster Alongi
Date Received:	08/22/24	Project:	Swift Center - AOC 1
Date Collected:	08/21/24	Lab ID:	408365-04 1/5.6
Date Analyzed:	08/26/24	Data File:	082619.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	95	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.20 j	<0.079 j
Chloroethane	<0.30 j	<0.12 j
1,1-Dichloroethene	<0.35 j	<0.090 j
trans-1,2-Dichloroethene	<0.13 j	<0.031 j
1,1-Dichloroethane	<0.13 j	<0.031 j
cis-1,2-Dichloroethene	<0.29 j	<0.073 j
1,2-Dichloroethane (EDC)	<0.14 j	<0.034 j
1,1,1-Trichloroethane	<0.12 j	<0.020 j
Trichloroethene	<0.20 j	<0.036 j
1,1,2-Trichloroethane	<0.19 j	<0.034 j
Tetrachloroethene	30	4.4

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VENT05-082124	Client:	Maul Foster Alongi
Date Received:	08/22/24	Project:	Swift Center - AOC 1
Date Collected:	08/21/24	Lab ID:	408365-05 1/5.1
Date Analyzed:	08/26/24	Data File:	082618.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	96	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.18 j	<0.072 j
Chloroethane	<0.28 j	<0.11 j
1,1-Dichloroethene	<0.32 j	<0.082 j
trans-1,2-Dichloroethene	<0.12 j	<0.029 j
1,1-Dichloroethane	<0.12 j	<0.029 j
cis-1,2-Dichloroethene	<0.27 j	<0.067 j
1,2-Dichloroethane (EDC)	<0.13 j	<0.031 j
1,1,1-Trichloroethane	<0.11 j	<0.018 j
Trichloroethene	0.41 j	0.076 j
1,1,2-Trichloroethane	<0.17 j	<0.031 j
Tetrachloroethene	10	1.5

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Swift Center - AOC 1
Date Collected:	Not Applicable	Lab ID:	04-2020 MB
Date Analyzed:	08/26/24	Data File:	082612.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.034 j	<0.014 j
Chloroethane	<0.053 j	<0.02 j
1,1-Dichloroethene	<0.061 j	<0.016 j
trans-1,2-Dichloroethene	<0.022 j	<0.0055 j
1,1-Dichloroethane	<0.022 j	<0.0055 j
cis-1,2-Dichloroethene	<0.051 j	<0.013 j
1,2-Dichloroethane (EDC)	<0.025 j	<0.0060 j
1,1,1-Trichloroethane	<0.020 j	<0.0035 j
Trichloroethene	<0.034 j	<0.0063 j
1,1,2-Trichloroethane	<0.033 j	<0.0060 j
Tetrachloroethene	<0.096 j	<0.015 j

Date of Report: 08/30/24
Date Received: 08/22/24
Project: Swift Center - AOC 1 M0624.04.024, F&BI 408365

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 408365-04 1/5.6 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.4	<1.4	nm
Chloroethane	ug/m3	<15	<15	nm
1,1-Dichloroethene	ug/m3	<2.2	<2.2	nm
trans-1,2-Dichloroethene	ug/m3	<2.2	<2.2	nm
1,1-Dichloroethane	ug/m3	<2.3	<2.3	nm
cis-1,2-Dichloroethene	ug/m3	<2.2	<2.2	nm
1,2-Dichloroethane (EDC)	ug/m3	<0.23	<0.23	nm
1,1,1-Trichloroethane	ug/m3	<3.1	<3.1	nm
Trichloroethene	ug/m3	<0.6	<0.6	nm
1,1,2-Trichloroethane	ug/m3	<0.31	<0.31	nm
Tetrachloroethene	ug/m3	<38	<38	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	117	70-130
Chloroethane	ug/m3	36	115	70-130
1,1-Dichloroethene	ug/m3	54	115	70-130
trans-1,2-Dichloroethene	ug/m3	54	113	70-130
1,1-Dichloroethane	ug/m3	55	117	70-130
cis-1,2-Dichloroethene	ug/m3	54	111	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	126	70-130
1,1,1-Trichloroethane	ug/m3	74	119	70-130
Trichloroethene	ug/m3	73	112	70-130
1,1,2-Trichloroethane	ug/m3	74	119	70-130
Tetrachloroethene	ug/m3	92	113	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

