TIER II ASSESSMENT REPORT

McCollum Park Site

Prepared for: Snohomish County

Project No. 210222 • May 2022

Aspect CONSULTING

earth + water

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1 Introduction

This report documents air quality monitoring Aspect Consulting, LLC (Aspect) conducted at selected buildings at the McCollum Park site (Site) located at 600 128th Street SE in Everett, Washington, on April 26 and 27, 2021. Monitoring was conducted under Tier II of the Washington State Department of Ecology (Ecology) 2022 Vapor Intrusion Guidance. Tier II addresses building-specific monitoring for contaminants of concern (COCs) in specific media, including indoor air, ambient air, and sub-slab soil gas. The purpose of Tier II assessment is to evaluate whether indoor air is being unacceptably impacted by vapor intrusion (VI). The Site location is shown on Figure 1. Site features, including the building locations at McCollum Park, are shown on Figure 2.

Snohomish County (County) developed McCollum Park in 1996 as part of cleanup activities at the closed Emander Landfill (landfill) conducted under Agreed Order 96 TC-N126 with Ecology. Landfill gas collection and compliance monitoring and confirmation groundwater monitoring is ongoing as part of the Site cleanup under the Model Toxics Control Act (MTCA). The County conducted a preliminary VI assessment (EMB, 2021) that identified a set of contaminants inside buildings that exceeded MTCA Method B indoor air cleanup levels.

The County contacted Aspect to conduct further investigations, and Aspect developed the VI Work Plan to conduct the Tier II VI Assessment (Aspect, 2021). Aspect performed the work on behalf of Snohomish County Parks and Recreation. Monitoring was conducted in accordance with the Site-specific Vapor Intrusion Evaluation Work Plan (VI Work Plan; Aspect, 2021). This memorandum compares observed vapor concentrations with risk-based indoor air levels and corresponding sub-slab screening levels for commercial buildings.

1.1 Background

The following background is based on information in documents related to the MTCA cleanup action. A portion of McCollum Park was constructed on the former Emander Landfill, which extended beneath 128th Street SE to the north, across Dumas Road to the east, and was bordered by North Creek to the west and wooded park land to the south. The approximate extent of the former Emander Landfill is shown on Figure 2. The County acquired the landfill property in 1922, and it was initially used as a gravel mine in 1929. From 1947 to 1967, the Emander Landfill property was used for refuse disposal. A soil cover was installed after the completion of landfill operations in 1967. The Site was then turned over to the Snohomish County Parks and Recreation Department for development as McCollum Park. The northern part of the park was developed into a Park and Ride, located at 620 128th Street SE.

McCollum Park was improved as part of the County's Master Plan Implementation in 1993, after an Environmental Impact Statement identified potential environmental

impacts from landfill gas and landfill contents encountered during environmental investigations. During cleanup activities, the landfill was characterized as containing municipal solid waste and several areas of sludge containing petroleum hydrocarbons, volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and metals.

Cleanup actions in 1996 included placing additional fill soil over the landfill, installing a composite cover system to limit precipitation infiltration through landfill materials, operating a landfill gas management system (perimeter and interior) to control potential migration, and conducting long-term groundwater compliance monitoring.

1.2 Site/Building Description

Five buildings at McCollum Park were included in the VI assessment and are described below. A building evaluation and Site walk was conducted on April 16, and the results are included in the VI Work Plan (Aspect, 2021).

1.2.1 McCollum Park Pool Building

The pool building is a commercial building occupied by pool staff and visitors during the summer months. The building is vacant during the winter months when the pool is not open. The first-floor plans of this slab-on-grade structure are shown in Appendix A. According to County Assessor information (Parcel No. 28053000302100), the building was constructed in 1969 and has a total floor space of 2,699 square feet. The building consists of one story that contains a lobby, break room, office, and men's and women's locker rooms. Additional structures attached to the outside of the building include a pool chemical storage room, a boiler room, and a laundry/storage room. There is no HVAC system, and ventilation is provided by opening windows and doors. There is a natural gas heating unit in the office that heats the lobby.

1.2.2 WSU Extension Building

The Washington State University (WSU) Extension building is a commercial building occupied by WSU staff year-round during normal business hours. The first-floor plans of this slab-on-grade structure are shown in Appendix A. According to County Assessor information (Parcel No. 28053100200200), the building was constructed in 1980 and has a total floor space of 4,500 square feet. The building consists of one story that contains offices, a kitchen, and bathrooms. There is no HVAC system, and ventilation is provided by window air conditioning units or by opening windows and doors. Heating is provided by electric baseboard heaters.

1.2.3 WSU Education Building

The WSU Education building is a commercial building occupied by WSU staff and students year-round during normal business hours. The first-floor plans of this slab-on-grade structure are shown in Appendix A. According to County Assessor information (Parcel No. 28053100200200), the building was constructed in 1980 and has a total floor space of 6,300 square feet. The building was previously used for vehicle maintenance, based on a discussion with Jeremy Husby. The building consists of one story that contains classrooms, offices, a computer lab, bathrooms, and a storage room. There is no

HVAC system, and ventilation is provided by window air conditioning units or by opening windows and doors. Heating is provided by electric baseboard heaters.

1.2.4 McCollum BMX Building

The BMX building is a commercial building occupied only during BMX race events. Floor plans were not available; however, the approximate floor space is 336 square feet. The building consists of one story that contains a room for race registration and concessions. There is no HVAC system, and ventilation is provided by large open windows on both sides of the building.

1.2.5 Adopt-a-Stream Building

The Adopt-a-Stream Foundation building is a commercial building occupied by staff and visitors year-round during normal business hours. The first-floor and second-floor plans of this slab-on-grade structure are shown in Appendix A. According to County Assessor information (Parcel No. 28053100200201), the building was constructed in 1996 and has a total floor space of 7,752 square feet. The building consists of two stories that contain a gift shop, auditorium, break room, offices, bathrooms, and a kitchen. There are three different HVAC systems for the three parts of the building (eastern, central, and western sections). Heating is provided by a recently updated electrical system in the eastern end (ecologist break/gear room, office), and separate propane units in the central (auditorium) and western end (gift shop, kitchen, office) from the original building construction. According to a conversation with Tom Murdoch, there is believed to be a vapor barrier installed under the building; however, the construction records have been destroyed, and the vapor barrier specifications are unknown. Mr. Murdoch also reported that the auditorium slab was sealed with epoxy after construction.

2 Description of Sampling Events

2.1 Indoor Air Sampling

Aspect conducted one round of indoor air sampling, on April 26, 2021. Sampling locations were consistent with the VI Work Plan (see Figure 3) and are listed in Table 1 below. Ambient air sampling locations were all outside and upwind of the building. The ambient air sample for the Adopt-a-Stream building was collected from the outlet of the HVAC system. The HVAC systems in the western and central portions of the Adopt-a-Stream building were off during the sampling event, and the forced hot air was on in the eastern portion of the building.

Table 1. Sampling Locations and Sample Names

Building/Location	*Type of Sample*		
	Indoor Air	Ambient Air	Sub-slab Soil Gas
McCollum Park Pool		**POOL-AA**	
Office	**POOL-1-IA**		**POOL-1-SG**
Lobby	**POOL-2-IA**		**POOL-2-SG**
WSU Extension Building		**WSU-AA**	
Northeast Office	**WSU-EX1-IA**		**WSU-EX1-SG**
Southwest Office	**WSU-EX2-IA**		**WSU-EX2-SG**
WSU Education Building			
Cougar Classroom	**WSU-ED1-IA**		**WSU-ED1-SG**
Evergreen Classroom	**WSU-ED2-IA**		**WSU-ED2-SG**
McCollum BMX Building		**BMX-AA**	
Open Space	**BMX-1-IA**		**BMX-1-SG**
Adopt-a-Stream Building		**STREAM-AA**	
Ecologist Break/Gear Room (Eastern End)	**STREAM-1-IA**		
Auditorium	**STREAM-2-IA**		
Gift Shop (Western End)	**STREAM-3-IA**		

Air sampling was conducted in accordance with the procedures for indoor air and ambient air provided in the VI Work Plan. The samples were collected in 6-liter Summa canisters that were individually certified "clean" by Friedman & Bruya, Inc. (F&BI), a certified analytical laboratory in Seattle, Washington. Each canister was outfitted with a 0.2-micrometer (µm) filter, a vacuum gauge, and an 8-hour flow controller. The canister vacuum readings at the start and finish of sampling are provided in the field forms (Appendix B) and listed in Table 2 along with observed landfill gas concentrations. Ambient weather conditions leading up to the sampling dates, as recorded at a weather station approximately 1.3 miles from McCollum Park (Citizen Weather Observer Program Station ID DW3008) are provided graphically below. Barometric pressure was slowly rising during sample collection and was at or below the average barometric pressure for month previous.

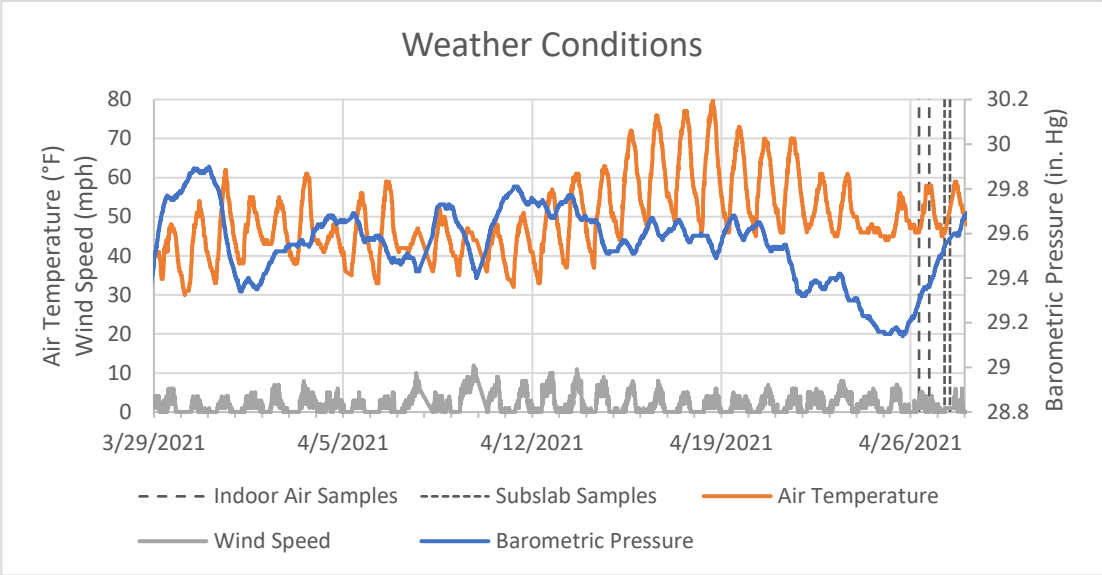

Figure 4. Weather Conditions prior to Sampling

2.2 Sub-slab Soil Gas Sampling

Aspect conducted one round of sub-slab soil gas sampling, on April 27, 2021. Sampling locations were consistent with the VI Work Plan and are shown on Figure 3, and are listed in Table 1. Photos of the restored sampling locations are included in Appendix C. The sub-slab soil gas sample associated with the northeast office in the WSU Extension building was placed in the computer closet, per the request of the client. Based on the proximity of these locations in the slab, this should not affect the results. The sub-slab soil gas samples were collected in accordance with the procedures provided in the VI Work Plan. No helium was detected in the sub-slab samples, indicating that there was no leakage through the sampling ports. Barometric pressure was rising during sub-slab soil gas samples and was close to the average condition during the previous month (Figure 3). Therefore, samples were likely representative of soil gas and not likely diluted by atmospheric air.

3 Sampling Results

The sample canisters were shipped to F&BI for analysis of air-phase hydrocarbons (APHs) by the Massachusetts State Department of Environmental Protection APH (MA-APH) method and VOCs using U.S. Environmental Protection Agency (EPA) Method TO-15. Low-level analysis or Selective Ion Mode (SIM) analysis was used where possible to obtain the lowest achievable detection and reporting limits.

Sampling results summarized in Table 3 show ambient air, indoor air, and soil gas concentrations. Where an analyte was not detected at the reporting limit, the result is

shown as less than (<) the reporting limit and flagged "U." The full laboratory reports are provided in Appendix D. Results in Table 3 are color coded to indicate exceedances of either the MTCA Method B risk-based indoor air level for commercial buildings[1] or the sub-slab soil gas screening level[2].

Following Ecology guidance, Table 3 also shows indoor air results which were corrected for background contributions of contamination by subtracting out the ambient air results associated with the building. Table 4 provides a summary of the corrected indoor air detections and the sub-slab vapor detections exceeding the risk-based indoor air levels and corresponding sub-slab soil gas screening levels for commercial buildings. The following COCs had detected results exceeding the MTCA Method B risk-based indoor air level after correction for ambient air:

- Total Petroleum Hydrocarbons[3] (Pool Lobby and Office, and WSU Education Evergreen Classroom)
- Benzene (Pool Lobby and Office)
- Naphthalene (Pool Lobby and Office)
- Acrolein (all sampling locations)

The following COCs had detected results exceeding the MTCA Method B soil gas screening levels:

- Acrolein (Pool Office)
- Chloroform (Pool Office)

4 Conclusions and Recommendations

Overall, the results of the Tier II assessment indicate risk-based indoor air level exceedances did not correlate with sub-slab soil gas screening levels. This suggests that the source of the indoor air contamination is not likely due to VI from the former landfill. In addition, no methane and low carbon dioxide concentrations indicated little to no landfill gas in the sub-slab soil gas monitoring points (Table 2). The sources of the contaminants exceeding the risk-based indoor air levels appear to be associated with ambient air and/or are located within the buildings themselves.

[1] MTCA Method B CULs for indoor air have been established for unrestricted indoor exposure, assuming 24 hours/day and 7 days/week occupancy. Per Ecology guidance, it is possible to develop "risk-based indoor air levels" for commercial buildings that do not meet the definition of an industrial property. The indoor air levels in Table 3 were modified to reflect an exposure frequency which better represents the amount of time workers are actually present in the buildings (45 hours/week and 50 weeks/year, or a factor of 0.26).

[2] The sub-slab soil gas screening level was calculated using the risk-based indoor air level and a default attenuation factor of 0.03.

[3] The indoor air and soil gas standards for total petroleum hydrocarbons were updated in the final March 2022 Ecology guidance (177 ug/m^3 for commercial indoor air, and 5897 ug/m^3 for commercial soil gas).

Sub-slab samples were not collected from the Adopt-A-Stream building due to the risk of penetrating a vapor barrier. However, sub-slab soil gas concentrations observed at the WSU Extension and Education buildings, located closer to the potential landfill source, indicated little to no source of VI.

A discussion of the corrected indoor air level exceedances shown in Table 4 is shared below, with a list of potential sources for each contaminant.

- Total petroleum hydrocarbons were found at the Pool building (lobby and office) and WSU Education building (Evergreen Classroom). Common sources of petroleum hydrocarbons are gasoline and diesel. At the WSU Education building, this could be attributed to the former building use of vehicle maintenance.
- Benzene was found at the Pool building in the lobby and office. Common sources of benzene are tobacco smoke, gasoline vapors, vehicle exhaust, and household products (glues, paints, furniture wax, and lubricants).
- Naphthalene exceedances were identified at the Pool building in the lobby and office. Common sources of naphthalene are mothballs, insecticide, paint, varnish, tobacco smoke, and air fresheners/deodorizers.
- Acrolein exceedances were identified at all indoor air sample locations and in soil gas at the Pool building (office) and WSU Education building (Cougar Classroom). Acrolein is ubiquitous in the ambient environment, and common sources of include tobacco smoke, vehicle exhaust, and cooking (fried foods, oils, and roasted coffee).

While the results do not indicate that there is a VI risk in the buildings at McCollum Park, there are slightly elevated indoor air concentrations of COCs. The Ecology guidance recommends investigation of potential indoor sources when there are exceedances of the indoor air cleanup level, but no exceedances of the sub-slab soil gas screening level. Reducing exposure to COCs in indoor air can be accomplished by ensuring adequate ventilation and controlling sources.

References

Aspect Consulting, LLC (Aspect), 2021, Vapor Intrusion Evaluation Work Plan, McCollum Park Site, Everett, Washington, April 23, 2021. Aspect, 2021.

EMB Consulting, LLC (EMB), 2021, Preliminary Vapor Intrusion Assessment, McCollum Pioneer Park, Everett, Washington, April 1, 2021. EMB, 2021.

Washington State Department of Ecology (Ecology), 2022, Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, Publication No. 09-09-047, Draft October 2009, Revised February 2016, April 2018, and November 2021, Final March 2022.

Limitations

Work for this project was performed for Snohomish County (Client), and this report was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This report does not represent a legal opinion. No other warranty, expressed or implied, is made.

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Please refer to Appendix E titled "Report Limitations and Guidelines for Use" for additional information governing the use of this report.

TABLES

Table 2. Sampling Summary

Project No. 210222, McCollum Park Site, Everett Washington

Sampling Date	April 26, 2021													
Sample Type	Indoor Air	Indoor Air	Ambient Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Ambient Air	Indoor Air	Ambient Air	Indoor Air	Indoor Air	Indoor Air	Ambient Air
Building	Pool Building			WSU Education Building		WSU Extension Building		WSU Buildings	BMX Building		Adopt-a-Stream Building			
Sample ID	POOL-1-IA	POOL-2-IA	POOL-AA	WSU-ED1-IA	WSU-ED2-IA	WSU-EX1-IA	WSU-EX2-IA	WSU-AA	BMX-1-IA	BMX-AA	STREAM-1-IA	STREAM-2-IA	STREAM-3-IA	STREAM-AA
Sampling Location (Refer to Figure 3)	Office	Lobby	Pool Deck	Cougar Classroom	Evergreen Classroom	Northeast Office	Southwest Office	Between WSU buildings	Office	Outside	Ecologist break/gear room	Auditorium	Gift Shop	Auditorium HVAC outlet
Canister Vacuum in inches of mercury (in. Hg)														
Start-of-Sampling	30	29	28.5	31	29	30	29	31	29	29	29	30	28	30
End-of-Sampling	7	6	8	9	6	9	8.5	7	6	6	7.5	5	8	9
Landfill Gas Measurements														
CH_4 (% volume)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CO_2 (% volume)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0
O_2 (% volume)	20.6	20.6	20.7	20.7	20.9	20.7	20.7	20.6	20.7	20.7	20.7	20.7	20.7	21.0
H_2S (% volume)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Sampling Date	April 27, 2021						
Sample Type	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Building	Pool Building		WSU Education Building		WSU Extension Building		BMX Building
Sample ID	POOL-1-SG	POOL-2-SG	WSU-ED1-SG	WSU-ED2-SG	WSU-EX1-SG	WSU-EX2-SG	BMX-1-SG
Sampling Location (Refer to Figure 3)	Office	Lobby	Cougar Classroom	Evergreen Classroom	Northeast Office	Southwest Office	Office
Canister Vacuum in inches of mercury (in. Hg)							
Start-of-Sampling	29	29	30	29	29	29	30
End-of-Sampling	5	5	5	5	5	5	5
Landfill Gas Measurements							
CH_4 (% volume)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CO_2 (% volume)	0.6	0.4	0.0	0.0	0.4	0.7	0.2
O_2 (% volume)	18.6	19.8	20.2	20.2	19.8	19.5	20.0
H_2S (% volume)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 3. Vapor Analytical Results

