FLOYD | SNIDER
strategy ▪ science ▪ engineering

Two Union Square
601 Union Street, Suite 600
Seattle, WA 98101
tel: 206.292.2078 fax: 206.682.7867

# Memorandum

**To:** Steve Teel, Washington State Department of Ecology

**Copies:** Drew Zaborowski, Avenue 55; Scott Hooton, Port of Tacoma

**From:** Tom Colligan and Kristin Anderson, Floyd|Snider

**Date:** March 10, 2020

**Project No:** Ave 55-Taylor Way

**Re:** **Supplemental Post-Construction Vapor Intrusion Assessment**
**1514 Taylor Way Development, Tacoma, Washington**

This memorandum presents the results of a supplemental vapor intrusion assessment completed for the Taylor Way Property (Property), which is part of the larger Taylor Way and Alexander Avenue Fill Area (TWAAFA) Site. Sampling was completed in accordance with an Ecology-approved work plan (2020 Work Plan; Floyd|Snider 2020). The 2020 Work Plan was prepared following receipt of a letter from Ecology dated November 14, 2019, requesting that additional vapor intrusion (VI) assessment sampling be performed at the two warehouse buildings that were recently constructed at the Property.

## BACKGROUND

Two prior VI assessments were performed on the Property. The first assessment was a pre-construction methane survey and preliminary VI assessment that was performed between December 2016 and May 2018 during the preloading phase of construction for the two above-grade warehouse buildings (Building A and Building B). Soil gas samples were collected at several locations within each future building pad footprint and along the future drive aisle between the two buildings. The vapor samples were field analyzed for methane using a landfill gas detector. At a subset of the locations, soil gas samples were collected for laboratory analysis of volatile organic compounds (VOCs).

The results of the methane survey and preliminary VI assessment were summarized in a memorandum to Ecology dated June 2018 (Floyd|Snider 2018a). Methane was not detected in soil gas at concentrations that necessitated further action per the Interim Action Work Plan (IAWP; Floyd|Snider 2017). The maximum detected soil methane concentration was 1.4 percent by volume.

On the western portion of Building A, however, VOC analysis detected chloroform at a concentration exceeding the Model Toxics Control Act (MTCA) soil gas screening level for

industrial worker exposure. Benzene was also detected at a concentration less than its industrial screening level but greater than the residential screening level. A number of additional VOCs were detected but at concentrations less than residential MTCA screening levels.

At the pad for Building B, VOC sampling conducted during wet-season construction was complicated by excessive moisture in the soil. Multiple attempts were made to acquire samples free of moisture, but only one vapor sample was able to be collected via evacuated Summa canister. The laboratory reported excessive water vapor as well as excessive residual vacuum in the Summa canister. Chloroform, benzene, and other VOCs exceeded their MTCA industrial screening levels at this location.

The results of the preliminary assessment indicated a potential for VOCs to exist at concentrations greater than MTCA screening levels under the footprint of the future buildings. As a precautionary measure, a passive vapor mitigation system was installed under each of the two office "node" locations in both buildings. The extents passive vapor mitigation system beneath the office nodes within the two buildings are shown on Figure 1. These node locations can be used as either normal open warehouse space or can be converted to interior offices if a tenant so desires. As described in the June 2018 memorandum, the passive mitigation system includes perforated polyvinyl chloride (PVC) piping laid in trenches under the subgrade of the office areas. After the piping was installed, it was overlain with a single-sheet PVC membrane. The concrete floor slab was subsequently poured over the membrane. The piping is connected to aboveground riser vents that are currently stubbed off and capped 2 to 3 feet above floor level. The passive system is designed to allow sub-slab ventilation driven by atmospheric pressure differentials (i.e., soil vapor at pressure exceeding atmospheric pressure naturally vents via the riser; therefore, vapor pressure cannot build up below the floor slab at levels greater than atmospheric). Additionally, the vertical riser allows for the installation of an inline blower as an option to convert the system from passive ventilation to an active venting system.

The second VI assessment was completed following pouring of the floor slabs and erection of the building walls and roof, but prior to building occupancy. The assessment included two rounds of sub-slab vapor sampling from 14 permanently installed vapor implants installed in both buildings in September 2018. Eight vapor pin implants (VP-1 through VP-8) were installed in Building A and six implants (VP-9 through VP-14) were installed in Building B. Two vapor pins were installed adjacent to each membrane installed in the four office nodes. The remainder of the pins were distributed uniformly across the warehouse spaces. Results of the two rounds of sub-slab sampling were provided to Ecology in a memorandum dated December 4, 2018 (Floyd|Snider 2018b). During the first round of testing in September 2019, a number of compounds (1,2,4-trimethylbezene, 1,3-butadiene, naphthalene, acrylonitrile, and acetaldehyde) exceeded

MTCA Method C sub-slab screening levels at several locations. However, during re-sampling in October 2019, no compounds exceeded the screening levels.[1]

**SUPPLEMENTAL POST-CONSTRUCTION VAPOR INTRUSION ASSESSMENT SAMPLING**

As described in the November 14, 2019, letter from Ecology, a supplemental VI assessment was needed to further assess indoor air quality with paired indoor and ambient air samples collected concurrently with soil vapor samples and to determine whether a pressure differential is present between sub-slab vapor and indoor air. The results of this supplemental VI assessment will be used to determine whether vapor intrusion from sub-slab VOCs is occurring at concentrations exceeding applicable indoor air cleanup levels (CULs).

**Building Survey**

Prior to sampling, a survey of both buildings was performed on December 13, 2019. The survey included inspection of the condition of the existing vapor pins, examination for floor slab cracks or open penetrations, and noting the materials stored and/or chemicals used in each building. The completed building survey form is provided in Attachment 1.

It was observed during the survey that approximately the western third of Building A is currently used for storage and distribution of dental supplies that include liquids such as acetone and ethanol, a variety of cleaning/sanitizing solutions, dental adhesives, and many additional products. Liquid chemicals are stored in sealed containers and not opened or used on site.

It is separated from the unused remainder of Building A by an interior partition wall. Forklift operators transfer pallets from the loading bays located across the main warehouse space. A small single break room, bathroom, and manager's office enclosure totaling approximately 1,000 square feet are built out over a portion of the office node, as shown in Figure 1. This area has its own heat and ventilation system. The rest of Building A, as well as Building B, does not have ventilation systems, as is typical of warehouse space.

The new floor slabs of both buildings were found to be in excellent condition with no cracks. One comparatively wide expansion joint was observed in the approximate center of the unoccupied portion of Building A. Few penetrations in the concrete were observed and all were sealed except for the gravel-filled flange around the large fire water supply lines that are located in the southwest corner of each building, as shown in Figure 1. The fire supply lines are enclosed within a small mechanical room in Building A and are not enclosed in Building B. The PVC riser pipes for

[1] Leak detection consisting of shut-in vacuum tests of the sampling train was performed on all locations during the September and October 2019 sampling events. No vacuum leakage was detected. For the September event, helium leak testing was also performed to confirm that leakage did not occur between the vapor pin and the floor slab. However, helium leak testing was not performed during the October event because leakage around the vapor pins did not occur during the September event. Therefore, it is not possible to confirm the lack of leakage during the October sampling event.

the office node sub-slab piping were located for all office nodes; these risers are currently cut off 2 to 3 feet above floor level and capped inside each building.

The previously installed vapor pin implants were located in Building A with one exception; vapor pin VP-6 in the dental supply operations area was not able to be located and is believed to be located under permanently installed warehouse shelving. All pins in Building B were located and found to be accessible.

During site visits subsequent to the initial building survey, gasoline-fueled vehicles belonging to building subcontractors (heating/cooling, electrical, etc.) performing work in the unoccupied portion of Building A were also observed.

**Measurement of Cross-Slab Differential Pressures**

Cross-slab differential pressures were measured to determine whether soil vapor pressure under the building is at times greater than, less than, or equal to ambient air pressure inside the building. Cross-slab differential pressure measurements were collected using a differential pressure data logger connected to both the indoor air of the building and an existing vapor pin implant. Cross-slab differential pressure data were collected between the slab and main warehouse at VP-1, located next to the eastern office node of Building A; at VP-3, located near the center of the building; and between the slab and enclosed office space at VP-7, next to the western office node. Measurements were taken continuously for 1 week using a data logger with a resolution of 0.001 inches of water as specified in the 2020 Work Plan.

**Sub-Slab Soil Vapor Sampling**

Sub-slab soil vapor samples were collected on January 13 and 14, 2020, with an additional sample collected on February 18, 2020.

Prior to collection of the soil gas samples, concentrations of methane, carbon dioxide, oxygen, and nitrogen were collected using a portable landfill gas analyzer consistent with the prior methane survey as specified in the IAWP. The portable gas analyzer achieves accuracy of 0.3 percent by volume for methane and carbon dioxide and 1 percent by volume for oxygen.[2] Cross-slab differential pressure at each location were also measured using the landfill gas analyzer, which has a resolution of 0.001 inches of water. Final methane, carbon dioxide, oxygen, and nitrogen concentrations were recorded after purging three volumes from the sub-slab sampling point using the gas analyzer's pump.

Sub-slab soil vapor samples were collected from the accessible existing vapor pin implant locations at Buildings A and B as specified in the 2020 Work Plan. Samples were collected in accordance with Ecology guidance for VI assessment (Ecology 2018a) using laboratory-certified

[2] Nitrogen concentration is calculated as the gas balance by subtracting the sum of methane, carbon dioxide, and oxygen from 100 percent.

1-liter evacuated Summa canisters equipped with a flow control device and laboratory-provided manifolds and polytetrafluoroethylene tubing. Prior to sample collection, a shut-in (or closed valve) test was performed to assess the sampling train for air leaks. The closed-valve test was conducted for a period of 5 minutes. All canisters maintained their vacuum for the duration of the test.

A tracer gas test was performed during sampling to test for leaks in the seal between the vapor pin implant and surrounding slab. The tracer was applied by placing towels soaked with isopropyl alcohol (2-propanol) over the implant and around all connections during the filling of the Summa canister. Leaks were identified by laboratory analysis for isopropyl alcohol in the soil vapor samples; isopropyl alcohol concentrations were compared with the soil vapor concentrations of approximately 300 micrograms per cubic meter ($\mu g/m^3$) detected in the sub-slab vapor during previous sampling that did not use isopropyl alcohol.

Results of the leak test conducted during the January 13 and 14, 2020, sampling event indicated an elevated isopropyl alcohol concentration (in excess of 100,000 $\mu g/m^3$) in the sample collected at VP-03. The remaining samples passed the tracer gas leak test with isopropyl alcohol concentrations ranging from non-detect to 320 $\mu g/m^3$. VP-03 was re-sampled on February 18, 2020, after re-sealing the vapor pin. This sample passed the leak test with no detectable isopropyl present.

Samples were collected after purging the sample line of at least three volumes of sub-slab vapor within the sampling train at a flow rate less than 200 milliliters per minute (mL/min). After the sampling train was purged, soil gas samples were collected over a 5-minute period at a flow rate of less than 150 mL/min. Sample collection was stopped before the vacuum in the canister was fully depleted. A field duplicate sample was collected at location VP-11 using a laboratory-supplied flow splitter.

Once the sampling period was completed, the inlet port of the canister was tightly sealed for transportation to the analytical laboratory. The initial canister vacuums, vacuum testing times, purging times, purged volumes, sampling start and end times, and final vacuum readings were recorded on soil vapor sampling sheets, which are included in Attachment 2.

**Indoor Air Sampling**

Indoor air samples were collected on January 13 and 14, 2020, concurrently with sub-slab sampling. Indoor air samples were collected over a period of 8 hours. Within the occupied portion of Building A, three air samples were collected; one sample was collected from the current break room, one sample was collected in the main warehouse area, and one sample was collected inside the mechanical room next to the open penetration for the fire supply lines in the southwest corner of the building. Within the unused area of Building A, one sample was collected near the wide expansion joint and one sample was collected at the office node. In the smaller unoccupied Building B, three samples were collected; one sample was collected over each office node and

one sample was collected next to the open penetration for the fire supply lines in the southwest corner of the building. Sample locations are shown on Figure 1.

Indoor air samples were collected using a laboratory-certified evacuated 6-liter summa canister fitted with a flow control device. The canisters were placed at a height of 3 feet. Vacuum readings were collected at the start of sampling and monitored for a period of 5 to 10 minutes after opening the canister to ensure that the flow control device was working properly. All sample canisters appeared to be leak-free and were allowed to collect air samples undisturbed for 8 hours.

**Ambient Air Sampling**

One ambient air background sample was collected along the property boundary at an appropriate upwind location. The wind direction was apparent at the site due to snowfall that occurred at the time of sampling and was blowing to the north-northwest with variable gusts to the northwest and northeast. The ambient air sample was, therefore, set up at the southeast corner of the Building B parking lot as the most consistently upwind location (refer to Figure 1). The ambient air sample was collected concurrently with indoor air sampling by filling a laboratory-certified evacuated 6-liter Summa canister over a period of 8 hours.

**SUMMARY OF RESULTS**

Field observations of differential pressures, field analysis of landfill gases, and laboratory analytical results are presented below.

**Cross-Slab Differential Pressure**

Results from the cross-slab differential pressure monitoring for VP-1, VP-3, and VP-7 compared to atmospheric barometric pressure data collected by the National Weather Service (Tacoma, WA Station N7WGJ/station ID AT582) are presented in Attachment 3. These plots present the maximum and minimum cross-slab pressure differential (in inches of water) and barometric pressure for each 15-minute interval during the monitoring period. At both VP-1 and VP-7 at the edges of the office nodes, the maximum and minimum values were clustered near zero with approximately equal positive (greater pressure under the slab) and negative (greater pressure in ambient air) variation. Cross-slab differential pressures at VP-3 in the central portion of Building A were generally zero. Consistent trends indicating sustained higher pressure under the slab were not noted at any location. At VP-7, the data logger was connected by tubing run along the floor of the dental supply company workspace to span the distance between the vapor implant and the enclosed break room/office. At this location, greater variation was observed during the workday due to workers periodically rolling loaded carts over the tubing causing temporary spikes in pressure readings.

Over the same monitoring period, low and high atmospheric pressures were observed but were not correlated with cross-slab differential pressures at either location. These data demonstrate

that sub-slab and ambient air pressure are approximately in equilibrium during all weather conditions and atmospheric pressure at the time of sample collection should not be a factor in sample collection.

During sample collection, cross-slab differential pressures measured using the landfill gas detector at all vapor pin locations ranged from -0.003 to 0.006 inches of water, consistent with the measurements taken at VP-1, VP-3, and VP-7 prior to sampling. Cross-slab differential pressures measured during sampling are presented in Table 1.

**Landfill Gas Data**

Measurements of methane, carbon dioxide, oxygen, and nitrogen were collected using a field landfill gas analyzer. Landfill gas concentration field measurements are presented in Table 1.

Methane concentrations were generally less than 5 percent, except for two locations. At VP-7 and VP-8 on the west side of Building A, methane concentrations were 8.2 and 27.2 percent, respectively. In accordance with the IAWP, these methane concentrations were evaluated using ASTM Standard E2993-16 (refer to IAWP Appendix B, Table 1; Floyd|Snider 2017). According to the standard, no further action is needed to address methane concentrations between 5 and 30 percent if cross-slab differential pressures are less than 500 Pascals (approximately 2 inches of water). Cross-slab differential pressures at VP-7 and VP-8 were -0.003 and 0.000 inches of water, respectively, significantly less than the threshold to evaluate the need for vapor controls.

Carbon dioxide concentrations measured using a landfill gas meter ranged from 0 to 5.3 percent. Oxygen concentrations ranged from 0.0 to 20.1 percent and nitrogen concentrations ranged from 72.5 to 97.9 percent. Greater concentrations of methane and carbon dioxide did not appear to predict lesser concentrations of oxygen in sub-slab soil gas.

**Analytical Data**

Samples were analyzed for the targeted list of VOCs specified in the 2020 Work Plan and volatile compounds by Method MA Air-Phase Hydrocarbons. Results for detected analytes in sub-slab soil vapor are presented in Table 2, and results for detected analytes in indoor and ambient air are presented in Table 3. Analytes that were non-detect in either all sub-slab soil vapor or all indoor air samples are presented in Table 4. Laboratory analytical reports are provided in Attachment 4.

In sub-slab soil vapor, detected VOCs did not exceed any of the applicable MTCA Method C screening levels. In indoor air, concentrations of chloroform at IA-A1 and IA-A3 slightly exceeded the MTCA Method C CUL for chloroform (1.3 and 1.9 $\mu g/m^3$, respectively, versus the CUL of 1.1 $\mu g/m^3$). Chloroform was also detected in the ambient air sample. All sub-slab concentrations were less than the MTCA Method C screening levels. The CUL exceedances for chloroform both occurred in samples collected from within and near the break room in Building A, where there are several potential sources of background chloroform according to the U.S. Environmental

Protection Agency's findings (USEPA 2011), such as chlorinated tap water. Chloroform also cannot be ruled out as a minor constituent in the thousands of dental care products stored in this area observed during the building survey.

For air-phase petroleum hydrocarbons, a site-specific MTCA Method B CUL was calculated for indoor air using the calculations provided in Attachment B of Ecology's Implementation Memorandum No. 18 (Ecology 2018b). Detected petroleum hydrocarbon concentrations in indoor air samples were similar across the site, so the CUL was calculated for each sample and then averaged for the site. This calculation resulted in a MTCA Method B CUL of 580 µg/$m^3$ for indoor air; using a standard attenuation factor of 0.03, the corresponding sub-slab soil vapor screening level is 19,000 µg/$m^3$. Site-specific MTCA Method B CUL and screening level calculations are presented in Attachment 5. Total petroleum hydrocarbon concentrations did not exceed the site-specific screening level in sub-slab soil vapor or site-specific CUL in indoor air.