408365

SAMPLE CHAIN OF CUSTODY 08/22/24 —

Report To Carolyn Wise
Company Maul Foster Alongi
Address 1329 N State St, Ste 301
City, State, ZIP Bellingham, WA 98225
Phone 360-690-5982 Email cwise@maulfoster.com

SAMPLERS (*signature*) Brenden Murphy

PROJECT NAME & ADDRESS: SWIFT Center - AOC 1

PO # MO624.04.024

NOTES:

INVOICE TO accounting@maulfoster.com

Page # 1 of 1

TURNAROUND TIME
☒ Standard
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
(Default) Clean following final report delivery
Hold (Fee may apply):

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	APH	Chlorinated VOCs	Helium		Notes
VENT01-082124	01	4180	243	IA / (SG)	8/21/24	-29	7:01	-5	7:06				X			
VENT02-082124	02	8535	53	IA / (SG)	8/21/24	-30	7:29	-5	7:29				X			
VENT03-082124	03	9910	74	IA / (SG)	8/21/24	-30	7:42	-5	7:47				X			
VENT04-082124	04	8255	307	IA / (SG)	8/21/24	-30+	7:58	-5	8:03				X			
VENT05-082124	05	9898	73	IA / (SG)	8/21/24	-30+	8:20	-5	8:25				X			
				IA / SG												
				IA / SG							Samples received at 21 °C					
				IA / SG												

Friedman & Bruya, Inc.
5500 4th Avenue South
Seattle, WA 98108
Ph. (206) 285-8282
Fax (206) 283-5044

FORMS\COC\COCTO-15.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Brenden Murphy	Brenden Murphy	MFA	8/21/24	9:45
Received by:	Anh Phan	FBI	08/22/24	11:10
Relinquished by:				
Received by:				

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 408365 CLIENT MFA INITIALS/ DATE: AP 08/22/24

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 21 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☐ YES ☑ NO

How did samples arrive?
☐ Over the Counter ☐ Picked up by F&BI ☑ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: AP 08/22/24
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 1 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☑ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes ☐ No	☐ Not on COC/label
Date Sampled	☑ Yes ☐ No	☐ Not on COC/label
Time Sampled	☑ Yes ☐ No	☐ Not on COC/label
# of Containers	☑ Yes ☐ No	
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☐ NA ☑ YES ☐ NO

Number of unused TO15 canisters 01 (SN 9563) **Number of unused TO17 tubes** _____

FROM: (503) 858-9568
MAUL FOSTER ALONGI
MAUL FOSTER & ALONGI
1329 N State St
ste 301
BELLINGHAM WA 98225
US

SHIP DATE: 21AUG24
ACTWGT: 6.00 LB
CAD: 6571946/ROSA2550
DIMMED: 15 X 10 X 10 IN

BILL 3rd PARTY

TO **Friedman & Bruya**
Ref# M0624.04.024
5500 4th Ave S

SEATTLE WA 98108 **(US)**
(000) 000-0000 REF:
INV:
PO: DEPT:

FedEx Ground

1 of 2
TRK# **7781 0396 8352**
MASTER

98108

9622 0417 3 (000 448 2658) 2 00 7781 0396 8352

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Ave South
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www.friedmanandbruya.com

September 3, 2024

Carolyn Wise, Project Manager
Maul Foster Alongi
1329 N State St, Suite 301
Bellingham, WA 98225

Dear Ms Wise:

Included are the results from the testing of material submitted on August 27, 2024 from the SWIFT Center - AOC 1 M0624.04.024, F&BI 408453 project. There are 8 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
MFA0903R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 27, 2024 by Friedman & Bruya, Inc. from the Maul Foster Alongi SWIFT Center - AOC 1 M0624.04.024, F&BI 408453 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Maul Foster Alongi
408453 -01	InAir01-082224
408453 -02	InAir02-082224
408453 -03	InAir03-082224
408453 -04	OutAir04-082224
408453 -05	OutAir01-082224