Project No. 210222, McCollum Park Site, Everett, Washington

Analyte	MTCA Method B Unrestricted Use Indoor Air Cleanup Level	MTCA Method B Risk-Based Indoor Air Level (Commercial)[1]	MTCA Method B Sub-Slab Soil Gas Screening Level (Commercial)	BMX Building				Pool Building							WSU Extension Building					
				BMX-1-SG 04/27/2021	BMX-1-IA 04/26/2021	BMX-1-IA (corrected) 04/26/2021	BMX-AA 04/26/2021	POOL-1-SG 04/27/2021	POOL-1-IA 04/26/2021	POOL-1-IA (corrected) 04/26/2021	POOL-2-SG 04/27/2021	POOL-2-IA 04/26/2021	POOL-2-IA (corrected) 04/26/2021	POOL-AA 04/26/2021	WSU-EX1-SG 04/27/2021	WSU-EX1-IA 04/26/2021	WSU-EX1-IA (corrected) 04/26/2021	WSU-EX2-SG 04/27/2021	WSU-EX2-IA 04/26/2021	WSU-EX2-IA (corrected) 04/26/2021
APH																				
C5 - C8 Aliphatic Hydrocarbons				**560**	**130**	**20**	**110**	**800**	**390**	**270**	**890**	**370**	**250**	**120**	**530**	**120**	**35**	**730**	**130**	**45**
C9 - C12 Aliphatic Hydrocarbons				< 130 U	< 25 U	ND	< 25 U	**260**	**36**	**11**	**280**	**25**	**0**	< 25 U	< 150 U	< 25 U	ND	< 210 U	< 25 U	ND
C9 - C10 Aromatic Hydrocarbons				< 130 U	< 25 U	ND	< 25 U	< 140 U	< 25 U	ND	< 140 U	< 25 U	ND	< 25 U	< 150 U	< 25 U	ND	< 210 U	< 25 U	ND
Total Petroleum Hydrocarbons[2,3]	46	177	5897	**745**	**166**	**20**	**146**	**1200**	**485**	**329**	**1310**	**454**	**298**	**156**	**742**	**156**	**35**	**1030**	**166**	**45**
BTEX																				
Benzene	0.32	1.2	41	< 1.7 U	< 0.32 U	ND	< 0.32 U	**2.8**	**3.6**	**3.3**	< 1.8 U	**3.7**	**3.4**	< 0.32 U	< 1.9 U	< 0.32 U	ND	< 2.7 U	< 0.32 U	ND
Toluene	2300	8846	294872	< 98 U	< 19 U	ND	< 19 U	< 110 U	**29**	**10**	< 100 U	**28**	**9**	< 19 U	< 110 U	< 19 U	ND	< 160 U	< 19 U	ND
Ethylbenzene	460	1769	58974	< 2.3 U	< 0.43 U	ND	< 0.43 U	< 2.4 U	**2.2**	**1.8**	< 2.4 U	**2.3**	**1.9**	< 0.43 U	< 2.6 U	< 0.43 U	ND	< 3.7 U	< 0.43 U	ND
Total Xylenes	46	177	5897	< 4.5 U	< 0.87 U	ND	< 0.87 U	**11.6**	**11.6**	**10.7**	**12.2**	**12.2**	**11.3**	< 0.87 U	< 5.1 U	< 0.87 U	ND	< 7.4 U	< 0.87 U	ND
Other SVOCs																				
1,4-Dioxane	0.5	1.9	63	< 1.9 U	< 0.36 U	ND	< 0.36 U	< 2 U	< 0.36 U	ND	< 2 U	< 0.36 U	ND	< 0.36 U	< 2.1 U	< 0.36 U	ND	< 3.1 U	< 0.36 U	ND
Hexachlorobutadiene	0.11	0.41	14	< 2.8 U	< 0.53 U	ND	< 0.53 U	< 3 U	< 0.53 U	ND	< 3 U	< 0.53 U	ND	< 0.53 U	< 3.1 U	< 0.53 U	ND	< 4.5 U	< 0.53 U	ND
PAHs																				
Naphthalene	0.073	0.28	9	< 1.4 U	**0.079 J**	**0.022**	< 0.057 UJ	< 1.5 U	**0.57**	**0.48**	< 1.4 U	**0.55**	**0.46**	**0.089 J**	< 1.5 U	**0.24**	**0.18**	< 2.2 U	**0.34**	**0.28**
VOCs																				
1,1,1-Trichloroethane	2300	8846	294872	< 2.8 U	< 0.55 U	ND	< 0.55 U	< 3.1 U	< 0.55 U	ND	< 3 U	< 0.55 U	ND	< 0.55 U	< 3.2 U	< 0.55 U	ND	< 4.6 U	< 0.55 U	ND
1,1,2,2-Tetrachloroethane	0.043	0.17	6	< 0.71 U	< 0.14 U	ND	< 0.14 U	< 0.77 U	< 0.14 U	ND	< 0.76 U	< 0.14 U	ND	< 0.14 U	< 0.81 U	< 0.14 U	ND	< 1.2 U	< 0.14 U	ND
1,1,2-Trichloroethane	0.091	0.35	12	< 0.28 U	< 0.055 U	ND	< 0.055 U	< 0.31 U	< 0.055 U	ND	< 0.3 U	< 0.055 U	ND	< 0.055 U	< 0.32 U	< 0.055 U	ND	< 0.46 U	< 0.055 U	ND
1,1,2-Trichlorotrifluoroethane	2300	8846	294872	< 4 U	< 0.77 U	ND	< 0.77 U	< 4.3 U	< 0.77 U	ND	< 4.2 U	< 0.77 U	ND	< 0.77 U	< 4.5 U	< 0.77 U	ND	< 6.5 U	< 0.77 U	ND
1,1-Dichloroethane	1.6	6.2	205	< 2.1 U	< 0.4 U	ND	< 0.4 U	< 2.3 U	< 0.4 U	ND	< 2.2 U	< 0.4 U	ND	< 0.4 U	< 2.4 U	< 0.4 U	ND	< 3.4 U	< 0.4 U	ND
1,1-Dichloroethene	91	350	11667	< 2.1 U	< 0.4 U	ND	< 0.4 U	< 2.2 U	< 0.4 U	ND	< 2.2 U	< 0.4 U	ND	< 0.4 U	< 2.3 U	< 0.4 U	ND	< 3.4 U	< 0.4 U	ND
1,2,4-Trichlorobenzene	0.91	3.5	117	< 3.9 U	< 0.74 U	ND	< 0.74 U	< 4.2 U	< 0.74 U	ND	< 4.1 U	< 0.74 U	ND	< 0.74 U	< 4.4 U	< 0.74 U	ND	< 6.3 U	< 0.74 U	ND
1,2,4-Trimethylbenzene	27	104	3462	< 13 U	< 2.5 U	ND	< 2.5 U	< 14 U	**5.7**	**3.2**	< 14 U	**5.7**	**3.2**	< 2.5 U	< 15 U	< 2.5 U	ND	< 21 U	< 2.5 U	ND
1,2-Dibromoethane (EDB)	0.0042	0.016	0.54	< 0.4 U	< 0.077 U	ND	< 0.077 U	< 0.43 U	< 0.077 U	ND	< 0.42 U	< 0.077 U	ND	< 0.077 U	< 0.45 U	< 0.077 U	ND	< 0.65 U	< 0.077 U	ND
1,2-Dichlorobenzene	91	350	11667	< 3.1 U	< 0.6 U	ND	< 0.6 U	< 3.4 U	< 0.6 U	ND	< 3.3 U	< 0.6 U	ND	< 0.6 U	< 3.5 U	< 0.6 U	ND	< 5.1 U	< 0.6 U	ND
1,2-Dichloroethane (EDC)	0.096	0.37	12	< 0.21 U	**0.077**	ND	**0.065**	< 0.23 U	**0.077**	**0.004**	< 0.22 U	**0.077**	**0.004**	**0.073**	< 0.24 U	**0.22**	**0.139**	< 0.34 U	**0.15**	**0.069**
1,2-Dichloropropane	0.68	2.6	87	< 1.2 U	< 0.23 U	ND	< 0.23 U	< 1.3 U	< 0.23 U	ND	< 1.3 U	< 0.23 U	ND	< 0.23 U	< 1.4 U	< 0.23 U	ND	< 2 U	< 0.23 U	ND
1,3,5-Trimethylbenzene	27	104	3462	< 13 U	< 2.5 U	ND	< 2.5 U	< 14 U	< 2.5 U	ND	< 14 U	< 2.5 U	ND	< 2.5 U	< 15 U	< 2.5 U	ND	< 21 U	< 2.5 U	ND
1,3-Dichlorobenzene				< 3.1 U	< 0.6 U	ND	< 0.6 U	< 3.4 U	< 0.6 U	ND	< 3.3 U	< 0.6 U	ND	< 0.6 U	< 3.5 U	< 0.6 U	ND	< 5.1 U	< 0.6 U	ND
1,4-Dichlorobenzene	0.23	0.88	29	< 1.2 U	< 0.23 U	ND	< 0.23 U	< 1.3 U	**1.1**	**0.87**	< 1.3 U	**0.84**	**0.61**	< 0.23 U	< 1.4 U	< 0.23 U	ND	< 2 U	**0.23**	ND
1-Propene				< 6.3 U	< 1.2 U	ND	< 1.2 U	< 6.7 U	< 1.2 U	ND	< 6.6 U	< 1.2 U	ND	< 1.2 U	< 7.1 U	< 1.2 U	ND	< 10 U	< 1.2 U	ND
2-Butanone	2300	8846	294872	< 15 U	< 2.9 U	ND	< 2.9 U	< 17 U	< 2.9 U	ND	< 16 U	< 2.9 U	ND	< 2.9 U	< 17 U	< 2.9 U	ND	< 25 U	< 2.9 U	ND
2-Chlorotoluene				< 27 U	< 5.2 U	ND	< 5.2 U	< 29 U	< 5.2 U	ND	< 28 U	< 5.2 U	ND	< 5.2 U	< 31 U	< 5.2 U	ND	< 44 U	< 5.2 U	ND
2-Hexanone	14	54	1795	< 21 U	< 4.1 U	ND	< 4.1 U	< 23 U	< 4.1 U	ND	< 23 U	< 4.1 U	ND	< 4.1 U	< 24 U	< 4.1 U	ND	< 35 U	< 4.1 U	ND
4-Methyl-2-pentanone	1400	5385	179487	< 21 U	< 4.1 U	ND	< 4.1 U	< 23 U	< 4.1 U	ND	< 23 U	< 4.1 U	ND	< 4.1 U	< 24 U	< 4.1 U	ND	< 35 U	< 4.1 U	ND
Acetone	14000	53846	1794872	**46**	**9.7**	**3.5**	**6.2**	**380 E**	< 4.8 U	ND	**830 E**	< 4.8 U	ND	**7.2**	**75**	**6.6**	**1**	< 40 U	**9.4**	**3.8**
Acrolein	0.0091	0.04	1.17	< 0.6 U	**0.51**	**0.35**	**0.16**	**1.3**	**0.54**	**0.32**	< 0.63 U	**0.37**	**0.15**	**0.22**	< 0.68 U	**0.37**	**0.25**	< 0.97 U	**0.45**	**0.33**
Allyl Chloride	0.42	1.6	54	< 8.1 U	< 1.6 U	ND	< 1.6 U	< 8.8 U	< 1.6 U	ND	< 8.6 U	< 1.6 U	ND	< 1.6 U	< 9.2 U	< 1.6 U	ND	< 13 U	< 1.6 U	ND
Bromodichloromethane	0.068	0.26	9	< 0.35 U	< 0.067 U	ND	< 0.067 U	**1.5**	< 0.067 U	ND	< 0.37 U	< 0.067 U	ND	< 0.067 U	< 0.4 U	< 0.067 U	ND	< 0.57 U	< 0.067 U	ND
Bromoform	2.3	8.8	295	< 11 U	< 2.1 U	ND	< 2.1 U	< 12 U	< 2.1 U	ND	< 11 U	< 2.1 U	ND	< 2.1 U	< 12 U	< 2.1 U	ND	< 18 U	< 2.1 U	ND
Bromomethane	2.3	8.8	295	< 12 U	< 2.3 U	ND	< 2.3 U	< 13 U	< 2.3 U	ND	< 13 U	< 2.3 U	ND	< 2.3 U	< 14 U	< 2.3 U	ND	< 20 U	< 2.3 U	ND
Butane				< 25 U	< 4.8 U	ND	< 4.8 U	< 27 U	**110 E**	**105**	< 26 U	**120 E**	**115**	< 4.8 U	< 28 U	< 4.8 U	ND	< 40 U	< 4.8 U	ND
Carbon Disulfide	320	1231	41026	< 32 U	< 6.2 U	ND	< 6.2 U	< 35 U	< 6.2 U	ND	< 34 U	< 6.2 U	ND	< 6.2 U	< 37 U	< 6.2 U	ND	< 53 U	< 6.2 U	ND
Carbon Tetrachloride	0.42	1.6	54	< 1.6 U	**0.45**	ND	**0.46**	< 1.8 U	**0.46**	**0.02**	< 1.7 U	**0.46**	**0.02**	**0.44**	< 1.9 U	**0.45**	ND	< 2.7 U	**0.45**	**0**
Chlorobenzene	23	88	2949	< 2.4 U	< 0.46 U	ND	< 0.46 U	< 2.6 U	< 0.46 U	ND	< 2.5 U	< 0.46 U	ND	< 0.46 U	< 2.7 U	< 0.46 U	ND	< 3.9 U	< 0.46 U	ND
Chloroethane	4600	17692	589744	< 14 U	< 2.6 U	ND	< 2.6 U	< 15 U	< 2.6 U	ND	< 15 U	< 2.6 U	ND	< 2.6 U	< 16 U	< 2.6 U	ND	< 22 U	< 2.6 U	ND
Chloroform	0.11	0.42	3.6	**0.3**	**0.078**	ND	**0.078**	**46**	**0.14**	**0.052**	**2.6**	**0.14**	**0.052**	**0.088**	**0.52**	**0.13**	**0.047**	**1**	**0.2**	**0.117**
Chloromethane	41	158	5256	< 19 U	< 3.7 U	ND	< 3.7 U	< 21 U	< 3.7 U	ND	< 20 U	< 3.7 U	ND	< 3.7 U	< 22 U	< 3.7 U	ND	< 32 U	< 3.7 U	ND
cis-1,2-Dichloroethene (cDCE)				< 2.1 U	< 0.4 U	ND	< 0.4 U	< 2.2 U	< 0.4 U	ND	< 2.2 U	< 0.4 U	ND	< 0.4 U	< 2.3 U	< 0.4 U	ND	< 3.4 U	< 0.4 U	ND
cis-1,3-Dichloropropene				< 2.4 U	< 0.45 U	ND	< 0.45 U	< 2.5 U	< 0.45 U	ND	< 2.5 U	< 0.45 U	ND	< 0.45 U	< 2.7 U	< 0.45 U	ND	< 3.9 U	< 0.45 U	ND
Cyclohexane	2700	10385	346154	< 36 U	< 6.9 U	ND	< 6.9 U	< 39 U	< 6.9 U	ND	< 38 U	< 6.9 U	ND	< 6.9 U	< 41 U	< 6.9 U	ND	< 59 U	< 6.9 U	ND
Dibromochloromethane				< 0.44 U	< 0.085 U	ND	< 0.085 U	< 0.48 U	< 0.085 U	ND	< 0.47 U	< 0.085 U	ND	< 0.085 U	< 0.5 U	< 0.085 U	ND	< 0.72 U	< 0.085 U	ND
Dichlorodifluoromethane	46	177	5897	**3.2**	**16**	**13.3**	**2.7**	< 2.8 U	**2.8**	**0.2**	**3**	**2.6**	ND	**2.6**	< 2.9 U	**2.7**	ND	< 4.2 U	**2.4**	**-0.4**
Ethanol				< 39 U	< 7.5 U	ND	< 7.5 U	**520 E**	**50 E**	**42.5**	**49**	**64 E**	**56.5**	< 7.5 U	< 44 U	**30 E**	**22.5**	< 64 U	**42 E**	**34.5**
Ethyl acetate	32	123	4103	< 37 U	< 7.2 U	ND	< 7.2 U	< 40 U	< 7.2 U	ND	< 40 U	< 7.2 U	ND	< 7.2 U	< 43 U	< 7.2 U	ND	< 61 U	< 7.2 U	ND
Isopropyl Alcohol	91	350		< 45 U	< 8.6 U	ND	< 8.6 U	**130**	< 8.6 U	ND	< 47 U	< 8.6 U	ND	< 8.6 U	**66**	< 8.6 U	ND	< 73 U	< 8.6 U	ND
Isopropylbenzene	180	692	23077	< 13 U	< 2.5 U	ND	< 2.5 U	< 14 U	< 2.5 U	ND	< 14 U	< 2.5 U	ND	< 2.5 U	< 15 U	< 2.5 U	ND	< 21 U	< 2.5 U	ND
m,p-Xylenes	46	177	5897	< 4.5 U	< 0.87 U	ND	< 0.87 U	**8.1**	**8.8**	**7.93**	**8**	**9.2**	**8.33**	< 0.87 U	< 5.1 U	< 0.87 U	ND	< 7.4 U	< 0.87 U	ND
Methyl Methacrylate	320	1231	41026	< 21 U	< 4.1 U	ND	< 4.1 U	< 23 U	< 4.1 U	ND	< 23 U	< 4.1 U	ND	< 4.1 U	< 24 U	< 4.1 U	ND	< 35 U	< 4.1 U	ND
Methyl tert-butyl ether (MTBE)	9.6	37	1231	< 9.4 U	< 1.8 U	ND	< 1.8 U	< 10 U	< 1.8 U	ND	< 9.9 U	< 1.8 U	ND	< 1.8 U	< 11 U	< 1.8 U	ND	< 15 U	< 1.8 U	ND
Methylene Chloride	66	254	8462	**190 C**	**61 E**	ND	**64 E**	**670 CE**	**50 C**	ND	< 190 U	**61 CE**	ND	**74 CE**	< 200 U	< 35 U	ND	< 300 U	**73 CE**	ND
n-Hexane	320	1231	41026	< 18 U	< 3.5 U	ND	< 3.5 U	< 20 U	**7.5**	**4**	< 19 U	**7.6**	**4.1**	< 3.5 U	< 21 U	< 3.5 U	ND	< 30 U	< 3.5 U	ND
Nonane				< 27 U	< 5.2 U	ND	< 5.2 U	< 29 U	< 5.2 U	ND	< 29 U	< 5.2 U	ND	< 5.2 U	< 31 U	< 5.2 U	ND	< 45 U	< 5.2 U	ND
n-Propylbenzene	460	1769	58974	< 13 U	< 2.5 U	ND	< 2.5 U	< 14 U	< 2.5 U	ND	< 14 U	< 2.5 U	ND	< 2.5 U	< 15 U	< 2.5 U	ND	< 21 U	< 2.5 U	ND
o-Xylene	46	177	5897	< 2.3 U	< 0.43 U	ND	< 0.43 U	**3.5**	**2.8**	**2.37**	**4.2**	**3**	**2.57**	< 0.43 U	< 2.6 U	< 0.43 U	ND	< 3.7 U	< 0.43 U	ND
Pentane	460	1769		< 15 U	< 3 U	ND	< 3 U	< 17 U	**28**	**25**	< 16 U	**28**	**25**	< 3 U	< 17 U	< 3 U	ND	< 25 U	< 3 U	ND
Styrene	460	1769	58974	< 4.4 U	< 0.85 U	ND	< 0.85 U	< 4.8 U	< 0.85 U	ND	< 4.7 U	< 0.85 U	ND	< 0.85 U	< 5 U	< 0.85 U	ND	< 7.2 U	< 0.85 U	ND
t-Butyl alcohol (TBA)				< 63 U	< 12 U	ND	< 12 U	< 68 U	< 12 U	ND	< 67 U	< 12 U	ND	< 12 U	< 72 U	< 12 U	ND	< 100 U	< 12 U	ND
Tetrachloroethene (PCE)	9.6	37	1231	< 35 U	< 6.8 U	ND	< 6.8 U	< 38 U	< 6.8 U	ND	< 37 U	< 6.8 U	ND	< 6.8 U	< 40 U	< 6.8 U	ND	< 58 U	< 6.8 U	ND
Tetrahydrofuran	910	3500	116667	**12**	< 0.3 U	ND	< 0.3 U	**17**	< 0.3 U	ND	**15**	< 0.3 U	ND	< 0.3 U	**12**	< 0.3 U	ND	**12**	< 0.3 U	ND
trans-1,2-Dichloroethene	18	69	2308	< 2.1 U	< 0.4 U	ND	< 0.4 U	< 2.2 U	< 0.4 U	ND	< 2.2 U	< 0.4 U	ND	< 0.4 U	< 2.3 U	< 0.4 U	ND	< 3.4 U	< 0.4 U	ND
trans-1,3-Dichloropropene				< 2.4 U	< 0.45 U	ND	< 0.45 U	< 2.5 U	< 0.45 U	ND	< 2.5 U	< 0.45 U	ND	< 0.45 U	< 2.7 U	< 0.45 U	ND	< 3.9 U	< 0.45 U	ND
Trichloroethene (TCE)	0.33	1	42	< 0.56 U	< 0.11 U	ND	< 0.11 U	< 0.6 U	< 0.11 U	ND	< 0.59 U	< 0.11 U	ND	< 0.11 U	< 0.63 U	< 0.11 U	ND	< 0.91 U	< 0.11 U	ND
Trichlorofluoromethane	320	1231	41026	< 12 U	**6.5**	**4.3**	< 2.2 U	< 13 U	< 2.2 U	ND	< 12 U	< 2.2 U	ND	< 2.2 U	< 13 U	< 2.2 U	ND	< 19 U	< 2.2 U	ND
Vinyl Acetate	91	350	11667	< 37 U	< 7 U	ND	< 7 U	< 39 U	< 7 U	ND	< 39 U	< 7 U	ND	< 7 U	< 42 U	< 7 U	ND	< 60 U	< 7 U	ND
Vinyl Bromide	0.17	0.65	22	< 2.3 U	< 0.44 U	ND	< 0.44 U	< 2.4 U	< 0.44 U	ND	< 2.4 U	< 0.44 U	ND	< 0.44 U	< 2.6 U	< 0.44 U	ND	< 3.7 U	< 0.44 U	ND
Vinyl Chloride	0.28	1.1	36	< 1.3 U	< 0.26 U	ND	< 0.26 U	< 1.4 U	< 0.26 U	ND	< 1.4 U	< 0.26 U	ND	< 0.26 U	< 1.5 U	< 0.26 U	ND	< 2.2 U	< 0.26 U	ND
1,3-Butadiene	0.083	0.32	11	< 0.23 U	< 0.044 U	ND	< 0.044 U	< 0.25 U	< 0.044 U	ND	< 0.24 U	< 0.044 U	ND	< 0.044 U	< 0.26 U	**0.069**	**0.025**	< 0.38 U	< 0.044 U	ND
2,2,4-Trimethylpentane				< 24 U	< 4.7 U	ND	< 4.7 U	< 26 U	< 4.7 U	ND	< 26 U	< 4.7 U	ND	< 4.7 U	< 28 U	< 4.7 U	ND	< 40 U	< 4.7 U	ND
4-Ethyltoluene				< 13 U	< 2.5 U	ND	< 2.5 U	< 14 U	< 2.5 U	ND	< 14 U	< 2.5 U	ND	< 2.5 U	< 15 U	< 2.5 U	ND	< 21 U	< 2.5 U	ND
alpha-Chlorotoluene	0.051	0.20	7	< 0.27 U	< 0.052 U	ND	< 0.052 U	< 0.29 U	< 0.052 U	ND	< 0.28 U	< 0.052 U	ND	< 0.052 U	< 0.31 U	< 0.052 U	ND	< 0.44 U	< 0.052 U	ND
Freon 114				< 3.6 U	< 0.7 U	ND	< 0.7 U	< 3.9 U	< 0.7 U	ND	< 3.8 U	< 0.7 U	ND	< 0.7 U	< 4.1 U	< 0.7 U	ND	< 5.9 U	< 0.7 U	ND
Heptane			6100	< 21 U	< 4.1 U	ND	< 4.1 U	< 23 U	**4.4**	**0.3**	< 23 U	**4.8**	**0.7**	< 4.1 U	< 24 U	< 4.1 U	ND	< 35 U	< 4.1 U	ND
Other																				
Helium				< 0.6 U	--	--	--	< 0.6 U	--	--	< 0.6 U	--	--	--	< 0.6 U	--	--	< 0.6 U	--	--

Notes

1) MTCA Method B CULs for indoor air assume unrestricted indoor exposure 24 hours/day and 7 days/week . Per the March 2022 Ecology guidance, "risk-based indoor air levels" can be developed for commercial buildings that do not meet the definition of an industrial property.
The indoor air levels were modified to reflect an exposure frequency which better represents the amount of time workers are actually present in the buildings (45 hours/week and 50 weeks/year, or a factor of 0.26).

2) Indoor air and soil gas standards for total petroleum hydrocarbons were updated in the final March 2022 Ecology VI guidance.

3) Non-detected analytes were taken as 1/2 the reporting limit in the calculated total.

Units are in ug/m^3, with the exception of helium, which is shown as a percentage.

Bold - detected

Blue Shaded - Detected result or non-detected RL exceeded site-specific risk-based indoor air cleanup level for commercial buildings (using exposure frequency factor of 0.26).

Orange Shaded - Detected result or non-detected RL exceeded site-specific risk-based Sub-Slab Soil Gas screening level (using vapor attenuation factor of 0.03).

U - Analyte not detected at or above Reporting Limit (RL) shown

J - Result value estimated

UJ - Analyte not detected and the Reporting Limit (RL) is an estimate

E - Result exceeded calibration range. Result usable for qualitative analysis of analyte presence, but numeric value should not be included in quantitative analysis.

C - Result may be influenced by unconfirmed contamination as part of the analytical process.