**RECOMMENDATIONS**

In accordance with the 2020 Work Plan, active vapor mitigation should be considered if sub-slab soil vapor contains contaminants at concentrations that exceed the applicable MTCA Method C screening levels, and other Site conditions including indoor air contaminant concentrations exceeding the CULs due to VI and/or significant pressure differentials between the slab and ambient air indicate that the VI pathway may be complete at the site.

The results of this sampling effort indication that no sub-slab contaminant concentrations have exceeded their applicable MTCA Method C screening levels. Indoor air samples further indicate that VI is not occurring in the building; two of eight samples had chloroform slightly exceeded the MTCA Method C CUL, but these detections are not correlated with elevated sub-slab chloroform and are instead most likely due to background conditions in the built environment. Sub-slab pressure differentials are largely nonexistent at the site based on several weeks' worth of continuous measurement at varying atmospheric conditions. Therefore, a driving force for VI does not exist.

Collectively, the sampling data obtained since 2018 indicate that VI does not pose a significant risk to building occupants and does not require active mitigation. The Interim Action Completion Report will be revised to reflect the findings of this supplemental VI assessment.

**REFERENCES**

Floyd|Snider. 2017. *Interim Action Work Plan, 1514 Taylor Way Development*. Prepared for Avenue 55, LLC. June.

_____. 2018a. *Summary of Soil Vapor Survey Data and Vapor Mitigation Plan for the 1514 Taylor Way Site*. Memorandum from Tom Colligan and Kristin Anderson, Floyd|Snider, to Steve Teel, Washington State Department of Ecology. 8 June.

_____. 2018b. *Summary of Sub-Slab Soil Vapor Assessment, 1514 Taylor Way, Tacoma, Washington*. Memorandum from Tom Colligan and Gabriel Cisneros, Floyd|Snider, to Nick Acklam, Washington State Department of Ecology. 4 December.

_____. 2020. *Sampling Plan Addendum for Post-Construction Vapor Intrusion Assessment, 1514 Taylor Way Development, Tacoma, Washington.* Memorandum from Tom Colligan and Kristin Anderson, Floyd|Snider, to Steve Teel, Washington State Department of Ecology. 7 January.

U.S. Environmental Protection Agency (USEPA).2011. *Background Indoor Air Concentrations of Volatile Organic Compounds in North American Residences (1990–2005): A Compilation of Statistics for Assessing Vapor Intrusion.* June.

Washington State Department of Ecology (Ecology). 2018a. *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action.* April.

_____. 2018b. *Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings.* Memorandum from Jeff Johnston, Washington State Department of Ecology. January 10.

**LIST OF ATTACHMENTS**

Table 1 Field Parameter Measurements

Table 2 Analytical Results for Detected Compounds in Soil Vapor

Table 3 Analytical Results for Detected Compounds in Air

Table 4 Summary of Non-Detect Results

Figure 1 Sample Locations

Attachment 1 Building Survey Form

Attachment 2 Sub-Slab Vapor Sampling Field Forms

Attachment 3 Cross-Slab Differential Pressure Plots

Attachment 4 Laboratory Analytical Data

Attachment 5 Site-Specific MTCA Method B Cleanup Level Calculations

# Tables

**Table 1**
**Field Parameter Measurements**

| Location | Methane (%) | Carbon Dioxide (%) | Oxygen (%) | Nitrogen (%) | Cross-Slab Differential Pressure (inches of water) |
|---|---|---|---|---|---|
| VP-1 | 0 | 0 | 5.4 | 94.6 | -0.002 |
| VP-2 | 0 | 0 | 2.1 | 97.9 | 0.004 |
| VP-5 | 0 | 0 | 1.42 | 85.7 | 0 |
| VP-7 | 8.2 | 0 | 2.6 | 89.2 | -0.003 |
| VP-8 | 27.2 | 0 | 0.2 | 72.5 | 0 |
| VP-13 | 0.1 | 5.3 | 11.9 | 82.7 | -0.003 |
| VP-12 | 0.1 | 1 | 20.1 | 78.8 | 0.006 |
| VP-14 | 0.1 | 3.7 | 5.8 | 90.4 | 0.005 |
| VP-10 | 0.1 | 1.1 | 18.2 | 80.7 | 0.004 |
| VP-9 | 0.1 | 1 | 20.4 | 78.5 | 0.002 |
| VP-4 | 0.1 | 0 | 13.6 | 86.2 | 0.001 |
| VP-11 | 4.2 | 5 | 0 | 90.8 | 0.002 |
| VP-3 | 0 | 0 | 16.1 | 83.8 | -0.001 |

# Table 2
## Analytical Results for Detected Compounds in Soil Vapor

| | | | Location Description | Building A—Unoccupied Portion | | | | Building A—Occupied Portion | | | Building B | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | VP-01 | VP-02 | VP-03 | VP-04 | VP-05 | VP-07 | VP-08 | VP-09 | VP-10 | VP-11 | VP-11 dup | VP-12 | VP-13 | VP-14 |
| Analyte | Units | MTCA Screening Level [1] | Site Max | | | | | | | | | | | | | | |
| **Total Petroleum Hydrocarbons (TPH)** | | | | | | | | | | | | | | | | | |
| APH EC5-8 aliphatics | µg/m³ | -- | 2,300 J | 710 | 420 | 240 | 220 | 440 | 970 | 2,300 J | 130 U | 130 U | 700 | 620 | 130 U | 130 U | 130 U |
| APH EC9-10 aromatics | µg/m³ | -- | 130 U | 72 U | 65 U | 130 U | 67 U | 72 U | 72 U | 72 U | 70 U | 70 U | 77 U | 67 U | 70 U | 70 U | 70 U |
| APH EC9-12 aliphatics | µg/m³ | -- | 1,700 | 380 | 170 | 310 | 140 | 220 | 180 | 630 | 170 | 270 | 1,700 | 1,600 | 230 | 280 | 250 |
| Total TPH | µg/m³ | 19,000 [2] | 2,900 | 1,100 | 590 | 560 | 360 | 660 | 1,200 | 2,900 J | 170 | 270 | 2,400 | 2,200 | 230 | 280 | 250 |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | µg/m³ | 170,000 | 22 | 6.9 | 4.5 | 2.9 U | 1.5 U | 7.8 | 22 | 18 | 1.5 U | 1.5 U | 1.7 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U |
| 1,1-Dichloroethane | µg/m³ | 520 | 9.5 | 1.2 U | 1.1 U | 2.2 U | 1.1 U | 1.2 U | 2.0 | 9.5 | 1.1 U | 1.1 U | 2.2 | 2.2 | 1.1 U | 1.1 U | 1.1 U |
| 1,2-Dichloroethane | µg/m³ | 32 | 0.45 | 0.20 | 0.11 U | 0.22 U | 0.11 U | 0.12 U | 0.45 | 0.33 | 0.11 U | 0.11 U | 0.13 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U |
| 1,2-Dichloropropane | µg/m³ | 230 | 5.7 | 1.1 | 0.60 U | 1.2 U | 0.62 U | 1.6 | 5.7 | 2.5 | 0.65 U | 0.65 U | 0.72 U | 0.62 U | 0.65 U | 0.65 U | 0.65 U |
| 2-Butanone | µg/m³ | 170,000 | 22 | 8.6 U | 7.7 U | 16 U | 8.0 U | 8.6 U | 8.6 U | 22 | 8.3 U | 8.3 U | 9.1 U | 8.0 U | 8.3 U | 8.3 U | 8.3 U |
| 2-Propanol | µg/m³ | -- | 320 J | 25 U | 22 U | 46 U | 320 J | 25 U | 100 | 61 | 98 | 69 | 140 | 140 | 190 J | 140 | 24 U |
| Benzene | µg/m³ | 110 | 3.3 | 0.93 U | 0.83 U | 1.7 U | 0.86 U | 0.93 U | 1.6 | 3.3 | 0.89 U | 0.89 U | 2.4 | 2.3 | 0.89 U | 0.89 U | 0.89 U |
| Chloroform | µg/m³ | 36 | 1.6 | 0.82 | 0.15 | 0.53 | 1.6 | 0.51 | 0.57 | 0.52 | 1.0 | 0.97 | 0.15 U | 0.13 U | 1.1 | 1.1 | 0.18 |
| cis-1,2-Dichloroethene | µg/m³ | -- | 2.1 U | 1.1 U | 1.0 U | 2.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.5 | 1.5 | 1.1 U | 1.1 U | 1.1 U |
| Cyclohexane | µg/m³ | -- | 75 | 20 U | 18 U | 37 U | 19 U | 20 U | 20 U | 75 | 19 U | 19 U | 21 U | 19 U | 19 U | 19 U | 19 U |
| Dichlorodifluoromethane | µg/m³ | 3,300 | 16 | 12 | 13 | 3.5 | 3.3 | 7.1 | 16 | 6.1 | 2.4 | 2.8 | 1.8 | 1.8 | 2.4 | 2.7 | 15 |
| Ethylbenzene | µg/m³ | 33,000 | 4.6 | 1.3 U | 1.1 U | 2.3 U | 1.2 U | 1.3 U | 1.3 U | 4.6 | 1.2 U | 1.2 U | 1.3 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U |
| Hexane | µg/m³ | 23,000 | 29 | 10 U | 9.2 U | 19 U | 9.5 U | 10 U | 10 U | 29 | 9.9 U | 9.9 U | 11 U | 9.5 U | 9.9 U | 9.9 U | 9.9 U |
| Pentane | µg/m³ | -- | 230 J | 8.6 U | 7.7 U | 16 U | 8.0 U | 8.6 U | 36 | 230 J | 8.3 U | 8.3 U | 9.1 U | 8.0 U | 8.3 U | 8.3 U | 8.3 U |
| Propene | µg/m³ | -- | 18 | 18 | 1.8 U | 7.0 | 1.9 U | 2.0 U | 2.0 U | 2.0 U | 1.9 U | 1.9 U | 2.1 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| Trichloroethene | µg/m³ | 67 | 2.5 | 1.7 | 0.70 U | 1.5 U | 0.73 U | 0.78 U | 0.78 U | 1.1 | 0.75 U | 0.75 U | 2.5 | 2.4 | 0.75 U | 0.75 U | 0.75 U |
| Trichlorofluoromethane | µg/m³ | 23,000 | 740 J | 360 | 170 | 3.5 | 43 | 160 | 740 J | 120 | 6.3 U | 14 | 7.0 U | 6.1 U | 6.3 U | 10 | 6.3 U |
| Xylenes | µg/m³ | 3,300 | 9.3 | 2.5 U | 2.3 U | 4.7 U | 2.3 U | 2.5 U | 2.5 U | 9.3 | 2.4 U | 2.4 U | 1.9 | 4.3 | 2.4 U | 2.4 U | 2.4 U |

Notes:

All screening levels and results presented in this table are rounded to two significant figures.

-- Not established.

1 MTCA Method C screening levels from Ecology's CLARC master data table except where noted.

2 An average site-specific MTCA Method B cleanup level of 580 µg/m³ was calculated using site indoor air sample data in accordance with Ecology's Implementation Memorandum No. 18 Attachment B; the resultant soil vapor screening level uses a standard sub-slab attenuation factor of 0.03.

Abbreviations:

CLARC Cleanup Levels and Risk Calculation

Ecology Washington State Department of Ecology

µg/m³ Micrograms per cubic meter

MTCA Model Toxics Control Act

Qualifiers:

J The reported concentration is considered an estimate.

U The analyte was not detected at the given reporting limit.

**Table 3**
**Analytical Results for Detected Compounds in Air**

| Location Description | | | | North of Building B | Building A—Break Room | Building A—Unoccupied | Building A—Occupied | Building A—Unoccupied | Building A—Mechanical | Building B | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | | | | Ambient | IA-A1 | IA-A2 | IA-A3 | IA-A3 | IA-A5 | IA-B1 | IA-B2 | IA-B3 |
| **Analyte** | **Units** | **MTCA CUL [1]** | **Site Max** | | | | | | | | | |
| **Total Petroleum Hydrocarbons (TPH)** | | | | | | | | | | | | |
| APH EC5-8 aliphatics | µg/m³ | -- | 350 | 46 U | 270 | 260 | 350 | 260 | 160 | 230 | 250 | 230 |
| APH EC9-10 aromatics | µg/m³ | -- | 67 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 30 U | 67 U | 25 U |
| APH EC9-12 aliphatics | µg/m³ | -- | 94 U | 35 U | 88 | 39 | 66 | 35 U | 35 U | 42 U | 94 U | 35 U |
| Total TPH | µg/m³ | 580 [2] | 420 | 46 U | 360 | 300 | 420 | 260 | 160 | 230 | 250 | 230 |
| **Volatile Organic Compounds** | | | | | | | | | | | | |
| 1,2-Dichloroethane | µg/m³ | 0.96 | 0.12 | 0.12 | 0.097 | 0.097 | 0.11 | 0.093 | 0.093 | 0.087 | 0.11 U | 0.089 |
| 1,2-Dichloropropane | µg/m³ | 6.8 | 0.62 U | 0.23 U | 0.23 U | 0.26 | 0.25 | 0.25 | 0.23 U | 0.28 U | 0.62 U | 0.23 U |
| 2-Butanone | µg/m³ | 5,000 | 47 | 2.9 U | 26 | 21 | 47 | 23 | 16 | 3.5 U | 8.0 U | 2.9 U |
| 2-Propanol | µg/m³ | -- | 230 J | 8.6 U | 230 J | 54 | 140 J | 46 | 31 | 21 | 23 U | 24 |
| Benzene | µg/m³ | 3.2 | 0.86 U | 0.63 | 0.74 | 0.61 | 0.64 | 0.66 | 0.67 | 0.50 | 0.86 U | 0.51 |
| Chloroform | µg/m³ | 1.1 | 1.9 | 0.12 | **1.3** | 0.39 | **1.9** | 0.41 | 0.86 | 0.10 | 0.13 U | 0.11 |
| Dichlorodifluoromethane | µg/m³ | 100 | 2.6 | 2.5 | 2.2 | 2.3 | 2.4 | 2.4 | 2.5 | 2.4 | 2.6 | 2.5 |
| Ethylbenzene | µg/m³ | 1,000 | 1.2 U | 0.43 U | 0.44 | 0.43 U | 0.46 | 0.43 U | 0.43 U | 0.52 U | 1.2 U | 0.43 U |
| Hexachlorobutadiene | µg/m³ | 1.1 | 0.58 U | 0.21 | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.21 U | 0.26 U | 0.58 U | 0.21 U |
| Hexane | µg/m³ | 700 | 9.5 U | 3.5 U | 4.2 | 3.5 U | 4.5 | 3.5 U | 3.5 U | 4.2 U | 9.5 U | 3.5 U |
| Naphthalene | µg/m³ | 0.74 | 0.2 JQ | 0.15 JQ | 0.20 JQ | 0.073 JQ | 0.14 JQ | 0.073 UJ | 0.073 JQ | 0.088 UJ | 0.20 UJ | 0.073 UJ |
| Pentane | µg/m³ | -- | 130 J | 4.3 | 80 J | 120 J | 130 J | 120 J | 56 | 110 J | 120 | 120 J |
| trans-1,2-Dichloroethene | µg/m³ | -- | 4.7 | 0.40 U | 2.8 | 0.65 | 4.7 | 0.71 | 1.9 | 0.48 U | 1.1 U | 0.40 U |
| Xylenes | µg/m³ | 100 | 2.3 U | 0.87 U | 1.9 | 0.87 U | 2.1 | 0.87 U | 1.0 | 1.0 U | 2.3 U | 0.87 U |

Notes:

All CULs and results presented in this table are rounded to two significant figures.

-- Not established.

**RED/BOLD** The concentration exceeds the applicable MTCA Method C CUL.

1 MTCA Method C CULs from Ecology's CLARC master data table except where noted.

2 An average site-specific MTCA Method B CUL was calculated using site indoor air sample data in accordance with Ecology's Implementation Memorandum No. 18 Atttachment B. Calculation was performed using default (i.e., most conservative) parameters and one-half the reporiting limit for non-detect values.

Abbreviations:

CLARC Cleanup Levels and Risk Calculation
CUL Cleanup level
Ecology Washington State Department of Ecology
µg/m³ Microgram per cubic meter
MTCA Model Toxics Control Act
VI Vapor Instrusion

Qualifiers:

J The reported concentration is considered an estimate.
JQ Concentration is an estimated value reported below the associated quantitation limit but above the MDL, acceptable for use with qualification.
U The analyte was not detected at the given reporting limit.
UJ The analyte was not detected at the given reporting limit; the reported concentration is considered an estimate.