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	InAir01-082224	Client:	Maul Foster Alongi
Date Received:	08/27/24	Project:	SWIFT Center - AOC 1
Date Collected:	08/22/24	Lab ID:	408453-01
Date Analyzed:	08/28/24	Data File:	082815.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	95	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.11	<0.02
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	InAir02-082224	Client:	Maul Foster Alongi
Date Received:	08/27/24	Project:	SWIFT Center - AOC 1
Date Collected:	08/22/24	Lab ID:	408453-02
Date Analyzed:	08/28/24	Data File:	082814.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.045	0.011
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.11	<0.02
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	InAir03-082224	Client:	Maul Foster Alongi
Date Received:	08/27/24	Project:	SWIFT Center - AOC 1
Date Collected:	08/22/24	Lab ID:	408453-03
Date Analyzed:	08/28/24	Data File:	082813.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	94	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.11	<0.02
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	OutAir04-082224	Client:	Maul Foster Alongi
Date Received:	08/27/24	Project:	SWIFT Center - AOC 1
Date Collected:	08/22/24	Lab ID:	408453-04
Date Analyzed:	08/28/24	Data File:	082812.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	94	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.040	0.010
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.11	<0.02
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	SWIFT Center - AOC 1
Date Collected:	Not Applicable	Lab ID:	04-2030 MB
Date Analyzed:	08/28/24	Data File:	082810.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.11	<0.02
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1

Date of Report: 09/03/24
Date Received: 08/27/24
Project: SWIFT Center - AOC 1 M0624.04.024, F&BI 408453

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 408359-12 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<0.26	<0.26	nm
Chloroethane	ug/m3	<2.6	<2.6	nm
1,1-Dichloroethene	ug/m3	<0.4	<0.4	nm
trans-1,2-Dichloroethene	ug/m3	<0.4	<0.4	nm
1,1-Dichloroethane	ug/m3	<0.4	<0.4	nm
cis-1,2-Dichloroethene	ug/m3	<0.4	<0.4	nm
1,2-Dichloroethane (EDC)	ug/m3	<0.04	<0.04	nm
1,1,1-Trichloroethane	ug/m3	<0.55	<0.55	nm
Trichloroethene	ug/m3	<0.11	<0.11	nm
1,1,2-Trichloroethane	ug/m3	<0.055	<0.055	nm
Tetrachloroethene	ug/m3	<6.8	<6.8	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	111	70-130
Chloroethane	ug/m3	36	114	70-130
1,1-Dichloroethene	ug/m3	54	113	70-130
trans-1,2-Dichloroethene	ug/m3	54	111	70-130
1,1-Dichloroethane	ug/m3	55	116	70-130
cis-1,2-Dichloroethene	ug/m3	54	108	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	125	70-130
1,1,1-Trichloroethane	ug/m3	74	120	70-130
Trichloroethene	ug/m3	73	114	70-130
1,1,2-Trichloroethane	ug/m3	74	124	70-130
Tetrachloroethene	ug/m3	92	118	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

408453

SAMPLE CHAIN OF CUSTODY 08/27/24

Report To Carolyn Wise
Company Maul Foster Alongi
Address 1329 N State St, Ste 301
City, State, ZIP Bellingham, WA 98225
Phone 360-690-5982 Email cwise@maulfoster.com

SAMPLERS (*signature*): Brenden Murphy

PROJECT NAME & ADDRESS: SWIFT Center - AOC 1

PO #: M0624.04.024

NOTES:

INVOICE TO: accounting@maulfoster.com

Page # 1 of 1

TURNAROUND TIME
☒ Standard
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
X Default: Clean following final report delivery
Hold (Fee may apply):