Table 3. Vapor Analytical Results

Project No. 210222, McCollum Park Site, Everett, Washington

Analyte	MTCA Method B Unrestricted Use Indoor Air Cleanup Level	MTCA Method B Risk-Based Indoor Air Level (Commercial)[1]	MTCA Method B Sub-Slab Soil Gas Screening Level (Commercial)	WSU Education Building							Adopt-a-Stream Building						
				WSU-ED1-SG 04/27/2021	WSU-ED1-IA 04/26/2021	WSU-ED1-IA (corrected) 04/26/2021	WSU-ED2-SG 04/27/2021	WSU-ED2-IA 04/26/2021	WSU-ED2-IA (corrected) 04/26/2021	WSU-AA 04/26/2021	STREAM-1-IA 04/26/2021	STREAM-1-IA (corrected) 04/26/2021	STREAM-2-IA 04/26/2021	STREAM-2-IA (corrected) 04/26/2021	STREAM-3-IA 04/26/2021	STREAM-3-IA (corrected) 04/26/2021	STREAM-AA 04/26/2021
APH																	
C5 - C8 Aliphatic Hydrocarbons				**520**	**170**	**85**	**510**	**150**	**65**	**85**	**130**	**30**	**100**	ND	**120**	**20**	**100**
C9 - C12 Aliphatic Hydrocarbons				**150**	< 25 U	ND	< 140 U	**150**	**125**	< 25 U	**67**	**42**	< 25 U	ND	**36**	**11**	< 25 U
C9 - C10 Aromatic Hydrocarbons				< 140 U	< 25 U	ND	< 140 U	< 25 U	ND	< 25 U	< 25 U	ND	< 25 U	ND	< 25 U	ND	< 25 U
Total Petroleum Hydrocarbons[2,3]	46	177	5897	**796**	**212**	**91**	**712**	**333**	**212**	**121**	**226**	**90**	**136**	ND	**179**	**43**	**136**
BTEX																	
Benzene	0.32	1.2	41	< 1.8 U	**1**	**0.68**	< 1.8 U	**1.4**	**1.08**	< 0.32 U	< 0.32 U	ND	< 0.32 U	ND	< 0.32 U	ND	< 0.32 U
Toluene	2300	8846	294872	< 100 U	< 19 U	ND	< 110 U	< 19 U	ND	< 19 U	< 28 U	ND	< 19 U	ND	< 19 U	ND	< 19 U
Ethylbenzene	460	1769	58974	< 2.4 U	**1.1**	**0.67**	< 2.5 U	**1.5**	**1.07**	< 0.43 U	< 0.43 U	ND	< 0.43 U	ND	< 0.43 U	ND	< 0.43 U
Total Xylenes	46	177	5897	< 4.8 U	**5.3**	**4.43**	< 5 U	**7.7**	**6.83**	< 0.87 U	**1.7**	**0.83**	< 0.87 U	ND	< 0.87 U	ND	< 0.87 U
Other SVOCs																	
1,4-Dioxane	0.5	1.9	63	< 2 U	< 0.36 U	ND	< 2.1 U	< 0.36 U	ND	< 0.36 U	< 0.54 U	ND	< 0.36 U	ND	< 0.36 U	ND	< 0.36 U
Hexachlorobutadiene	0.11	0.41	14	< 3 U	< 0.53 U	ND	< 3 U	< 0.53 U	ND	< 0.53 U	< 0.53 U	ND	< 0.53 U	ND	< 0.53 U	ND	< 0.53 U
PAHs																	
Naphthalene	0.073	0.28	9	< 1.4 U	**0.14**	**0.083**	< 1.5 U	**0.33**	**0.27**	< 0.057 UJ	**0.26**	**0.20**	**0.21**	**0.15**	**0.13**	**0.073**	< 0.057 UJ
VOCs																	
1,1,1-Trichloroethane	2300	8846	294872	< 3 U	< 0.55 U	ND	< 3.1 U	< 0.55 U	ND	< 0.55 U	< 0.55 U	ND	< 0.55 U	ND	< 0.55 U	ND	< 0.55 U
1,1,2,2-Tetrachloroethane	0.043	0.17	6	< 0.76 U	< 0.14 U	ND	< 0.78 U	< 0.14 U	ND	< 0.14 U	< 0.14 U	ND	< 0.14 U	ND	< 0.14 U	ND	< 0.14 U
1,1,2-Trichloroethane	0.091	0.35	12	< 0.3 U	< 0.055 U	ND	< 0.31 U	< 0.055 U	ND	< 0.055 U	< 0.082 U	ND	< 0.055 U	ND	< 0.055 U	ND	< 0.055 U
1,1,2-Trichlorotrifluoroethane	2300	8846	294872	< 4.2 U	< 0.77 U	ND	< 4.4 U	< 0.77 U	ND	< 0.77 U	< 0.77 U	ND	< 0.77 U	ND	< 0.77 U	ND	< 0.77 U
1,1-Dichloroethane	1.6	6.2	205	< 2.2 U	< 0.4 U	ND	< 2.3 U	< 0.4 U	ND	< 0.4 U	< 0.4 U	ND	< 0.4 U	ND	< 0.4 U	ND	< 0.4 U
1,1-Dichloroethene	91	350	11667	< 2.2 U	< 0.4 U	ND	< 2.3 U	< 0.4 U	ND	< 0.4 U	< 0.4 U	ND	< 0.4 U	ND	< 0.4 U	ND	< 0.4 U
1,2,4-Trichlorobenzene	0.91	3.5	117	< 4.1 U	< 0.74 U	ND	< 4.2 U	< 0.74 U	ND	< 0.74 U	< 0.74 U	ND	< 0.74 U	ND	< 0.74 U	ND	< 0.74 U
1,2,4-Trimethylbenzene	27	104	3462	< 14 U	< 2.5 U	ND	< 14 U	< 2.5 U	ND	< 2.5 U	< 2.5 U	ND	< 2.5 U	ND	< 2.5 U	ND	< 2.5 U
1,2-Dibromoethane (EDB)	0.0042	0.016	0.54	< 0.42 U	< 0.077 U	ND	< 0.44 U	< 0.077 U	ND	< 0.077 U	< 0.12 U	ND	< 0.077 U	ND	< 0.077 U	ND	< 0.077 U
1,2-Dichlorobenzene	91	350	11667	< 3.3 U	< 0.6 U	ND	< 3.4 U	< 0.6 U	ND	< 0.6 U	< 0.6 U	ND	< 0.6 U	ND	< 0.6 U	ND	< 0.6 U
1,2-Dichloroethane (EDC)	0.096	0.37	12	< 0.22 U	**0.089**	**0.008**	< 0.23 U	**0.077**	ND	**0.081**	**0.1**	**0.023**	**0.077**	**0**	**0.085**	**0.008**	**0.077**
1,2-Dichloropropane	0.68	2.6	87	< 1.3 U	< 0.23 U	ND	< 1.3 U	< 0.23 U	ND	< 0.23 U	< 0.35 U	ND	< 0.23 U	ND	< 0.23 U	ND	< 0.23 U
1,3,5-Trimethylbenzene	27	104	3462	< 14 U	< 2.5 U	ND	< 14 U	< 2.5 U	ND	< 2.5 U	< 2.5 U	ND	< 2.5 U	ND	< 2.5 U	ND	< 2.5 U
1,3-Dichlorobenzene				< 3.3 U	< 0.6 U	ND	< 3.4 U	< 0.6 U	ND	< 0.6 U	< 0.6 U	ND	< 0.6 U	ND	< 0.6 U	ND	< 0.6 U
1,4-Dichlorobenzene	0.23	0.88	29	< 1.3 U	< 0.23 U	ND	< 1.4 U	< 0.23 U	ND	< 0.23 U	< 0.23 U	ND	< 0.23 U	ND	< 0.23 U	ND	< 0.23 U
1-Propene				< 6.6 U	< 1.2 U	ND	< 6.9 U	< 1.2 U	ND	< 1.2 U	< 1.2 U	ND	< 1.2 U	ND	< 1.2 U	ND	< 1.2 U
2-Butanone	2300	8846	294872	< 16 U	< 2.9 U	ND	< 17 U	< 2.9 U	ND	< 2.9 U	< 2.9 U	ND	< 2.9 U	ND	< 2.9 U	ND	< 2.9 U
2-Chlorotoluene				< 28 U	< 5.2 U	ND	< 30 U	< 5.2 U	ND	< 5.2 U	< 5.2 U	ND	< 5.2 U	ND	< 5.2 U	ND	< 5.2 U
2-Hexanone	14	54	1795	< 23 U	< 4.1 U	ND	< 23 U	< 4.1 U	ND	< 4.1 U	< 6.1 U	ND	< 4.1 U	ND	< 4.1 U	ND	< 4.1 U
4-Methyl-2-pentanone	1400	5385	179487	< 23 U	< 4.1 U	ND	< 23 U	< 4.1 U	ND	< 4.1 U	< 6.1 U	ND	< 4.1 U	ND	< 4.1 U	ND	< 4.1 U
Acetone	14000	53846	1794872	**45**	**7**	**1.4**	**140**	**6**	**0.4**	**5.6**	**20**	**15**	**7.2**	**2.2**	**13**	**8**	**5**
Acrolein	0.0091	0.04	1.17	**0.78**	**0.41**	**0.29**	< 0.65 U	**0.5**	**0.38**	**0.12**	**1.1**	**0.96**	**0.61**	**0.47**	**0.82**	**0.68**	**0.14**
Allyl Chloride	0.42	1.6	54	< 8.6 U	< 1.6 U	ND	< 8.9 U	< 1.6 U	ND	< 1.6 U	< 1.6 U	ND	< 1.6 U	ND	< 1.6 U	ND	< 1.6 U
Bromodichloromethane	0.068	0.26	9	< 0.37 U	< 0.067 U	ND	< 0.38 U	< 0.067 U	ND	< 0.067 U	< 0.1 U	ND	< 0.067 U	ND	< 0.067 U	ND	< 0.067 U
Bromoform	2.3	8.8	295	< 11 U	< 2.1 U	ND	< 12 U	< 2.1 U	ND	< 2.1 U	< 2.1 U	ND	< 2.1 U	ND	< 2.1 U	ND	< 2.1 U
Bromomethane	2.3	8.8	295	< 13 U	< 2.3 U	ND	< 13 U	< 2.3 U	ND	< 2.3 U	< 2.3 U	ND	< 2.3 U	ND	< 2.3 U	ND	< 2.3 U
Butane				< 26 U	< 4.8 U	ND	< 27 U	< 4.8 U	ND	< 4.8 U	< 4.8 U	ND	< 4.8 U	ND	< 4.8 U	ND	< 4.8 U
Carbon Disulfide	320	1231	41026	< 34 U	< 6.2 U	ND	< 36 U	< 6.2 U	ND	< 6.2 U	< 6.2 U	ND	< 6.2 U	ND	< 6.2 U	ND	< 6.2 U
Carbon Tetrachloride	0.42	1.6	54	< 1.7 U	**0.45**	**0**	< 1.8 U	**0.46**	**0.01**	**0.45**	**0.52**	**0.06**	**0.45**	ND	**0.47**	**0.01**	**0.46**
Chlorobenzene	23	88	2949	< 2.5 U	< 0.46 U	ND	< 2.6 U	< 0.46 U	ND	< 0.46 U	< 0.46 U	ND	< 0.46 U	ND	< 0.46 U	ND	< 0.46 U
Chloroethane	4600	17692	589744	< 15 U	< 2.6 U	ND	< 15 U	< 2.6 U	ND	< 2.6 U	< 2.6 U	ND	< 2.6 U	ND	< 2.6 U	ND	< 2.6 U
Chloroform	0.11	0.42	3.6	< 0.27 U	**0.098**	**0.015**	< 0.28 U	**0.11**	**0.027**	**0.083**	**0.27**	**0.192**	**0.12**	**0.042**	**0.093**	**0.015**	**0.078**
Chloromethane	41	158	5256	< 20 U	< 3.7 U	ND	< 21 U	< 3.7 U	ND	< 3.7 U	< 3.7 U	ND	< 3.7 U	ND	< 3.7 U	ND	< 3.7 U
cis-1,2-Dichloroethene (cDCE)				< 2.2 U	< 0.4 U	ND	< 2.3 U	< 0.4 U	ND	< 0.4 U	< 0.4 U	ND	< 0.4 U	ND	< 0.4 U	ND	< 0.4 U
cis-1,3-Dichloropropene				< 2.5 U	< 0.45 U	ND	< 2.6 U	< 0.45 U	ND	< 0.45 U	< 0.68 U	ND	< 0.45 U	ND	< 0.45 U	ND	< 0.45 U
Cyclohexane	2700	10385	346154	< 38 U	< 6.9 U	ND	< 39 U	< 6.9 U	ND	< 6.9 U	< 6.9 U	ND	< 6.9 U	ND	< 6.9 U	ND	< 6.9 U
Dibromochloromethane				< 0.47 U	< 0.085 U	ND	< 0.49 U	< 0.085 U	ND	< 0.085 U	< 0.13 U	ND	< 0.085 U	ND	< 0.085 U	ND	< 0.085 U
Dichlorodifluoromethane	46	177	5897	< 2.7 U	**2.5**	**-0.3**	< 2.8 U	**2.9**	**0.1**	**2.8**	**2.4**	ND	**2.4**	**-0.2**	**2.6**	**0**	**2.6**
Ethanol				**74**	**14 J**	**6.5**	**99**	**21 J**	**13.5**	< 7.5 U	**58 E**	**50.5**	**66 E**	**58.5**	**410 E**	**402.5**	< 7.5 U
Ethyl acetate	32	123	4103	< 40 U	< 7.2 U	ND	< 41 U	< 7.2 U	ND	< 7.2 U	< 7.2 U	ND	< 7.2 U	ND	< 7.2 U	ND	< 7.2 U
Isopropyl Alcohol	91	350		**81**	< 8.6 U	ND	**80**	< 8.6 U	ND	< 8.6 U	**96 E**	**87.4**	< 8.6 U	ND	**11**	**2.4**	< 8.6 U
Isopropylbenzene	180	692	23077	< 14 U	< 2.5 U	ND	< 14 U	< 2.5 U	ND	< 2.5 U	< 2.5 U	ND	< 2.5 U	ND	< 2.5 U	ND	< 2.5 U
m,p-Xylenes	46	177	5897	< 4.8 U	**4**	**3.13**	< 5 U	**5.9**	**5.03**	< 0.87 U	**1.7**	**0.83**	< 0.87 U	ND	< 0.87 U	ND	< 0.87 U
Methyl Methacrylate	320	1231	41026	< 23 U	< 4.1 U	ND	< 23 U	< 4.1 U	ND	< 4.1 U	< 6.1 U	ND	< 4.1 U	ND	< 4.1 U	ND	< 4.1 U
Methyl tert-butyl ether (MTBE)	9.6	37	1231	< 9.9 U	< 1.8 U	ND	< 10 U	< 1.8 U	ND	< 1.8 U	< 1.8 U	ND	< 1.8 U	ND	< 1.8 U	ND	< 1.8 U
Methylene Chloride	66	254	8462	**210 C**	**130 CE**	**57 CE**	< 200 U	**47 C**	0	**73 CE**	**84 CE**	**25 CE**	< 35 U	**5 CE**	**64 CE**	**5 CE**	**59 CE**
n-Hexane	320	1231	41026	< 19 U	< 3.5 U	ND	< 20 U	< 3.5 U	ND	< 3.5 U	< 3.5 U	ND	< 3.5 U	ND	< 3.5 U	ND	< 3.5 U
Nonane				< 29 U	< 5.2 U	ND	< 30 U	< 5.2 U	ND	< 5.2 U	< 5.2 U	ND	< 5.2 U	ND	< 5.2 U	ND	< 5.2 U
n-Propylbenzene	460	1769	58974	< 14 U	< 2.5 U	ND	< 14 U	< 2.5 U	ND	< 2.5 U	< 2.5 U	ND	< 2.5 U	ND	< 2.5 U	ND	< 2.5 U
o-Xylene	46	177	5897	< 2.4 U	**1.3**	**0.87**	< 2.5 U	**1.8**	**1.37**	< 0.43 U	< 0.43 U	ND	< 0.43 U	ND	< 0.43 U	ND	< 0.43 U
Pentane	460	1769		< 16 U	**4.7**	**1.7**	< 17 U	**6.2**	**3.2**	< 3 U	< 3 U	ND	< 3 U	ND	< 3 U	ND	< 3 U
Styrene	460	1769	58974	< 4.7 U	< 0.85 U	ND	< 4.9 U	< 0.85 U	ND	< 0.85 U	< 0.85 U	ND	< 0.85 U	ND	< 0.85 U	ND	< 0.85 U
t-Butyl alcohol (TBA)				< 67 U	< 12 U	ND	< 69 U	< 12 U	ND	< 12 U	< 12 U	ND	< 12 U	ND	< 12 U	ND	< 12 U
Tetrachloroethene (PCE)	9.6	37	1231	< 37 U	< 6.8 U	ND	< 39 U	< 6.8 U	ND	< 6.8 U	< 10 U	ND	< 6.8 U	ND	< 6.8 U	ND	< 6.8 U
Tetrahydrofuran	910	3500	116667	**6.7**	**0.89**	**0.59**	**6.3**	**0.95**	**0.65**	< 0.3 U	< 0.3 U	ND	< 0.3 U	ND	< 0.3 U	ND	< 0.3 U
trans-1,2-Dichloroethene	18	69	2308	< 2.2 U	< 0.4 U	ND	< 2.3 U	< 0.4 U	ND	< 0.4 U	< 0.4 U	ND	< 0.4 U	ND	< 0.4 U	ND	< 0.4 U
trans-1,3-Dichloropropene				< 2.5 U	< 0.45 U	ND	< 2.6 U	< 0.45 U	ND	< 0.45 U	< 0.68 U	ND	< 0.45 U	ND	< 0.45 U	ND	< 0.45 U
Trichloroethene (TCE)	0.33	1	42	< 0.59 U	< 0.11 U	ND	< 0.61 U	< 0.11 U	ND	< 0.11 U	< 0.16 U	ND	< 0.11 U	ND	< 0.11 U	ND	< 0.11 U
Trichlorofluoromethane	320	1231	41026	< 12 U	< 2.2 U	ND	< 13 U	< 2.2 U	ND	< 2.2 U	< 2.2 U	ND	< 2.2 U	ND	< 2.2 U	ND	< 2.2 U
Vinyl Acetate	91	350	11667	< 39 U	< 7 U	ND	< 40 U	< 7 U	ND	< 7 U	< 7 U	ND	< 7 U	ND	< 7 U	ND	< 7 U
Vinyl Bromide	0.17	0.65	22	< 2.4 U	< 0.44 U	ND	< 2.5 U	< 0.44 U	ND	< 0.44 U	< 0.44 U	ND	< 0.44 U	ND	< 0.44 U	ND	< 0.44 U
Vinyl Chloride	0.28	1.1	36	< 1.4 U	< 0.26 U	ND	< 1.5 U	< 0.26 U	ND	< 0.26 U	< 0.26 U	ND	< 0.26 U	ND	< 0.26 U	ND	< 0.26 U
1,3-Butadiene	0.083	0.32	11	< 0.24 U	< 0.044 U	ND	< 0.25 U	< 0.044 U	ND	< 0.044 U	**0.11**	**0.066**	**0.062**	**0.018**	< 0.044 U	ND	< 0.044 U
2,2,4-Trimethylpentane				< 26 U	< 4.7 U	ND	< 27 U	< 4.7 U	ND	< 4.7 U	< 7 U	ND	< 4.7 U	ND	< 4.7 U	ND	< 4.7 U
4-Ethyltoluene				< 14 U	< 2.5 U	ND	< 14 U	< 2.5 U	ND	< 2.5 U	< 2.5 U	ND	< 2.5 U	ND	< 2.5 U	ND	< 2.5 U
alpha-Chlorotoluene	0.051	0.20	7	< 0.28 U	< 0.052 U	ND	< 0.3 U	< 0.052 U	ND	< 0.052 U	< 0.052 U	ND	< 0.052 U	ND	< 0.052 U	ND	< 0.052 U
Freon 114				< 3.8 U	< 0.7 U	ND	< 4 U	< 0.7 U	ND	< 0.7 U	< 0.7 U	ND	< 0.7 U	ND	< 0.7 U	ND	< 0.7 U
Heptane			6100	< 23 U	< 4.1 U	ND	< 23 U	< 4.1 U	ND	< 4.1 U	< 6.1 U	ND	< 4.1 U	ND	< 4.1 U	ND	< 4.1 U
Other																	
Helium				< 0.6 U	--	--	< 0.6 U	--	--	--	--	--	--	--	--	--	--

Table 4. Vapor Analytical Results - Exceedances Only

Project No. 210222, McCollum Park Site, Everett, Washington

Analyte	MTCA Method B Unrestricted Use Indoor Air Cleanup Level	MTCA Method B Risk-Based Indoor Air Level (Commercial)[1]	MTCA Method B Sub-Slab Soil Gas Screening Level (Commercial)	BMX Building	Pool Building			WSU Extension Building		WSU Education Building		Adopt-a-Stream Building		
				BMX-1-IA (corrected) 04/26/2021	POOL-1-SG 04/27/2021	POOL-1-IA (corrected) 04/26/2021	POOL-2-IA (corrected) 04/26/2021	WSU-EX1-IA (corrected) 04/26/2021	WSU-EX2-IA (corrected) 04/26/2021	WSU-ED1-IA (corrected) 04/26/2021	WSU-ED2-IA (corrected) 04/26/2021	STREAM-1-IA (corrected) 04/26/2021	STREAM-2-IA (corrected) 04/26/2021	STREAM-3-IA (corrected) 04/26/2021
APH														
Total Petroleum Hydrocarbons[2,3]	46	177	5897	**20**	**1200**	**329**	**298**	**35**	**45**	**91**	**212**	**90**	ND	**43**
BTEX														
Benzene	0.32	1.2	41	ND	**2.8**	**3.3**	**3.4**	ND	ND	**0.68**	**1.08**	ND	ND	ND
PAHs														
Naphthalene	0.073	0.28	9	**0.022**	< 1.5 U	**0.48**	**0.46**	**0.18**	**0.28**	**0.083**	**0.27**	**0.20**	**0.15**	**0.073**
VOCs														
Acrolein	0.0091	0.04	1.17	**0.35**	**1.3**	**0.32**	**0.15**	**0.25**	**0.33**	**0.29**	**0.38**	**0.96**	**0.47**	**0.68**
Chloroform	0.11	0.42	3.6	ND	**46**	**0.052**	**0.052**	**0.047**	**0.117**	**0.015**	**0.027**	**0.192**	**0.042**	**0.015**

Notes

1) MTCA Method B CULs for indoor air assume unrestricted indoor exposure 24 hours/day and 7 days/week . Per the March 2022 Ecology guidance, "risk-based indoor air levels" can be developed for commercial buildings that do not meet the definition of an industrial property. The indoor air levels were modified to reflect an exposure frequency which better represents the amount of time workers are actually present in the buildings (45 hours/week and 50 weeks/year, or a factor of 0.26).

2) Indoor air and soil gas standards for total petroleum hydrocarbons were updated in the final March 2022 Ecology VI guidance.

3) Non-detected analytes were taken as 1/2 the reporting limit in the calculated total.

Units are in ug/m^3, with the exception of helium, which is shown as a percentage.

Bold - detected

Blue Shaded - Detected result or non-detected RL exceeded risk-based indoor air level for commercial buildings (using exposure frequency factor of 0.26).

Orange Shaded - Detected result or non-detected RL exceeded Sub-Slab Soil Gas screening level (using risk-based indoor air level and vapor attenuation factor of 0.03).

U - Analyte not detected at or above Reporting Limit (RL) shown

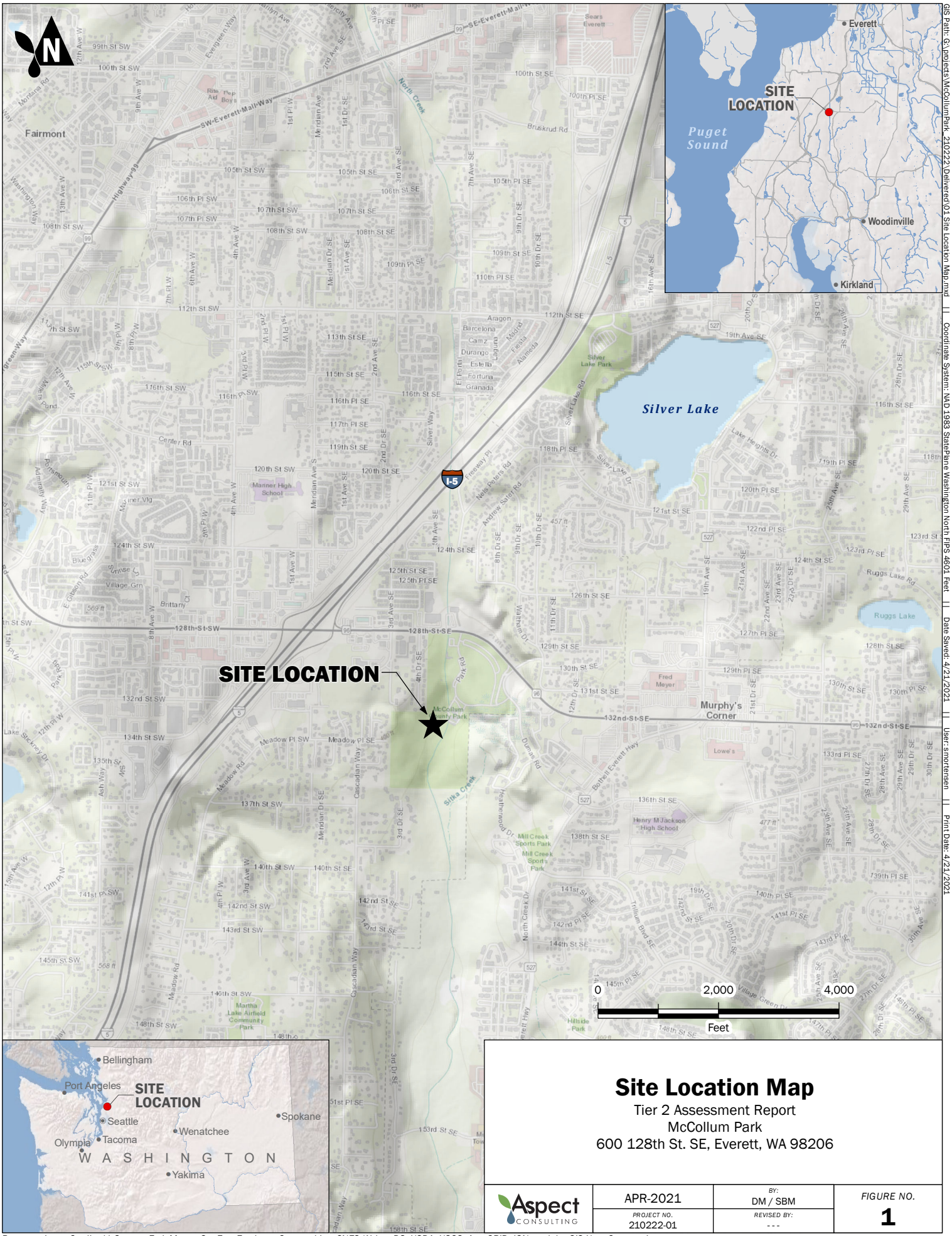
J - Result value estimated

UJ - Analyte not detected and the Reporting Limit (RL) is an estimate

E - Result exceeded calibration range. Result usable for qualitative analysis of analyte presence, but numeric value should not be included in quantitative analysis.

C - Result may be influenced by unconfirmed contamination as part of the analytical process.

FIGURES



Site Location Map

Tier 2 Assessment Report
McCollum Park
600 128th St. SE, Everett, WA 98206

Aspect CONSULTING	APR-2021	BY: DM / SBM	FIGURE NO. 1
	PROJECT NO. 210222-01	REVISED BY: ---	

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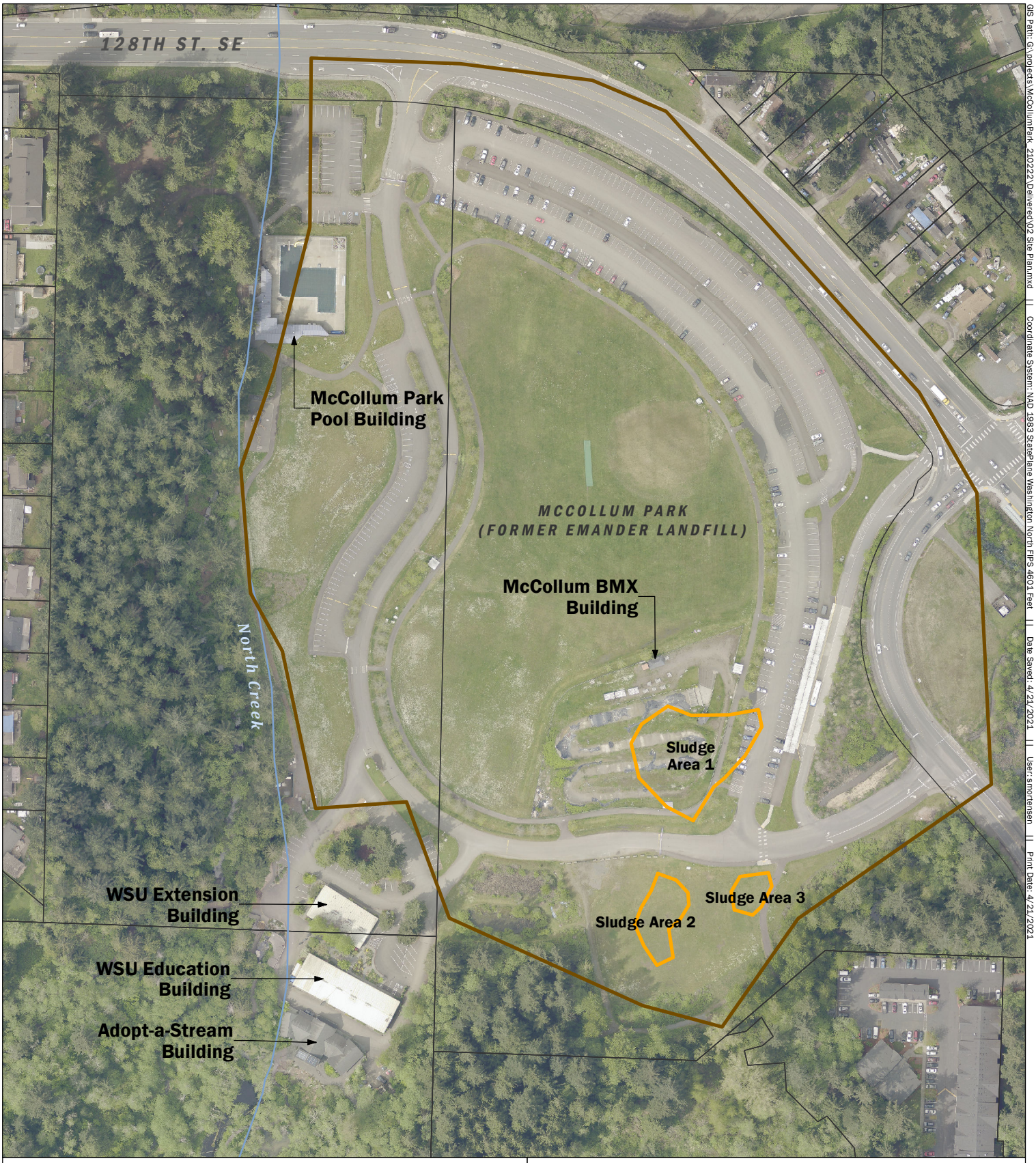

Landfill Area

Sludge Area

Snohomish County Tax Parcel

N

0 200 400

Feet

Site Plan

Tier 2 Assessment Report
McCollum Park
600 128th St. SE, Everett, WA 98206

Aspect Consulting	APR-2021	BY: DM / SBM	FIGURE NO. 2
	PROJECT NO. 210222-01	REVISED BY: ---	