# Table 4
## Summary of Non-Detect Results

| | | Sample Media | Soil Vapor | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample ID | VP-01 | VP-02 | VP-03 | VP-04 | VP-05 | VP-07 | VP-08 | VP-09 | VP-10 | VP-11 | VP-11 dup | VP-12 | VP-13 | VP-14 |
| Analyte | Units | MTCA Method C Screening Level | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | µg/m³ | 6,700 | 1.1 U | 1.0 U | 2.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.2 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| 1,1,2-Trichloroethane | µg/m³ | 6.7 | 0.32 U | 0.28 U | 0.59 U | 0.29 U | 0.32 U | 0.32 U | 0.32 U | 0.31 U | 0.31 U | 0.34 U | 0.29 U | 0.31 U | 0.31 U | 0.31 U |
| 1,2,3-Trimethylbenzene (1) | µg/m³ | -- | 140 U | 130 U | 260 U | 130 U | 140 U | 140 U | 140 U | 140 U | 140 U | 150 U | 130 U | 140 U | 140 U | 140 U |
| 1,2,4-Trimethylbenzene | µg/m³ | 2,000 | 7.1 U | 6.4 U | 13 U | 6.6 U | 7.1 U | 7.1 U | 7.1 U | 6.9 U | 6.9 U | 7.6 U | 6.6 U | 6.9 U | 6.9 U | 6.9 U |
| 1,3,5-Trimethylbenzene | µg/m³ | -- | 7.1 U | 6.4 U | 13 U | 6.6 U | 7.1 U | 7.1 U | 7.1 U | 6.9 U | 6.9 U | 7.6 U | 6.6 U | 6.9 U | 6.9 U | 6.9 U |
| 1,3-Butadiene | µg/m³ | 28 | 0.064 U | 0.057 U | 0.12 U | 0.060 U | 0.064 U | 0.064 U | 0.064 U | 0.062 U | 0.062 U | 0.069 U | 0.060 U | 0.062 U | 0.062 U | 0.062 U |
| 1-Butanol (1) | µg/m³ | -- | 87 U | 78 U | 160 U | 81 U | 87 U | 87 U | 87 U | 84 U | 84 U | 93 U | 81 U | 84 U | 84 U | 84 U |
| 4-Methyl-2-pentanone | µg/m³ | 100,000 | 12 U | 11 U | 22 U | 11 U | 12 U | 12 U | 12 U | 11 U | 11 U | 13 U | 11 U | 11 U | 11 U | 11 U |
| Acetaldehyde (1) | µg/m³ | 300 | 260 U | 230 U | 490 U | 240 U | 260 U | 260 U | 260 U | 250 U | 250 U | 280 U | 240 U | 250 U | 250 U | 250 U |
| Acetonitrile (1) | µg/m³ | 2,000 | 49 U | 44 U | 90 U | 46 U | 49 U | 49 U | 49 U | 48 U | 48 U | 53 U | 46 U | 48 U | 48 U | 48 U |
| Acrolein | µg/m³ | 0.67 | ***2.7 U*** | ***2.4 U*** | ***5.0 U*** | ***2.5 U*** | ***2.7 U*** | ***2.7 U*** | ***2.7 U*** | ***2.6 U*** | ***2.6 U*** | ***2.8 U*** | ***2.5 U*** | ***2.6 U*** | ***2.6 U*** | ***2.6 U*** |
| Acrylonitrile (1) | µg/m³ | 67 | 32 U | 29 U | 60 U | 30 U | 32 U | 32 U | 32 U | 31 U | 31 U | 34 U | 30 U | 31 U | 31 U | 31 U |
| Benzyl chloride | µg/m³ | 17 | 0.15 U | 0.13 U | 0.28 U | 0.14 U | 0.15 U | 0.15 U | 0.15 U | 0.14 U | 0.14 U | 0.16 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U |
| Bromodichloromethane | µg/m³ | 23 | 0.19 U | 0.17 U | 0.36 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.21 U | 0.18 U | 0.19 U | 0.19 U | 0.19 U |
| Carbon disulfide | µg/m³ | 23,000 | 18 U | 16 U | 34 U | 17 U | 18 U | 18 U | 18 U | 17 U | 17 U | 19 U | 17 U | 17 U | 17 U | 17 U |
| Carbon tetrachloride | µg/m³ | 140 | 1.8 U | 1.6 U | 3.4 U | 1.7 U | 1.8 U | 1.8 U | 1.8 U | 1.8 U | 1.8 U | 2.0 U | 1.7 U | 1.8 U | 1.8 U | 1.8 U |
| CFC-113 | µg/m³ | 170,000 | 2.2 U | 2.0 U | 4.1 U | 2.1 U | 2.2 U | 2.2 U | 2.2 U | 2.1 U | 2.1 U | 2.4 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U |
| Chlorodifluoromethane (1) | µg/m³ | 1,700,000 | 100 U | 91 U | 190 U | 95 U | 100 U | 100 U | 100 U | 98 U | 98 U | 110 U | 95 U | 98 U | 98 U | 98 U |
| Chloroethane | µg/m³ | 330,000 | 7.7 U | 6.9 U | 14 U | 7.1 U | 7.7 U | 7.7 U | 7.7 U | 7.4 U | 7.4 U | 8.2 U | 7.1 U | 7.4 U | 7.4 U | 7.4 U |
| Chloromethane | µg/m³ | 3,000 | 6.0 U | 5.4 U | 11 U | 5.6 U | 6.0 U | 6.0 U | 6.0 U | 5.8 U | 5.8 U | 6.4 U | 5.6 U | 5.8 U | 5.8 U | 5.8 U |
| Cyclopentane (1) | µg/m³ | -- | 84 U | 75 U | 160 U | 78 U | 84 U | 84 U | 84 U | 81 U | 81 U | 90 U | 78 U | 81 U | 81 U | 81 U |
| Ethylene dibromide | µg/m³ | 1.4 | 0.22 U | 0.20 U | 0.41 U | 0.21 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.24 U | 0.21 U | 0.22 U | 0.22 U | 0.22 U |
| Hexachlorobutadiene | µg/m³ | 38 | 0.62 U | 0.55 U | 1.2 U | 0.58 U | 0.62 U | 0.62 U | 0.62 U | 0.60 U | 0.60 U | 0.66 U | 0.58 U | 0.60 U | 0.60 U | 0.60 U |
| Isobutene (1) | µg/m³ | -- | 68 U | 60 U | 120 U | 62 U | 68 U | 68 U | 68 U | 64 U | 64 U | 71 U | 62 U | 64 U | 64 U | 64 U |
| Isoprene (1) | µg/m³ | -- | 81 U | 73 U | 150 U | 76 U | 81 U | 81 U | 81 U | 78 U | 78 U | 87 U | 76 U | 78 U | 78 U | 78 U |
| Methyl vinyl ketone (1) | µg/m³ | -- | 84 U | 75 U | 160 U | 78 U | 84 U | 84 U | 84 U | 81 U | 81 U | 90 U | 78 U | 81 U | 81 U | 81 U |
| Methylene chloride | µg/m³ | 20,000 | 250 U | 230 U | 470 U | 230 U | 250 U | 250 U | 250 U | 240 U | 240 U | 270 U | 230 U | 240 U | 240 U | 240 U |
| Naphthalene | µg/m³ | 25 | 0.76 U | 0.68 U | 1.4 U | 0.71 U | 0.76 U | 0.76 U | 0.76 U | 0.73 U | 0.73 U | 0.81 U | 0.71 U | 0.73 U | 0.73 U | 0.73 U |
| Styrene | µg/m³ | 33,000 | 2.5 U | 2.2 U | 4.6 U | 2.3 U | 2.5 U | 2.5 U | 2.5 U | 2.4 U | 2.4 U | 2.6 U | 2.3 U | 2.4 U | 2.4 U | 2.4 U |
| Tetrachloroethene | µg/m³ | 1,300 | 20 U | 18 U | 37 U | 18 U | 20 U | 20 U | 20 U | 19 U | 19 U | 21 U | 18 U | 19 U | 19 U | 19 U |
| Toluene | µg/m³ | 170,000 | 55 U | 49 U | 100 U | 51 U | 55 U | 55 U | 55 U | 53 U | 53 U | 58 U | 51 U | 53 U | 53 U | 53 U |
| trans-1,2-Dichloroethene | µg/m³ | -- | 1.1 U | 1.0 U | 2.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.2 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| Vinyl chloride | µg/m³ | 93 | 0.74 U | 0.66 U | 1.4 U | 0.69 U | 0.74 U | 0.74 U | 0.74 U | 0.72 U | 0.72 U | 0.79 U | 0.69 U | 0.72 U | 0.72 U | 0.72 U |

Notes:

All CULs and results presented in this table are rounded to two significant figures.

-- Not established.

***Italics*** Reporting limit of non-detect result exceeds MTCA Method C CUL.

1 Analyte not available in TO-15 analytical standards; the reported concentration was generated from a library search.

Abbreviations:

CUL Cleanup level

µg/m³ Micrograms per cubic meter

MTCA Model Toxics Control Act

Qualifiers:

U The analyte was not detected at the given reporting limit.

## Table 4
## Summary of Non-Detect Results

| | | Sample Media | Ambient Air | Indoor Air | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample ID | Ambient | IA-A1 | IA-A2 | IA-A3 | IA-A4 | IA-A5 | IA-B1 | IA-B2 | IA-B3 |
| Analyte | Units | MTCA Method C CUL | | | | | | | | | |
| 1,1,1-Trichloroethane | µg/m³ | 5,000 | 0.55 U | 0.55 U | 0.55 U | 0.55 U | 0.55 U | 0.55 U | 0.65 U | 1.5 U | 0.55 U |
| 1,1-Dichloroethane | µg/m³ | 16 | 0.40 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U | 0.49 U | 1.1 U | 0.40 U |
| 1,1-Dichloroethene | µg/m³ | 200 | 0.40 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U | 0.48 U | 1.1 U | 0.40 U |
| 1,1,2-Trichloroethane | µg/m³ | 0.20 | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.13 U | ***0.29 U*** | 0.11 U |
| 1,2,3-Trimethylbenzene [(1)] | µg/m³ | 60 | 49 U | 49 U | 49 U | 49 U | 49 U | 49 U | 59 U | 130 U | 49 U |
| 1,2,4-Trimethylbenzene | µg/m³ | 60 | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.9 U | 6.6 U | 2.5 U |
| 1,3,5-Trimethylbenzene | µg/m³ | 60 | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.9 U | 6.6 U | 2.5 U |
| 1,3-Butadiene | µg/m³ | 0.83 | 0.022 U | 0.022 U | 0.022 U | 0.022 U | 0.022 U | 0.022 U | 0.026 U | 0.059 U | 0.022 U |
| 1-Butanol [(1)] | µg/m³ | -- | 30 U | 30 U | 30 U | 30 U | 30 U | 30 U | 36 U | 81 U | 30 U |
| 4-Methyl-2-pentanone | µg/m³ | 3,000 | 4.1 U | 4.1 U | 4.1 U | 4.1 U | 4.1 U | 4.1 U | 4.9 U | 11 U | 4.1 U |
| Acetaldehyde [(1)] | µg/m³ | 9.0 | ***90 U*** | ***90 U*** | ***90 U*** | ***90 U*** | ***90 U*** | ***90 U*** | ***110 U*** | ***240 U*** | ***90 U*** |
| Acetonitrile [(1)] | µg/m³ | 60 | 17 U | 17 U | 17 U | 17 U | 17 U | 17 U | 20 U | 46 U | 17 U |
| Acrolein | µg/m³ | 0.02 | ***0.92 U*** | ***0.92 U*** | ***0.92 U*** | ***0.92 U*** | ***0.92 U*** | ***0.92 U*** | ***1.1 U*** | ***2.5 U*** | ***0.92 U*** |
| Acrylonitrile [(1)] | µg/m³ | 2.0 | ***11 U*** | ***11 U*** | ***11 U*** | ***11 U*** | ***11 U*** | ***11 U*** | ***13 U*** | ***30 U*** | ***11 U*** |
| Benzyl chloride | µg/m³ | 0.51 | 0.057 | 0.052 U | 0.052 U | 0.052 U | 0.052 U | 0.052 U | 0.062 U | 0.14 U | 0.052 U |
| Bromodichloromethane | µg/m³ | 0.68 | 0.074 | 0.067 U | 0.067 U | 0.067 U | 0.067 U | 0.067 U | 0.080 U | 0.18 U | 0.067 U |
| Carbon disulfide | µg/m³ | 700 | 6.2 U | 6.2 U | 6.2 U | 6.2 U | 6.2 U | 6.2 U | 7.5 U | 17 U | 6.2 U |
| Carbon tetrachloride | µg/m³ | 4.2 | 0.63 U | 0.63 U | 0.63 U | 0.63 U | 0.63 U | 0.63 U | 0.75 U | 1.7 U | 0.63 U |
| cis-1,2-Dichloroethene | µg/m³ | -- | 0.40 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U | 0.48 U | 1.1 U | 0.40 U |
| CFC-113 | µg/m³ | 5,000 | 0.77 U | 0.77 U | 0.77 U | 0.77 U | 0.77 U | 0.77 U | 0.92 U | 2.1 U | 0.77 U |
| Chlorodifluoromethane [(1)] | µg/m³ | 50,000 | 35 U | 35 U | 35 U | 35 U | 35 U | 35 U | 42 U | 95 U | 35 U |
| Chloroethane | µg/m³ | 10,000 | 2.6 U | 2.6 U | 2.6 U | 2.6 U | 2.6 U | 2.6 U | 3.2 U | 7.1 U | 2.6 U |
| Chloromethane | µg/m³ | 90 | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.5 U | 5.6 U | 2.1 U |
| Cyclohexane | µg/m³ | -- | 6.9 U | 6.9 U | 6.9 U | 6.9 U | 6.9 U | 6.9 U | 8.3 U | 19 U | 6.9 U |
| Cyclopentane [(1)] | µg/m³ | -- | 29 U | 29 U | 29 U | 29 U | 29 U | 29 U | 34 U | 78 U | 29 U |
| Ethylene dibromide | µg/m³ | 0.042 | ***0.077 U*** | ***0.077 U*** | ***0.077 U*** | ***0.077 U*** | ***0.077 U*** | ***0.077 U*** | ***0.092 U*** | ***0.21 U*** | ***0.077 U*** |
| Isobutene [(1)] | µg/m³ | -- | 23 U | 23 U | 23 U | 23 U | 23 U | 23 U | 28 U | 62 U | 23 U |
| Isoprene [(1)] | µg/m³ | -- | 28 U | 28 U | 28 U | 28 U | 28 U | 28 U | 34 U | 76 U | 28 U |
| Methyl vinyl ketone [(1)] | µg/m³ | -- | 29 U | 29 U | 29 U | 29 U | 29 U | 29 U | 35 U | 78 U | 29 U |
| Methylene chloride | µg/m³ | 600 | 87 U | 87 U | 87 U | 87 U | 87 U | 87 U | 100 U | 230 U | 87 U |
| Propene | µg/m³ | -- | 0.69 U | 0.69 U | 0.69 U | 0.69 U | 0.69 U | 0.69 U | 0.83 U | 1.9 U | 0.69 U |
| Styrene | µg/m³ | 1,000 | 0.85 U | 0.85 U | 0.85 U | 0.85 U | 0.85 U | 0.85 U | 1.0 U | 2.3 U | 0.85 U |
| Tetrachloroethene | µg/m³ | 40 | 6.8 U | 6.8 U | 6.8 U | 6.8 U | 6.8 U | 6.8 U | 8.1 U | 18 U | 6.8 U |
| Toluene | µg/m³ | 5,000 | 19 U | 19 U | 19 U | 19 U | 19 U | 19 U | 23 U | 51 U | 19 U |
| Trichloroethene | µg/m³ | 2.0 | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.32 U | 0.73 U | 0.27 U |
| Trichlorofluoromethane | µg/m³ | 700 | 2.2 U | 2.2 U | 2.2 U | 2.2 U | 2.2 U | 2.2 U | 2.7 U | 6.1 U | 2.2 U |
| Vinyl chloride | µg/m³ | 2.8 | 0.26 U | 0.26 U | 0.26 U | 0.26 U | 0.26 U | 0.26 U | 0.31 U | 0.69 U | 0.26 U |

Notes:

All CULs and results presented in this table are rounded to two significant figures.

-- Not established.

***Italics*** Reporting limit of non-detect result exceeds MTCA C CUL

1 Analyte not available in TO-15 analytical standards; the reported concentration was generated from a library search.

Abbreviations:

CUL Cleanup level

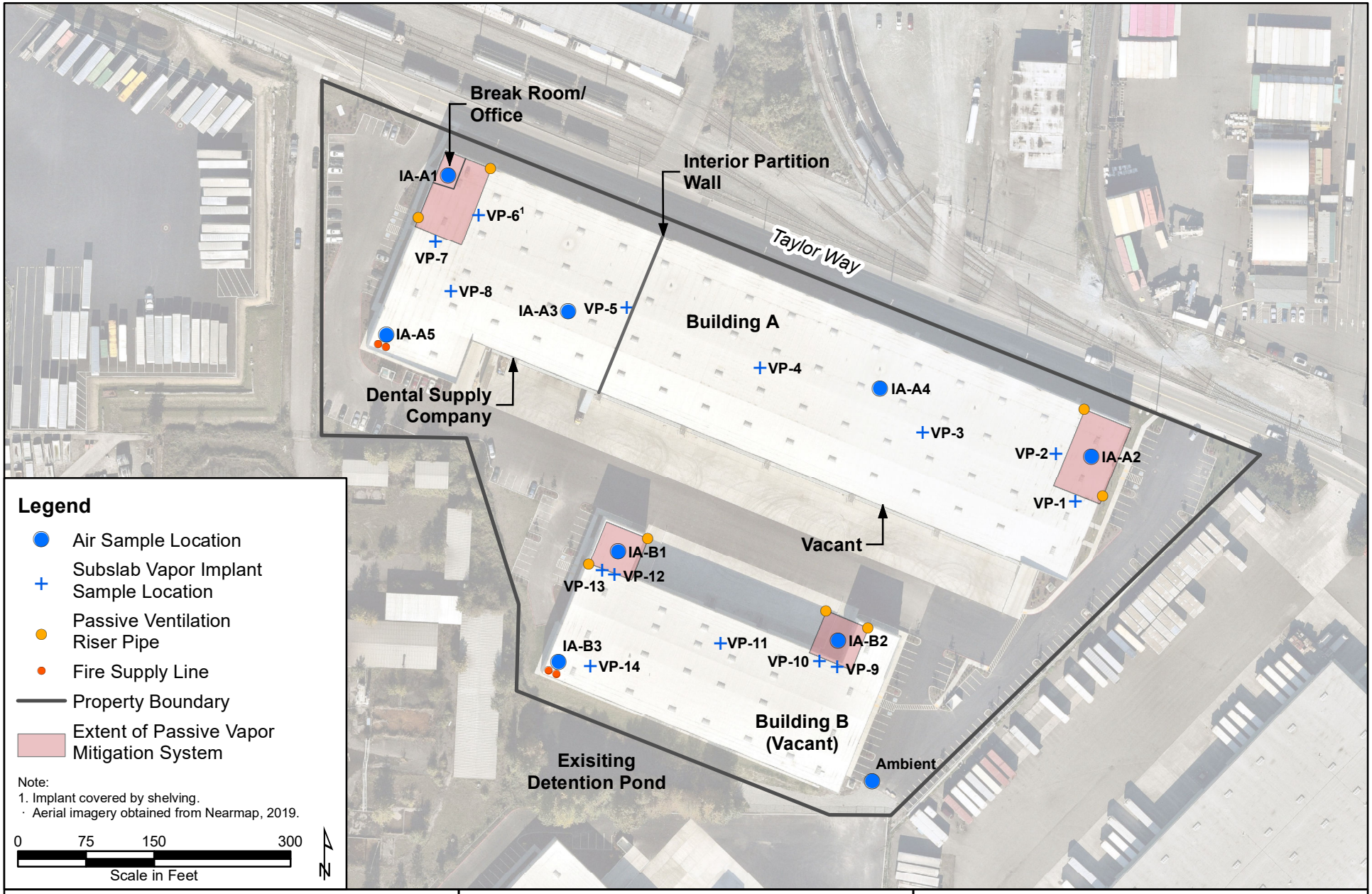
µg/m³ Micrograms per cubic meter

MTCA Model Toxics Control Act

Qualifiers:

U The analyte was not detected at the given reporting limit.