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	APH	Chlorinated VOCs	Helium		Notes
INAIR01-082224	01	40707	5356	(IA) / SG	BM 40707 8/22/24	-30	7:45	-3	15:45				X			
INAIR02-082224	02	40709	15214	(IA) / SG	8/22/24	-30	7:36	-2	15:36				X			
INAIR03-082224	03	40706	7853	(IA) / SG	8/22/24	-30+	7:28	-3	15:28				X			
OUTAIR04-082224	04	18575	6606	(IA) / SG	8/22/24	-30	7:18	-4	15:18				X			
OUTAIR01-082224	05	37210	7845	IA / SG						HOLD PER CW 08/28/24 ME						Added at lab AP 08/27
				IA / SG						Samples received at 19 °C						
				IA / SG												
				IA / SG												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Brenden Murphy	Brenden Murphy	MFA	8/22/24	17:00
Received by:	Anh Phan	FBI	08/27/24	11:07
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Avenue South
Seattle, WA 98108
Ph. (206) 285-8282
Fax (206) 283-5044

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 408453 CLIENT MFA INITIALS/ DATE: AP 08/27/24

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 19 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☐ YES ☑ NO

How did samples arrive?
☐ Over the Counter ☐ Picked up by F&BI ☑ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: AP 08/27/24
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 5 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☑ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes ☐ No	☐ Not on COC/label
Date Sampled	☑ Yes ☐ No	☐ Not on COC/label
Time Sampled	☑ Yes ☐ No	☐ Not on COC/label
# of Containers	☐ Yes ☑ No Added Cutair 01-082224 (05) at lab.	
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☐ NA ☑ YES ☐ NO

Number of unused TO15 canisters 01 (SN 23232) **Number of unused TO17 tubes** _____

FROM: (360) 594-6265
MAUL FOSTER & ALONGI
1329 N STATE ST STE 301
BELLINGHAM WA 98225
US

SHIP DATE: 28AUG24
ACTWGT: 34.25 LB
CAD: 6990481/SSF02541
DIMMED: 22 X 21 X 21 IN
BILL 3rd PARTY

TO **Friedman & Bruya**

5500 4TH AVE S

SEATTLE WA 98108 **(US)**

(206) 285-8282 REF: M0624.04.024
INV:
PO: DEPT:

FedEx Ground

G

J243024071301uv

1 of 2

TRK# **2787 5439 2700**

MASTER

98108

9622 0417 3 (000 000 0000) 0 00 2787 5439 2700

Attachment D

Data Validation Memorandum

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Data Validation Memorandum

Project No. M0624.04.024 | September 13, 2024 | Port of Skagit

Maul Foster & Alongi, Inc. (MFA), conducted an independent Stage 2A review of the quality of analytical results for indoor air, outdoor air, and vent stack air samples collected on August 21 and 22, 2024, at the Northern State Multi Service Center site in Sedro-Woolley, Washington.

Friedman & Bruya, Inc. (F&B), performed the analyses. MFA reviewed F&B report numbers 408365 and 408453. The analyses performed and the samples analyzed are listed in the following tables. One sample submitted on hold is indicated below.

Analysis	Reference
Volatile organic compounds	EPA TO-15

Notes
EPA = U.S. Environmental Protection Agency.
TO = toxic organics.

Samples Analyzed	
Report 408365	**Report 408453**
VENT01-082124	InAir01-082224
VENT02-082124	InAir02-082224
VENT03-082124	InAir03-082224
VENT04-082124	OutAir04-082224
VENT05-082124	OutAir01-082224 (hold)

Data Validation Procedures

Analytical results were evaluated according to applicable sections of U.S. Environmental Protection Agency (EPA) guidelines for data review (EPA 2020) and appropriate laboratory- and method-specific guidelines (EPA 1986, F&B 2022).

Based on the data quality assurance/quality control review described herein, the data, with the appropriate final data qualifiers assigned, are considered acceptable for their intended use. Final data qualifiers represent qualifiers originating from the laboratory and accepted by the reviewer, and data qualifiers assigned by the reviewer during validation.

Final data qualifier:

- J = result is estimated.
- U = result is non-detect at the method reporting limit (MRL).
- UJ = result is non-detect with an estimated method detection limit (MDL).

Sample Conditions

Sample Custody

Sample custody was appropriately documented on the chain-of-custody (COC) forms accompanying the reports.