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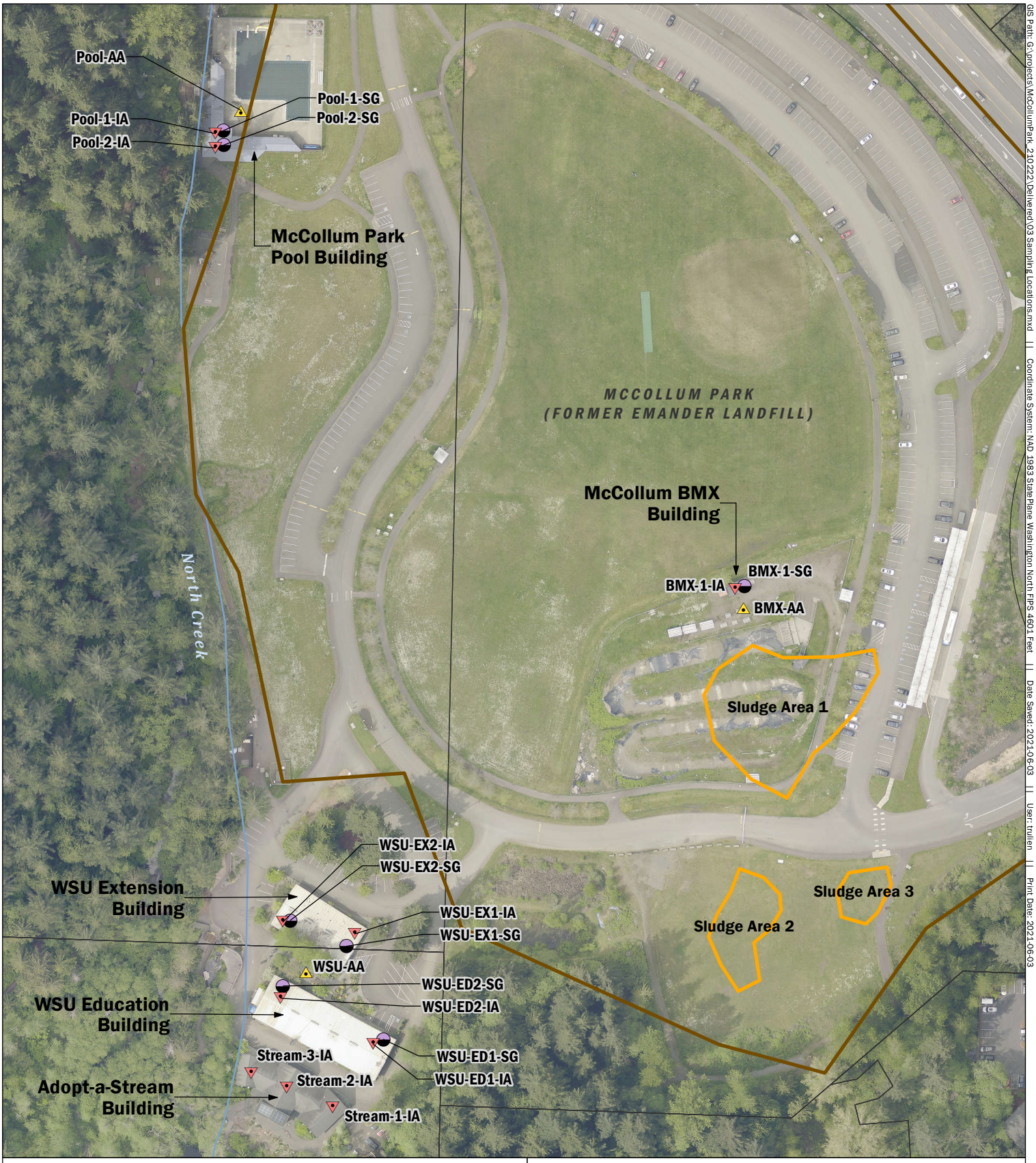


Ambient Air
Indoor Air
Soil Gas
Landfill Area
Sludge Area
Snohomish County Tax Parcel

Note: Site features are approximate.

N

0 150
Feet

Sampling Locations

Tier 2 Assessment Report
McCollum Park
600 128th St. SE, Everett, WA 98206

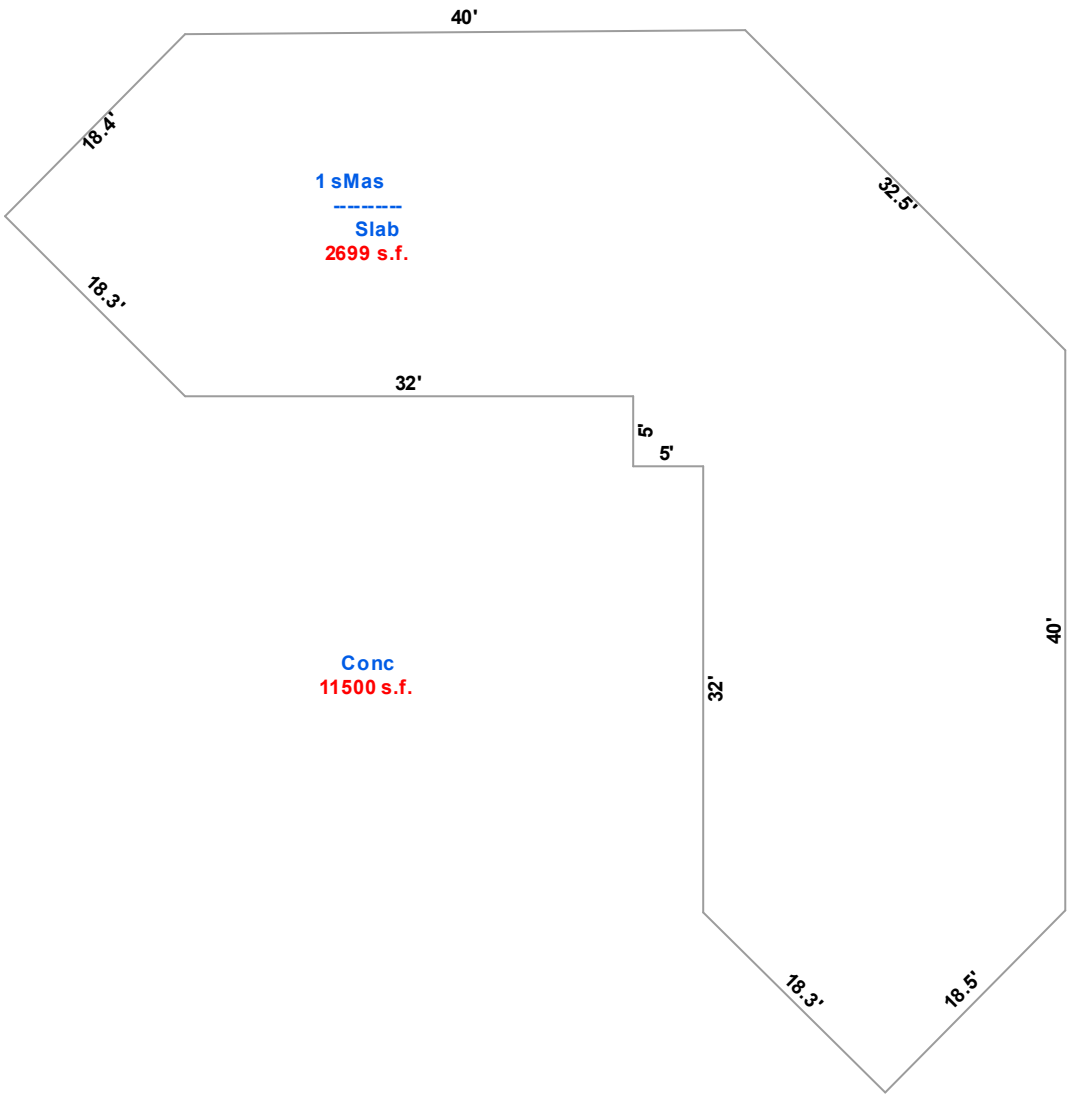
DRAFT

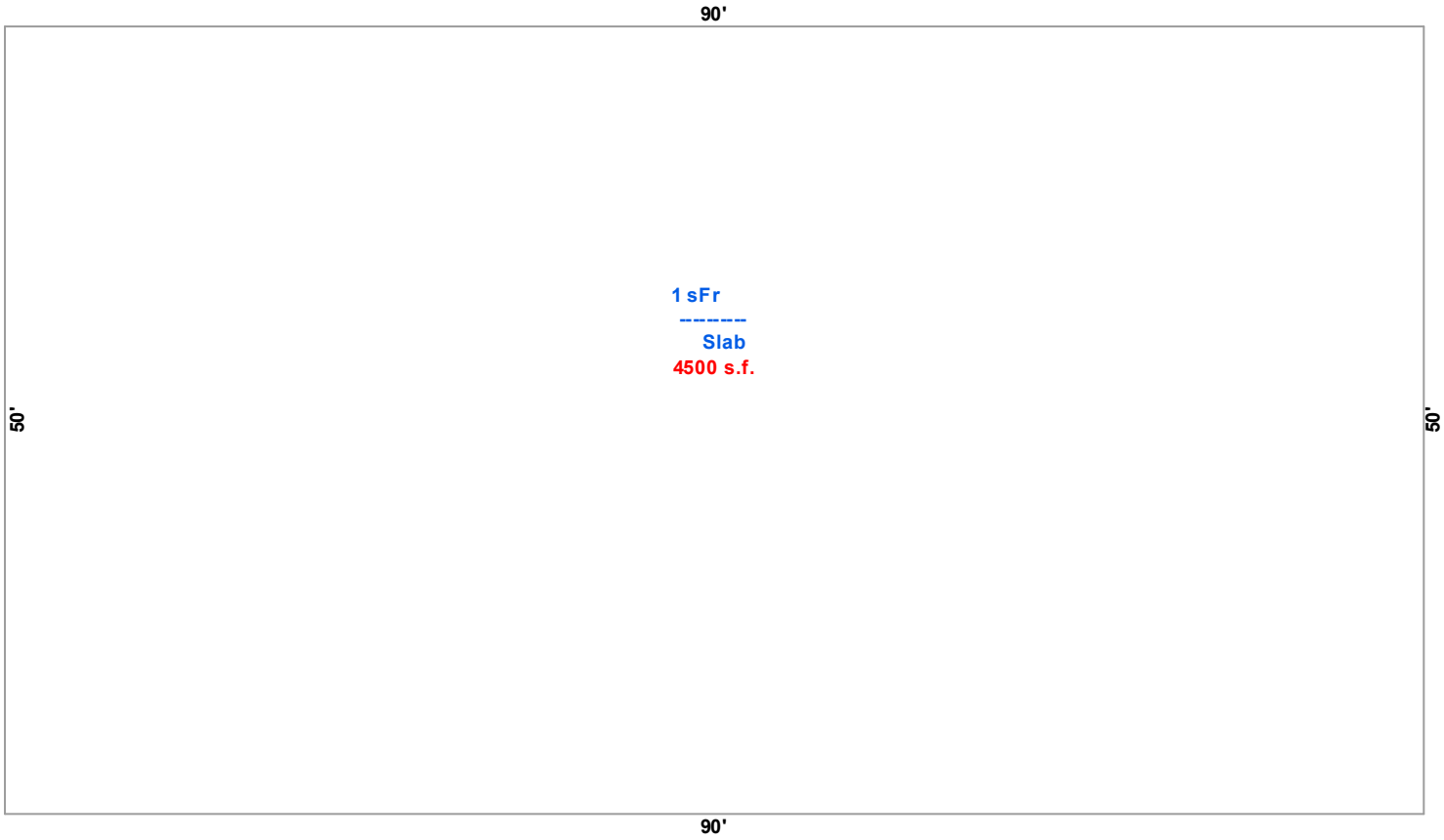
Aspect Consulting	JUN-2021	BY: DM / SBM	FIGURE NO. 3
	PROJECT NO. 210222-01	REVISED BY: TDR	

APPENDIX A

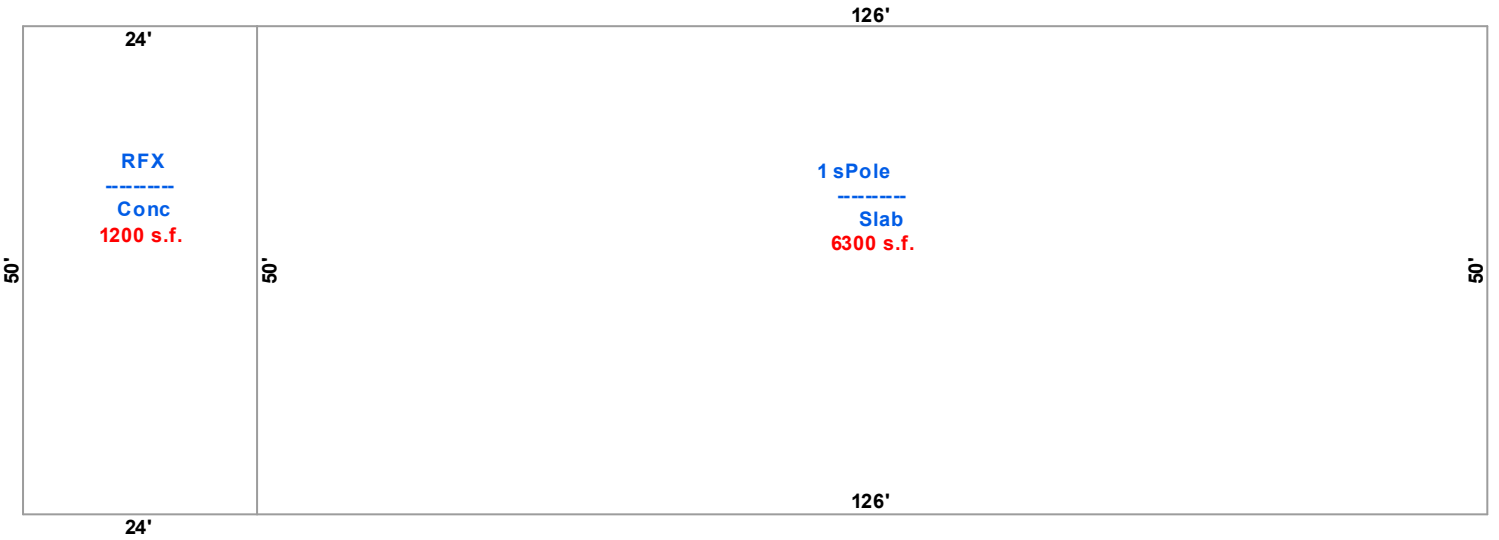
Building Floor Plans

McCollum Park



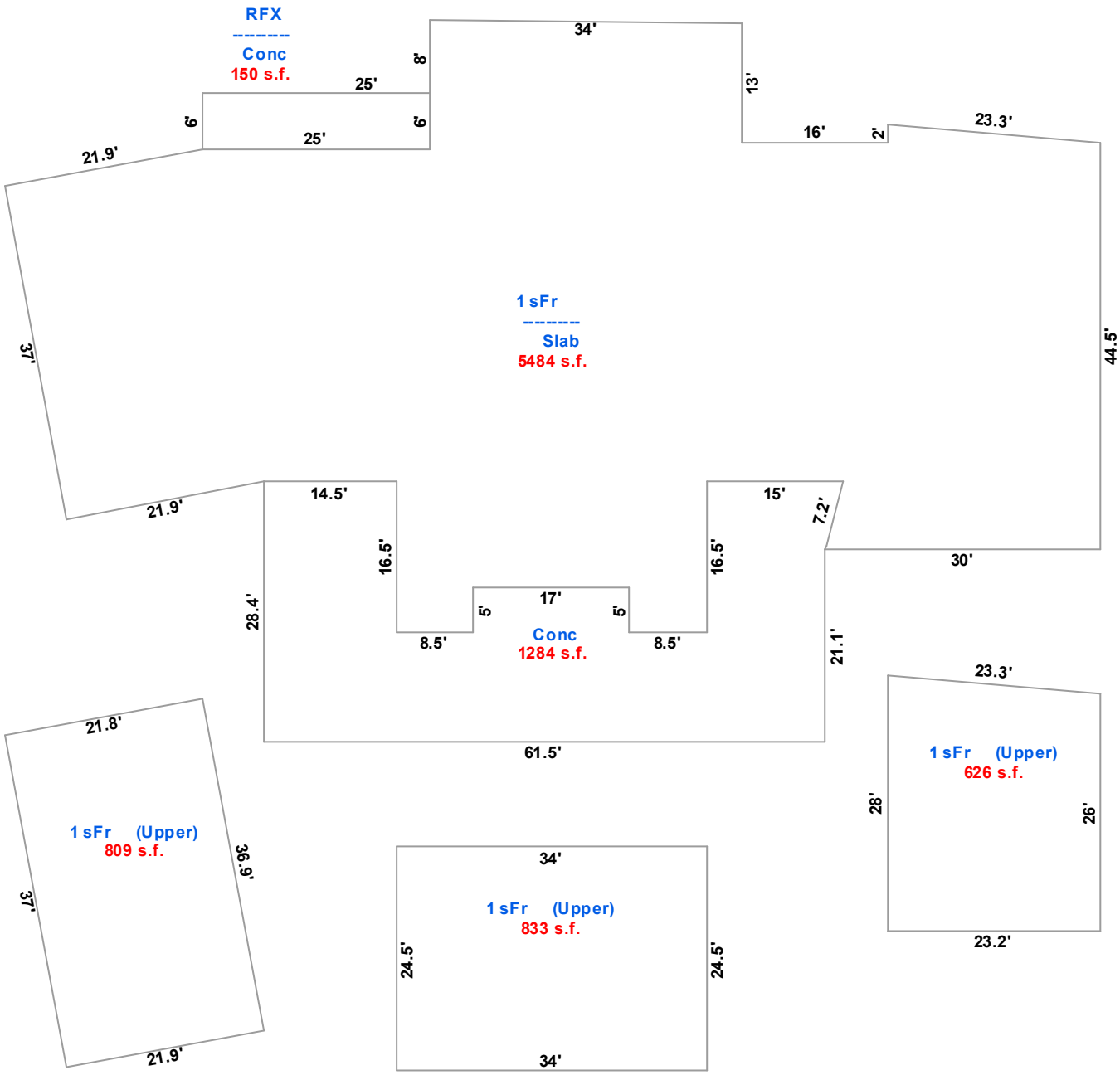


WSU Extension Office



WSU Ext Classroom

Adopt-a-Stream Foundation Bldg



APPENDIX B

Field Forms

Air Sample Collection Form

Project Name: McCollum Park Address: 600 128th St. SE Everett WA Aspect Project No.: 210222

Date: 4/26/21 Field Representative: Baxter Call

Completed Building Evaluation Form? Y

Provided Occupants with Pre-Sampling Instructions? Y

Photoionization Detector (Brand and Model): MiniRae Lite

Landfill Gas Meter (Brand and Model): GEM 5000

Weather Data

START		END	
Barometric Pressure (in Hg): 29.77		Barometric Pressure (in Hg): 30.01	
Wind Direction (from the): S		Wind Direction (from the): N	
Wind Speed (mph): 5		Wind Speed (mph): 5.5	
Temperature (deg F): 49		Temperature (deg F): 55	
Humidity (%): 86		Humidity (%): 73	
Precipitation (inches): 0		Precipitation (inches): 0	
Weather Description: Partly/Mostly Cloudy		Sunny	

Air Sample Name: Pool-AA-042621	Canister ID: 18565	Gauge/Controller ID: 06606	
Sample Type (check all that apply): [ ] Indoor [X] Outdoor	[ ] Ambient or Background Source	[ ] Crawlspace	[ ] Basement
Sample Location: Pool deck	**Sample Intake Height:** ~5'		

Sample Readings

START		END	
Date: 4/26/21		Date: 4/26/21	
Time: 0734		Time: 1534	
PID Reading (ppm): 0.0		PID Reading (ppm): 0.0	
Canister Vacuum (in Hg): ~~28.4~~ 28.5		Canister Vacuum (in Hg): 3	
CH_4 (% volume): 0.0		CH_4 (% volume): 0.0	
CO_2 (% volume): 0.1		CO_2 (% volume): 0.1	
O_2 (% volume): 20.3		O_2 (% volume): 20.7	
H_2S (% volume): 0		H_2S (% volume): 0	
Notes:			
HVAC operation/other ventilation considerations during sampling period: N/A			

Air Sample Name: Pool-I-IA-042621	Canister ID: 37212	Gauge/Controller ID: 07870	
Sample Type (check all that apply): [X] Indoor [ ] Outdoor	[ ] Ambient or Background Source	[ ] Crawlspace	[ ] Basement
Sample Location: Office Desk	**Sample Intake Height:** ~4'		

Sample Readings

START		END	
Date: 4/26/21		Date: 4/26/21	
Time: 0738		Time: 1537	
PID Reading (ppm): 0.0		PID Reading (ppm): 0.1	
Canister Vacuum (in Hg): 30		Canister Vacuum (in Hg): 7	
CH_4 (% volume): 0.0		CH_4 (% volume): 0.0	
CO_2 (% volume): 0.1		CO_2 (% volume): 0.1	
O_2 (% volume): 21.4		O_2 (% volume): 20.6	
H_2S (% volume): 0		H_2S (% volume): 0	
Notes:			
HVAC operation/other ventilation considerations during sampling period: No ~~ven~~ active ventilation.			

Aspect CONSULTING

Air Sample Collection Form

Project Name: McCollum Park Address: _____ Aspect Project No.: _____

Date: 4/26/21 Field Representative: Baxter Call

Completed Building Evaluation Form? _____

Provided Occupants with Pre-Sampling Instructions? _____

Photoionization Detector (Brand and Model): _____

Landfill Gas Meter (Brand and Model):

Weather Data	
START	**END**
Barometric Pressure (in Hg):	Barometric Pressure (in Hg):
Wind Direction (from the):	Wind Direction (from the):
Wind Speed (mph):	Wind Speed (mph):
Temperature (deg F):	Temperature (deg F):
Humidity (%):	Humidity (%):
Precipitation (inches):	Precipitation (inches):
Weather Description:	

Air Sample Name: Pool-2-IA-042621	Canister ID: 23230	Gauge/Controller ID: 05352	
Sample Type (check all that apply): [X] Indoor [ ] Outdoor	[ ] Ambient or Background Source	[ ] Crawlspace	[ ] Basement
Sample Location: Lobby countertop	**Sample Intake Height:** 5'		

Sample Readings	
START	**END**
Date: 4/26/21	Date: 4/26/21
Time: 0745	Time: ~~0~~ 1541
PID Reading (ppm): 0.0	PID Reading (ppm): 0.1
Canister Vacuum (in Hg): 29	Canister Vacuum (in Hg): 6
CH_4 (% volume): 0.0	CH_4 (% volume): 0.0
CO_2 (% volume): 0.1	CO_2 (% volume): 0.1
O_2 (% volume): 21.4	O_2 (% volume): 20.6
H_2S (% volume): 0	H_2S (% volume): 0
Notes:	
HVAC operation/other ventilation considerations during sampling period: No active ventilation.	

Air Sample Name: Stream-1-IA-042621	Canister ID: 32100	Gauge/Controller ID: 06603	
Sample Type (check all that apply): [X] Indoor [ ] Outdoor	[ ] Ambient or Background Source	[ ] Crawlspace	[ ] Basement
Sample Location: Break room table	**Sample Intake Height:** ~4'		

Sample Readings	
START	**END**
Date: 4/26/21	Date: 4/26/21
Time: 0805	Time: 1553
PID Reading (ppm): 0.0	PID Reading (ppm): 0.1
Canister Vacuum (in Hg): 29	Canister Vacuum (in Hg): 7.5
CH_4 (% volume): 0.0	CH_4 (% volume): 0.0
CO_2 (% volume): 0.1	CO_2 (% volume): 0.1
O_2 (% volume): 20.7	O_2 (% volume): 20.7
H_2S (% volume): 0	H_2S (% volume): 0
Notes:	
HVAC operation/other ventilation considerations during sampling period: HVAC not in room, forced air heat on at time of deployment.	

Aspect CONSULTING

Air Sample Collection Form

Project Name: McCollum Park Address: _____ Aspect Project No.: _____

Date: 4/26/21 Field Representative: Baxter Call

Completed Building Evaluation Form? _____

Provided Occupants with Pre-Sampling Instructions? _____

Photoionization Detector (Brand and Model): _____

Landfill Gas Meter (Brand and Model):

Weather Data	
START	**END**
Barometric Pressure (in Hg):	Barometric Pressure (in Hg):
Wind Direction (from the):	Wind Direction (from the):
Wind Speed (mph):	Wind Speed (mph):
Temperature (deg F):	Temperature (deg F):
Humidity (%):	Humidity (%):
Precipitation (inches):	Precipitation (inches):
Weather Description:	

Air Sample Name: Stream-2-IA-042621	Canister ID: 35331	Gauge/Controller ID: 06604	
Sample Type (check all that apply): [X] Indoor [ ] Outdoor	[ ] Ambient or Background Source	[ ] Crawlspace	[ ] Basement
Sample Location: Chair on auditorium floor	**Sample Intake Height:** ~3'		

Sample Readings	
START	**END**
Date: 4/26/21	Date: 4/26/21
Time: 0811	Time: 1555
PID Reading (ppm): 0.0	PID Reading (ppm): 0.0
Canister Vacuum (in Hg): 30	Canister Vacuum (in Hg): 5
CH_4 (% volume): 0.0	CH_4 (% volume): 0.0
CO_2 (% volume): 0.1	CO_2 (% volume): 0.0
O_2 (% volume): 20.5	O_2 (% volume): 20.7
H_2S (% volume): 0	H_2S (% volume): 0
Notes:	
HVAC operation/other ventilation considerations during sampling period: HVAC off.	