**Figure**




FLOYD | SNIDER
strategy • science • engineering

**Supplemental Post-Construction Vapor Intrusion Assessment**
**1514 Taylor Way Development**
**Tacoma, Washington**

Figure 1
Sample Locations

I:\GIS\Projects\Ave55-TaylorWay\MXD\Supplimental Post-Construction Vapor Intrusion Assessment\Figure 1 Sample Locations.mxd
2/24/2020

**Attachment 1**
**Building Survey Form**

DEPARTMENT OF ECOLOGY
State of Washington

# Building Feature and Water Use Survey

## 1. Building Ownership and Occupancy

### 1a. Occupant

| | |
|---|---|
| **Date:** | 12/13/2019 |
| **Name:** | dental supply company |
| **Address:** | (west portion of bldg A) |
| | 1514 Taylor Way, Tacoma |
| | |
| **Phone:** | Home ( ) Work ( ) |

### 1b. Owner or Landlord (check if same as occupant ____)

| | |
|---|---|
| **Date:** | 12/13/2019 |
| **Name:** | Port of Tacoma |
| **Address:** | |
| | |
| | |
| **Phone:** | Home ( ) Work ( ) |

## 2. General Building Information: What type of building is this? Check all appropriate responses below

| ☐ **Single Family** | ☐ **Multiple Family** | ☐ **School** | ☒ **Commercial** |
|---|---|---|---|
| ☐ Ranch | ☐ 2-Family | | ☐ Building is being used as a day care center |
| ☐ Raised Ranch | ☐ Duplex | | |
| ☐ Cape | ☐ Apartment House | | |
| ☐ Colonial | # of units _____ | | |
| ☐ Split Level | ☐ Condominium | | What type of business is conducted in your building? |
| ☐ Mobile Residence | # of units _____ | | |
| ☐ Other (specify) | ☐ Other (specify) | | |

2a. Number of floors? 1

2b. What was the original construction date of the building? March 2019

2c. Are there drains or sumps present (circle one)? YES (NO)
If so, describe each, including information on contents:

2d. Are elevator shafts present (circle one)? YES (NO)
If so, describe each:

## 3. Building Occupants (workers or residents)

| Age (if under 18) | Sex (M or F) | Occupation | Number of years working or living here | Number of hours spent in building per day |
|---|---|---|---|---|
| — | M+F | warehouse : inventory, forklift operation | <1 | 8 |
| | | | | |
| | | | | |
| — | M+F | construction | <1 | 8 |
| | | | | |
| | | | | |
| | | | | |
| < 20 individuals total work in bldg | | | | |
| | | | | |

## 4. Heating and Ventilation System(s)

4a. Please describe the type of materials your building is constructed out of (For example, wood, stone, concrete, etc.)
Concrete slab on grade, poured concrete floors, metal roof structure. gypsum board interior partitions

4b. Has your building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows (Energy-Efficient Windows) Other (specify) _____
(office enclosure)

4c. What type of foundation does your building/residence have? (Circle all that apply)

Full basement  Crawlspace  Concrete Slab (i.e. concrete floor that is not below ground level)

Other (specify)_____

4d. Does the basement/crawlspace have air vents leading out of the structure? NA

- If it has vents, are these vents always open, always closed, or opened and closed based on the season?

- Is the crawlspace lined with a plastic layer?
- If so, what is the position of that plastic layer? (Circle one)

  On the ground  Attached to the floor joist  Attached to the foundation
- What is the condition of that plastic layer? (Circle one)

  Whole  Absent in places  Torn

## 5. Foundation Type

5a. Basement characteristics (Check yes or no)

| **Do you have a basement?** | **Yes** | **No** |
|---|---|---|
| **Is there a basement sump (pit where water drains)?** | | No |
| **Is your basement finished?** | | NA |

5b. Does the basement have any additional characteristics that might permit soil vapor entry, such as utility conduits , a portion of the wall missing or exposed soils around sump? If so, please describe.

NA

5c. Describe your foundation (Check all that apply)

| **Foundation floor is:** | | **Foundation walls are:** | | **Inside of the foundation is:** | |
|---|---|---|---|---|---|
| Concrete | X | Poured concrete | X | Wet | |
| Dirt | | Cinder block | | Damp | |
| Other (specify) | | Laid up stone | | Dry | X |

5d. Are there cracks in the foundation? (Circle one) Yes (No)

5e. How would you describe them? (Check the box that best describes cracks in your foundation)

| None | Few (1-2) | Some (3-6) | Many (more than 6) |
|---|---|---|---|
| | | | |

NA

5f. Has the original structure of the building been altered by construction? For example, have half basements or spaces under the building been constructed? If so, please describe alterations.

NO

**Floor Slab Characteristics**

| | YES | NO | DON'T KNOW |
|---|---|---|---|
| 5g. Was a vapor barrier installed under the floor slab? | X | | |
| If so, describe: Vapor barrier under office nodes | | | |
| 5h. Were any other liners installed under the floor slab? | | X | |
| If so, describe: | | | |
| 5i. Were fibers or additional rebar added to the concrete floor slab to minimize cracking? | X | | |
| If so, describe: | | | |
| 5J. Were other techniques used to restrict vapor migration through the floor slab? | X | | |
| If so, describe: sub-slab capillary break | | | |

## 6. Heating and Ventilation System(s)

6a. What type of heating system(s) is/are used in your building? (Circle all that apply)

(office enclosure)

(Hot Air Circulation) *Heat Pump* *Steam Radiation* *Wood Stove*

*Hot Air Radiation* *Unvented Kerosene Heater* *Electric Wall/ Baseboard* *Other, specify:*

6b. What type(s) of fuel(s) are used in your building/residence? (Circle all that apply)

*Natural Gas* (circled) *Electric* (circled) *Coal* *Fuel Oil*

*Wood* *Solar* *Other, specify*

6c. Does your building have a fireplace? (Circle one) Yes No (circled)

6d. What types of mechanical ventilation systems are present in your building ? (Circle all that apply)

*Central Air Conditioning* *Mechanical Fans* *Bathroom Ventilation Fan*

*Kitchen Range Hood Fan* *Air-to-Air heat Exchanger* *Individual Air Conditioning Units* (circled) (office enclosure)

*Other, please specify:*

6e. Does your building have roof vents? (Circle the one that applies) Yes No (circled)

## 7. Sources of Chemical Contamination:

Are any of these items present in the building? (Check all that apply)

| Present? | Potential Source of Chemical | Location of Source |
|---|---|---|
| | Paints or paint thinners | |
| X | Cleaning solvents | dental supply area |
| | Air fresheners | |
| | Oven cleaners | |
| | Carpet/upholstery cleaners | |
| | Hairspray | |
| | Nail polish / polish remover | |
| | Bathroom cleaner | |
| | Appliance cleaner | |
| | Furniture polish | |
| | Perfume / colognes | |
| | Hobby supplies (For example, solvents, paints, thinners, glues, photo darkroom chemicals | |
| | Scented trees, wreaths, potpourri | |

| | | |
|---|---|---|
| 7a. Do one or more smokers occupy this building on a regular basis? | Yes | (No) |
| 7b. Do the occupants of the building have their clothes dry-cleaned once every other week or more? | Yes | (No) |
| 7c. Was remodeling or painting done in the building in the last month? | Yes | (No) |
| 7d. Are there any pressed wood products in the building (For example, Hardwood, plywood, wall paneling, particleboard or fiberboard)? | Yes | (No) |

If so, please describe their location:

| | | |
|---|---|---|
| 7e. Within the last month, have you gotten new upholstery, drapes or Other textiles in the building? | Yes | (No) |
| 7f. Has the building been treated with any insecticides or pesticides? | Yes | (No) |

If so, what chemicals are used and how often are they applied?

| | | |
|---|---|---|
| 7g. Does your property contain any underground storage tanks? | Yes | (No) |

If so, what type?

## 8. General Comments:

Is there any other information about the structural features of this building, the occupants or potential sources of chemical contaminants to the indoor air that may be of importance in facilitating the evaluation of the indoor air quality of the building?

a few unsealed penetrations around fire water supply lines - E. wall + SW corner of bldg A, SW corner of bldg B

per Arc 55 all floor slab joints sealed

## 9. Water Use Survey

**Please check ALL of the boxes below that apply to your property.**

| Land uses, Property use or Activity Type | Historic Use | Current Use | Planned Future Use |
|---|---|---|---|
| **Residential** | | | |
| **Commercial** | NA | X | X |
| **Industrial** | | | |
| **Agricultural** | | | |
| **Recreational** | | | |
| **Other, Describe:** | | | |

9a. Do you use the public water supply provided by the city? Yes

9b. Do you have a private well? No

9c. If you have a private well, when was it last used? NA

9d. If you have a private well, circle all of the uses for that water: NA

*Drinking water* *Irrigation* *Livestock* *Vegetable Garden*

*Industrial Process*

9e. Additional comments concerning water use

**THANK YOU!**
**We appreciate your participation in this survey!**
**If you have any questions about the survey, or need help filling it out, please contact Steve Teel with the Department of Ecology at 360-407-6247 or stee461@ecy.wa.gov.**

**Attachment 2**
**Sub-Slab Vapor Sampling Field Forms**

**SOIL VAPOR SAMPLING SHEET**

Site Reference: Ave 55 - Taylor Way

Date: 1/13/2020

Address: 1514 Taylor Way Tacoma, WA

Personnel: KA + TS

| Soil Vapor Sampling Point ID | Vacuum Test: Time Start Vacuum Testing | Vacuum Test: Time Stop Vacuum Testing | Purging: Time Start Purging | Purging: Time Stop Purging | Purging: Purging Rate (mL/min) | Purging: Total Volume Purged (mL) | Helium: Time of Helium Reading | Helium: Helium Reading (%) | Sampling: Time Start Sampling | Sampling: Time Stop Sampling | Sampling: Canister Vacuum Before Sampling (in Hg) | Sampling: Canister Vacuum After Sampling (in Hg) | PID: Time of PID Reading | PID: PID Reading | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VP-1 | 0955 | 1000 | 1001 | 1002 | ~~150~~ 150 | ~~150~~ 150 | | | 1004 | 1010 | 28" Hg | 2" Hg | | | 3667 |
| VP-2 | 1031 | 1036 | 1039 | ~~1038~~ 1041 | ~~150~~ 150 | ~~150~~ | | | ~~1044~~ 1046 | 1048 | 30" | 2" Hg | | | 2436 |
| VP-5 | 1129 | 1134 | 1134 | 1135 | ~~150~~ 150 | 150 | | | 1136 | 1140 | 29" | 2" Hg | | | 2439 |
| VP-7 | 1159 | 1204 | 1205 | 1206 | ~~150~~ 150 | 150 | | | 1207 | 1212 | 29" | 2" Hg | | | 4177 |
| VP-8 | 1225 | 1230 | 1230 | 1231 | 150 | 150 | | | 1231 | 1236 | 29" | 2" Hg | | | 4183 |
| VP-13 | 1334 | 1339 | 1341 | 1342 | 150 | 150 | | | 1344 | 1350 | 29" | 2" Hg | | | 3671 |
| VP-12 | 1402 | 1407 | 1408 | 1409 | 150 | 150 | | | 1410 | 1417 | 28" | 2" Hg | | | 2298 |
| ~~VP-120~~ | ~~1402~~ | ~~1407~~ | ~~1408~~ | ~~1409~~ | ~~150~~ | ~~150~~ | | | ~~1410~~ | ~~1421~~ | ~~30"~~ | ~~2" Hg~~ | | | ~~Field Dup. 3230~~ TS |
| VP-14 | 1444 | 1449 | 1450 | 1451 | 150 | 150 | | | 1452 | 1458 | 30" | 2 Hg | | | 4181 |
| VP-10 | 1512 | 1517 | 1517 | 1518 | 150 | 150 | | | 1519 | 1525 | 29" | 2 Hg | | | 2302 |
| VP-09 | 1535 | 1540 | 1540 | 1541 | 150 | 150 | | | 1543 | 1549 | 29" | 2 Hg | | | 2297 |
| ~~VP-2~~ TS | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Notes:

VP-1 begin vacuum 22" Hg, VP-2 begin vacuum 21" Hg, VP-5 begin vacuum 21" Hg
VP-7 begin vacuum 19" Hg, VP-8 begin vacuum 20" Hg, VP-13 begin vacuum 29" Hg
VP-12 begin vacuum 19" Hg, VP-120 begin vacuum 20" Hg (field duplicate)
VP-14 begin vacuum 24" Hg, VP-10 begin vacuum 22" Hg, VP-09 begin vacuum 25" Hg

**SOIL VAPOR SAMPLING SHEET**

Site Reference: Ave 55 · Taylor Way

Date: 1/14/2020

Address: 1514 Taylor Way Tacoma WA

Personnel: KA + TS

| | Vacuum Test | | Purging | | | | Helium | | Sampling | | | | PID | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soil Vapor Sampling Point ID | Time Start Vacuum Testing | Time Stop Vacuum Testing | Time Start Purging | Time Stop Purging | Purging Rate (mL/min) | Total Volume Purged (mL) | Time of Helium Reading | Helium Reading (%) | Time Start Sampling | Time Stop Sampling | Canister Vacuum Before Sampling (in Hg) | Canister Vacuum After Sampling (in Hg) | Time of PID Reading | PID Reading | Notes |
| VP-3 | 1056 | 1102 | 1102 | 1103 | ~~167~~ 150 | 150 | | | 1103 | 1109 | 30" | 2" | | | 3287 |
| VP-4 | 1125 | 1130 | 1131 | 1132 | ~~167~~ 150 | 150 | | | 1132 | 1138 | 29" | 2" | | | 2300 |
| VP-11 | 1222 | 1228 | 1228 | 1231 | 150 | 300 | | | 1232 | 1236 | 29" | 2" | | | 3386 |
| VP-110 | 1222 | 1228 | 1228 | 1231 | 150 | 300 | | | 1232 | 1237 | 29" | 2" | | | 3344 Field dup. |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Notes:

VP-3 begin vacuum 20" Hg, VP-4 begin vacuum 20" Hg, VP-11 begin vacuum ~~20" Hg~~ TS 18" Hg