The reviewer confirmed that the gap in custody on the COC forms is due to shipment via a third-party service.

Holding Times

Extractions and analyses were performed within the recommended holding times.

Preservation and Sample Storage

The samples were preserved and stored appropriately.

Reporting Limits

The laboratory evaluated results to MRLs in report 408453, and to MDLs in report 408365. Samples that required dilutions because of high analyte concentrations, matrix interferences, and/or dilutions necessary for preparation and/or analysis were reported with raised MDLs and/or MRLs.

In report 408365, the laboratory qualified results below standard MRLs with J for detects and UJ for non-detects. The reviewer accepted the laboratory qualifications. The reviewer confirmed with the laboratory that tetrachloroethene had passing calibration below the standard MRL and not all tetrachloroethene detections required qualification.

Blank Results

Method Blanks

Laboratory method blanks are used to evaluate whether laboratory contamination was introduced during sample preparation and analysis. Laboratory method blank analyses were performed at the required frequencies, in accordance with laboratory- and method-specific requirements.

All laboratory method blank results were non-detect.

Laboratory Control Sample and Laboratory Control Sample Duplicate Results

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) results are used to evaluate laboratory precision and accuracy. F&B did not report LCSD results; laboratory precision was evaluated using laboratory duplicate results. The LCS were prepared and analyzed at the required frequency, in accordance with laboratory- and method-specific requirements.

All LCS results were within acceptance limits for percent recovery.

Laboratory Duplicate Results

Laboratory duplicate results are used to evaluate laboratory precision and sample homogeneity. All laboratory duplicate samples were prepared and analyzed at the required frequency, in accordance with laboratory- and method-specific requirements.

Laboratory duplicate results greater than five times the MRL were evaluated using laboratory relative percent difference control limits. A secondary criterion was used when laboratory duplicate results were non-detect or less than five times the MRL. Results meet the secondary criterion if the absolute difference of the laboratory duplicate sample result and the parent sample result, or the MRL for non-detects, is equal to or less than the MRL value of the parent sample.

All laboratory duplicate results met the acceptance criteria.

Matrix Spike and Matrix Spike Duplicate Results

Matrix spike (MS) and matrix spike duplicate (MSD) results are used to evaluate laboratory precision, accuracy, and the effect of the sample matrix on sample preparation and target analyte recovery. F&B did not report MS or MSD results, in accordance with the method.

Surrogate Results

Surrogate results are used to evaluate laboratory performance of target organic compounds for individual samples.

All surrogate results were within percent recovery acceptance limits.

Field Duplicate Results

Field duplicate results are used to evaluate field precision and sample homogeneity. No field duplicate samples were submitted for analysis.

Data Package

The data package was reviewed for transcription errors, omissions, and anomalies.

At MFA's request, F&B revised report 408365 to report results to MDLs to meet project needs.

No other issues were found.

References

EPA. 1986. *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.* EPA publication SW-846. 3rd ed. U.S. Environmental Protection Agency. Final updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), V (2015), VI phase I (2017), VI phase II (2018), VI phase III (2019), VII phase I (2019), and VII phase II (2020).

EPA. 2020. *National Functional Guidelines for Organic Superfund Methods Data Review.* EPA 540-R-20-005. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation: Washington, DC. November.

F&B. 2022. *Quality Assurance Manual.* Rev. 18. Friedman & Bruya, Inc.: Seattle, WA. December 9.

Attachment E

Air Emissions Calculations

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Table E-1
Emissions Calculations - PCE
Northern State Multi Service Center
Sedro-Woolley, WA