Air Sample Name: Stream-3-IA-042621	Canister ID: 20554	Gauge/Controller ID: 07849	
Sample Type (check all that apply): [X] Indoor [ ] Outdoor	[ ] Ambient or Background Source	[ ] Crawlspace	[ ] Basement
Sample Location: Gift Shop Checkout	**Sample Intake Height:** ~4'		

Sample Readings	
START	**END**
Date: 4/26/21	Date: 4/26/21
Time: 0815	Time: 1557
PID Reading (ppm): 0.0	PID Reading (ppm): 0.1
Canister Vacuum (in Hg): 28	Canister Vacuum (in Hg): 8
CH_4 (% volume): 0.0	CH_4 (% volume): 0.0
CO_2 (% volume): 0.1	CO_2 (% volume): 0.1
O_2 (% volume): 20.5	O_2 (% volume): 20.7
H_2S (% volume): 0	H_2S (% volume): 0
Notes:	
HVAC operation/other ventilation considerations during sampling period: HVAC off.	

Aspect CONSULTING

Air Sample Collection Form

Project Name: McCollum Park Address: _____ Aspect Project No.: _____

Date: 4/26/21 Field Representative: Baxter Cali

Completed Building Evaluation Form? _____

Provided Occupants with Pre-Sampling Instructions? _____

Photoionization Detector (Brand and Model): _____

Landfill Gas Meter (Brand and Model):

Weather Data	
START	**END**
Barometric Pressure (in Hg):	Barometric Pressure (in Hg):
Wind Direction (from the):	Wind Direction (from the):
Wind Speed (mph):	Wind Speed (mph):
Temperature (deg F):	Temperature (deg F):
Humidity (%):	Humidity (%):
Precipitation (inches):	Precipitation (inches):
Weather Description:	

Air Sample Name: Stream-AA-042621	Canister ID: 18579	Gauge/Controller ID: 6660S
Sample Type (check all that apply): [ ] Indoor [ ] Outdoor	[X] Ambient or Background Source	[ ] Crawlspace [ ] Basement
Sample Location: Outdoor 1st story roof	**Sample Intake Height:** ~10'	

Sample Readings	
START	**END**
Date: 4/26/21	Date:
Time: 0825	Time: 1600
PID Reading (ppm): 0.0	PID Reading (ppm): 0.0
Canister Vacuum (in Hg): 30	Canister Vacuum (in Hg): 9
CH_4 (% volume): 0.0	CH_4 (% volume): 0.0
CO_2 (% volume): 0.1	CO_2 (% volume): 0.0
O_2 (% volume): 21.0	O_2 (% volume): 21.0
H_2S (% volume): 0	H_2S (% volume): 0
Notes:	
HVAC operation/other ventilation considerations during sampling period: N/A	

Air Sample Name: WSO-AA-042621	Canister ID: 18566	Gauge/Controller ID: 08181
Sample Type (check all that apply): [ ] Indoor [ ] Outdoor	[X] Ambient or Background Source	[ ] Crawlspace [ ] Basement
Sample Location: Table outside intersection with bldg	**Sample Intake Height:** ~~~1'~~ ~4'	

Sample Readings	
START	**END**
Date: 4/26/21	Date: 4/26/21
Time: 0850	Time: 1605
PID Reading (ppm): 0.0	PID Reading (ppm): 0.0
Canister Vacuum (in Hg): 31	Canister Vacuum (in Hg): 7
CH_4 (% volume): 0.0	CH_4 (% volume): 0.0
CO_2 (% volume): 0.1	CO_2 (% volume): 0.1
O_2 (% volume): 20.7	O_2 (% volume): 20.6
H_2S (% volume): 0.0	H_2S (% volume): 0
Notes:	
HVAC operation/other ventilation considerations during sampling period: N/A	

Aspect CONSULTING

Air Sample Collection Form

Project Name: McCollum Park Address: _____ Aspect Project No.: _____

Date: 4/26/21 Field Representative: Baxter Call

Completed Building Evaluation Form? _____

Provided Occupants with Pre-Sampling Instructions? _____

Photoionization Detector (Brand and Model): _____

Landfill Gas Meter (Brand and Model):

Weather Data	
START	**END**
Barometric Pressure (in Hg):	Barometric Pressure (in Hg):
Wind Direction (from the):	Wind Direction (from the):
Wind Speed (mph):	Wind Speed (mph):
Temperature (deg F):	Temperature (deg F):
Humidity (%):	Humidity (%):
Precipitation (inches):	Precipitation (inches):
Weather Description:	

Air Sample Name: WSU-Ex1-IA-042621	Canister ID: 20552	Gauge/Controller ID: 05353	
Sample Type (check all that apply): [X] Indoor [ ] Outdoor	[ ] Ambient or Background Source	[ ] Crawlspace	[ ] Basement
Sample Location: NW office desk	**Sample Intake Height:** ~5'		

Sample Readings	
START	**END**
Date: 4/26/21	Date: 4/26/21
Time: 0837	Time: 1602
PID Reading (ppm): 0.0	PID Reading (ppm): 0.1
Canister Vacuum (in Hg): 30	Canister Vacuum (in Hg): 9
CH_4 (% volume): 0.0	CH_4 (% volume): 0.0
CO_2 (% volume): 0.1	CO_2 (% volume): 0.0
O_2 (% volume): 20.8	O_2 (% volume): 20.7
H_2S (% volume): 0	H_2S (% volume): 0
Notes:	
HVAC operation/other ventilation considerations during sampling period: No ventilation	

Air Sample Name: WSU-Ex2-IA-042621	Canister ID: 20544	Gauge/Controller ID: 06607	
Sample Type (check all that apply): [X] Indoor [ ] Outdoor	[ ] Ambient or Background Source	[ ] Crawlspace	[ ] Basement
Sample Location: SE corner office desk	**Sample Intake Height:** ~4'		

Sample Readings	
START	**END**
Date: 4/26/21	Date: 4/26/21
Time: 0840	Time: 1610
PID Reading (ppm): 0.0	PID Reading (ppm): 0.1
Canister Vacuum (in Hg): 29	Canister Vacuum (in Hg): 8.5
CH_4 (% volume): 0.0	CH_4 (% volume): 0.0
CO_2 (% volume): 0.1	CO_2 (% volume): 0.0
O_2 (% volume): 21.0	O_2 (% volume): 20.7
H_2S (% volume): 0	H_2S (% volume): 0
Notes:	
HVAC operation/other ventilation considerations during sampling period: No ventilation.	

Aspect CONSULTING

Air Sample Collection Form

Project Name: McCollum Park Address: _____ Aspect Project No.: _____

Date: 4/26/21 Field Representative: Baxter Call

Completed Building Evaluation Form? _____

Provided Occupants with Pre-Sampling Instructions? _____

Photoionization Detector (Brand and Model): _____

Landfill Gas Meter (Brand and Model):

Weather Data	
START	**END**
Barometric Pressure (in Hg):	Barometric Pressure (in Hg):
Wind Direction (from the):	Wind Direction (from the):
Wind Speed (mph):	Wind Speed (mph):
Temperature (deg F):	Temperature (deg F):
Humidity (%):	Humidity (%):
Precipitation (inches):	Precipitation (inches):
Weather Description:	

Air Sample Name: WSU-Ed1-IA-042621	Canister ID: 18573	Gauge/Controller ID: 05183	
Sample Type (check all that apply): [X] Indoor [ ] Outdoor	[ ] Ambient or Background Source	[ ] Crawlspace	[ ] Basement
Sample Location: Cougar Classroom table	**Sample Intake Height:** ~3'		

Sample Readings	
START	**END**
Date: 4/26/21	Date: 4/26/21
Time: 0845	Time: 1621
PID Reading (ppm): 0.0	PID Reading (ppm): 0.1
Canister Vacuum (in Hg): 31	Canister Vacuum (in Hg): 9
CH_4 (% volume): 0.0	CH_4 (% volume): 0.0
CO_2 (% volume): 0.1	CO_2 (% volume): 6.0
O_2 (% volume): 20.9	O_2 (% volume): 20.7
H_2S (% volume): 0	H_2S (% volume): 0
Notes:	

HVAC operation/other ventilation considerations during sampling period: AC/Heater units on.

Air Sample Name: WSU-Ed2-IA-042621	Canister ID: 18572	Gauge/Controller ID: 05350	
Sample Type (check all that apply): [X] Indoor [ ] Outdoor	[ ] Ambient or Background Source	[ ] Crawlspace	[ ] Basement
Sample Location: Evergreen classroom table	**Sample Intake Height:** ~3'		

Sample Readings	
START	**END**
Date: 4/26/21	Date: ~~4/26/20~~ 4/26/21
Time: 0850	Time: 1618
PID Reading (ppm): 0.0	PID Reading (ppm): 0.1
Canister Vacuum (in Hg): 29	Canister Vacuum (in Hg): 9
CH_4 (% volume): 0.0	CH_4 (% volume): 0.0
CO_2 (% volume): 0.1	CO_2 (% volume): 0.0
O_2 (% volume): 21.0	O_2 (% volume): 20.9
H_2S (% volume): 0	H_2S (% volume): 0
Notes:	

HVAC operation/other ventilation considerations during sampling period: No ventilation.

Aspect CONSULTING

Air Sample Collection Form

Project Name: McCollum Park Address: _____ Aspect Project No.: _____

Date: 4/26/21 Field Representative: Baxter Call

Completed Building Evaluation Form? _____

Provided Occupants with Pre-Sampling Instructions? _____

Photoionization Detector (Brand and Model): _____

Landfill Gas Meter (Brand and Model):

Weather Data	
START	**END**
Barometric Pressure (in Hg):	Barometric Pressure (in Hg):
Wind Direction (from the):	Wind Direction (from the):
Wind Speed (mph):	Wind Speed (mph):
Temperature (deg F):	Temperature (deg F):
Humidity (%):	Humidity (%):
Precipitation (inches):	Precipitation (inches):
Weather Description:	

Air Sample Name: BMX-1-IA-042621	Canister ID: 20542	Gauge/Controller ID: 07853
Sample Type (check all that apply): [X] Indoor [ ] Outdoor	[ ] Ambient or Background Source	[ ] Crawlspace [ ] Basement
Sample Location: BMX office on counter	**Sample Intake Height:** ~4'	

Sample Readings	
START	**END**
Date: 4/26/21	Date: 4/26/21
Time: 0857	Time: 1629
PID Reading (ppm): 0.0	PID Reading (ppm): 0.1
Canister Vacuum (in Hg): 29	Canister Vacuum (in Hg): -7.5
CH_4 (% volume): 0.0	CH_4 (% volume): 0.0
CO_2 (% volume): 0.1	CO_2 (% volume): 0.0
O_2 (% volume): 20.5	O_2 (% volume): 20.7
H_2S (% volume): 0	H_2S (% volume): 0
Notes:	
HVAC operation/other ventilation considerations during sampling period: No ventilation	

Air Sample Name: BMX-AA-042621	Canister ID: 18580	Gauge/Controller ID: 05349
Sample Type (check all that apply): [ ] Indoor [ ] Outdoor	[X] Ambient or Background Source	[ ] Crawlspace [ ] Basement
Sample Location: Picnic table outside BMX bike	**Sample Intake Height:** ~3'	

Sample Readings	
START	**END**
Date: 4/26/21	Date: 4/26/21
Time: 0900	Time: 1632
PID Reading (ppm): 0.0	PID Reading (ppm): 0.0
Canister Vacuum (in Hg): 29	Canister Vacuum (in Hg): 8
CH_4 (% volume): 0.0	CH_4 (% volume): 0.0
CO_2 (% volume): 0.1	CO_2 (% volume): 0.0
O_2 (% volume): 20.7	O_2 (% volume): 20.7
H_2S (% volume): 0	H_2S (% volume): 0
Notes:	
HVAC operation/other ventilation considerations during sampling period: N/A	

Aspect CONSULTING

Soil Gas Sample Collection Form

Project Name: McCollum Park Address: _____ Aspect Project No.: 210222

Date: 4/27/21 Field Representative: Baxter Gall

Brand and Model of Field Meters Used:

Photoionization Detector: Mini Rae Lite

Multi-Gas Meter: GEM 5000

Helium Meter: Dielectric

BMX-1-SG-042721

Soil Gas Sample Name: ~~BMX-SG-042~~			Cannister ID: 3312			Gauge/Controller ID: 305		
Sample Type: [X] Sub Slab Soil Gas (Slab Thickness: 4")			[ ] Shallow Soil Gas (< 15 feet)			[ ] Deep Soil Gas (> 15 feet)		
Barometric Pressure: 29.62 inches Hg and (rising)/(falling)			**Subsurface Pressure:** 0 inches wc					
Shut-In Vacuum Test Readings			**Final Purge Readings**					
START	Time: 0602	Vacuum (inches Hg): 15	PID (ppm)	CH_4 (%LEL)	CO_2 (%)	O_2 (%)	He (%)	
END	Time: 0613	Vacuum (inches Hg): 15	0.4	0.0	0.2	20.0	0	

Sampling Readings

START		Sample Time Interval	END	
Helium Shroud: (Y) N 20 (%)		Start: 0615	Helium Shroud: (Y) N 26 (%)	
Canister Vacuum (inches Hg): 30		End: 0620	Canister Vacuum (inches Hg): 5	
CH_4 (% volume): 0.0			CH_4 (% volume): 0.0	
CO_2 (% volume): 0.2			CO_2 (% volume): 0.2	
O_2 (% volume): 20.0			O_2 (% volume): 20.0	
H_2S (% volume): 0.0			H_2S (% volume): 0.0	

Notes: In middle of slab in BMX building

Soil Gas Sample Name: Pool-1-SG-042721			Cannister ID: 3669			Gauge ID: 302		
Sample Type: [X] Sub Slab Soil Gas (Slab Thickness: 8")			[ ] Shallow Soil Gas (< 15 feet)			[ ] Deep Soil Gas (> 15 feet)		
Barometric Pressure: 29.65 inches Hg and (rising)/(falling)			**Subsurface Pressure:** 0.0 inches wc					
Shut-In Vacuum Test Readings			**Final Purge Readings**					
START	Time: 0700	Vacuum (inches Hg): 16	PID (ppm)	CH_4 (%LEL)	CO_2 (%)	O_2 (%)	He (%)	
END	Time: 0705	Vacuum (inches Hg): 15	0.4	0.0	0.6	18.6	0	

Sampling Readings

START		Sample Time Interval	END	
Helium Shroud: (Y) N 25 (%)		Start: 0710	Helium Shroud: (Y) N 20 (%)	
Canister Vacuum (inches Hg): 29		End: 0714	Canister Vacuum (inches Hg):	
CH_4 (% volume): 0.0			CH_4 (% volume): 0.0	
CO_2 (% volume): 0.6			CO_2 (% volume): 0.6	
O_2 (% volume): 18.6			O_2 (% volume): 18.6	
H_2S (% volume): 0.0			H_2S (% volume): 0.0	

Notes: In pool building office.

Aspect CONSULTING

Soil Gas Sample Collection Form

Project Name: McCallum Park Address: _____ Aspect Project No.: 210222

Date: 4/27/21 Field Representative: Baxter Call.

Brand and Model of Field Meters Used:

Photoionization Detector: _____

Multi-Gas Meter: _____

Helium Meter: _____

Soil Gas Sample Name: Pool-2-SG-042721			Cannister ID: 3540		Gauge/Controller ID: 244		
Sample Type: [X] Sub Slab Soil Gas (Slab Thickness: 3)			[ ] Shallow Soil Gas (< 15 feet)		[ ] Deep Soil Gas (> 15 feet)		
Barometric Pressure: 29.68 inches Hg and (rising)/(falling)			Subsurface Pressure: 0.0 inches wc				
Shut-In Vacuum Test Readings			**Final Purge Readings**				
START	Time: 0735	Vacuum (inches Hg): 14/5	PID (ppm)	CH_4 (%LEL)	CO_2 (%)	O_2 (%)	He (%)
END	Time: 0740	Vacuum (inches Hg): 15	0.7	0.0	0.8	19.4	0

Sampling Readings		
START	Sample Time Interval	END
Helium Shroud: (Y) N 30.5 (%)	Start: 0741	Helium Shroud: (Y) N 25.2 (%)
Canister Vacuum (inches Hg): 30	End: 0746	Canister Vacuum (inches Hg): 5
CH_4 (% volume): 0.0		CH_4 (% volume): 0.0
CO_2 (% volume): 0.8		CO_2 (% volume): 0.7
O_2 (% volume): 19.7		O_2 (% volume): 19.7
H_2S (% volume): 0		H_2S (% volume): 0

Notes: In pool building lobby.

Soil Gas Sample Name: WSU-Ex1-SG-042721			Cannister ID: 3445		Gauge ID: 301		
Sample Type: [X] Sub Slab Soil Gas (Slab Thickness: 3)			[ ] Shallow Soil Gas (< 15 feet)		[ ] Deep Soil Gas (> 15 feet)		
Barometric Pressure: 29.68 inches Hg and (rising)/(falling)			Subsurface Pressure: 0.0 inches wc				
Shut-In Vacuum Test Readings			**Final Purge Readings**				
START	Time: 0830	Vacuum (inches Hg): 15	PID (ppm)	CH_4 (%LEL)	CO_2 (%)	O_2 (%)	He (%)
END	Time: 0835	Vacuum (inches Hg): 13	0.6	0.0	0.4	19.8	0

Sampling Readings		
START	Sample Time Interval	END
Helium Shroud: (Y) N 20 (%)	Start: 0837	Helium Shroud: (Y) N 20 (%)
Canister Vacuum (inches Hg): 29	End: 0842	Canister Vacuum (inches Hg): 5
CH_4 (% volume): 0.0		CH_4 (% volume): 0.0
CO_2 (% volume): 0.4		CO_2 (% volume): 0.4
O_2 (% volume): 19.8		O_2 (% volume): 19.8
H_2S (% volume): 0		H_2S (% volume): 0

Notes: Collected in WSU Extension building in electrical / computer storage room. ~~NW~~ NE corner of bldg.

Aspect CONSULTING

Soil Gas Sample Collection Form

Project Name: McCollum Park Address: _____ Aspect Project No.: 210222

Date: 4/27/21 Field Representative: Baxter Cain

Brand and Model of Field Meters Used:

Photoionization Detector: _____

Multi-Gas Meter: _____

Helium Meter: _____

Soil Gas Sample Name: WSU-Ex2-SG-042721			Cannister ID: 3230			Gauge/Controller ID: 243		
Sample Type: [X] Sub Slab Soil Gas (Slab Thickness: 3)			[ ] Shallow Soil Gas (< 15 feet)			[ ] Deep Soil Gas (> 15 feet)		
Barometric Pressure: 29.68 inches Hg and (rising)/(falling)			**Subsurface Pressure:** 0.0 inches wc					
Shut-In Vacuum Test Readings			**Final Purge Readings**					
START	Time: 0915	Vacuum (inches Hg): 15	PID (ppm)	CH_4 (%LEL)	CO_2 (%)	O_2 (%)	He (%)	
END	Time: 0920	Vacuum (inches Hg): 15	0.7	0.0	0.6	19.5	0	

Sampling Readings			
START	**Sample Time Interval**	**END**	
Helium Shroud: (Y) N 20 (%)	Start: 0925	Helium Shroud: (Y) N 20 (%)	
Canister Vacuum (inches Hg): 29	End: 0930	Canister Vacuum (inches Hg): 5	
CH_4 (% volume): 0.0		CH_4 (% volume): 0.0	
CO_2 (% volume): 0.6		CO_2 (% volume): 0.7	
O_2 (% volume): 19.5		O_2 (% volume): 19.5	
H_2S (% volume): 0		H_2S (% volume): 0	

Notes: Collected outside office in SE corner of WSU extension building SW

Soil Gas Sample Name: WSU-Ed1-SG-042721			Cannister ID: 2439			Gauge ID: 259		
Sample Type: [X] Sub Slab Soil Gas (Slab Thickness:)			[ ] Shallow Soil Gas (< 15 feet)			[ ] Deep Soil Gas (> 15 feet)		
Barometric Pressure: 29.68 inches Hg and (rising)/(falling)			**Subsurface Pressure:** 0.0 inches wc					
Shut-In Vacuum Test Readings			**Final Purge Readings**					
START	Time: 1010	Vacuum (inches Hg): 15	PID (ppm)	CH_4 (%LEL)	CO_2 (%)	O_2 (%)	He (%)	
END	Time: 1015	Vacuum (inches Hg): 14	0.7	0.0	0.0	20.2	0	

Sampling Readings			
START	**Sample Time Interval**	**END**	
Helium Shroud: (Y) N 20.5 (%)	Start: 1020	Helium Shroud: (Y) N 20 (%)	
Canister Vacuum (inches Hg): 30	End: 1025	Canister Vacuum (inches Hg): 5	
CH_4 (% volume): 0.0		CH_4 (% volume): 0.0	
CO_2 (% volume): 0.0		CO_2 (% volume): 0.0	
O_2 (% volume): 20.2		O_2 (% volume): 20.2	
H_2S (% volume): 0		H_2S (% volume): 0	

Notes: Collected in center of cougar room at WSU education building.

Aspect CONSULTING

Soil Gas Sample Collection Form

Project Name: McCollum Park Address: _____ Aspect Project No.: 210222

Date: 4/27/21 Field Representative: Baxter Call

Brand and Model of Field Meters Used:

Photoionization Detector: _____

Multi-Gas Meter: _____

Helium Meter: _____

Soil Gas Sample Name: WSU-ED2-SG-042721			Canister ID: 2439				Gauge/Controller ID: 304
Sample Type: [X] Sub Slab Soil Gas (Slab Thickness:)			[ ] Shallow Soil Gas (< 15 feet)				[ ] Deep Soil Gas (> 15 feet)
Barometric Pressure: 29.68 inches Hg and (rising)/(falling)			Subsurface Pressure: 0 inches wc				
Shut-In Vacuum Test Readings			**Final Purge Readings**				
START	Time: 1047	Vacuum (inches Hg): 17	PID (ppm)	CH_4 (%LEL)	CO_2 (%)	O_2 (%)	He (%)
END	Time: 1052	Vacuum (inches Hg): 15	0.8	0.0	0.0	20.3	0

Sampling Readings

START		Sample Time Interval	END	
Helium Shroud: (Y) N 28 (%)		Start: 1056	Helium Shroud: (Y) N 20 (%)	
Canister Vacuum (inches Hg): 29		End: 1101	Canister Vacuum (inches Hg): 5	
CH_4 (% volume): 0.0			CH_4 (% volume): 0.0	
CO_2 (% volume): 0.0			CO_2 (% volume): 0.0	
O_2 (% volume): 20.3			O_2 (% volume): 20.2	
H_2S (% volume): 0			H_2S (% volume): 0	

Notes: Collected in center of Evergreen classroom in WSU education building.

Soil Gas Sample Name:			Cannister ID:				Gauge ID:
Sample Type: [ ] Sub Slab Soil Gas (Slab Thickness:)			[ ] Shallow Soil Gas (< 15 feet)				[ ] Deep Soil Gas (> 15 feet)
Barometric Pressure: inches Hg and (rising)/(falling)			Subsurface Pressure: inches wc				
Shut-In Vacuum Test Readings			**Final Purge Readings**				
START	Time:	Vacuum (inches Hg):	PID (ppm)	CH_4 (%LEL)	CO_2 (%)	O_2 (%)	He (%)
END	Time:	Vacuum (inches Hg):					

Sampling Readings

START		Sample Time Interval	END	
Helium Shroud: Y N (%)		Start:	Helium Shroud: Y N (%)	
Canister Vacuum (inches Hg):		End:	Canister Vacuum (inches Hg):	
CH_4 (% volume):			CH_4 (% volume):	
CO_2 (% volume):			CO_2 (% volume):	
O_2 (% volume):			O_2 (% volume):	
H_2S (% volume):			H_2S (% volume):	

Notes:

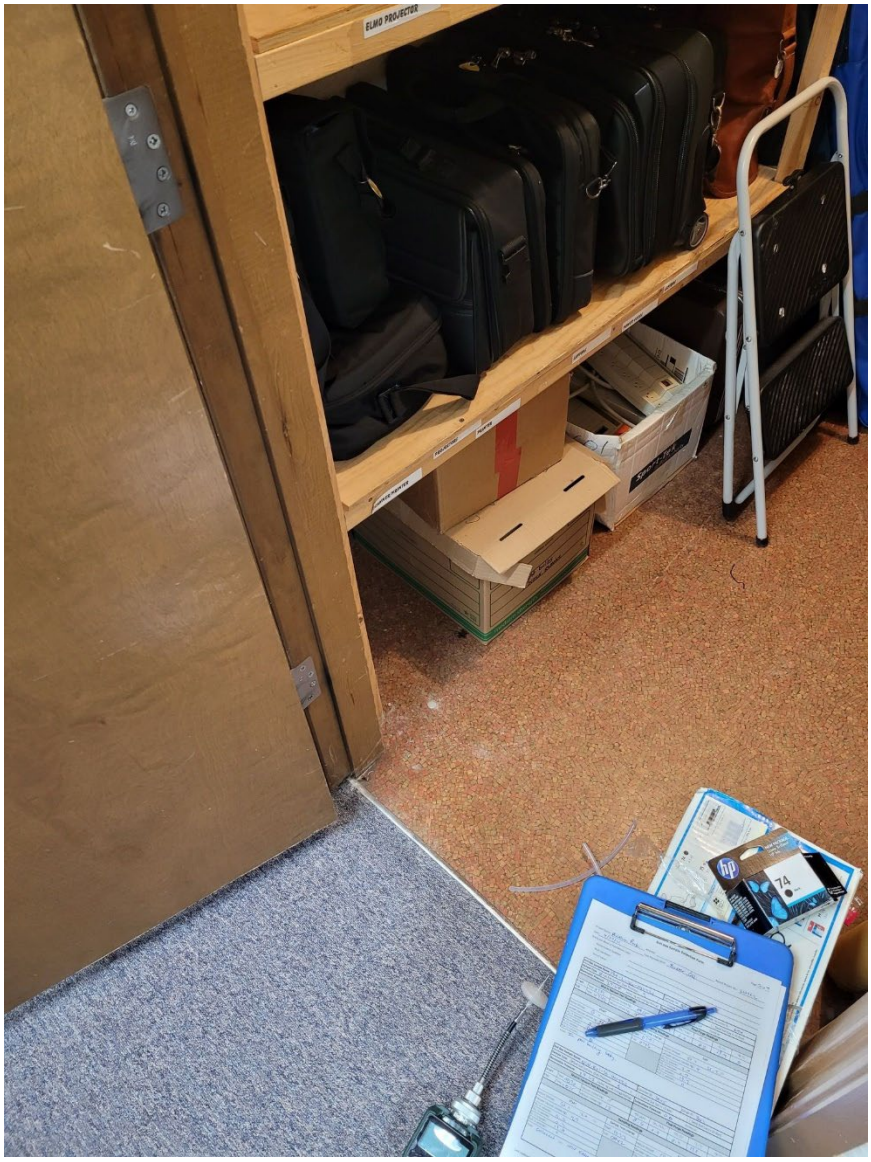
Aspect CONSULTING

APPENDIX C

Photo Log

Photograph 1. McCollum Pool Building Office sampling location.