VP-110 begin vacuum 19" Hg - field duplicate

## SOIL VAPOR SAMPLING SHEET

Site Reference: Ave 55 - Taylor Way

Date: 2/18/2020

Address: 1415 Taylor Way Tacoma, WA

Personnel: Tyler Scott

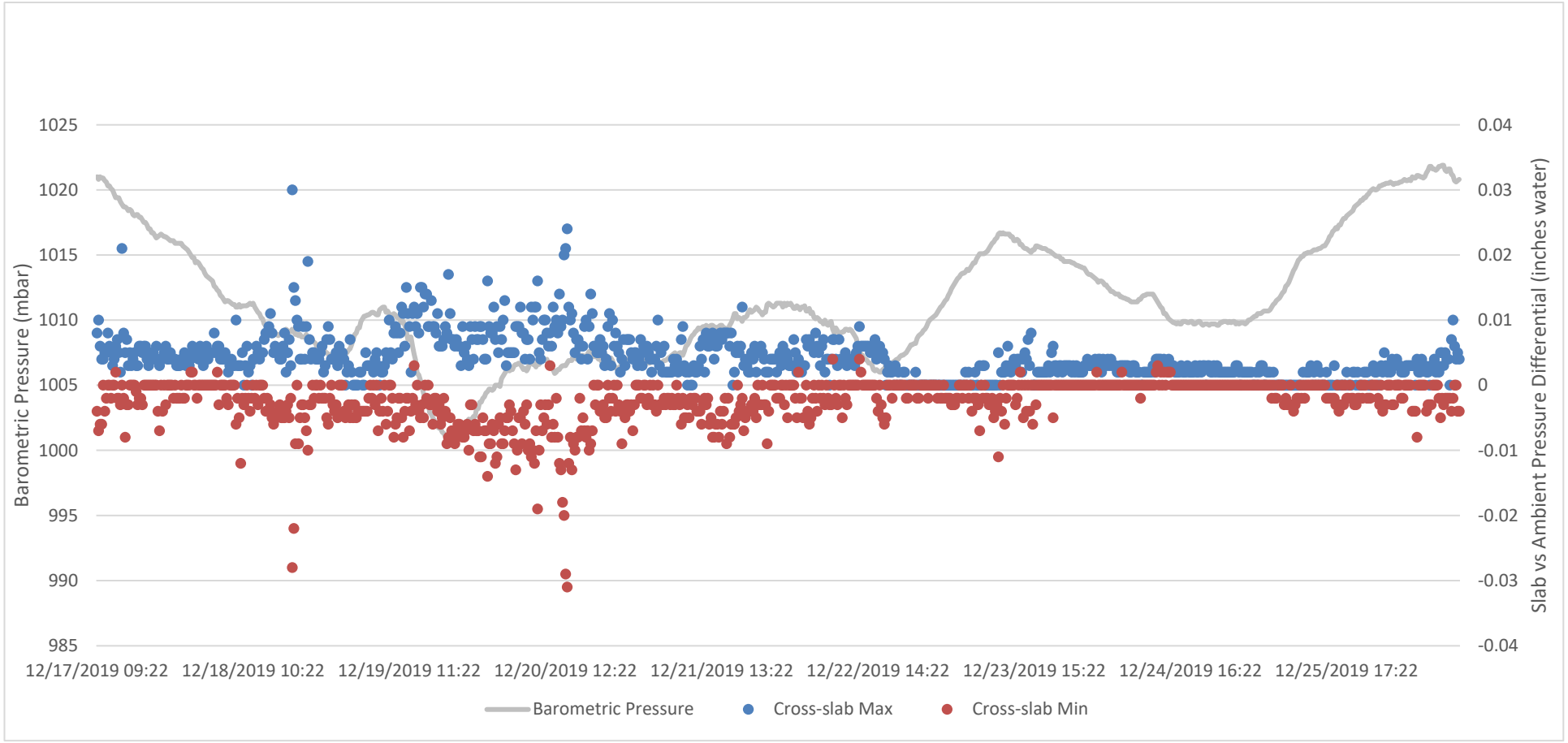
| | Vacuum Test | | Purging | | | | Helium | | Sampling | | | | PID | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soil Vapor Sampling Point ID | Time Start Vacuum Testing | Time Stop Vacuum Testing | Time Start Purging | Time Stop Purging | Purging Rate (mL/min) | Total Volume Purged (mL) | Time of Helium Reading | Helium Reading (%) | Time Start Sampling | Time Stop Sampling | Canister Vacuum Before Sampling (in Hg) | Canister Vacuum After Sampling (in Hg) | Time of PID Reading | PID Reading | Notes |
| VP-3 | 12:27 | 12:32 | 12:34 | 12:38 | 167 | 500 | | | 12:40 | 12:44 | 29 | 5 | | | |
| VP-3 | 13:05 | 13:10 | 13:11 | 13:14 | 167 | 500 | | | 13:15 | 13:21 | 29 | 5 | | | Dup. VP-3-D |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Notes:

VP-3 Vac. test Initial: 25 Hg Final: 25 Hg VP-3

VP-3 Duplicate Vac Test Initial: 25Hg Final: 25 Hg VP-3-D

**Attachment 3**
**Cross-Slab Differential Pressure Plots**

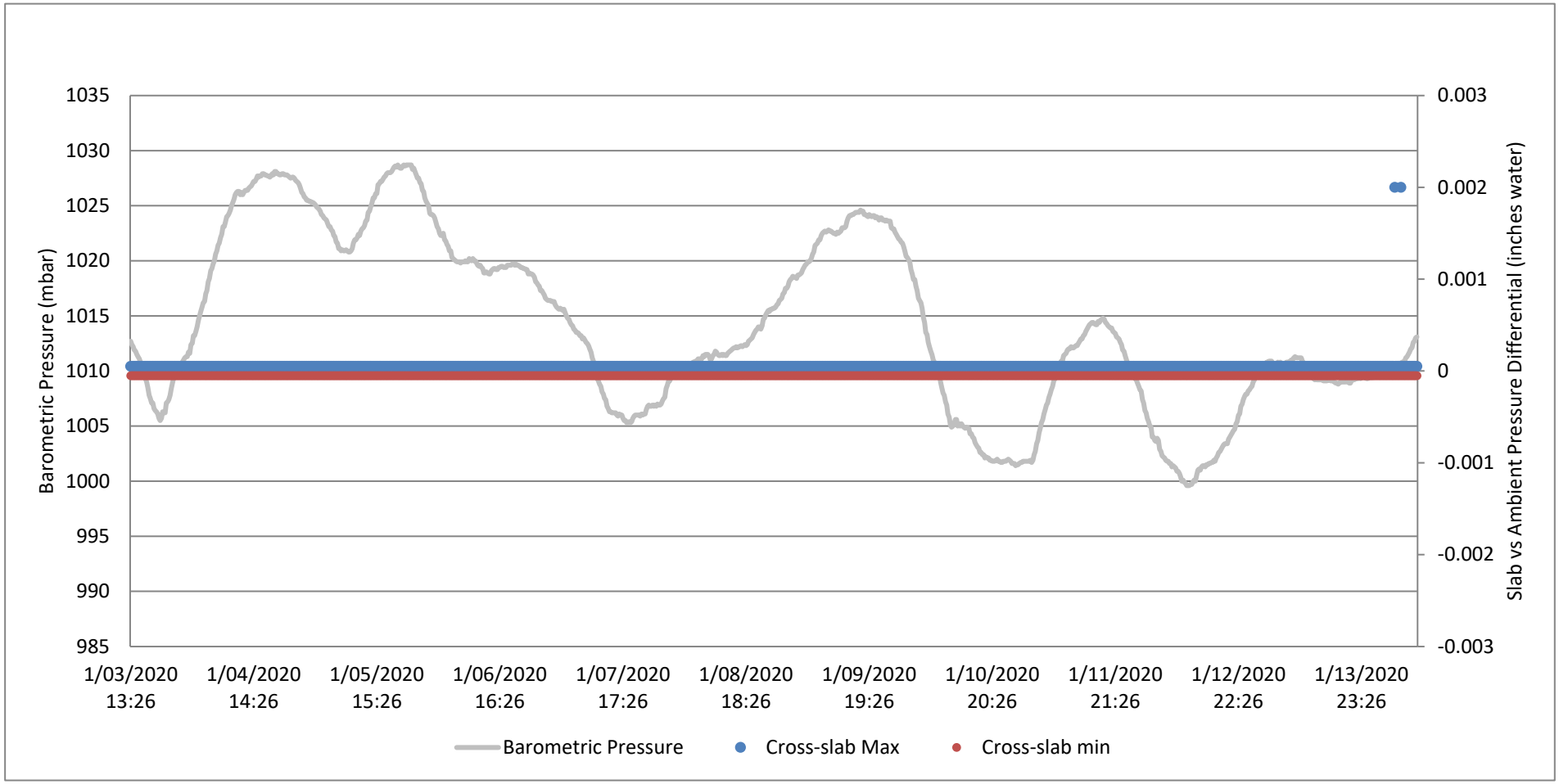



FLOYD | SNIDER
strategy ▪ science ▪ engineering

**Supplemental Post-Construction Vapor Intrusion Assessment**
**1514 Taylor Way Development**
**Tacoma, Washington**

VP-1
Building A East Office Node Sub-Slab Versus Main Warehouse Ambient

3/4/2020



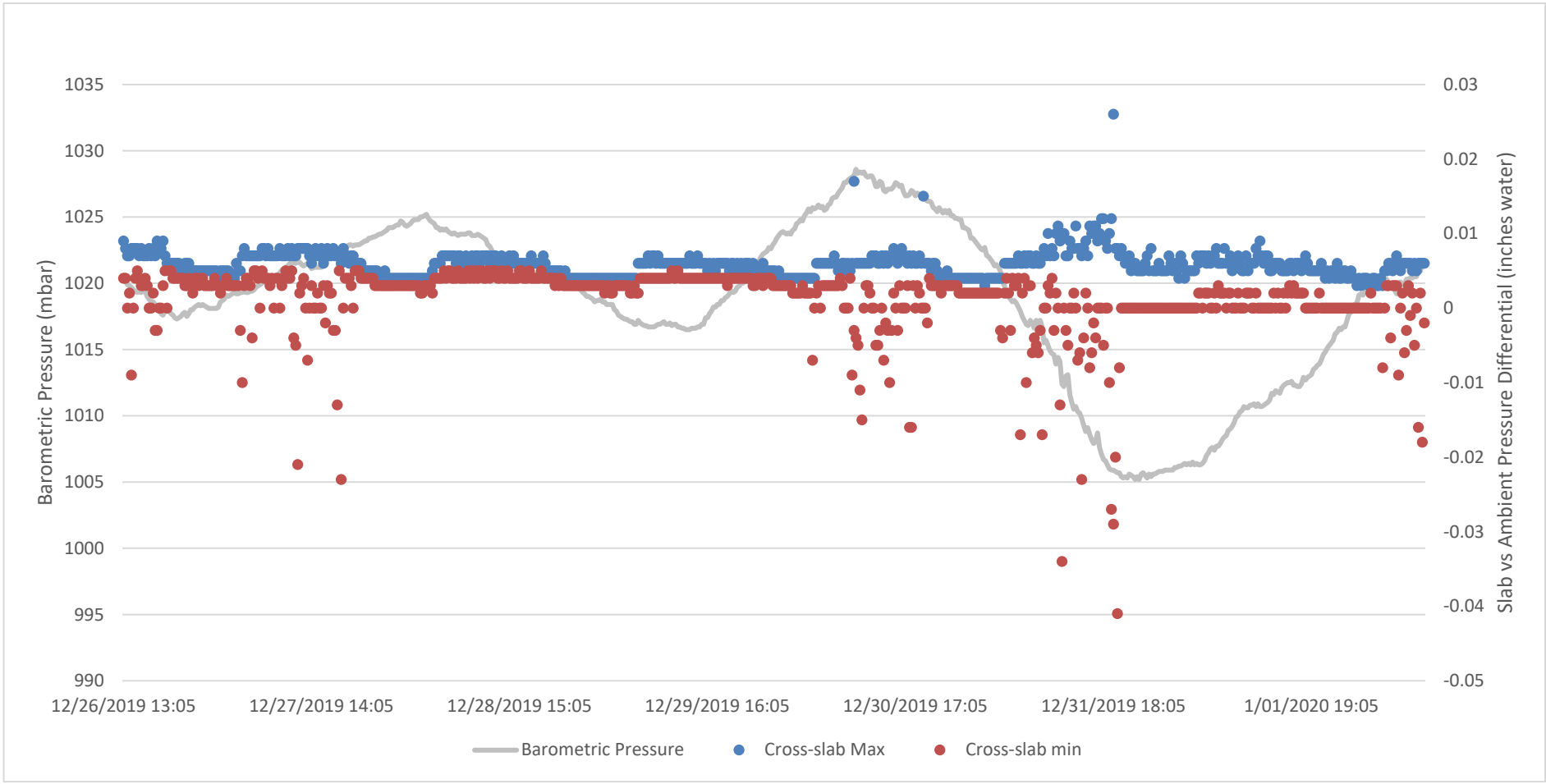

Note: All but two measurements of cross-slab differential pressure were 0.000 inches of water.

FLOYD | SNIDER
strategy ▪ science ▪ engineering

**Supplemental Post-Construction Vapor Intrusion Assessment**
**1514 Taylor Way Development**
**Tacoma, Washington**

VP-3
Building A Main Warehouse Sub-Slab Versus Ambient

3/4/2020




FLOYD | SNIDER
strategy ▪ science ▪ engineering

**Supplemental Post-Construction Vapor Intrusion Assessment**
**1514 Taylor Way Development**
**Tacoma, Washington**

VP-7
Building A West Office Node Sub-Slab Versus Break Room Ambient

3/4/2020

**Attachment 4**
**Laboratory Analytical Data**

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

January 22, 2020

Tom Colligan, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

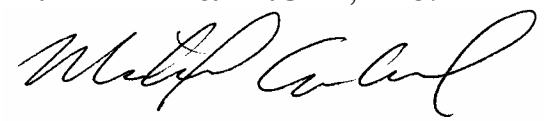
Dear Mr Colligan:

Included are the results from the testing of material submitted on January 14, 2020 from the Ave 55-Taylor Way 1514 Taylor Way Tacoma, WA, F&BI 001177 project. There are 60 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Kristin Anderson
FDS0122R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 14, 2020 by Friedman & Bruya, Inc. from the Floyd-Snider Ave 55-Taylor Way 1514 Taylor Way Tacoma, WA, F&BI 001177 project. Samples were logged in under the laboratory ID's listed below.

| Laboratory ID | Floyd-Snider |
|---|---|
| 001177 -01 | VP-01-011320 |
| 001177 -02 | VP-02-011320 |
| 001177 -03 | VP-05-011320 |
| 001177 -04 | VP-07-011320 |
| 001177 -05 | VP-08-011320 |
| 001177 -06 | VP-13-011320 |
| 001177 -07 | VP-12-011320 |
| 001177 -08 | VP-14-011320 |
| 001177 -09 | VP-10-011320 |
| 001177 -10 | VP-09-011320 |
| 001177 -11 | Ambient |
| 001177 -12 | IA-B2 |
| 001177 -13 | IA-B1 |
| 001177 -14 | IA-B3 |
| 001177 -15 | IA-A2 |
| 001177 -16 | IA-A4 |
| 001177 -17 | IA-A5 |
| 001177 -18 | IA-A3 |
| 001177 -19 | IA-A1 |
| 001177 -20 | VP-03-011420 |
| 001177 -21 | VP-04-011420 |
| 001177 -22 | VP-11-011420 |
| 001177 -23 | VP-110-011420 |

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

The APH EC5-8 aliphatics concentration in sample VP-08-011320 and VP-03-011420 exceeded the calibration range of the instrument. In addition, several TO-15 compounds exceeded the calibration range of the instrument. The data were flagged accordingly.

All other quality control requirements were acceptable.

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-01-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-01 1/2.9 |
| Date Analyzed: | 01/16/20 | Data File: | 011529.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 98 | 70 | 130 |

| Compounds: | Concentration ug/m3 |
|---|---|
| APH EC5-8 aliphatics | 710 |
| APH EC9-12 aliphatics | 380 |
| APH EC9-10 aromatics | <72 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-02-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-02 1/2.6 |
| Date Analyzed: | 01/16/20 | Data File: | 011531.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 | 420 |
| APH EC9-12 aliphatics | 170 |
| APH EC9-10 aromatics | <65 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-05-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-03 1/2.9 |
| Date Analyzed: | 01/16/20 | Data File: | 011532.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 102 | 70 | 130 |

| Compounds: | Concentration ug/m3 |
|---|---|
| APH EC5-8 aliphatics | 440 |
| APH EC9-12 aliphatics | 220 |
| APH EC9-10 aromatics | <72 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-07-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-04 1/2.9 |
| Date Analyzed: | 01/16/20 | Data File: | 011533.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 | 970 |
| APH EC9-12 aliphatics | 180 |
| APH EC9-10 aromatics | <72 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-08-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-05 1/2.9 |
| Date Analyzed: | 01/16/20 | Data File: | 011534.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 |
|---|---|
| APH EC5-8 aliphatics | 2,300 ve |
| APH EC9-12 aliphatics | 630 |
| APH EC9-10 aromatics | <72 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-13-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-06 1/2.8 |
| Date Analyzed: | 01/16/20 | Data File: | 011535.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 |
|---|---|
| APH EC5-8 aliphatics | <130 |
| APH EC9-12 aliphatics | 280 |
| APH EC9-10 aromatics | <70 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-12-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-07 1/2.8 |
| Date Analyzed: | 01/16/20 | Data File: | 011536.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 103 | 70 | 130 |

| Compounds: | Concentration ug/m3 |
|---|---|
| APH EC5-8 aliphatics | <130 |
| APH EC9-12 aliphatics | 230 |
| APH EC9-10 aromatics | <70 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-14-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-08 1/2.8 |
| Date Analyzed: | 01/17/20 | Data File: | 011629.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 |
|---|---|
| APH EC5-8 aliphatics | <130 |
| APH EC9-12 aliphatics | 250 |
| APH EC9-10 aromatics | <70 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-10-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-09 1/2.8 |
| Date Analyzed: | 01/17/20 | Data File: | 011637.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 105 | 70 | 130 |

| Compounds: | Concentration ug/m3 |
|---|---|
| APH EC5-8 aliphatics | <130 |
| APH EC9-12 aliphatics | 270 |
| APH EC9-10 aromatics | <70 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-09-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-10 1/2.8 |
| Date Analyzed: | 01/17/20 | Data File: | 011630.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 |
|---|---|
| APH EC5-8 aliphatics | <130 |
| APH EC9-12 aliphatics | 170 |
| APH EC9-10 aromatics | <70 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | Ambient | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, WA, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-11 |
| Date Analyzed: | 01/15/20 | Data File: | 011520.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 | <46 |
| APH EC9-12 aliphatics | <35 |
| APH EC9-10 aromatics | <25 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-B2 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, WA, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-12 1/2.7 |
| Date Analyzed: | 01/16/20 | Data File: | 011521.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 82 | 70 | 130 |

| Compounds: | Concentration ug/m3 |
|---|---|
| APH EC5-8 aliphatics | 250 |
| APH EC9-12 aliphatics | <94 |
| APH EC9-10 aromatics | <67 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-B1 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, WA, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-13 1/1.2 |
| Date Analyzed: | 01/16/20 | Data File: | 011522.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 85 | 70 | 130 |

| Compounds: | Concentration ug/m3 |
|---|---|
| APH EC5-8 aliphatics | 230 |
| APH EC9-12 aliphatics | <42 |
| APH EC9-10 aromatics | <30 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-B3 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, WA, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-14 |
| Date Analyzed: | 01/16/20 | Data File: | 011523.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 | 230 |
| APH EC9-12 aliphatics | <35 |
| APH EC9-10 aromatics | <25 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-A2 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, WA, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-15 |
| Date Analyzed: | 01/16/20 | Data File: | 011524.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 98 | 70 | 130 |

| Compounds: | Concentration ug/m3 |
|---|---|
| APH EC5-8 aliphatics | 260 |
| APH EC9-12 aliphatics | 39 |
| APH EC9-10 aromatics | <25 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-A4 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, WA, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-16 |
| Date Analyzed: | 01/16/20 | Data File: | 011525.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 98 | 70 | 130 |

| Compounds: | Concentration ug/m3 |
|---|---|
| APH EC5-8 aliphatics | 260 |
| APH EC9-12 aliphatics | <35 |
| APH EC9-10 aromatics | <25 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-A5 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, WA, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-17 |
| Date Analyzed: | 01/16/20 | Data File: | 011526.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 | 160 |
| APH EC9-12 aliphatics | <35 |
| APH EC9-10 aromatics | <25 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-A3 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, WA, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-18 |
| Date Analyzed: | 01/16/20 | Data File: | 011527.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 | 350 |
| APH EC9-12 aliphatics | 66 |
| APH EC9-10 aromatics | <25 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-A1 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, WA, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-19 |
| Date Analyzed: | 01/16/20 | Data File: | 011528.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 | 270 |
| APH EC9-12 aliphatics | 88 |
| APH EC9-10 aromatics | <25 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-03-011420 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-20 1/2.7 |
| Date Analyzed: | 01/17/20 | Data File: | 011638.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 | 8,300 ve |
| APH EC9-12 aliphatics | 210 |
| APH EC9-10 aromatics | <67 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-03-011420 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-20 1/34 |
| Date Analyzed: | 01/17/20 | Data File: | 011636.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 |
|---|---|
| APH EC5-8 aliphatics | 33,000 ve |
| APH EC9-12 aliphatics | <1,200 |
| APH EC9-10 aromatics | <850 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-04-011420 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-21 1/2.7 |
| Date Analyzed: | 01/17/20 | Data File: | 011631.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 | 220 |
| APH EC9-12 aliphatics | 140 |
| APH EC9-10 aromatics | <67 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-11-011420 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-22 1/3.1 |
| Date Analyzed: | 01/17/20 | Data File: | 011632.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 |
|---|---|
| APH EC5-8 aliphatics | 700 |
| APH EC9-12 aliphatics | 1,700 |
| APH EC9-10 aromatics | <77 |