WAC 173-460-150 Emissions Calculations	**Sampling Date: 8/21/24**		**Reference Notes:**
Compound	SQER		
Perchloroethylene (PCE)	**27 lbs/Year**		
CAS: 127-18-4			
Average measured vent stack PCE concentration in north half of AOC 1	20	ug/m^3	
	1.2E-09	lb/ft^3	(a)
Average measured vent stack PCE concentration in south half of AOC 1	4.9	ug/m^3	
	3.1E-10	lb/ft^3	(a)
Estimated Maximum Fan rate	270	ft^3/min	(1)
Discharge per year	1.4E+08	$ft^3/year/fan$	(b)
Discharge mass (PCE) per year in north half of AOC 1	1.8E-01	lb/year/fan	(c)
Discharge mass (PCE) per year in south half of AOC 1	4.4E-02	lb/year/fan	(c)
Number of discharge points in north half of AOC 1	2	fans	(2)
Number of discharge points in south half of AOC 1	3	fans	(3)
System discharge in north half of AOC 1	3.5E-01	lb/year	(d)
System discharge in south half of AOC 1	1.3E-01	lb/year	(d)
Total system discharge per year	**4.9E-01**	**lb/year**	(d)

SQER Value = 27 lbs/year

Notes

For non-detect results, half the detection limit was used to calculate the average concentration.

ft^3 = cubic feet.

g = gram.

hr = hour.

lb = pound.

m^3 = cubic meter.

min = minute.

SQER = small quantity emission rate.

ug = micrograms.

(a) $lb/ft^3 = (ug/m^3) \times (g/10^6\ ug) \times (1\ lbs/453.6\ g) \times (1\ m^3/35.31\ ft^3)$

(b) $ft^3/year = (ft^3/min) \times (60\ min/hr) \times (24\ hr/1\ day) \times (365\ day/year)$

(c) $lb/year = (ft^3/year) \times (lb/ft^3)$

(d) total lb/year = (lb/year/fan) x (# of fans)

References

(1) MFA. 2023. *AOC 1 Interim Action Work Plan, Sedro-Woolley, Washington* . Prepared for the Port of Skagit. Maul Foster & Alongi, Inc. Bellingham, Washington. August 24.

(2) There are 2 vent pipes with fans in the north half the building.

(3) There are 3 vent pipes with fans in the south half of the building.

Table E-2
Emissions Calculations - TCE
Northern State Multi Service Center
Sedro-Woolley, WA

WAC 173-460-150 Emissions Calculations	**Sampling Date: 8/21/24**		**Reference Notes:**
Compound	SQER		
Trichloroethylene (TCE)	**34 lbs/Year**		
CAS: 79-01-6			
Average measured vent stack TCE concentration in north half of AOC 1	0.26	ug/m^3	
	1.6E-11	lb/ft^3	(a)
Average measured vent stack TCE concentration in south half of AOC 1	0.10	ug/m^3	
	5.9E-12	lb/ft^3	(a)
Estimated Maximum Fan rate	270	ft^3/min	(1)
Discharge per year	1.4E+08	$ft^3/year/fan$	(b)
Discharge mass (TCE) per year in north half of AOC 1	2.3E-03	lb/year/fan	(c)
Discharge mass (TCE) per year in south half of AOC 1	8.4E-04	lb/year/fan	(c)
Number of discharge points in north half of AOC 1	2	fans	(2)
Number of discharge points in south half of AOC 1	3	fans	(3)
System discharge in north half of AOC 1	4.5E-03	lb/year	(d)
System discharge in south half of AOC 1	2.5E-03	lb/year	(d)
Total system discharge per year	**7.0E-03**	**lb/year**	(d)

SQER Value = 34 lbs/year

Notes

For non-detect results, half the detection limit was used to calculate the average concentration.

ft^3 = cubic feet.

g = gram.

hr = hour.

lb = pound.

m^3 = cubic meter.

min = minute.

SQER = small quantity emission rate.

ug = micrograms.

(a) $lb/ft^3 = (ug/m^3) \times (g/10^6\ ug) \times (1\ lbs/453.6\ g) \times (1\ m^3/35.31\ ft^3)$

(b) $ft^3/year = (ft^3/min) \times (60\ min/hr) \times (24\ hr/1\ day) \times (365\ day/year)$

(c) $lb/year = (ft^3/year) \times (lb/ft^3)$

(d) total lb/year = (lb/year/fan) x (# of fans)

References

(1) MFA. 2023. *AOC 1 Interim Action Work Plan, Sedro-Woolley, Washington* . Prepared for the Port of Skagit. Maul Foster & Alongi, Inc. Bellingham, Washington. August 24.