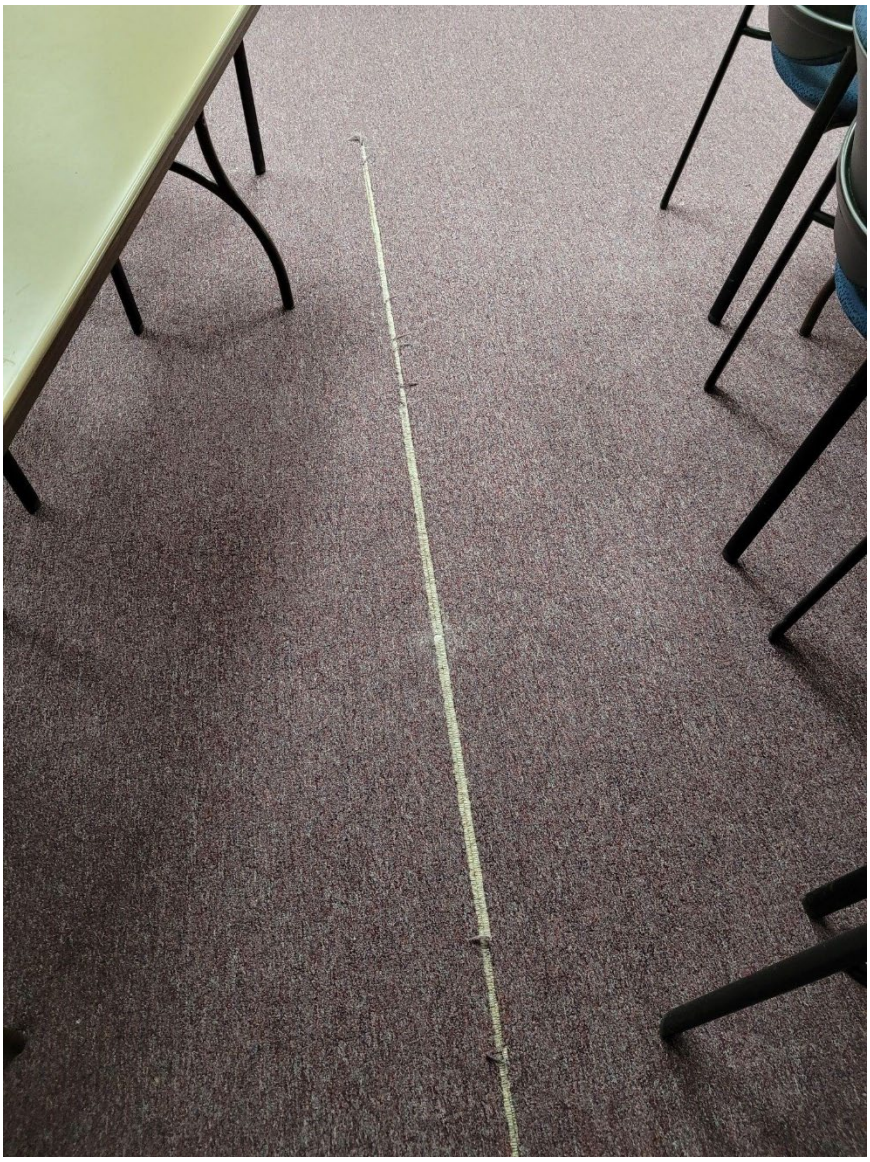
Photograph 2. McCollum Pool Building Lobby sampling location.



Photograph 3. WSU Extension Building northeast office sampling location.

Photograph 4. WSU Extension Building northeast office sampling location.

Photograph 5. WSU Education Building Cougar Classroom sampling location.



Photograph 6. WSU Education Building Evergreen Classroom sampling location.

Photograph 7. BMX Building sampling location.

APPENDIX D

Lab Results

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Delia Massey, Project Manager
Aspect Consulting, LLC
710 2nd Ave S, Suite 550
Seattle, WA 98104

Dear Ms Massey:

Included are the results from the testing of material submitted on April 27, 2021 from the McCollum Park 210222, F&BI 104488 project. There are 61 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Aspect Data, Peter Banister
ASP0511R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 27, 2021 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC McCollum Park 210222, F&BI 104488 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
104488 -01	Pool-AA-042621
104488 -02	Pool-1-IA-042621
104488 -03	Pool-2-IA-042621
104488 -04	Stream-1-IA-042621
104488 -05	Stream-2-IA-042621
104488 -06	Stream-3-IA-042621
104488 -07	Stream-AA-042621
104488 -08	WSU-AA-042621
104488 -09	WSU-Ex1-IA-042621
104488 -10	WSU-Ex2-IA-042621
104488 -11	WSU-Ed1-IA-042621
104488 -12	WSU-Ed2-IA-042621
104488 -13	BMX-1-IA-042621
104488 -14	BMX-AA-042621
104488 -15	BMX-1-SG-042721
104488 -16	Pool-1-SG-042721
104488 -17	Pool-2-SG-042721
104488 -18	WSU-Ex1-SG-042721
104488 -19	WSU-Ex2-SG-042721
104488 -20	WSU-Ed1-SG-042721
104488 -21	WSU-Ed2-SG-042721

Non-petroleum compounds identified in the air phase hydrocarbon (APH) ranges were subtracted per the MA-APH method.

Several TO15 compounds exceeded the calibration range. The data were qualified accordingly. In addition, the TO15 methylene chloride detections were qualified as due to laboratory contamination.

Naphthalene by TO15 was reported below the lowest calibration sample in several samples. The data were qualified accordingly.

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Pool-AA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-01
Date Analyzed:	04/30/21	Data File:	043012.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
APH EC5-8 aliphatics	120
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Pool-1-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-02
Date Analyzed:	04/30/21	Data File:	043013.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
APH EC5-8 aliphatics	390
APH EC9-12 aliphatics	36
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Pool-2-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-03
Date Analyzed:	04/30/21	Data File:	043014.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
APH EC5-8 aliphatics	370
APH EC9-12 aliphatics	25
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Stream-1-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-04
Date Analyzed:	04/30/21	Data File:	043015.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
APH EC5-8 aliphatics	130
APH EC9-12 aliphatics	67
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Stream-2-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-05
Date Analyzed:	04/30/21	Data File:	043016.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	90	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	100
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Stream-3-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-06
Date Analyzed:	04/30/21	Data File:	043017.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	87	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	120
APH EC9-12 aliphatics	36
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Stream-AA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-07
Date Analyzed:	05/01/21	Data File:	043018.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
APH EC5-8 aliphatics	100
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	WSU-AA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-08
Date Analyzed:	05/01/21	Data File:	043019.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	85
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	WSU-Ex1-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-09
Date Analyzed:	05/01/21	Data File:	043020.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
APH EC5-8 aliphatics	120
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	WSU-Ex2-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-10
Date Analyzed:	05/01/21	Data File:	043021.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
APH EC5-8 aliphatics	130
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	WSU-Ed1-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-11
Date Analyzed:	05/01/21	Data File:	043022.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	90	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	170
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	WSU-Ed2-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-12
Date Analyzed:	05/01/21	Data File:	043023.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
APH EC5-8 aliphatics	150
APH EC9-12 aliphatics	150
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	BMX-1-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-13
Date Analyzed:	05/01/21	Data File:	043024.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	88	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	130
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	BMX-AA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-14
Date Analyzed:	05/01/21	Data File:	043025.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	88	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	110
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	BMX-1-SG-042721	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-15 1/5.2
Date Analyzed:	04/28/21	Data File:	042825.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	560
APH EC9-12 aliphatics	<130
APH EC9-10 aromatics	<130

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Pool-1-SG-042721	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-16 1/5.6
Date Analyzed:	04/29/21	Data File:	042826.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
APH EC5-8 aliphatics	800
APH EC9-12 aliphatics	260
APH EC9-10 aromatics	<140

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Pool-2-SG-042721	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-17 1/5.5
Date Analyzed:	04/29/21	Data File:	042827.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	890
APH EC9-12 aliphatics	280
APH EC9-10 aromatics	<140

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	WSU-Ex1-SG-042721	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-18 1/5.9
Date Analyzed:	04/29/21	Data File:	042828.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	530
APH EC9-12 aliphatics	<150
APH EC9-10 aromatics	<150

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	WSU-Ex2-SG-042721	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-19 1/8.5
Date Analyzed:	04/29/21	Data File:	042831.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
APH EC5-8 aliphatics	730
APH EC9-12 aliphatics	<210
APH EC9-10 aromatics	<210

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	WSU-Ed1-SG-042721	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-20 1/5.5
Date Analyzed:	04/29/21	Data File:	042829.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
APH EC5-8 aliphatics	520
APH EC9-12 aliphatics	150
APH EC9-10 aromatics	<140

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	WSU-Ed2-SG-042721	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-21 1/5.7
Date Analyzed:	04/29/21	Data File:	042830.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	90	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	510
APH EC9-12 aliphatics	<140
APH EC9-10 aromatics	<140

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	McCollum Park 210222
Date Collected:	Not Applicable	Lab ID:	01-858 MB
Date Analyzed:	04/30/21	Data File:	043011.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	McCollum Park 210222
Date Collected:	Not Applicable	Lab ID:	01-849 MB
Date Analyzed:	04/28/21	Data File:	042816.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
APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Pool-AA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-01
Date Analyzed:	04/30/21	Data File:	043012.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	2.6	0.53	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	<4.8	<2	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	<7.5	<4	Toluene	<19	<5
Acrolein	0.22	0.097	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	<3	<1	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	7.2	3.0	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Methylene chloride	74 ve lc	21 ve lc	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	<0.87	<0.2
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	<0.43	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	0.088	0.018	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	0.073	0.018	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	0.44	0.070	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	0.089 j	0.017 j
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Pool-1-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-02
Date Analyzed:	04/30/21	Data File:	043013.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	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	2.8	0.56	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	4.4	1.1
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	110 ve	45 ve	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	50 ve ca	27 ve ca	Toluene	29	7.7
Acrolein	0.54	0.23	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	28	9.4	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	<4.8	<2	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	2.2	0.51
Methylene chloride	50 lc	14 lc	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	8.8	2.0
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	2.8	0.64
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	7.5	2.1	Bromoform	<2.1	<0.2
Chloroform	0.14	0.029	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	5.7	1.2
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	0.077	0.019	1,4-Dichlorobenzene	1.1	0.19
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	0.46	0.073	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	3.6	1.1	Naphthalene	0.57	0.11
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Pool-2-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-03
Date Analyzed:	04/30/21	Data File:	043014.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	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	2.6	0.52	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	4.8	1.2
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	120 ve	49 ve	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	64 ve ca	34 ve ca	Toluene	28	7.4
Acrolein	0.37	0.16	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	28	9.5	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	<4.8	<2	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	2.3	0.52
Methylene chloride	61 ve lc	17 ve lc	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	9.2	2.1
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	3.0	0.68
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	7.6	2.2	Bromoform	<2.1	<0.2
Chloroform	0.14	0.028	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	5.7	1.2
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	0.077	0.019	1,4-Dichlorobenzene	0.84	0.14
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	0.46	0.073	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	3.7	1.2	Naphthalene	0.55	0.10
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Stream-1-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-04 1/1.5
Date Analyzed:	05/06/21	Data File:	050616.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration ug/m3	ppbv	Compounds:	Concentration ug/m3	ppbv
Propene	<1.8	<1	1,2-Dichloropropane	<0.35	<0.075
Dichlorodifluoromethane	2.3	0.46	1,4-Dioxane	<0.54	<0.15
Chloromethane	<5.6	<2.7	2,2,4-Trimethylpentane	<7	<1.5
F-114	<1	<0.15	Methyl methacrylate	<6.1	<1.5
Vinyl chloride	<0.38	<0.15	Heptane	<6.1	<1.5
1,3-Butadiene	0.070	0.031	Bromodichloromethane	<0.1	<0.015
Butane	<7.1	<3	Trichloroethene	<0.16	<0.03
Bromomethane	<3.5	<0.9	cis-1,3-Dichloropropene	<0.68	<0.15
Chloroethane	<4	<1.5	4-Methyl-2-pentanone	<6.1	<1.5
Vinyl bromide	<0.66	<0.15	trans-1,3-Dichloropropene	<0.68	<0.15
Ethanol	58 ve	31 ve	Toluene	<28	<7.5
Acrolein	1.1	0.46	1,1,2-Trichloroethane	<0.082	<0.015
Pentane	<4.4	<1.5	2-Hexanone	<6.1	<1.5
Trichlorofluoromethane	<3.4	<0.6	Tetrachloroethene	<10	<1.5
Acetone	20	8.6	Dibromochloromethane	<0.13	<0.015
2-Propanol	87 ve	35 ve	1,2-Dibromoethane (EDB)	<0.12	<0.015
1,1-Dichloroethene	<0.59	<0.15	Chlorobenzene	<0.69	<0.15
trans-1,2-Dichloroethene	<0.59	<0.15	Ethylbenzene	<0.65	<0.15
Methylene chloride	84 ve lc	24 ve lc	1,1,2,2-Tetrachloroethane	<0.21	<0.03
t-Butyl alcohol (TBA)	<18	<6	Nonane	<7.9	<1.5
3-Chloropropene	<2.3	<0.75	Isopropylbenzene	<3.7	<0.75
CFC-113	<1.1	<0.15	2-Chlorotoluene	<7.8	<1.5
Carbon disulfide	<9.3	<3	Propylbenzene	<3.7	<0.75
Methyl t-butyl ether (MTBE)	<2.7	<0.75	4-Ethyltoluene	<3.7	<0.75
Vinyl acetate	<11	<3	m,p-Xylene	1.7	0.40
1,1-Dichloroethane	<0.61	<0.15	o-Xylene	<0.65	<0.15
cis-1,2-Dichloroethene	<0.59	<0.15	Styrene	<1.3	<0.3
Hexane	<5.3	<1.5	Bromoform	<3.1	<0.3
Chloroform	0.27	0.055	Benzyl chloride	<0.078	<0.015
Ethyl acetate	<11	<3	1,3,5-Trimethylbenzene	<3.7	<0.75
Tetrahydrofuran	<0.44	<0.15	1,2,4-Trimethylbenzene	<3.7	<0.75
2-Butanone (MEK)	<4.4	<1.5	1,3-Dichlorobenzene	<0.9	<0.15
1,2-Dichloroethane (EDC)	0.10	0.025	1,4-Dichlorobenzene	<0.35	<0.057
1,1,1-Trichloroethane	<0.82	<0.15	1,2-Dichlorobenzene	<0.9	<0.15
Carbon tetrachloride	0.52	0.082	1,2,4-Trichlorobenzene	<1.1	<0.15
Benzene	<0.48	<0.15	Naphthalene	0.26	0.05
Cyclohexane	<10	<3	Hexachlorobutadiene	<0.8	<0.08

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Stream-1-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-04
Date Analyzed:	04/30/21	Data File:	043015.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23 J	<0.05 J
Dichlorodifluoromethane	2.4	0.48	1,4-Dioxane	<0.36 J	<0.1 J
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7 J	<1 J
F-114	<0.7	<0.1	Methyl methacrylate	<4.1 J	<1 J
Vinyl chloride	<0.26	<0.1	Heptane	<4.1 J	<1 J
1,3-Butadiene	0.11	0.051	Bromodichloromethane	<0.067 J	<0.01 J
Butane	<4.8	<2	Trichloroethene	<0.11 J	<0.02 J
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45 J	<0.1 J
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1 J	<1 J
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45 J	<0.1 J
Ethanol	54 ve ca	29 ve ca	Toluene	<19 J	<5 J
Acrolein	0.91	0.39	1,1,2-Trichloroethane	<0.055 J	<0.01 J
Pentane	<3	<1	2-Hexanone	<4.1 J	<1 J
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8 J	<1 J
Acetone	19	7.9	Dibromochloromethane	<0.085 J	<0.01 J
2-Propanol	96 ve	39 ve	1,2-Dibromoethane (EDB)	<0.077 J	<0.01 J
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Methylene chloride	78 ve lc	22 ve lc	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	1.3	0.29
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	<0.43	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	0.27	0.056	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	0.10	0.025	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	0.47	0.074	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	0.2	0.038
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Stream-2-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-05
Date Analyzed:	04/30/21	Data File:	043016.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	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	2.4	0.48	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	0.062	0.028	Bromodichloromethane	<0.067	<0.01
Butane	<4.8	<2	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	66 ve ca	35 ve ca	Toluene	<19	<5
Acrolein	0.61	0.27	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	<3	<1	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	7.2	3.0	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Methylene chloride	<35	<10	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	<0.87	<0.2
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	<0.43	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	0.12	0.024	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	0.077	0.019	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	0.45	0.072	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	0.21	0.04
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Stream-3-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-06
Date Analyzed:	04/30/21	Data File:	043017.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	88	70	130

Compounds:	Concentration ug/m3	ppbv	Compounds:	Concentration ug/m3	ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	2.6	0.52	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	<4.8	<2	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	410 ve ca	220 ve ca	Toluene	<19	<5
Acrolein	0.82	0.36	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	<3	<1	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	13	5.3	Dibromochloromethane	<0.085	<0.01
2-Propanol	11	4.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Methylene chloride	64 ve lc	18 ve lc	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	<0.87	<0.2
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	<0.43	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	0.093	0.019	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	0.085	0.021	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	0.47	0.075	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	0.13	0.024
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Stream-AA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-07
Date Analyzed:	05/01/21	Data File:	043018.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	2.6	0.53	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	<4.8	<2	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	<7.5	<4	Toluene	<19	<5
Acrolein	0.14	0.063	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	<3	<1	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	5.0	2.1	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Methylene chloride	59 ve lc	17 ve lc	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	<0.87	<0.2
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	<0.43	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	0.078	0.016	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	0.077	0.019	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	0.46	0.073	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	<0.057 j	<0.011 j
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	WSU-AA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-08
Date Analyzed:	05/01/21	Data File:	043019.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	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	2.8	0.56	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	<4.8	<2	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	<7.5	<4	Toluene	<19	<5
Acrolein	0.12	0.054	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	<3	<1	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	5.6	2.3	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Methylene chloride	73 ve lc	21 ve lc	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	<0.87	<0.2
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	<0.43	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	0.083	0.017	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	0.081	0.020	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	0.45	0.071	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	<0.057 j	<0.011 j
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	WSU-Ex1-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-09
Date Analyzed:	05/01/21	Data File:	043020.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration ug/m3	ppbv	Compounds:	Concentration ug/m3	ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	2.7	0.54	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	0.069	0.031	Bromodichloromethane	<0.067	<0.01
Butane	<4.8	<2	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	30 ve ca	16 ve ca	Toluene	<19	<5
Acrolein	0.37	0.16	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	<3	<1	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	6.6	2.8	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Methylene chloride	<35	<10	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	<0.87	<0.2
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	<0.43	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	0.13	0.027	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	0.22	0.055	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	0.45	0.072	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	0.24	0.045
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	WSU-Ex2-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-10
Date Analyzed:	05/01/21	Data File:	043021.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	2.4	0.48	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	<4.8	<2	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	42 ve ca	22 ve ca	Toluene	<19	<5
Acrolein	0.45	0.19	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	<3	<1	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	9.4	4.0	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Methylene chloride	73 ve lc	21 ve lc	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	<0.87	<0.2
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	<0.43	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	0.20	0.041	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	0.15	0.036	1,4-Dichlorobenzene	0.23	0.039
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	0.45	0.071	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	0.34	0.065
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	WSU-Ed1-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-11
Date Analyzed:	05/01/21	Data File:	043022.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	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	2.5	0.51	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	<4.8	<2	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	14 ca	7.5 ca	Toluene	<19	<5
Acrolein	0.41	0.18	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	4.7	1.6	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	7.0	2.9	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	1.1	0.24
Methylene chloride	130 ve lc	37 ve lc	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	4.0	0.92
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	1.3	0.29
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	0.098	0.020	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	0.89	0.30	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	0.089	0.022	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	0.45	0.072	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	1.0	0.31	Naphthalene	0.14	0.027
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	WSU-Ed2-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-12
Date Analyzed:	05/01/21	Data File:	043023.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	2.9	0.58	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	<4.8	<2	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	21 ca	11 ca	Toluene	<19	<5
Acrolein	0.50	0.22	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	6.2	2.1	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	6.0	2.5	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	1.5	0.34
Methylene chloride	47 lc	14 lc	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	5.9	1.4
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	1.8	0.42
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	0.11	0.022	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	0.95	0.32	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	0.077	0.019	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	0.46	0.073	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	1.4	0.43	Naphthalene	0.33	0.063
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	BMX-1-IA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-13
Date Analyzed:	05/01/21	Data File:	043024.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration ug/m3	ppbv	Compounds:	Concentration ug/m3	ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	16	3.3	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	<4.8	<2	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	<7.5	<4	Toluene	<19	<5
Acrolein	0.51	0.22	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	<3	<1	2-Hexanone	<4.1	<1
Trichlorofluoromethane	6.5	1.2	Tetrachloroethene	<6.8	<1
Acetone	9.7	4.1	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Methylene chloride	61 ve	18 ve	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	<0.87	<0.2
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	<0.43	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	0.078	0.016	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	0.077	0.019	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	0.45	0.072	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	0.079 j	0.015 j
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	BMX-AA-042621	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-14
Date Analyzed:	05/01/21	Data File:	043025.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	2.7	0.54	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	<4.8	<2	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	<7.5	<4	Toluene	<19	<5
Acrolein	0.16	0.071	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	<3	<1	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	6.2	2.6	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Methylene chloride	64 ve	18 ve	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	<0.87	<0.2
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	<0.43	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	0.078	0.016	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	0.065	0.016	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	0.46	0.073	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	<0.057 j	<0.011 j
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	BMX-1-SG-042721	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-15 1/5.2
Date Analyzed:	04/28/21	Data File:	042825.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	90	70	130

Compounds:	Concentration ug/m3	ppbv	Compounds:	Concentration ug/m3	ppbv
Propene	<6.3	<3.6	1,2-Dichloropropane	<1.2	<0.26
Dichlorodifluoromethane	3.2	0.64	1,4-Dioxane	<1.9	<0.52
Chloromethane	<19	<9.4	2,2,4-Trimethylpentane	<24	<5.2
F-114	<3.6	<0.52	Methyl methacrylate	<21	<5.2
Vinyl chloride	<1.3	<0.52	Heptane	<21	<5.2
1,3-Butadiene	<0.23	<0.1	Bromodichloromethane	<0.35	<0.052
Butane	<25	<10	Trichloroethene	<0.56	<0.1
Bromomethane	<12	<3.1	cis-1,3-Dichloropropene	<2.4	<0.52
Chloroethane	<14	<5.2	4-Methyl-2-pentanone	<21	<5.2
Vinyl bromide	<2.3	<0.52	trans-1,3-Dichloropropene	<2.4	<0.52
Ethanol	<39	<21	Toluene	<98	<26
Acrolein	<0.6	<0.26	1,1,2-Trichloroethane	<0.28	<0.052
Pentane	<15	<5.2	2-Hexanone	<21	<5.2
Trichlorofluoromethane	<12	<2.1	Tetrachloroethene	<35	<5.2
Acetone	46	19	Dibromochloromethane	<0.44	<0.052
2-Propanol	<45	<18	1,2-Dibromoethane (EDB)	<0.4	<0.052
1,1-Dichloroethene	<2.1	<0.52	Chlorobenzene	<2.4	<0.52
trans-1,2-Dichloroethene	<2.1	<0.52	Ethylbenzene	<2.3	<0.52
Methylene chloride	190 lc	56 lc	1,1,2,2-Tetrachloroethane	<0.71	<0.1
t-Butyl alcohol (TBA)	<63	<21	Nonane	<27	<5.2
3-Chloropropene	<8.1	<2.6	Isopropylbenzene	<13	<2.6
CFC-113	<4	<0.52	2-Chlorotoluene	<27	<5.2
Carbon disulfide	<32	<10	Propylbenzene	<13	<2.6
Methyl t-butyl ether (MTBE)	<9.4	<2.6	4-Ethyltoluene	<13	<2.6
Vinyl acetate	<37	<10	m,p-Xylene	<4.5	<1
1,1-Dichloroethane	<2.1	<0.52	o-Xylene	<2.3	<0.52
cis-1,2-Dichloroethene	<2.1	<0.52	Styrene	<4.4	<1
Hexane	<18	<5.2	Bromoform	<11	<1
Chloroform	0.30	0.062	Benzyl chloride	<0.27	<0.052
Ethyl acetate	<37	<10	1,3,5-Trimethylbenzene	<13	<2.6
Tetrahydrofuran	12	4.0	1,2,4-Trimethylbenzene	<13	<2.6
2-Butanone (MEK)	<15	<5.2	1,3-Dichlorobenzene	<3.1	<0.52
1,2-Dichloroethane (EDC)	<0.21	<0.052	1,4-Dichlorobenzene	<1.2	<0.2
1,1,1-Trichloroethane	<2.8	<0.52	1,2-Dichlorobenzene	<3.1	<0.52
Carbon tetrachloride	<1.6	<0.26	1,2,4-Trichlorobenzene	<3.9	<0.52
Benzene	<1.7	<0.52	Naphthalene	<1.4	<0.26
Cyclohexane	<36	<10	Hexachlorobutadiene	<2.8	<0.26