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-110-011420 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-23 1/2.7 |
| Date Analyzed: | 01/17/20 | Data File: | 011633.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 | 620 |
| APH EC9-12 aliphatics | 1,600 |
| APH EC9-10 aromatics | <67 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | Method Blank | Client: | Floyd-Snider |
| Date Received: | Not Applicable | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | Not Applicable | Lab ID: | 00-0133 mb |
| Date Analyzed: | 01/15/20 | Data File: | 011519.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 101 | 70 | 130 |

| Compounds: | Concentration ug/m3 |
|---|---|
| APH EC5-8 aliphatics | <46 |
| APH EC9-12 aliphatics | <35 |
| APH EC9-10 aromatics | <25 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | Method Blank | Client: | Floyd-Snider |
| Date Received: | Not Applicable | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | Not Applicable | Lab ID: | 00-0135 mb |
| Date Analyzed: | 01/17/20 | Data File: | 011616.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 | <46 |
| APH EC9-12 aliphatics | <35 |
| APH EC9-10 aromatics | <25 |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-01-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-01 1/2.9 |
| Date Analyzed: | 01/16/20 | Data File: | 011529.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 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | 18 | 11 | 1,1,1-Trichloroethane | 6.9 | 1.3 |
| Dichlorodifluoromethane | 12 | 2.5 | Carbon tetrachloride | <1.8 | <0.29 |
| Chloromethane | <6 | <2.9 | Benzene | <0.93 | <0.29 |
| Vinyl chloride | <0.74 | <0.29 | Cyclohexane | <20 | <5.8 |
| 1,3-Butadiene | <0.064 | <0.029 | 1,2-Dichloropropane | 1.1 | 0.24 |
| Chloroethane | <7.7 | <2.9 | Bromodichloromethane | <0.19 | <0.029 |
| Acrolein | <2.7 | <1.2 | Trichloroethene | 1.7 | 0.32 |
| Pentane | <8.6 | <2.9 | 4-Methyl-2-pentanone | <12 | <2.9 |
| Trichlorofluoromethane | 360 | 63 | Toluene | <55 | <14 |
| 2-Propanol | <25 | <10 | 1,1,2-Trichloroethane | <0.32 | <0.058 |
| 1,1-Dichloroethene | <1.1 | <0.29 | Tetrachloroethene | <20 | <2.9 |
| trans-1,2-Dichloroethene | <1.1 | <0.29 | 1,2-Dibromoethane (EDB) | <0.22 | <0.029 |
| Methylene chloride | <250 | <72 | Ethylbenzene | <1.3 | <0.29 |
| CFC-113 | <2.2 | <0.29 | m,p-Xylene | <2.5 | <0.58 |
| Carbon disulfide | <18 | <5.8 | o-Xylene | <1.3 | <0.29 |
| 1,1-Dichloroethane | <1.2 | <0.29 | Styrene | <2.5 | <0.58 |
| cis-1,2-Dichloroethene | <1.1 | <0.29 | Benzyl chloride | <0.15 | <0.029 |
| Hexane | <10 | <2.9 | 1,3,5-Trimethylbenzene | <7.1 | <1.4 |
| Chloroform | 0.82 | 0.17 | 1,2,4-Trimethylbenzene | <7.1 | <1.4 |
| 2-Butanone (MEK) | <8.6 | <2.9 | Naphthalene | <0.76 | <0.14 |
| 1,2-Dichloroethane (EDC) | 0.20 | 0.049 | Hexachlorobutadiene | <0.62 | <0.058 |
| 1,2,3-Trimethylbenzene | <140 L | <29 L | | | |
| 1-Butanol | < 87L | <29 L | | | |
| Acetaldehyde | <260 L | <150 L | | | |
| Acetonitrile | <49 L | <29 L | | | |
| Acrylonitrile | <32 L | <15 L | | | |
| Chlorodifluoromethane | <100 L | <29 L | | | |
| Cyclopentane | <84 L | <29 L | | | |
| Isobutene | <68 L | <29 L | | | |
| Isoprene | <81 L | <29 L | | | |
| Methyl vinyl ketone | <84 L | <29 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-02-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-02 1/2.6 |
| Date Analyzed: | 01/16/20 | Data File: | 011531.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 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <1.8 | <1 | 1,1,1-Trichloroethane | 4.5 | 0.82 |
| Dichlorodifluoromethane | 13 | 2.6 | Carbon tetrachloride | <1.6 | <0.26 |
| Chloromethane | <5.4 | <2.6 | Benzene | <0.83 | <0.26 |
| Vinyl chloride | <0.66 | <0.26 | Cyclohexane | <18 | <5.2 |
| 1,3-Butadiene | <0.057 | <0.026 | 1,2-Dichloropropane | <0.6 | <0.13 |
| Chloroethane | <6.9 | <2.6 | Bromodichloromethane | <0.17 | <0.026 |
| Acrolein | <2.4 | <1 | Trichloroethene | <0.7 | <0.13 |
| Pentane | <7.7 | <2.6 | 4-Methyl-2-pentanone | <11 | <2.6 |
| Trichlorofluoromethane | 170 | 31 | Toluene | <49 | <13 |
| 2-Propanol | <22 | <9.1 | 1,1,2-Trichloroethane | <0.28 | <0.052 |
| 1,1-Dichloroethene | <1 | <0.26 | Tetrachloroethene | <18 | <2.6 |
| trans-1,2-Dichloroethene | <1 | <0.26 | 1,2-Dibromoethane (EDB) | <0.2 | <0.026 |
| Methylene chloride | <230 | <65 | Ethylbenzene | <1.1 | <0.26 |
| CFC-113 | <2 | <0.26 | m,p-Xylene | <2.3 | <0.52 |
| Carbon disulfide | <16 | <5.2 | o-Xylene | <1.1 | <0.26 |
| 1,1-Dichloroethane | <1.1 | <0.26 | Styrene | <2.2 | <0.52 |
| cis-1,2-Dichloroethene | <1 | <0.26 | Benzyl chloride | <0.13 | <0.026 |
| Hexane | <9.2 | <2.6 | 1,3,5-Trimethylbenzene | <6.4 | <1.3 |
| Chloroform | 0.15 | 0.031 | 1,2,4-Trimethylbenzene | <6.4 | <1.3 |
| 2-Butanone (MEK) | <7.7 | <2.6 | Naphthalene | <0.68 | <0.13 |
| 1,2-Dichloroethane (EDC) | <0.11 | <0.026 | Hexachlorobutadiene | <0.55 | <0.052 |
| 1,2,3-Trimethylbenzene | <130 L | <26 L | | | |
| 1-Butanol | <78 L | <26 L | | | |
| Acetaldehyde | <230 L | <130 L | | | |
| Acetonitrile | <44 L | <26 L | | | |
| Acrylonitrile | <29 L | <13 L | | | |
| Chlorodifluoromethane | <91 L | <26 L | | | |
| Cyclopentane | <75 L | <26 L | | | |
| Isobutene | <60 L | <26 L | | | |
| Isoprene | <73 L | <26 L | | | |
| Methyl vinyl ketone | <75 L | <26 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-05-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-03 1/2.9 |
| Date Analyzed: | 01/16/20 | Data File: | 011532.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 103 | 70 | 130 |

| Compounds: | Concentration ug/m3 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <2 | <1.2 | 1,1,1-Trichloroethane | 7.8 | 1.4 |
| Dichlorodifluoromethane | 7.1 | 1.4 | Carbon tetrachloride | <1.8 | <0.29 |
| Chloromethane | <6 | <2.9 | Benzene | <0.93 | <0.29 |
| Vinyl chloride | <0.74 | <0.29 | Cyclohexane | <20 | <5.8 |
| 1,3-Butadiene | <0.064 | <0.029 | 1,2-Dichloropropane | 1.6 | 0.35 |
| Chloroethane | <7.7 | <2.9 | Bromodichloromethane | <0.19 | <0.029 |
| Acrolein | <2.7 | <1.2 | Trichloroethene | <0.78 | <0.14 |
| Pentane | <8.6 | <2.9 | 4-Methyl-2-pentanone | <12 | <2.9 |
| Trichlorofluoromethane | 160 | 28 | Toluene | <55 | <14 |
| 2-Propanol | <25 | <10 | 1,1,2-Trichloroethane | <0.32 | <0.058 |
| 1,1-Dichloroethene | <1.1 | <0.29 | Tetrachloroethene | <20 | <2.9 |
| trans-1,2-Dichloroethene | <1.1 | <0.29 | 1,2-Dibromoethane (EDB) | <0.22 | <0.029 |
| Methylene chloride | <250 | <72 | Ethylbenzene | <1.3 | <0.29 |
| CFC-113 | <2.2 | <0.29 | m,p-Xylene | <2.5 | <0.58 |
| Carbon disulfide | <18 | <5.8 | o-Xylene | <1.3 | <0.29 |
| 1,1-Dichloroethane | <1.2 | <0.29 | Styrene | <2.5 | <0.58 |
| cis-1,2-Dichloroethene | <1.1 | <0.29 | Benzyl chloride | <0.15 | <0.029 |
| Hexane | <10 | <2.9 | 1,3,5-Trimethylbenzene | <7.1 | <1.4 |
| Chloroform | 0.51 | 0.10 | 1,2,4-Trimethylbenzene | <7.1 | <1.4 |
| 2-Butanone (MEK) | <8.6 | <2.9 | Naphthalene | <0.76 | <0.14 |
| 1,2-Dichloroethane (EDC) | <0.12 | <0.029 | Hexachlorobutadiene | <0.62 | <0.058 |
| 1,2,3-Trimethylbenzene | <140 L | <29 L | | | |
| 1-Butanol | < 87L | <29 L | | | |
| Acetaldehyde | <260 L | <150 L | | | |
| Acetonitrile | <49 L | <29 L | | | |
| Acrylonitrile | <32 L | <15 L | | | |
| Chlorodifluoromethane | <100 L | <29 L | | | |
| Cyclopentane | <84 L | <29 L | | | |
| Isobutene | <68 L | <29 L | | | |
| Isoprene | <81 L | <29 L | | | |
| Methyl vinyl ketone | <84 L | <29 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-07-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-04 1/2.9 |
| Date Analyzed: | 01/16/20 | Data File: | 011533.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 | <2 | <1.2 | 1,1,1-Trichloroethane | 22 | 4.1 |
| Dichlorodifluoromethane | 16 | 3.3 | Carbon tetrachloride | <1.8 | <0.29 |
| Chloromethane | <6 | <2.9 | Benzene | 1.6 | 0.52 |
| Vinyl chloride | <0.74 | <0.29 | Cyclohexane | <20 | <5.8 |
| 1,3-Butadiene | <0.064 | <0.029 | 1,2-Dichloropropane | 5.7 | 1.2 |
| Chloroethane | <7.7 | <2.9 | Bromodichloromethane | <0.19 | <0.029 |
| Acrolein | <2.7 | <1.2 | Trichloroethene | <0.78 | <0.14 |
| Pentane | 36 | 12 | 4-Methyl-2-pentanone | <12 | <2.9 |
| Trichlorofluoromethane | 740 ve | 130 ve | Toluene | <55 | <14 |
| 2-Propanol | 100 | 41 | 1,1,2-Trichloroethane | <0.32 | <0.058 |
| 1,1-Dichloroethene | <1.1 | <0.29 | Tetrachloroethene | <20 | <2.9 |
| trans-1,2-Dichloroethene | <1.1 | <0.29 | 1,2-Dibromoethane (EDB) | <0.22 | <0.029 |
| Methylene chloride | <250 | <72 | Ethylbenzene | <1.3 | <0.29 |
| CFC-113 | <2.2 | <0.29 | m,p-Xylene | <2.5 | <0.58 |
| Carbon disulfide | <18 | <5.8 | o-Xylene | 1.7 | 0.39 |
| 1,1-Dichloroethane | 2.0 | 0.49 | Styrene | <2.5 | <0.58 |
| cis-1,2-Dichloroethene | <1.1 | <0.29 | Benzyl chloride | <0.15 | <0.029 |
| Hexane | <10 | <2.9 | 1,3,5-Trimethylbenzene | <7.1 | <1.4 |
| Chloroform | 0.57 | 0.12 | 1,2,4-Trimethylbenzene | <7.1 | <1.4 |
| 2-Butanone (MEK) | <8.6 | <2.9 | Naphthalene | <0.76 | <0.14 |
| 1,2-Dichloroethane (EDC) | 0.45 | 0.11 | Hexachlorobutadiene | <0.62 | <0.058 |
| 1,2,3-Trimethylbenzene | <140 L | <29 L | | | |
| 1-Butanol | < 87L | <29 L | | | |
| Acetaldehyde | <260 L | <150 L | | | |
| Acetonitrile | <49 L | <29 L | | | |
| Acrylonitrile | <32 L | <15 L | | | |
| Chlorodifluoromethane | <100 L | <29 L | | | |
| Cyclopentane | <84 L | <29 L | | | |
| Isobutene | <68 L | <29 L | | | |
| Isoprene | <81 L | <29 L | | | |
| Methyl vinyl ketone | <84 L | <29 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-08-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-05 1/2.9 |
| Date Analyzed: | 01/16/20 | Data File: | 011534.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 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <2 | <1.2 | 1,1,1-Trichloroethane | 18 | 3.4 |
| Dichlorodifluoromethane | 6.1 | 1.2 | Carbon tetrachloride | <1.8 | <0.29 |
| Chloromethane | <6 | <2.9 | Benzene | 3.3 | 1.0 |
| Vinyl chloride | <0.74 | <0.29 | Cyclohexane | 75 | 22 |
| 1,3-Butadiene | <0.064 | <0.029 | 1,2-Dichloropropane | 2.5 | 0.55 |
| Chloroethane | <7.7 | <2.9 | Bromodichloromethane | <0.19 | <0.029 |
| Acrolein | <2.7 | <1.2 | Trichloroethene | 1.1 | 0.20 |
| Pentane | 230 ve | 79 ve | 4-Methyl-2-pentanone | <12 | <2.9 |
| Trichlorofluoromethane | 120 | 21 | Toluene | <55 | <14 |
| 2-Propanol | 61 | 25 | 1,1,2-Trichloroethane | <0.32 | <0.058 |
| 1,1-Dichloroethene | <1.1 | <0.29 | Tetrachloroethene | <20 | <2.9 |
| trans-1,2-Dichloroethene | <1.1 | <0.29 | 1,2-Dibromoethane (EDB) | <0.22 | <0.029 |
| Methylene chloride | <250 | <72 | Ethylbenzene | 4.6 | 1.1 |
| CFC-113 | <2.2 | <0.29 | m,p-Xylene | 6.2 | 1.4 |
| Carbon disulfide | <18 | <5.8 | o-Xylene | 3.1 | 0.70 |
| 1,1-Dichloroethane | 9.5 | 2.4 | Styrene | <2.5 | <0.58 |
| cis-1,2-Dichloroethene | <1.1 | <0.29 | Benzyl chloride | <0.15 | <0.029 |
| Hexane | 29 | 8.1 | 1,3,5-Trimethylbenzene | <7.1 | <1.4 |
| Chloroform | 0.52 | 0.11 | 1,2,4-Trimethylbenzene | <7.1 | <1.4 |
| 2-Butanone (MEK) | 22 | 7.3 | Naphthalene | <0.76 | <0.14 |
| 1,2-Dichloroethane (EDC) | 0.33 | 0.081 | Hexachlorobutadiene | <0.62 | <0.058 |
| 1,2,3-Trimethylbenzene | <140 L | <29 L | | | |
| 1-Butanol | < 87L | <29 L | | | |
| Acetaldehyde | <260 L | <150 L | | | |
| Acetonitrile | <49 L | <29 L | | | |
| Acrylonitrile | <32 L | <15 L | | | |
| Chlorodifluoromethane | <100 L | <29 L | | | |
| Cyclopentane | <84 L | <29 L | | | |
| Isobutene | <68 L | <29 L | | | |
| Isoprene | <81 L | <29 L | | | |
| Methyl vinyl ketone | <84 L | <29 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-13-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-06 1/2.8 |
| Date Analyzed: | 01/16/20 | Data File: | 011535.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 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <1.9 | <1.1 | 1,1,1-Trichloroethane | <1.5 | <0.28 |
| Dichlorodifluoromethane | 2.7 | 0.54 | Carbon tetrachloride | <1.8 | <0.28 |
| Chloromethane | <5.8 | <2.8 | Benzene | <0.89 | <0.28 |
| Vinyl chloride | <0.72 | <0.28 | Cyclohexane | <19 | <5.6 |
| 1,3-Butadiene | <0.062 | <0.028 | 1,2-Dichloropropane | <0.65 | <0.14 |
| Chloroethane | <7.4 | <2.8 | Bromodichloromethane | <0.19 | <0.028 |
| Acrolein | <2.6 | <1.1 | Trichloroethene | <0.75 | <0.14 |
| Pentane | <8.3 | <2.8 | 4-Methyl-2-pentanone | <11 | <2.8 |
| Trichlorofluoromethane | 10 | 1.8 | Toluene | <53 | <14 |
| 2-Propanol | 140 | 57 | 1,1,2-Trichloroethane | <0.31 | <0.056 |
| 1,1-Dichloroethene | <1.1 | <0.28 | Tetrachloroethene | <19 | <2.8 |
| trans-1,2-Dichloroethene | <1.1 | <0.28 | 1,2-Dibromoethane (EDB) | <0.22 | <0.028 |
| Methylene chloride | <240 | <70 | Ethylbenzene | <1.2 | <0.28 |
| CFC-113 | <2.1 | <0.28 | m,p-Xylene | <2.4 | <0.56 |
| Carbon disulfide | <17 | <5.6 | o-Xylene | <1.2 | <0.28 |
| 1,1-Dichloroethane | <1.1 | <0.28 | Styrene | <2.4 | <0.56 |
| cis-1,2-Dichloroethene | <1.1 | <0.28 | Benzyl chloride | <0.14 | <0.028 |
| Hexane | <9.9 | <2.8 | 1,3,5-Trimethylbenzene | <6.9 | <1.4 |
| Chloroform | 1.1 | 0.22 | 1,2,4-Trimethylbenzene | <6.9 | <1.4 |
| 2-Butanone (MEK) | <8.3 | <2.8 | Naphthalene | <0.73 | <0.14 |
| 1,2-Dichloroethane (EDC) | <0.11 | <0.028 | Hexachlorobutadiene | <0.6 | <0.056 |
| 1,2,3-Trimethylbenzene | <140 L | <28 L | | | |
| 1-Butanol | <84 L | <28 L | | | |
| Acetaldehyde | <250 L | <140 L | | | |
| Acetonitrile | <48 L | <28 L | | | |
| Acrylonitrile | <31 L | <14 L | | | |
| Chlorodifluoromethane | <98 L | <28 L | | | |
| Cyclopentane | <81 L | <28 L | | | |
| Isobutene | <64 L | <28 L | | | |
| Isoprene | <78 L | <28 L | | | |
| Methyl vinyl ketone | <81 L | <28 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-12-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-07 1/2.8 |
| Date Analyzed: | 01/16/20 | Data File: | 011536.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 109 | 70 | 130 |