(2) There are 2 vent pipes with fans in the north half the building.

(3) There are 3 vent pipes with fans in the south half of the building.

Attachment F

Sub-slab Depressurization Inspection Form

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MAUL FOSTER ALONGI

Quarterly Sub-slab Depressurization System (SSDS) Inspection
SWIFT Center—AOC 1 Interim Action
Port of Skagit
M0624.04.024

Name: Brenden Murphy Date: 8/21/24 Outdoor temp.: ~57°

1. Power Supply

1.1 Is the power switch in "On" Position upon arrival? ☑ Yes ☐ No

1.2 If No, explain why power was off (if known) and steps taken to correct: N/A

2. Manometer Gauge Reading

Table 2.1 Manometer Gauge Readings

(Make sure lower side of manometer gauge is at 0)

Location	Time	Manometer Condition Good?	Pressure (" WC)	Pressure Goal (" WC)	Measurement Above Goal?
VENT01	6:45	☒ Yes ☐ No	2.9	0.5 – 1.75	☒ Yes ☐ No
VENT02	7:19	☒ Yes ☐ No	1.8	0.5 – 1.75	☒ Yes ☐ No
VENT03	7:35	☒ Yes ☐ No	2.6	0.5 – 1.75	☒ Yes ☐ No
VENT04	7:52	☒ Yes ☐ No	2.7	0.5 – 1.75	☒ Yes ☐ No
VENT05	8:17	☒ Yes ☐ No	2.9	0.5 – 1.75	☒ Yes ☐ No

Notes:

If **No** is selected and blower operational, notify PM to identify corrective actions.

" WC = inches of water column.

3. Additional System Documentation

Table 3.1 System Checklist

Is the SSDS operating upon arrival?	☒ Yes ☐ No
Is the SSDS visually intact and undamaged?	☒ Yes ☐ No
Conduct a visual inspection of accessible system piping and pipe seals, connections, etc. Are the components free of any cracks, gaps, or changes?	☒ Yes ☐ No
Is the floor in generally good condition, with no cracks or penetrations observed?	☒ Yes ☐ No
Is the caulking on floor penetrations in good condition?	☒ Yes ☐ No

If the answer was **No** to any of the above, describe below and document corrective actions. Please describe any issues with the SSDS, if applicable:

4. Structural Changes

Table 4.1 System Checklist

Have there been any significant changes to the building's HVAC system?	☐ Yes ☒ No
Are any new buildings present near the subject structure that have emissions that could impact indoor air?	☐ Yes ☒ No
Has the building changed in use since last inspection?	☐ Yes ☒ No
Has the building undergone any physical modifications (additions, wall changes, new drains, etc.)	☐ Yes ☒ No

If the answer was **Yes** to any of the above, describe the changes below and photo document them:

5. Differential Pressure Readings

Existing sub-slab vapor pins are located on the floor of the building as shown on Figure 5-1 of Interim Action Work Plan. 8/22/24, ~70°, cloudy

Table 5.1 Final Differential Pressure Readings

Location	Time	Cap and Seal Secure Before Readings?	Final Pressure (" WC)	Pressure Goal (" WC)	Pressure Above Goal?	Weather	
						Wind Velocity/ Direction	Barometric Pressure (" Hg)
SB01	15:52	☒ Yes ☐ No	-0.020	-0.001	☒ Yes ☐ No	6 MPH/WNW	29.86
SB02*	15:42	☐ Yes ☒ No	-0.056	-0.001	☒ Yes ☐ No	6 MPH/WNW	29.86
SB03	16:07	☒ Yes ☐ No	-0.003	-0.001	☒ Yes ☐ No	6 MPH/W	29.86

Notes:

Measurements will be taken manually at each monitoring port using micromanometer with capability to measure as low as 0.001 " of WC).

" Hg = inches of mercury.

" WC = inches of water column.

Were all sub-slab vapor pins sealed/capped after differential pressure readings were measured?

☒ Yes ☐ No

* Silicone protective cap missing on SB02 vapor pin prior to pressure measurements. Replaced cap following pressure measurements.