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Pool-1-SG-042721	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-16 1/5.6
Date Analyzed:	04/29/21	Data File:	042826.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	Compounds:	Concentration ug/m3	ppbv
Propene	<6.7	<3.9	1,2-Dichloropropane	<1.3	<0.28
Dichlorodifluoromethane	<2.8	<0.56	1,4-Dioxane	<2	<0.56
Chloromethane	<21	<10	2,2,4-Trimethylpentane	<26	<5.6
F-114	<3.9	<0.56	Methyl methacrylate	<23	<5.6
Vinyl chloride	<1.4	<0.56	Heptane	<23	<5.6
1,3-Butadiene	<0.25	<0.11	Bromodichloromethane	1.5	0.23
Butane	<27	<11	Trichloroethene	<0.6	<0.11
Bromomethane	<13	<3.4	cis-1,3-Dichloropropene	<2.5	<0.56
Chloroethane	<15	<5.6	4-Methyl-2-pentanone	<23	<5.6
Vinyl bromide	<2.4	<0.56	trans-1,3-Dichloropropene	<2.5	<0.56
Ethanol	520 ve	270 ve	Toluene	<110	<28
Acrolein	1.3	0.55	1,1,2-Trichloroethane	<0.31	<0.056
Pentane	<17	<5.6	2-Hexanone	<23	<5.6
Trichlorofluoromethane	<13	<2.2	Tetrachloroethene	<38	<5.6
Acetone	380 ve	160 ve	Dibromochloromethane	<0.48	<0.056
2-Propanol	130	52	1,2-Dibromoethane (EDB)	<0.43	<0.056
1,1-Dichloroethene	<2.2	<0.56	Chlorobenzene	<2.6	<0.56
trans-1,2-Dichloroethene	<2.2	<0.56	Ethylbenzene	<2.4	<0.56
Methylene chloride	670 ve lc	190 ve lc	1,1,2,2-Tetrachloroethane	<0.77	<0.11
t-Butyl alcohol (TBA)	<68	<22	Nonane	<29	<5.6
3-Chloropropene	<8.8	<2.8	Isopropylbenzene	<14	<2.8
CFC-113	<4.3	<0.56	2-Chlorotoluene	<29	<5.6
Carbon disulfide	<35	<11	Propylbenzene	<14	<2.8
Methyl t-butyl ether (MTBE)	<10	<2.8	4-Ethyltoluene	<14	<2.8
Vinyl acetate	<39	<11	m,p-Xylene	8.1	1.9
1,1-Dichloroethane	<2.3	<0.56	o-Xylene	3.5	0.81
cis-1,2-Dichloroethene	<2.2	<0.56	Styrene	<4.8	<1.1
Hexane	<20	<5.6	Bromoform	<12	<1.1
Chloroform	46	9.4	Benzyl chloride	<0.29	<0.056
Ethyl acetate	<40	<11	1,3,5-Trimethylbenzene	<14	<2.8
Tetrahydrofuran	17	5.7	1,2,4-Trimethylbenzene	<14	<2.8
2-Butanone (MEK)	<17	<5.6	1,3-Dichlorobenzene	<3.4	<0.56
1,2-Dichloroethane (EDC)	<0.23	<0.056	1,4-Dichlorobenzene	<1.3	<0.21
1,1,1-Trichloroethane	<3.1	<0.56	1,2-Dichlorobenzene	<3.4	<0.56
Carbon tetrachloride	<1.8	<0.28	1,2,4-Trichlorobenzene	<4.2	<0.56
Benzene	2.8	0.87	Naphthalene	<1.5	<0.28
Cyclohexane	<39	<11	Hexachlorobutadiene	<3	<0.28

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Pool-2-SG-042721	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-17 1/5.5
Date Analyzed:	04/29/21	Data File:	042827.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	100	70	130

Compounds:	Concentration ug/m3	ppbv	Compounds:	Concentration ug/m3	ppbv
Propene	<6.6	<3.8	1,2-Dichloropropane	<1.3	<0.28
Dichlorodifluoromethane	3.0	0.62	1,4-Dioxane	<2	<0.55
Chloromethane	<20	<9.9	2,2,4-Trimethylpentane	<26	<5.5
F-114	<3.8	<0.55	Methyl methacrylate	<23	<5.5
Vinyl chloride	<1.4	<0.55	Heptane	<23	<5.5
1,3-Butadiene	<0.24	<0.11	Bromodichloromethane	<0.37	<0.055
Butane	<26	<11	Trichloroethene	<0.59	<0.11
Bromomethane	<13	<3.3	cis-1,3-Dichloropropene	<2.5	<0.55
Chloroethane	<15	<5.5	4-Methyl-2-pentanone	<23	<5.5
Vinyl bromide	<2.4	<0.55	trans-1,3-Dichloropropene	<2.5	<0.55
Ethanol	49	26	Toluene	<100	<27
Acrolein	<0.63	<0.28	1,1,2-Trichloroethane	<0.3	<0.055
Pentane	<16	<5.5	2-Hexanone	<23	<5.5
Trichlorofluoromethane	<12	<2.2	Tetrachloroethene	<37	<5.5
Acetone	830 ve	350 ve	Dibromochloromethane	<0.47	<0.055
2-Propanol	<47	<19	1,2-Dibromoethane (EDB)	<0.42	<0.055
1,1-Dichloroethene	<2.2	<0.55	Chlorobenzene	<2.5	<0.55
trans-1,2-Dichloroethene	<2.2	<0.55	Ethylbenzene	<2.4	<0.55
Methylene chloride	<190	<55	1,1,2,2-Tetrachloroethane	<0.76	<0.11
t-Butyl alcohol (TBA)	<67	<22	Nonane	<29	<5.5
3-Chloropropene	<8.6	<2.7	Isopropylbenzene	<14	<2.7
CFC-113	<4.2	<0.55	2-Chlorotoluene	<28	<5.5
Carbon disulfide	<34	<11	Propylbenzene	<14	<2.7
Methyl t-butyl ether (MTBE)	<9.9	<2.7	4-Ethyltoluene	<14	<2.7
Vinyl acetate	<39	<11	m,p-Xylene	8.0	1.8
1,1-Dichloroethane	<2.2	<0.55	o-Xylene	4.2	0.96
cis-1,2-Dichloroethene	<2.2	<0.55	Styrene	<4.7	<1.1
Hexane	<19	<5.5	Bromoform	<11	<1.1
Chloroform	2.6	0.52	Benzyl chloride	<0.28	<0.055
Ethyl acetate	<40	<11	1,3,5-Trimethylbenzene	<14	<2.7
Tetrahydrofuran	15	5.2	1,2,4-Trimethylbenzene	<14	<2.7
2-Butanone (MEK)	<16	<5.5	1,3-Dichlorobenzene	<3.3	<0.55
1,2-Dichloroethane (EDC)	<0.22	<0.055	1,4-Dichlorobenzene	<1.3	<0.21
1,1,1-Trichloroethane	<3	<0.55	1,2-Dichlorobenzene	<3.3	<0.55
Carbon tetrachloride	<1.7	<0.28	1,2,4-Trichlorobenzene	<4.1	<0.55
Benzene	<1.8	<0.55	Naphthalene	<1.4	<0.28
Cyclohexane	<38	<11	Hexachlorobutadiene	<3	<0.28

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	WSU-Ex1-SG-042721	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-18 1/5.9
Date Analyzed:	04/29/21	Data File:	042828.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	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<7.1	<4.1	1,2-Dichloropropane	<1.4	<0.29
Dichlorodifluoromethane	<2.9	<0.59	1,4-Dioxane	<2.1	<0.59
Chloromethane	<22	<11	2,2,4-Trimethylpentane	<28	<5.9
F-114	<4.1	<0.59	Methyl methacrylate	<24	<5.9
Vinyl chloride	<1.5	<0.59	Heptane	<24	<5.9
1,3-Butadiene	<0.26	<0.12	Bromodichloromethane	<0.4	<0.059
Butane	<28	<12	Trichloroethene	<0.63	<0.12
Bromomethane	<14	<3.5	cis-1,3-Dichloropropene	<2.7	<0.59
Chloroethane	<16	<5.9	4-Methyl-2-pentanone	<24	<5.9
Vinyl bromide	<2.6	<0.59	trans-1,3-Dichloropropene	<2.7	<0.59
Ethanol	<44	<24	Toluene	<110	<29
Acrolein	<0.68	<0.29	1,1,2-Trichloroethane	<0.32	<0.059
Pentane	<17	<5.9	2-Hexanone	<24	<5.9
Trichlorofluoromethane	<13	<2.4	Tetrachloroethene	<40	<5.9
Acetone	75	31	Dibromochloromethane	<0.5	<0.059
2-Propanol	66	27	1,2-Dibromoethane (EDB)	<0.45	<0.059
1,1-Dichloroethene	<2.3	<0.59	Chlorobenzene	<2.7	<0.59
trans-1,2-Dichloroethene	<2.3	<0.59	Ethylbenzene	<2.6	<0.59
Methylene chloride	<200	<59	1,1,2,2-Tetrachloroethane	<0.81	<0.12
t-Butyl alcohol (TBA)	<72	<24	Nonane	<31	<5.9
3-Chloropropene	<9.2	<2.9	Isopropylbenzene	<15	<2.9
CFC-113	<4.5	<0.59	2-Chlorotoluene	<31	<5.9
Carbon disulfide	<37	<12	Propylbenzene	<15	<2.9
Methyl t-butyl ether (MTBE)	<11	<2.9	4-Ethyltoluene	<15	<2.9
Vinyl acetate	<42	<12	m,p-Xylene	<5.1	<1.2
1,1-Dichloroethane	<2.4	<0.59	o-Xylene	<2.6	<0.59
cis-1,2-Dichloroethene	<2.3	<0.59	Styrene	<5	<1.2
Hexane	<21	<5.9	Bromoform	<12	<1.2
Chloroform	0.52	0.11	Benzyl chloride	<0.31	<0.059
Ethyl acetate	<43	<12	1,3,5-Trimethylbenzene	<15	<2.9
Tetrahydrofuran	12	4.1	1,2,4-Trimethylbenzene	<15	<2.9
2-Butanone (MEK)	<17	<5.9	1,3-Dichlorobenzene	<3.5	<0.59
1,2-Dichloroethane (EDC)	<0.24	<0.059	1,4-Dichlorobenzene	<1.4	<0.22
1,1,1-Trichloroethane	<3.2	<0.59	1,2-Dichlorobenzene	<3.5	<0.59
Carbon tetrachloride	<1.9	<0.29	1,2,4-Trichlorobenzene	<4.4	<0.59
Benzene	<1.9	<0.59	Naphthalene	<1.5	<0.29
Cyclohexane	<41	<12	Hexachlorobutadiene	<3.1	<0.3

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	WSU-Ex2-SG-042721	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-19 1/8.5
Date Analyzed:	04/29/21	Data File:	042831.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration ug/m3	ppbv	Compounds:	Concentration ug/m3	ppbv
Propene	<10	<5.9	1,2-Dichloropropane	<2	<0.42
Dichlorodifluoromethane	<4.2	<0.85	1,4-Dioxane	<3.1	<0.85
Chloromethane	<32	<15	2,2,4-Trimethylpentane	<40	<8.5
F-114	<5.9	<0.85	Methyl methacrylate	<35	<8.5
Vinyl chloride	<2.2	<0.85	Heptane	<35	<8.5
1,3-Butadiene	<0.38	<0.17	Bromodichloromethane	<0.57	<0.085
Butane	<40	<17	Trichloroethene	<0.91	<0.17
Bromomethane	<20	<5.1	cis-1,3-Dichloropropene	<3.9	<0.85
Chloroethane	<22	<8.5	4-Methyl-2-pentanone	<35	<8.5
Vinyl bromide	<3.7	<0.85	trans-1,3-Dichloropropene	<3.9	<0.85
Ethanol	<64	<34	Toluene	<160	<42
Acrolein	<0.97	<0.42	1,1,2-Trichloroethane	<0.46	<0.085
Pentane	<25	<8.5	2-Hexanone	<35	<8.5
Trichlorofluoromethane	<19	<3.4	Tetrachloroethene	<58	<8.5
Acetone	<40	<17	Dibromochloromethane	<0.72	<0.085
2-Propanol	<73	<30	1,2-Dibromoethane (EDB)	<0.65	<0.085
1,1-Dichloroethene	<3.4	<0.85	Chlorobenzene	<3.9	<0.85
trans-1,2-Dichloroethene	<3.4	<0.85	Ethylbenzene	<3.7	<0.85
Methylene chloride	<300	<85	1,1,2,2-Tetrachloroethane	<1.2	<0.17
t-Butyl alcohol (TBA)	<100	<34	Nonane	<45	<8.5
3-Chloropropene	<13	<4.2	Isopropylbenzene	<21	<4.2
CFC-113	<6.5	<0.85	2-Chlorotoluene	<44	<8.5
Carbon disulfide	<53	<17	Propylbenzene	<21	<4.2
Methyl t-butyl ether (MTBE)	<15	<4.2	4-Ethyltoluene	<21	<4.2
Vinyl acetate	<60	<17	m,p-Xylene	<7.4	<1.7
1,1-Dichloroethane	<3.4	<0.85	o-Xylene	<3.7	<0.85
cis-1,2-Dichloroethene	<3.4	<0.85	Styrene	<7.2	<1.7
Hexane	<30	<8.5	Bromoform	<18	<1.7
Chloroform	1.0	0.21	Benzyl chloride	<0.44	<0.085
Ethyl acetate	<61	<17	1,3,5-Trimethylbenzene	<21	<4.2
Tetrahydrofuran	12	3.9	1,2,4-Trimethylbenzene	<21	<4.2
2-Butanone (MEK)	<25	<8.5	1,3-Dichlorobenzene	<5.1	<0.85
1,2-Dichloroethane (EDC)	<0.34	<0.085	1,4-Dichlorobenzene	<2	<0.32
1,1,1-Trichloroethane	<4.6	<0.85	1,2-Dichlorobenzene	<5.1	<0.85
Carbon tetrachloride	<2.7	<0.42	1,2,4-Trichlorobenzene	<6.3	<0.85
Benzene	<2.7	<0.85	Naphthalene	<2.2	<0.42
Cyclohexane	<59	<17	Hexachlorobutadiene	<4.5	<0.43

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	WSU-Ed1-SG-042721	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-20 1/5.5
Date Analyzed:	04/29/21	Data File:	042829.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<6.6	<3.8	1,2-Dichloropropane	<1.3	<0.28
Dichlorodifluoromethane	<2.7	<0.55	1,4-Dioxane	<2	<0.55
Chloromethane	<20	<9.9	2,2,4-Trimethylpentane	<26	<5.5
F-114	<3.8	<0.55	Methyl methacrylate	<23	<5.5
Vinyl chloride	<1.4	<0.55	Heptane	<23	<5.5
1,3-Butadiene	<0.24	<0.11	Bromodichloromethane	<0.37	<0.055
Butane	<26	<11	Trichloroethene	<0.59	<0.11
Bromomethane	<13	<3.3	cis-1,3-Dichloropropene	<2.5	<0.55
Chloroethane	<15	<5.5	4-Methyl-2-pentanone	<23	<5.5
Vinyl bromide	<2.4	<0.55	trans-1,3-Dichloropropene	<2.5	<0.55
Ethanol	74	40	Toluene	<100	<27
Acrolein	0.78	0.34	1,1,2-Trichloroethane	<0.3	<0.055
Pentane	<16	<5.5	2-Hexanone	<23	<5.5
Trichlorofluoromethane	<12	<2.2	Tetrachloroethene	<37	<5.5
Acetone	45	19	Dibromochloromethane	<0.47	<0.055
2-Propanol	81	33	1,2-Dibromoethane (EDB)	<0.42	<0.055
1,1-Dichloroethene	<2.2	<0.55	Chlorobenzene	<2.5	<0.55
trans-1,2-Dichloroethene	<2.2	<0.55	Ethylbenzene	<2.4	<0.55
Methylene chloride	210 lc	60 lc	1,1,2,2-Tetrachloroethane	<0.76	<0.11
t-Butyl alcohol (TBA)	<67	<22	Nonane	<29	<5.5
3-Chloropropene	<8.6	<2.7	Isopropylbenzene	<14	<2.7
CFC-113	<4.2	<0.55	2-Chlorotoluene	<28	<5.5
Carbon disulfide	<34	<11	Propylbenzene	<14	<2.7
Methyl t-butyl ether (MTBE)	<9.9	<2.7	4-Ethyltoluene	<14	<2.7
Vinyl acetate	<39	<11	m,p-Xylene	<4.8	<1.1
1,1-Dichloroethane	<2.2	<0.55	o-Xylene	<2.4	<0.55
cis-1,2-Dichloroethene	<2.2	<0.55	Styrene	<4.7	<1.1
Hexane	<19	<5.5	Bromoform	<11	<1.1
Chloroform	<0.27	<0.055	Benzyl chloride	<0.28	<0.055
Ethyl acetate	<40	<11	1,3,5-Trimethylbenzene	<14	<2.7
Tetrahydrofuran	6.7	2.3	1,2,4-Trimethylbenzene	<14	<2.7
2-Butanone (MEK)	<16	<5.5	1,3-Dichlorobenzene	<3.3	<0.55
1,2-Dichloroethane (EDC)	<0.22	<0.055	1,4-Dichlorobenzene	<1.3	<0.21
1,1,1-Trichloroethane	<3	<0.55	1,2-Dichlorobenzene	<3.3	<0.55
Carbon tetrachloride	<1.7	<0.28	1,2,4-Trichlorobenzene	<4.1	<0.55
Benzene	<1.8	<0.55	Naphthalene	<1.4	<0.28
Cyclohexane	<38	<11	Hexachlorobutadiene	<3	<0.28

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	WSU-Ed2-SG-042721	Client:	Aspect Consulting, LLC
Date Received:	04/27/21	Project:	McCollum Park 210222
Date Collected:	04/26/21	Lab ID:	104488-21 1/5.7
Date Analyzed:	04/29/21	Data File:	042830.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	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<6.9	<4	1,2-Dichloropropane	<1.3	<0.28
Dichlorodifluoromethane	<2.8	<0.57	1,4-Dioxane	<2.1	<0.57
Chloromethane	<21	<10	2,2,4-Trimethylpentane	<27	<5.7
F-114	<4	<0.57	Methyl methacrylate	<23	<5.7
Vinyl chloride	<1.5	<0.57	Heptane	<23	<5.7
1,3-Butadiene	<0.25	<0.11	Bromodichloromethane	<0.38	<0.057
Butane	<27	<11	Trichloroethene	<0.61	<0.11
Bromomethane	<13	<3.4	cis-1,3-Dichloropropene	<2.6	<0.57
Chloroethane	<15	<5.7	4-Methyl-2-pentanone	<23	<5.7
Vinyl bromide	<2.5	<0.57	trans-1,3-Dichloropropene	<2.6	<0.57
Ethanol	99	53	Toluene	<110	<28
Acrolein	<0.65	<0.28	1,1,2-Trichloroethane	<0.31	<0.057
Pentane	<17	<5.7	2-Hexanone	<23	<5.7
Trichlorofluoromethane	<13	<2.3	Tetrachloroethene	<39	<5.7
Acetone	140	58	Dibromochloromethane	<0.49	<0.057
2-Propanol	80	33	1,2-Dibromoethane (EDB)	<0.44	<0.057
1,1-Dichloroethene	<2.3	<0.57	Chlorobenzene	<2.6	<0.57
trans-1,2-Dichloroethene	<2.3	<0.57	Ethylbenzene	<2.5	<0.57
Methylene chloride	<200	<57	1,1,2,2-Tetrachloroethane	<0.78	<0.11
t-Butyl alcohol (TBA)	<69	<23	Nonane	<30	<5.7
3-Chloropropene	<8.9	<2.8	Isopropylbenzene	<14	<2.8
CFC-113	<4.4	<0.57	2-Chlorotoluene	<30	<5.7
Carbon disulfide	<36	<11	Propylbenzene	<14	<2.8
Methyl t-butyl ether (MTBE)	<10	<2.8	4-Ethyltoluene	<14	<2.8
Vinyl acetate	<40	<11	m,p-Xylene	<5	<1.1
1,1-Dichloroethane	<2.3	<0.57	o-Xylene	<2.5	<0.57
cis-1,2-Dichloroethene	<2.3	<0.57	Styrene	<4.9	<1.1
Hexane	<20	<5.7	Bromoform	<12	<1.1
Chloroform	<0.28	<0.057	Benzyl chloride	<0.3	<0.057
Ethyl acetate	<41	<11	1,3,5-Trimethylbenzene	<14	<2.8
Tetrahydrofuran	6.3	2.1	1,2,4-Trimethylbenzene	<14	<2.8
2-Butanone (MEK)	<17	<5.7	1,3-Dichlorobenzene	<3.4	<0.57
1,2-Dichloroethane (EDC)	<0.23	<0.057	1,4-Dichlorobenzene	<1.4	<0.22
1,1,1-Trichloroethane	<3.1	<0.57	1,2-Dichlorobenzene	<3.4	<0.57
Carbon tetrachloride	<1.8	<0.28	1,2,4-Trichlorobenzene	<4.2	<0.57
Benzene	<1.8	<0.57	Naphthalene	<1.5	<0.28
Cyclohexane	<39	<11	Hexachlorobutadiene	<3	<0.29

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	McCollum Park 210222
Date Collected:	Not Applicable	Lab ID:	01-849 MB
Date Analyzed:	04/28/21	Data File:	042816.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	<0.49	<0.1	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	<4.8	<2	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	<7.5	<4	Toluene	<19	<5
Acrolein	<0.11	<0.05	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	<3	<1	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	<4.8	<2	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Methylene chloride	<35	<10	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	<0.87	<0.2
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	<0.43	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	<0.049	<0.01	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	<0.31	<0.05	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	<0.26	<0.05
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.53	<0.05

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	McCollum Park 210222
Date Collected:	Not Applicable	Lab ID:	01-858 MB
Date Analyzed:	04/30/21	Data File:	043011.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	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	<0.49	<0.1	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	<4.8	<2	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	<7.5	<4	Toluene	<19	<5
Acrolein	<0.11	<0.05	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	<3	<1	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	<4.8	<2	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Methylene chloride	<35	<10	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	m,p-Xylene	<0.87	<0.2
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	<0.43	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	<0.049	<0.01	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	<0.31	<0.05	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	<0.058 j	<0.011 j
Cyclohexane	<6.9	<2	Hexachlorobutadiene	0.37	0.035

Date of Report: 05/11/21
Date Received: 04/27/21
Project: McCollum Park 210222, F&BI 104488
Date Extracted: 04/05/21
Date Analyzed: 04/05/21

RESULTS FROM THE ANALYSIS OF AIR SAMPLES FOR HELIUM USING METHOD ASTM D1946

Results Reported as % Helium

Sample ID Laboratory ID	Helium
BMX-1-SG-042721 104488-15	<0.6
Pool-1-SG-042721 104488-16	<0.6
Pool-2-SG-042721 104488-17	<0.6
WSU-Ex1-SG-042721 104488-18	<0.6
WSU-Ex2-SG-042721 104488-19	<0.6
WSU-Ed1-SG-042721 104488-20	<0.6
WSU-Ed2-SG-042721 104488-21	<0.6
Method Blank 01-1055 MB	<0.6

Date of Report: 05/11/21
Date Received: 04/27/21
Project: McCollum Park 210222, F&BI 104488

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD MA-APH

Laboratory Code: 104517-01 1/5.3 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	1,500	1,700	12
APH EC9-12 aliphatics	ug/m3	470	520	10
APH EC9-10 aromatics	ug/m3	<130	<130	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	103	70-130
APH EC9-12 aliphatics	ug/m3	67	123	70-130
APH EC9-10 aromatics	ug/m3	67	96	70-130

Date of Report: 05/11/21
Date Received: 04/27/21
Project: McCollum Park 210222, F&BI 104488

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD MA-APH

Laboratory Code: 104451-01 1/5.5 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	2,300	2,400	4
APH EC9-12 aliphatics	ug/m3	900	920	2
APH EC9-10 aromatics	ug/m3	<140	<140	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	99	70-130
APH EC9-12 aliphatics	ug/m3	67	121	70-130
APH EC9-10 aromatics	ug/m3	67	95	70-130