| Compounds: | Concentration ug/m3 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <1.9 | <1.1 | 1,1,1-Trichloroethane | <1.5 | <0.28 |
| Dichlorodifluoromethane | 2.4 | 0.49 | Carbon tetrachloride | <1.8 | <0.28 |
| Chloromethane | <5.8 | <2.8 | Benzene | <0.89 | <0.28 |
| Vinyl chloride | <0.72 | <0.28 | Cyclohexane | <19 | <5.6 |
| 1,3-Butadiene | <0.062 | <0.028 | 1,2-Dichloropropane | <0.65 | <0.14 |
| Chloroethane | <7.4 | <2.8 | Bromodichloromethane | <0.19 | <0.028 |
| Acrolein | <2.6 | <1.1 | Trichloroethene | <0.75 | <0.14 |
| Pentane | <8.3 | <2.8 | 4-Methyl-2-pentanone | <11 | <2.8 |
| Trichlorofluoromethane | <6.3 | <1.1 | Toluene | <53 | <14 |
| 2-Propanol | 190 ve | 79 ve | 1,1,2-Trichloroethane | <0.31 | <0.056 |
| 1,1-Dichloroethene | <1.1 | <0.28 | Tetrachloroethene | <19 | <2.8 |
| trans-1,2-Dichloroethene | <1.1 | <0.28 | 1,2-Dibromoethane (EDB) | <0.22 | <0.028 |
| Methylene chloride | <240 | <70 | Ethylbenzene | <1.2 | <0.28 |
| CFC-113 | <2.1 | <0.28 | m,p-Xylene | <2.4 | <0.56 |
| Carbon disulfide | <17 | <5.6 | o-Xylene | <1.2 | <0.28 |
| 1,1-Dichloroethane | <1.1 | <0.28 | Styrene | <2.4 | <0.56 |
| cis-1,2-Dichloroethene | <1.1 | <0.28 | Benzyl chloride | <0.14 | <0.028 |
| Hexane | <9.9 | <2.8 | 1,3,5-Trimethylbenzene | <6.9 | <1.4 |
| Chloroform | 1.1 | 0.22 | 1,2,4-Trimethylbenzene | <6.9 | <1.4 |
| 2-Butanone (MEK) | <8.3 | <2.8 | Naphthalene | <0.73 | <0.14 |
| 1,2-Dichloroethane (EDC) | <0.11 | <0.028 | Hexachlorobutadiene | <0.6 | <0.056 |
| 1,2,3-Trimethylbenzene | <140 L | <28 L | | | |
| 1-Butanol | <84 L | <28 L | | | |
| Acetaldehyde | <250 L | <140 L | | | |
| Acetonitrile | <48 L | <28 L | | | |
| Acrylonitrile | <31 L | <14 L | | | |
| Chlorodifluoromethane | <98 L | <28 L | | | |
| Cyclopentane | <81 L | <28 L | | | |
| Isobutene | <64 L | <28 L | | | |
| Isoprene | <78 L | <28 L | | | |
| Methyl vinyl ketone | <81 L | <28 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-14-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-08 1/2.8 |
| Date Analyzed: | 01/17/20 | Data File: | 011629.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 103 | 70 | 130 |

| Compounds: | Concentration ug/m3 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <1.9 | <1.1 | 1,1,1-Trichloroethane | <1.5 | <0.28 |
| Dichlorodifluoromethane | 15 | 3.0 | Carbon tetrachloride | <1.8 | <0.28 |
| Chloromethane | <5.8 | <2.8 | Benzene | <0.89 | <0.28 |
| Vinyl chloride | <0.72 | <0.28 | Cyclohexane | <19 | <5.6 |
| 1,3-Butadiene | <0.062 | <0.028 | 1,2-Dichloropropane | <0.65 | <0.14 |
| Chloroethane | <7.4 | <2.8 | Bromodichloromethane | <0.19 | <0.028 |
| Acrolein | <2.6 | <1.1 | Trichloroethene | <0.75 | <0.14 |
| Pentane | <8.3 | <2.8 | 4-Methyl-2-pentanone | <11 | <2.8 |
| Trichlorofluoromethane | <6.3 | <1.1 | Toluene | <53 | <14 |
| 2-Propanol | <24 | <9.8 | 1,1,2-Trichloroethane | <0.31 | <0.056 |
| 1,1-Dichloroethene | <1.1 | <0.28 | Tetrachloroethene | <19 | <2.8 |
| trans-1,2-Dichloroethene | <1.1 | <0.28 | 1,2-Dibromoethane (EDB) | <0.22 | <0.028 |
| Methylene chloride | <240 | <70 | Ethylbenzene | <1.2 | <0.28 |
| CFC-113 | <2.1 | <0.28 | m,p-Xylene | <2.4 | <0.56 |
| Carbon disulfide | <17 | <5.6 | o-Xylene | <1.2 | <0.28 |
| 1,1-Dichloroethane | <1.1 | <0.28 | Styrene | <2.4 | <0.56 |
| cis-1,2-Dichloroethene | <1.1 | <0.28 | Benzyl chloride | <0.14 | <0.028 |
| Hexane | <9.9 | <2.8 | 1,3,5-Trimethylbenzene | <6.9 | <1.4 |
| Chloroform | 0.18 | 0.036 | 1,2,4-Trimethylbenzene | <6.9 | <1.4 |
| 2-Butanone (MEK) | <8.3 | <2.8 | Naphthalene | <0.73 | <0.14 |
| 1,2-Dichloroethane (EDC) | <0.11 | <0.028 | Hexachlorobutadiene | <0.6 | <0.056 |
| 1,2,3-Trimethylbenzene | <140 L | <28 L | | | |
| 1-Butanol | <84 L | <28 L | | | |
| Acetaldehyde | <250 L | <140 L | | | |
| Acetonitrile | <48 L | <28 L | | | |
| Acrylonitrile | <31 L | <14 L | | | |
| Chlorodifluoromethane | <98 L | <28 L | | | |
| Cyclopentane | <81 L | <28 L | | | |
| Isobutene | <64 L | <28 L | | | |
| Isoprene | <78 L | <28 L | | | |
| Methyl vinyl ketone | <81 L | <28 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-10-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-09 1/2.8 |
| Date Analyzed: | 01/17/20 | Data File: | 011637.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 110 | 70 | 130 |

| Compounds: | Concentration ug/m3 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <1.9 | <1.1 | 1,1,1-Trichloroethane | <1.5 | <0.28 |
| Dichlorodifluoromethane | 2.8 | 0.57 | Carbon tetrachloride | <1.8 | <0.28 |
| Chloromethane | <5.8 | <2.8 | Benzene | <0.89 | <0.28 |
| Vinyl chloride | <0.72 | <0.28 | Cyclohexane | <19 | <5.6 |
| 1,3-Butadiene | <0.062 | <0.028 | 1,2-Dichloropropane | <0.65 | <0.14 |
| Chloroethane | <7.4 | <2.8 | Bromodichloromethane | <0.19 | <0.028 |
| Acrolein | <2.6 | <1.1 | Trichloroethene | <0.75 | <0.14 |
| Pentane | <8.3 | <2.8 | 4-Methyl-2-pentanone | <11 | <2.8 |
| Trichlorofluoromethane | 14 | 2.6 | Toluene | <53 | <14 |
| 2-Propanol | 69 | 28 | 1,1,2-Trichloroethane | <0.31 | <0.056 |
| 1,1-Dichloroethene | <1.1 | <0.28 | Tetrachloroethene | <19 | <2.8 |
| trans-1,2-Dichloroethene | <1.1 | <0.28 | 1,2-Dibromoethane (EDB) | <0.22 | <0.028 |
| Methylene chloride | <240 | <70 | Ethylbenzene | <1.2 | <0.28 |
| CFC-113 | <2.1 | <0.28 | m,p-Xylene | <2.4 | <0.56 |
| Carbon disulfide | <17 | <5.6 | o-Xylene | <1.2 | <0.28 |
| 1,1-Dichloroethane | <1.1 | <0.28 | Styrene | <2.4 | <0.56 |
| cis-1,2-Dichloroethene | <1.1 | <0.28 | Benzyl chloride | <0.14 | <0.028 |
| Hexane | <9.9 | <2.8 | 1,3,5-Trimethylbenzene | <6.9 | <1.4 |
| Chloroform | 0.97 | 0.20 | 1,2,4-Trimethylbenzene | <6.9 | <1.4 |
| 2-Butanone (MEK) | <8.3 | <2.8 | Naphthalene | <0.73 | <0.14 |
| 1,2-Dichloroethane (EDC) | <0.11 | <0.028 | Hexachlorobutadiene | <0.6 | <0.056 |
| 1,2,3-Trimethylbenzene | <140 L | <28 L | | | |
| 1-Butanol | <84 L | <28 L | | | |
| Acetaldehyde | <250 L | <140 L | | | |
| Acetonitrile | <48 L | <28 L | | | |
| Acrylonitrile | <31 L | <14 L | | | |
| Chlorodifluoromethane | <98 L | <28 L | | | |
| Cyclopentane | <81 L | <28 L | | | |
| Isobutene | <64 L | <28 L | | | |
| Isoprene | <78 L | <28 L | | | |
| Methyl vinyl ketone | <81 L | <28 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-09-011320 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-10 1/2.8 |
| Date Analyzed: | 01/17/20 | Data File: | 011630.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 | <1.9 | <1.1 | 1,1,1-Trichloroethane | <1.5 | <0.28 |
| Dichlorodifluoromethane | 2.4 | 0.48 | Carbon tetrachloride | <1.8 | <0.28 |
| Chloromethane | <5.8 | <2.8 | Benzene | <0.89 | <0.28 |
| Vinyl chloride | <0.72 | <0.28 | Cyclohexane | <19 | <5.6 |
| 1,3-Butadiene | <0.062 | <0.028 | 1,2-Dichloropropane | <0.65 | <0.14 |
| Chloroethane | <7.4 | <2.8 | Bromodichloromethane | <0.19 | <0.028 |
| Acrolein | <2.6 | <1.1 | Trichloroethene | <0.75 | <0.14 |
| Pentane | <8.3 | <2.8 | 4-Methyl-2-pentanone | <11 | <2.8 |
| Trichlorofluoromethane | <6.3 | <1.1 | Toluene | <53 | <14 |
| 2-Propanol | 98 | 40 | 1,1,2-Trichloroethane | <0.31 | <0.056 |
| 1,1-Dichloroethene | <1.1 | <0.28 | Tetrachloroethene | <19 | <2.8 |
| trans-1,2-Dichloroethene | <1.1 | <0.28 | 1,2-Dibromoethane (EDB) | <0.22 | <0.028 |
| Methylene chloride | <240 | <70 | Ethylbenzene | <1.2 | <0.28 |
| CFC-113 | <2.1 | <0.28 | m,p-Xylene | <2.4 | <0.56 |
| Carbon disulfide | <17 | <5.6 | o-Xylene | <1.2 | <0.28 |
| 1,1-Dichloroethane | <1.1 | <0.28 | Styrene | <2.4 | <0.56 |
| cis-1,2-Dichloroethene | <1.1 | <0.28 | Benzyl chloride | <0.14 | <0.028 |
| Hexane | <9.9 | <2.8 | 1,3,5-Trimethylbenzene | <6.9 | <1.4 |
| Chloroform | 1.0 | 0.21 | 1,2,4-Trimethylbenzene | <6.9 | <1.4 |
| 2-Butanone (MEK) | <8.3 | <2.8 | Naphthalene | <0.73 | <0.14 |
| 1,2-Dichloroethane (EDC) | <0.11 | <0.028 | Hexachlorobutadiene | <0.6 | <0.056 |
| 1,2,3-Trimethylbenzene | <140 L | <28 L | | | |
| 1-Butanol | <84 L | <28 L | | | |
| Acetaldehyde | <250 L | <140 L | | | |
| Acetonitrile | <48 L | <28 L | | | |
| Acrylonitrile | <31 L | <14 L | | | |
| Chlorodifluoromethane | <98 L | <28 L | | | |
| Cyclopentane | <81 L | <28 L | | | |
| Isobutene | <64 L | <28 L | | | |
| Isoprene | <78 L | <28 L | | | |
| Methyl vinyl ketone | <81 L | <28 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | Ambient | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-11 |
| Date Analyzed: | 01/15/20 | Data File: | 011520.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 | <0.69 | <0.4 | 1,1,1-Trichloroethane | <0.55 | <0.1 |
| Dichlorodifluoromethane | 2.5 | 0.50 | Carbon tetrachloride | <0.63 | <0.1 |
| Chloromethane | <2.1 | <1 | Benzene | 0.63 | 0.20 |
| Vinyl chloride | <0.26 | <0.1 | Cyclohexane | <6.9 | <2 |
| 1,3-Butadiene | <0.022 | <0.01 | 1,2-Dichloropropane | <0.23 | <0.05 |
| Chloroethane | <2.6 | <1 | Bromodichloromethane | 0.074 | 0.011 |
| Acrolein | <0.92 | <0.4 | Trichloroethene | <0.27 | <0.05 |
| Pentane | 4.3 | 1.5 | 4-Methyl-2-pentanone | <4.1 | <1 |
| Trichlorofluoromethane | <2.2 | <0.4 | Toluene | <19 | <5 |
| 2-Propanol | <8.6 | <3.5 | 1,1,2-Trichloroethane | <0.11 | <0.02 |
| 1,1-Dichloroethene | <0.4 | <0.1 | Tetrachloroethene | <6.8 | <1 |
| trans-1,2-Dichloroethene | <0.4 | <0.1 | 1,2-Dibromoethane (EDB) | <0.077 | <0.01 |
| Methylene chloride | <87 | <25 | Ethylbenzene | <0.43 | <0.1 |
| CFC-113 | <0.77 | <0.1 | m,p-Xylene | <0.87 | <0.2 |
| Carbon disulfide | <6.2 | <2 | o-Xylene | <0.43 | <0.1 |
| 1,1-Dichloroethane | <0.4 | <0.1 | Styrene | <0.85 | <0.2 |
| cis-1,2-Dichloroethene | <0.4 | <0.1 | Benzyl chloride | 0.057 | 0.011 |
| Hexane | <3.5 | <1 | 1,3,5-Trimethylbenzene | <2.5 | <0.5 |
| Chloroform | 0.12 | 0.024 | 1,2,4-Trimethylbenzene | <2.5 | <0.5 |
| 2-Butanone (MEK) | <2.9 | <1 | Naphthalene | 0.15 j | 0.029 j |
| 1,2-Dichloroethane (EDC) | 0.12 | 0.029 | Hexachlorobutadiene | 0.21 | 0.020 |
| 1,2,3-Trimethylbenzene | <49 L | <10 L | | | |
| 1-Butanol | <30 L | <10 L | | | |
| Acetaldehyde | <90 L | <50 L | | | |
| Acetonitrile | <17 L | <10 L | | | |
| Acrylonitrile | <11 L | <5 L | | | |
| Chlorodifluoromethane | <35 L | <10 L | | | |
| Cyclopentane | <29 L | <10 L | | | |
| Isobutene | <23 L | <10 L | | | |
| Isoprene | <28 L | <10 L | | | |
| Methyl vinyl ketone | <29 L | <10 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-B2 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-12 1/2.7 |
| Date Analyzed: | 01/16/20 | Data File: | 011521.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 83 | 70 | 130 |