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

Laboratory Code: 104517-01 1/5.3 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Propene	ug/m3	130	100	26
Dichlorodifluoromethane	ug/m3	<2.6	2.9	nm
Chloromethane	ug/m3	<20	<20	nm
F-114	ug/m3	<3.7	<3.7	nm
Vinyl chloride	ug/m3	<1.4	<1.4	nm
1,3-Butadiene	ug/m3	24	24	0
Butane	ug/m3	47	41	14
Bromomethane	ug/m3	<12	<12	nm
Chloroethane	ug/m3	<14	<14	nm
Vinyl bromide	ug/m3	<2.3	<2.3	nm
Ethanol	ug/m3	71	85	18
Acrolein	ug/m3	<0.61	0.63	nm
Pentane	ug/m3	24	21	13
Trichlorofluoromethane	ug/m3	<12	<12	nm
Acetone	ug/m3	160	160	0
2-Propanol	ug/m3	<46	<46	nm
1,1-Dichloroethene	ug/m3	<2.1	<2.1	nm
trans-1,2-Dichloroethene	ug/m3	<2.1	<2.1	nm
Methylene chloride	ug/m3	<180	<180	nm
t-Butyl alcohol (TBA)	ug/m3	<64	<64	nm
3-Chloropropene	ug/m3	<8.3	8.9	nm
CFC-113	ug/m3	<4.1	<4.1	nm
Carbon disulfide	ug/m3	<33	<33	nm
Methyl t-butyl ether (MTBE)	ug/m3	<9.6	<9.6	nm
Vinyl acetate	ug/m3	<37	<37	nm
1,1-Dichloroethane	ug/m3	<2.1	<2.1	nm
cis-1,2-Dichloroethene	ug/m3	<2.1	<2.1	nm
Hexane	ug/m3	<19	<19	nm
Chloroform	ug/m3	0.70	0.60	15
Ethyl acetate	ug/m3	<38	<38	nm
Tetrahydrofuran	ug/m3	<1.6	<1.6	nm
2-Butanone (MEK)	ug/m3	32	33	3
1,2-Dichloroethane (EDC)	ug/m3	<0.21	<0.21	nm
1,1,1-Trichloroethane	ug/m3	<2.9	<2.9	nm
Carbon tetrachloride	ug/m3	<1.7	<1.7	nm
Benzene	ug/m3	54	52	4
Cyclohexane	ug/m3	<36	<36	nm
1,2-Dichloropropane	ug/m3	<1.2	<1.2	nm
1,4-Dioxane	ug/m3	<1.9	<1.9	nm
2,2,4-Trimethylpentane	ug/m3	<25	<25	nm

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

Laboratory Code: 104517-01 1/5.3 (Duplicate, continued)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Methyl methacrylate	ug/m3	<22	<22	nm
Heptane	ug/m3	<22	<22	nm
Bromodichloromethane	ug/m3	<0.36	<0.36	nm
Trichloroethene	ug/m3	<0.57	0.60	nm
cis-1,3-Dichloropropene	ug/m3	<2.4	<2.4	nm
4-Methyl-2-pentanone	ug/m3	<22	<22	nm
trans-1,3-Dichloropropene	ug/m3	<2.4	<2.4	nm
Toluene	ug/m3	<100	<100	nm
1,1,2-Trichloroethane	ug/m3	0.43	0.43	0
2-Hexanone	ug/m3	<22	<22	nm
Tetrachloroethene	ug/m3	<36	<36	nm
Dibromochloromethane	ug/m3	<0.45	<0.45	nm
1,2-Dibromoethane (EDB)	ug/m3	<0.41	<0.41	nm
Chlorobenzene	ug/m3	<2.4	<2.4	nm
Ethylbenzene	ug/m3	9.7	9.5	2
1,1,2,2-Tetrachloroethane	ug/m3	1.3	1.3	0
Nonane	ug/m3	<28	<28	nm
Isopropylbenzene	ug/m3	<13	<13	nm
2-Chlorotoluene	ug/m3	<27	<27	nm
Propylbenzene	ug/m3	<13	<13	nm
4-Ethyltoluene	ug/m3	<13	<13	nm
m,p-Xylene	ug/m3	16	16	0
o-Xylene	ug/m3	6.8	6.6	3
Styrene	ug/m3	4.9	4.6	6
Bromoform	ug/m3	<11	<11	nm
Benzyl chloride	ug/m3	<0.27	<0.27	nm
1,3,5-Trimethylbenzene	ug/m3	<13	<13	nm
1,2,4-Trimethylbenzene	ug/m3	<13	<13	nm
1,3-Dichlorobenzene	ug/m3	<3.2	<3.2	nm
1,4-Dichlorobenzene	ug/m3	<1.2	<1.2	nm
1,2-Dichlorobenzene	ug/m3	<3.2	<3.2	nm
1,2,4-Trichlorobenzene	ug/m3	<3.9	<3.9	nm
Naphthalene	ug/m3	<1.4	<1.4	nm
Hexachlorobutadiene	ug/m3	1.6	1.5	6

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Propene	ug/m3	23	114	70-130
Dichlorodifluoromethane	ug/m3	67	117	70-130
Chloromethane	ug/m3	28	116	70-130
F-114	ug/m3	94	117	70-130
Vinyl chloride	ug/m3	35	105	70-130
1,3-Butadiene	ug/m3	30	87	70-130
Butane	ug/m3	32	96	70-130
Bromomethane	ug/m3	52	112	70-130
Chloroethane	ug/m3	36	119	70-130
Vinyl bromide	ug/m3	59	102	70-130
Ethanol	ug/m3	25	133 vo	70-130
Acrolein	ug/m3	31	99	70-130
Pentane	ug/m3	40	89	70-130
Trichlorofluoromethane	ug/m3	76	109	70-130
Acetone	ug/m3	32	100	70-130
2-Propanol	ug/m3	33	100	70-130
1,1-Dichloroethene	ug/m3	54	97	70-130
trans-1,2-Dichloroethene	ug/m3	54	93	70-130
Methylene chloride	ug/m3	94	102	70-130
t-Butyl alcohol (TBA)	ug/m3	41	98	70-130
3-Chloropropene	ug/m3	42	92	70-130
CFC-113	ug/m3	100	102	70-130
Carbon disulfide	ug/m3	42	113	70-130
Methyl t-butyl ether (MTBE)	ug/m3	49	89	70-130
Vinyl acetate	ug/m3	48	88	70-130
1,1-Dichloroethane	ug/m3	55	107	70-130
cis-1,2-Dichloroethene	ug/m3	54	91	70-130
Hexane	ug/m3	48	82	70-130
Chloroform	ug/m3	66	107	70-130
Ethyl acetate	ug/m3	49	100	70-130
Tetrahydrofuran	ug/m3	40	93	70-130
2-Butanone (MEK)	ug/m3	40	88	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	110	70-130
1,1,1-Trichloroethane	ug/m3	74	109	70-130
Carbon tetrachloride	ug/m3	85	108	70-130
Benzene	ug/m3	43	93	70-130
Cyclohexane	ug/m3	46	79	70-130
1,2-Dichloropropane	ug/m3	62	116	70-130
1,4-Dioxane	ug/m3	49	97	70-130
2,2,4-Trimethylpentane	ug/m3	63	100	70-130

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Date Received: 04/27/21
Project: McCollum Park 210222, F&BI 104488

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

Laboratory Code: Laboratory Control Sample (Continued)

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Methyl methacrylate	ug/m3	55	111	70-130
Heptane	ug/m3	55	105	70-130
Bromodichloromethane	ug/m3	90	122	70-130
Trichloroethene	ug/m3	73	112	70-130
cis-1,3-Dichloropropene	ug/m3	61	109	70-130
4-Methyl-2-pentanone	ug/m3	55	80	70-130
trans-1,3-Dichloropropene	ug/m3	61	110	70-130
Toluene	ug/m3	51	98	70-130
1,1,2-Trichloroethane	ug/m3	74	123	70-130
2-Hexanone	ug/m3	55	110	70-130
Tetrachloroethene	ug/m3	92	113	70-130
Dibromochloromethane	ug/m3	120	116	70-130
1,2-Dibromoethane (EDB)	ug/m3	100	107	70-130
Chlorobenzene	ug/m3	62	105	70-130
Ethylbenzene	ug/m3	59	90	70-130
1,1,2,2-Tetrachloroethane	ug/m3	93	112	70-130
Nonane	ug/m3	71	104	70-130
Isopropylbenzene	ug/m3	66	101	70-130
2-Chlorotoluene	ug/m3	70	98	70-130
Propylbenzene	ug/m3	66	100	70-130
4-Ethyltoluene	ug/m3	66	97	70-130
m,p-Xylene	ug/m3	120	92	70-130
o-Xylene	ug/m3	59	94	70-130
Styrene	ug/m3	58	94	70-130
Bromoform	ug/m3	140	107	70-130
Benzyl chloride	ug/m3	70	116	70-130
1,3,5-Trimethylbenzene	ug/m3	66	95	70-130
1,2,4-Trimethylbenzene	ug/m3	66	91	70-130
1,3-Dichlorobenzene	ug/m3	81	111	70-130
1,4-Dichlorobenzene	ug/m3	81	99	70-130
1,2-Dichlorobenzene	ug/m3	81	104	70-130
1,2,4-Trichlorobenzene	ug/m3	100	97	70-130
Naphthalene	ug/m3	71	92	70-130
Hexachlorobutadiene	ug/m3	140	101	70-130

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

Laboratory Code: 104451-01 1/5.5 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Propene	ug/m3	<6.6	<6.6	nm
Dichlorodifluoromethane	ug/m3	<2.7	3.3	nm
Chloromethane	ug/m3	<20	<20	nm
F-114	ug/m3	<3.8	<3.8	nm
Vinyl chloride	ug/m3	<1.4	<1.4	nm
1,3-Butadiene	ug/m3	<0.24	<0.24	nm
Butane	ug/m3	<26	<26	nm
Bromomethane	ug/m3	<13	<13	nm
Chloroethane	ug/m3	<15	<15	nm
Vinyl bromide	ug/m3	<2.4	<2.4	nm
Ethanol	ug/m3	95	87	9
Acrolein	ug/m3	<0.63	<0.63	nm
Pentane	ug/m3	<16	<16	nm
Trichlorofluoromethane	ug/m3	<12	<12	nm
Acetone	ug/m3	430	440	2
2-Propanol	ug/m3	200	200	0
1,1-Dichloroethene	ug/m3	<2.2	<2.2	nm
trans-1,2-Dichloroethene	ug/m3	<2.2	<2.2	nm
Methylene chloride	ug/m3	<190	<190	nm
t-Butyl alcohol (TBA)	ug/m3	<67	<67	nm
3-Chloropropene	ug/m3	<8.6	<8.6	nm
CFC-113	ug/m3	<4.2	<4.2	nm
Carbon disulfide	ug/m3	<34	<34	nm
Methyl t-butyl ether (MTBE)	ug/m3	<9.9	<9.9	nm
Vinyl acetate	ug/m3	<39	<39	nm
1,1-Dichloroethane	ug/m3	<2.2	<2.2	nm
cis-1,2-Dichloroethene	ug/m3	<2.2	<2.2	nm
Hexane	ug/m3	<19	<19	nm
Chloroform	ug/m3	<0.27	<0.27	nm
Ethyl acetate	ug/m3	<40	<40	nm
Tetrahydrofuran	ug/m3	<1.6	<1.6	nm
2-Butanone (MEK)	ug/m3	<16	<16	nm
1,2-Dichloroethane (EDC)	ug/m3	<0.22	<0.22	nm
1,1,1-Trichloroethane	ug/m3	53	52	2
Carbon tetrachloride	ug/m3	<1.7	<1.7	nm
Benzene	ug/m3	<1.8	<1.8	nm
Cyclohexane	ug/m3	<38	<38	nm
1,2-Dichloropropane	ug/m3	<1.3	<1.3	nm
1,4-Dioxane	ug/m3	<2	<2	nm
2,2,4-Trimethylpentane	ug/m3	<26	<26	nm

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Project: McCollum Park 210222, F&BI 104488

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

Laboratory Code: 104451-01 1/5.5 (Duplicate, continued)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Methyl methacrylate	ug/m3	<23	<23	nm
Heptane	ug/m3	<23	<23	nm
Bromodichloromethane	ug/m3	<0.37	<0.37	nm
Trichloroethene	ug/m3	<0.59	<0.59	nm
cis-1,3-Dichloropropene	ug/m3	<2.5	<2.5	nm
4-Methyl-2-pentanone	ug/m3	170	170	0
trans-1,3-Dichloropropene	ug/m3	<2.5	<2.5	nm
Toluene	ug/m3	<100	<100	nm
1,1,2-Trichloroethane	ug/m3	<0.3	<0.3	nm
2-Hexanone	ug/m3	<23	<23	nm
Tetrachloroethene	ug/m3	<37	<37	nm
Dibromochloromethane	ug/m3	<0.47	<0.47	nm
1,2-Dibromoethane (EDB)	ug/m3	<0.42	<0.42	nm
Chlorobenzene	ug/m3	<2.5	<2.5	nm
Ethylbenzene	ug/m3	<2.4	<2.4	nm
1,1,2,2-Tetrachloroethane	ug/m3	<0.76	<0.76	nm
Nonane	ug/m3	<29	<29	nm
Isopropylbenzene	ug/m3	<14	<14	nm
2-Chlorotoluene	ug/m3	<28	<28	nm
Propylbenzene	ug/m3	<14	<14	nm
4-Ethyltoluene	ug/m3	<14	<14	nm
m,p-Xylene	ug/m3	6.7	6.6	2
o-Xylene	ug/m3	2.9	2.9	0
Styrene	ug/m3	<4.7	<4.7	nm
Bromoform	ug/m3	<11	<11	nm
Benzyl chloride	ug/m3	<0.28	<0.28	nm
1,3,5-Trimethylbenzene	ug/m3	<14	<14	nm
1,2,4-Trimethylbenzene	ug/m3	<14	<14	nm
1,3-Dichlorobenzene	ug/m3	<3.3	<3.3	nm
1,4-Dichlorobenzene	ug/m3	<1.3	<1.3	nm
1,2-Dichlorobenzene	ug/m3	<3.3	<3.3	nm
1,2,4-Trichlorobenzene	ug/m3	<4.1	<4.1	nm
Naphthalene	ug/m3	<1.4	<1.4	nm
Hexachlorobutadiene	ug/m3	<3	<3	nm

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Propene	ug/m3	23	118	70-130
Dichlorodifluoromethane	ug/m3	67	120	70-130
Chloromethane	ug/m3	28	110	70-130
F-114	ug/m3	94	110	70-130
Vinyl chloride	ug/m3	35	106	70-130
1,3-Butadiene	ug/m3	30	94	70-130
Butane	ug/m3	32	99	70-130
Bromomethane	ug/m3	52	140 vo	70-130
Chloroethane	ug/m3	36	110	70-130
Vinyl bromide	ug/m3	59	108	70-130
Ethanol	ug/m3	25	116	70-130
Acrolein	ug/m3	31	105	70-130
Pentane	ug/m3	40	95	70-130
Trichlorofluoromethane	ug/m3	76	118	70-130
Acetone	ug/m3	32	109	70-130
2-Propanol	ug/m3	33	97	70-130
1,1-Dichloroethene	ug/m3	54	102	70-130
trans-1,2-Dichloroethene	ug/m3	54	98	70-130
Methylene chloride	ug/m3	94	99	70-130
t-Butyl alcohol (TBA)	ug/m3	41	104	70-130
3-Chloropropene	ug/m3	42	105	70-130
CFC-113	ug/m3	100	107	70-130
Carbon disulfide	ug/m3	42	106	70-130
Methyl t-butyl ether (MTBE)	ug/m3	49	95	70-130
Vinyl acetate	ug/m3	48	105	70-130
1,1-Dichloroethane	ug/m3	55	112	70-130
cis-1,2-Dichloroethene	ug/m3	54	97	70-130
Hexane	ug/m3	48	85	70-130
Chloroform	ug/m3	66	112	70-130
Ethyl acetate	ug/m3	49	108	70-130
Tetrahydrofuran	ug/m3	40	94	70-130
2-Butanone (MEK)	ug/m3	40	96	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	115	70-130
1,1,1-Trichloroethane	ug/m3	74	114	70-130
Carbon tetrachloride	ug/m3	85	113	70-130
Benzene	ug/m3	43	98	70-130
Cyclohexane	ug/m3	46	80	70-130
1,2-Dichloropropane	ug/m3	62	118	70-130
1,4-Dioxane	ug/m3	49	94	70-130
2,2,4-Trimethylpentane	ug/m3	63	104	70-130

Date of Report: 05/11/21
Date Received: 04/27/21
Project: McCollum Park 210222, F&BI 104488

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

Laboratory Code: Laboratory Control Sample (Continued)

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Methyl methacrylate	ug/m3	55	113	70-130
Heptane	ug/m3	55	110	70-130
Bromodichloromethane	ug/m3	90	126	70-130
Trichloroethene	ug/m3	73	114	70-130
cis-1,3-Dichloropropene	ug/m3	61	106	70-130
4-Methyl-2-pentanone	ug/m3	55	96	70-130
trans-1,3-Dichloropropene	ug/m3	61	113	70-130
Toluene	ug/m3	51	102	70-130
1,1,2-Trichloroethane	ug/m3	74	124	70-130
2-Hexanone	ug/m3	55	115	70-130
Tetrachloroethene	ug/m3	92	113	70-130
Dibromochloromethane	ug/m3	120	122	70-130
1,2-Dibromoethane (EDB)	ug/m3	100	108	70-130
Chlorobenzene	ug/m3	62	113	70-130
Ethylbenzene	ug/m3	59	94	70-130
1,1,2,2-Tetrachloroethane	ug/m3	93	115	70-130
Nonane	ug/m3	71	102	70-130
Isopropylbenzene	ug/m3	66	102	70-130
2-Chlorotoluene	ug/m3	70	108	70-130
Propylbenzene	ug/m3	66	104	70-130
4-Ethyltoluene	ug/m3	66	93	70-130
m,p-Xylene	ug/m3	120	96	70-130
o-Xylene	ug/m3	59	97	70-130
Styrene	ug/m3	58	98	70-130
Bromoform	ug/m3	140	117	70-130
Benzyl chloride	ug/m3	70	120	70-130
1,3,5-Trimethylbenzene	ug/m3	66	101	70-130
1,2,4-Trimethylbenzene	ug/m3	66	94	70-130
1,3-Dichlorobenzene	ug/m3	81	109	70-130
1,4-Dichlorobenzene	ug/m3	81	107	70-130
1,2-Dichlorobenzene	ug/m3	81	108	70-130
1,2,4-Trichlorobenzene	ug/m3	100	99	70-130
Naphthalene	ug/m3	71	100	70-130
Hexachlorobutadiene	ug/m3	140	104	70-130

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Project: McCollum Park 210222, F&BI 104488

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR HELIUM USING METHOD ASTM D1946

Laboratory Code: 104451-01 (Duplicate)

Analyte	Sample Result (%)	Duplicate Result (%)	Relative Percent Difference	Acceptance Criteria
Helium	<0.6	<0.6	nm	0-20

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. 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 lowest calibration standard. 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.

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.

104488

SAMPLE CHAIN OF CUSTODY ME 04/27/21

Page # 1 of 3

Report To Della Massey, Peter Bannister
Company Aspect Consulting
Address 710 2nd Ave, Ste. 550
City, State, ZIP Seattle, WA 98104
Phone 860.368.9745 Email dmassey@aspectconsulting.com

SAMPLERS (signature) B CCM

PROJECT NAME & ADDRESS: McCollum Park
PO #: 210222

NOTES: Full Scan on all per DM 4/27/21
Cancel He on IA/OA samples per DM ME

INVOICE TO

TURNAROUND TIME
☒ Standard
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Default: Clean after 3 days
☐ Archive (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	Full Scan TO15-CVOCs	APH	Helium		Notes
Pool-AA-042621	01	18565	06606	IA / SG	4/26/21	28.5	0734	8	1534			X	X	X		Outdoor Air
Pool-1-IA-042621	02	37212	07870	(IA) / SG		30	0738	7	1537							
Pool-2-IA-042621	03	23230	05352	(IA) / SG		29	0745	6	1541							
Stream-1-IA-042621	04	32100	06608	(IA) SG		29	0805	7.5	1553							
Stream-2-IA-042621	05	35331	06607	(IA) / SG		30	0811	5	1555							
Stream-3-IA-042621	06	20554	07849	(IA) / SG		28	0815	8	1557							
Stream-AA-042621	07	18579	06605	IA / SG		30	0825	9	1600							Outdoor Air
WSU-AA-042621	08	18566	08181	(IA) / SG		31	0830	7	1605							

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: B CCM	Baxter Call	Aspect	4/27/21	1415
Received by:	Nhan Phan	FCBI	4/27/21	1415
Relinquished by:				
Received by:		Samples received at 20 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

104488

SAMPLE CHAIN OF CUSTODY

ME 04/27/21

Page # 2 of 3

Report To Della Massey, Peter Banister ~~Banisters~~

Company Aspect

Address

City, State, ZIP

Phone Email

SAMPLERS (signature) B Call	
PROJECT NAME & ADDRESS McCollum Park	PO # 210222
NOTES:	INVOICE TO

TURNAROUND TIME
- [X] Standard
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Default: Clean after 3 days
- [ ] Archive (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	TO15 ~~VOCs~~ Full Scan	APH	Helium		Notes
WSU-Ex1-IA-042621	09	20552	05353	(IA) / SG	4/26/21	30	0837	9	1608			X	X	X		
WSU-Ex2-IA-042621	10	20594	06609	(IA) / SG		29	0840	8.5	1610							
WSU-Ed1-IA-042621	11	18573	00183	(IA) / SG		31	0845	9	1621							
WSU-Ed2-IA-042621	12	18572	05350	(IA) / SG		29	0850	9	1618							
BMX-1-IA-042621	13	20542	07853	(IA) / SG		29	0857	7.5	1629							
BMX-AA-042621	14	18580	05349	IA / SG		29	0900	8	1632							Outdoor Air
BMX-1-SG-042621	15	3312	305	IA / (SG)	4/27/21	30	0615	5	0620							
Pool-1-SG-042721	16	3669	302	IA / (SG)		~~29~~ 5	~~0710~~ 0810	5	0814							

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Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: B Call	Baxter Call	Aspect	4/27/21	1415
Received by:	Nhan Phan	FEBI	4/27/21	1415
Relinquished by:				
Received by:		Samples received at 2 °C		

104488

SAMPLE CHAIN OF CUSTODY

ME 04/27/21

Page # 3 of 3

Report To Delia Massey, Peter Banister

Company Aspect

Address

City, State, ZIP

Phone Email

SAMPLERS (signature) B Cell

PROJECT NAME & ADDRESS: McCollum Park

PO #: 210222

NOTES:

INVOICE TO

TURNAROUND TIME
☒ Standard
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Default: Clean after 3 days
☐ Archive (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	Full Scan TO15 eVOCs	APH	Helium		Notes
Pool-2-SG-042721	17	3540	244	IA / (SG)	4/27/21	30	0741	5	0746			X	X	X		
WSU-Ex1-SG-042721	18	3445	301	IA / (SG)	↓	29	0837	5	0842			↓	↓	↓		
WSU-Ex2-SG-042721	19	3230	243	IA / (SG)		29	0925	5	0930							
WSU-Ed1-SG-042721	20	2439	259	IA / (SG)		30	1020	5	1025							
WSU-Ed2-SG-042721	21	2434	304	IA / (SG)		29	1056	5	1101							
				IA / SG												
				IA / SG												
				IA / SG												

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FORMS\COC\COCTO-15.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: B Cell	Baxter Cell	Aspect	4/27/21	1415
Received by:	Nhan Phan	FEBI	4/29/21	1415
Relinquished by:				
Received by:		Samples received at 20 °C		

APPENDIX E

Report Limitations and Guidelines for Use

REPORT LIMITATIONS AND USE GUIDELINES

Reliance Conditions for Third Parties

This report was prepared for the exclusive use of the Client. No other party may rely on this report or the product of our services without the express written consent of Aspect Consulting, LLC (Aspect). This limitation is to provide our firm with reasonable protection against liability claims by third parties with whom there would otherwise be no contractual conditions or limitations and guidelines governing their use of the report. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and recognized standards of professionals in the same locality and involving similar conditions.

Services for Specific Purposes, Persons and Projects

Aspect has performed the services in general accordance with the scope and limitations of our Agreement. This report has been prepared for the exclusive use of the Client and their authorized third parties, approved in writing by Aspect. This report is not intended for use by others, and the information contained herein is not applicable to other properties.

This report is not, and should not, be construed as a warranty or guarantee regarding the presence or absence of hazardous substances or petroleum products that may affect the subject property. The report is not intended to make any representation concerning title or ownership to the subject property. If real property records were reviewed, they were reviewed for the sole purpose of determining the subject property's historical uses. All findings, conclusions, and recommendations stated in this report are based on the data and information provided to Aspect, current use of the subject property, and observations and conditions that existed on the date and time of the report.

Aspect structures its services to meet the specific needs of our clients. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and subject property. This report should not be applied for any purpose or project except the purpose described in the Agreement.

This Report Is Project-Specific

Aspect considered a number of unique, project-specific factors when establishing the Scope of Work for this project and report. You should not rely on this report if it was:

- Not prepared for you
- Not prepared for the specific purpose identified in the Agreement
- Not prepared for the specific real property assessed
- Completed before important changes occurred concerning the subject property, project or governmental regulatory actions

If changes are made to the project or subject property after the date of this report, Aspect should be retained to assess the impact of the changes with respect to the conclusions contained in the report.

Geoscience Interpretations

The geoscience practices (geotechnical engineering, geology, and environmental science) require interpretation of spatial information that can make them less exact than other engineering and natural science disciplines. It is important to recognize this limitation in evaluating the content of the report. If you are unclear how these "Report Limitations and Use Guidelines" apply to your project or site, you should contact Aspect.

Discipline-Specific Reports Are Not Interchangeable

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually address any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding the subject property.

Environmental Regulations Are Not Static

Some hazardous substances or petroleum products may be present near the subject property in quantities or under conditions that may have led, or may lead, to contamination of the subject property, but are not included in current local, state or federal regulatory definitions of hazardous substances or petroleum products or do not otherwise present potential liability. Changes may occur in the standards for appropriate inquiry or regulatory definitions of hazardous substance and petroleum products; therefore, this report has a limited useful life.

Property Conditions Change Over Time

This report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time (for example, Phase I ESA reports are applicable for 180 days), by events such as a change in property use or occupancy, or by natural events, such as floods, earthquakes, slope failure or groundwater fluctuations. If more than six months have passed since issuance of our report, or if any of the described events may have occurred following the issuance of the report, you should contact Aspect so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.