| Compounds: | Concentration ug/m3 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <1.9 | <1.1 | 1,1,1-Trichloroethane | <1.5 | <0.27 |
| Dichlorodifluoromethane | 2.6 | 0.52 | Carbon tetrachloride | <1.7 | <0.27 |
| Chloromethane | <5.6 | <2.7 | Benzene | <0.86 | <0.27 |
| Vinyl chloride | <0.69 | <0.27 | Cyclohexane | <19 | <5.4 |
| 1,3-Butadiene | <0.059 | <0.027 | 1,2-Dichloropropane | <0.62 | <0.13 |
| Chloroethane | <7.1 | <2.7 | Bromodichloromethane | <0.18 | <0.027 |
| Acrolein | <2.5 | <1.1 | Trichloroethene | <0.73 | <0.13 |
| Pentane | 120 | 39 | 4-Methyl-2-pentanone | <11 | <2.7 |
| Trichlorofluoromethane | <6.1 | <1.1 | Toluene | <51 | <13 |
| 2-Propanol | <23 | <9.4 | 1,1,2-Trichloroethane | <0.29 | <0.054 |
| 1,1-Dichloroethene | <1.1 | <0.27 | Tetrachloroethene | <18 | <2.7 |
| trans-1,2-Dichloroethene | <1.1 | <0.27 | 1,2-Dibromoethane (EDB) | <0.21 | <0.027 |
| Methylene chloride | <230 | <67 | Ethylbenzene | <1.2 | <0.27 |
| CFC-113 | <2.1 | <0.27 | m,p-Xylene | <2.3 | <0.54 |
| Carbon disulfide | <17 | <5.4 | o-Xylene | <1.2 | <0.27 |
| 1,1-Dichloroethane | <1.1 | <0.27 | Styrene | <2.3 | <0.54 |
| cis-1,2-Dichloroethene | <1.1 | <0.27 | Benzyl chloride | <0.14 | <0.027 |
| Hexane | <9.5 | <2.7 | 1,3,5-Trimethylbenzene | <6.6 | <1.3 |
| Chloroform | <0.13 | <0.027 | 1,2,4-Trimethylbenzene | <6.6 | <1.3 |
| 2-Butanone (MEK) | <8 | <2.7 | Naphthalene | <0.2 j | <0.0.38 j |
| 1,2-Dichloroethane (EDC) | <0.11 | <0.027 | Hexachlorobutadiene | <0.58 | <0.054 |
| 1,2,3-Trimethylbenzene | <130 L | <27 L | | | |
| 1-Butanol | <81 L | <27 L | | | |
| Acetaldehyde | <240 L | <130 L | | | |
| Acetonitrile | <46 L | <27 L | | | |
| Acrylonitrile | <30 L | <14 L | | | |
| Chlorodifluoromethane | <95 L | <27 L | | | |
| Cyclopentane | <78 L | <27 L | | | |
| Isobutene | <62 L | <27 L | | | |
| Isoprene | <76 L | <27 L | | | |
| Methyl vinyl ketone | <78 L | <27 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-B1 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-13 1/1.2 |
| Date Analyzed: | 01/16/20 | Data File: | 011522.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 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <0.83 | <0.48 | 1,1,1-Trichloroethane | <0.65 | <0.12 |
| Dichlorodifluoromethane | 2.4 | 0.48 | Carbon tetrachloride | <0.75 | <0.12 |
| Chloromethane | <2.5 | <1.2 | Benzene | 0.50 | 0.16 |
| Vinyl chloride | <0.31 | <0.12 | Cyclohexane | <8.3 | <2.4 |
| 1,3-Butadiene | <0.026 | <0.012 | 1,2-Dichloropropane | <0.28 | <0.06 |
| Chloroethane | <3.2 | <1.2 | Bromodichloromethane | <0.08 | <0.012 |
| Acrolein | <1.1 | <0.48 | Trichloroethene | <0.32 | <0.06 |
| Pentane | 110 ve | 39 ve | 4-Methyl-2-pentanone | <4.9 | <1.2 |
| Trichlorofluoromethane | <2.7 | <0.48 | Toluene | <23 | <6 |
| 2-Propanol | 21 | 8.5 | 1,1,2-Trichloroethane | <0.13 | <0.024 |
| 1,1-Dichloroethene | <0.48 | <0.12 | Tetrachloroethene | <8.1 | <1.2 |
| trans-1,2-Dichloroethene | <0.48 | <0.12 | 1,2-Dibromoethane (EDB) | <0.092 | <0.012 |
| Methylene chloride | <100 | <30 | Ethylbenzene | <0.52 | <0.12 |
| CFC-113 | <0.92 | <0.12 | m,p-Xylene | <1 | <0.24 |
| Carbon disulfide | <7.5 | <2.4 | o-Xylene | <0.52 | <0.12 |
| 1,1-Dichloroethane | <0.49 | <0.12 | Styrene | <1 | <0.24 |
| cis-1,2-Dichloroethene | <0.48 | <0.12 | Benzyl chloride | <0.062 | <0.012 |
| Hexane | <4.2 | <1.2 | 1,3,5-Trimethylbenzene | <2.9 | <0.6 |
| Chloroform | 0.10 | 0.020 | 1,2,4-Trimethylbenzene | <2.9 | <0.6 |
| 2-Butanone (MEK) | <3.5 | <1.2 | Naphthalene | <0.088 j | <0.017 j |
| 1,2-Dichloroethane (EDC) | 0.087 | 0.022 | Hexachlorobutadiene | <0.26 | <0.024 |
| 1,2,3-Trimethylbenzene | <59 L | <12 L | | | |
| 1-Butanol | <36 L | <12 L | | | |
| Acetaldehyde | <110 L | <60 L | | | |
| Acetonitrile | <20 L | <12 L | | | |
| Acrylonitrile | <13 L | <5 L | | | |
| Chlorodifluoromethane | <42 L | <12 L | | | |
| Cyclopentane | <34 L | <12 L | | | |
| Isobutene | <28 L | <12 L | | | |
| Isoprene | <34 L | <12 L | | | |
| Methyl vinyl ketone | <35 L | <12 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-B3 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-14 |
| Date Analyzed: | 01/16/20 | Data File: | 011523.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 101 | 70 | 130 |

| Compounds: | Concentration ug/m3 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <0.69 | <0.4 | 1,1,1-Trichloroethane | <0.55 | <0.1 |
| Dichlorodifluoromethane | 2.5 | 0.50 | Carbon tetrachloride | <0.63 | <0.1 |
| Chloromethane | <2.1 | <1 | Benzene | 0.51 | 0.16 |
| Vinyl chloride | <0.26 | <0.1 | Cyclohexane | <6.9 | <2 |
| 1,3-Butadiene | <0.022 | <0.01 | 1,2-Dichloropropane | <0.23 | <0.05 |
| Chloroethane | <2.6 | <1 | Bromodichloromethane | <0.067 | <0.01 |
| Acrolein | <0.92 | <0.4 | Trichloroethene | <0.27 | <0.05 |
| Pentane | 120 ve | 40 ve | 4-Methyl-2-pentanone | <4.1 | <1 |
| Trichlorofluoromethane | <2.2 | <0.4 | Toluene | <19 | <5 |
| 2-Propanol | 24 | 9.8 | 1,1,2-Trichloroethane | <0.11 | <0.02 |
| 1,1-Dichloroethene | <0.4 | <0.1 | Tetrachloroethene | <6.8 | <1 |
| trans-1,2-Dichloroethene | <0.4 | <0.1 | 1,2-Dibromoethane (EDB) | <0.077 | <0.01 |
| Methylene chloride | <87 | <25 | Ethylbenzene | <0.43 | <0.1 |
| CFC-113 | <0.77 | <0.1 | m,p-Xylene | <0.87 | <0.2 |
| Carbon disulfide | <6.2 | <2 | o-Xylene | <0.43 | <0.1 |
| 1,1-Dichloroethane | <0.4 | <0.1 | Styrene | <0.85 | <0.2 |
| cis-1,2-Dichloroethene | <0.4 | <0.1 | Benzyl chloride | <0.052 | <0.01 |
| Hexane | <3.5 | <1 | 1,3,5-Trimethylbenzene | <2.5 | <0.5 |
| Chloroform | 0.11 | 0.022 | 1,2,4-Trimethylbenzene | <2.5 | <0.5 |
| 2-Butanone (MEK) | <2.9 | <1 | Naphthalene | <0.073 j | <0.014 j |
| 1,2-Dichloroethane (EDC) | 0.089 | 0.022 | Hexachlorobutadiene | <0.21 | <0.02 |
| 1,2,3-Trimethylbenzene | <49 L | <10 L | | | |
| 1-Butanol | <30 L | <10 L | | | |
| Acetaldehyde | <90 L | <50 L | | | |
| Acetonitrile | <17 L | <10 L | | | |
| Acrylonitrile | <11 L | <5 L | | | |
| Chlorodifluoromethane | <35 L | <10 L | | | |
| Cyclopentane | <29 L | <10 L | | | |
| Isobutene | <23 L | <10 L | | | |
| Isoprene | <28 L | <10 L | | | |
| Methyl vinyl ketone | <29 L | <10 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-A2 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-15 |
| Date Analyzed: | 01/16/20 | Data File: | 011524.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 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <0.69 | <0.4 | 1,1,1-Trichloroethane | <0.55 | <0.1 |
| Dichlorodifluoromethane | 2.3 | 0.47 | Carbon tetrachloride | <0.63 | <0.1 |
| Chloromethane | <2.1 | <1 | Benzene | 0.61 | 0.19 |
| Vinyl chloride | <0.26 | <0.1 | Cyclohexane | <6.9 | <2 |
| 1,3-Butadiene | <0.022 | <0.01 | 1,2-Dichloropropane | 0.26 | 0.056 |
| Chloroethane | <2.6 | <1 | Bromodichloromethane | <0.067 | <0.01 |
| Acrolein | <0.92 | <0.4 | Trichloroethene | <0.27 | <0.05 |
| Pentane | 120 ve | 40 ve | 4-Methyl-2-pentanone | <4.1 | <1 |
| Trichlorofluoromethane | <2.2 | <0.4 | Toluene | <19 | <5 |
| 2-Propanol | 54 | 22 | 1,1,2-Trichloroethane | <0.11 | <0.02 |
| 1,1-Dichloroethene | <0.4 | <0.1 | Tetrachloroethene | <6.8 | <1 |
| trans-1,2-Dichloroethene | 0.65 | 0.16 | 1,2-Dibromoethane (EDB) | <0.077 | <0.01 |
| Methylene chloride | <87 | <25 | Ethylbenzene | <0.43 | <0.1 |
| CFC-113 | <0.77 | <0.1 | m,p-Xylene | <0.87 | <0.2 |
| Carbon disulfide | <6.2 | <2 | o-Xylene | <0.43 | <0.1 |
| 1,1-Dichloroethane | <0.4 | <0.1 | Styrene | <0.85 | <0.2 |
| cis-1,2-Dichloroethene | <0.4 | <0.1 | Benzyl chloride | <0.052 | <0.01 |
| Hexane | <3.5 | <1 | 1,3,5-Trimethylbenzene | <2.5 | <0.5 |
| Chloroform | 0.39 | 0.080 | 1,2,4-Trimethylbenzene | <2.5 | <0.5 |
| 2-Butanone (MEK) | 21 | 7.3 | Naphthalene | 0.073 j | 0.014 j |
| 1,2-Dichloroethane (EDC) | 0.097 | 0.024 | Hexachlorobutadiene | <0.21 | <0.02 |
| 1,2,3-Trimethylbenzene | <49 L | <10 L | | | |
| 1-Butanol | <30 L | <10 L | | | |
| Acetaldehyde | <90 L | <50 L | | | |
| Acetonitrile | <17 L | <10 L | | | |
| Acrylonitrile | <11 L | <5 L | | | |
| Chlorodifluoromethane | <35 L | <10 L | | | |
| Cyclopentane | <29 L | <10 L | | | |
| Isobutene | <23 L | <10 L | | | |
| Isoprene | <28 L | <10 L | | | |
| Methyl vinyl ketone | <29 L | <10 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-A4 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-16 |
| Date Analyzed: | 01/16/20 | Data File: | 011525.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 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <0.69 | <0.4 | 1,1,1-Trichloroethane | <0.55 | <0.1 |
| Dichlorodifluoromethane | 2.4 | 0.49 | Carbon tetrachloride | <0.63 | <0.1 |
| Chloromethane | <2.1 | <1 | Benzene | 0.66 | 0.21 |
| Vinyl chloride | <0.26 | <0.1 | Cyclohexane | <6.9 | <2 |
| 1,3-Butadiene | <0.022 | <0.01 | 1,2-Dichloropropane | 0.25 | 0.054 |
| Chloroethane | <2.6 | <1 | Bromodichloromethane | <0.067 | <0.01 |
| Acrolein | <0.92 | <0.4 | Trichloroethene | <0.27 | <0.05 |
| Pentane | 120 ve | 40 ve | 4-Methyl-2-pentanone | <4.1 | <1 |
| Trichlorofluoromethane | <2.2 | <0.4 | Toluene | <19 | <5 |
| 2-Propanol | 46 | 19 | 1,1,2-Trichloroethane | <0.11 | <0.02 |
| 1,1-Dichloroethene | <0.4 | <0.1 | Tetrachloroethene | <6.8 | <1 |
| trans-1,2-Dichloroethene | 0.71 | 0.18 | 1,2-Dibromoethane (EDB) | <0.077 | <0.01 |
| Methylene chloride | <87 | <25 | Ethylbenzene | <0.43 | <0.1 |
| CFC-113 | <0.77 | <0.1 | m,p-Xylene | <0.87 | <0.2 |
| Carbon disulfide | <6.2 | <2 | o-Xylene | <0.43 | <0.1 |
| 1,1-Dichloroethane | <0.4 | <0.1 | Styrene | <0.85 | <0.2 |
| cis-1,2-Dichloroethene | <0.4 | <0.1 | Benzyl chloride | <0.052 | <0.01 |
| Hexane | <3.5 | <1 | 1,3,5-Trimethylbenzene | <2.5 | <0.5 |
| Chloroform | 0.41 | 0.084 | 1,2,4-Trimethylbenzene | <2.5 | <0.5 |
| 2-Butanone (MEK) | 23 | 7.8 | Naphthalene | <0.073 j | <0.014 j |
| 1,2-Dichloroethane (EDC) | 0.093 | 0.023 | Hexachlorobutadiene | <0.21 | <0.02 |
| 1,2,3-Trimethylbenzene | <49 L | <10 L | | | |
| 1-Butanol | <30 L | <10 L | | | |
| Acetaldehyde | <90 L | <50 L | | | |
| Acetonitrile | <17 L | <10 L | | | |
| Acrylonitrile | <11 L | <5 L | | | |
| Chlorodifluoromethane | <35 L | <10 L | | | |
| Cyclopentane | <29 L | <10 L | | | |
| Isobutene | <23 L | <10 L | | | |
| Isoprene | <28 L | <10 L | | | |
| Methyl vinyl ketone | <29 L | <10 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-A5 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-17 |
| Date Analyzed: | 01/16/20 | Data File: | 011526.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 | <0.69 | <0.4 | 1,1,1-Trichloroethane | <0.55 | <0.1 |
| Dichlorodifluoromethane | 2.5 | 0.50 | Carbon tetrachloride | <0.63 | <0.1 |
| Chloromethane | <2.1 | <1 | Benzene | 0.67 | 0.21 |
| Vinyl chloride | <0.26 | <0.1 | Cyclohexane | <6.9 | <2 |
| 1,3-Butadiene | <0.022 | <0.01 | 1,2-Dichloropropane | <0.23 | <0.05 |
| Chloroethane | <2.6 | <1 | Bromodichloromethane | <0.067 | <0.01 |
| Acrolein | <0.92 | <0.4 | Trichloroethene | <0.27 | <0.05 |
| Pentane | 56 | 19 | 4-Methyl-2-pentanone | <4.1 | <1 |
| Trichlorofluoromethane | <2.2 | <0.4 | Toluene | <19 | <5 |
| 2-Propanol | 31 | 12 | 1,1,2-Trichloroethane | <0.11 | <0.02 |
| 1,1-Dichloroethene | <0.4 | <0.1 | Tetrachloroethene | <6.8 | <1 |
| trans-1,2-Dichloroethene | 1.9 | 0.48 | 1,2-Dibromoethane (EDB) | <0.077 | <0.01 |
| Methylene chloride | <87 | <25 | Ethylbenzene | <0.43 | <0.1 |
| CFC-113 | <0.77 | <0.1 | m,p-Xylene | 1.0 | 0.23 |
| Carbon disulfide | <6.2 | <2 | o-Xylene | <0.43 | <0.1 |
| 1,1-Dichloroethane | <0.4 | <0.1 | Styrene | <0.85 | <0.2 |
| cis-1,2-Dichloroethene | <0.4 | <0.1 | Benzyl chloride | <0.052 | <0.01 |
| Hexane | <3.5 | <1 | 1,3,5-Trimethylbenzene | <2.5 | <0.5 |
| Chloroform | 0.86 | 0.18 | 1,2,4-Trimethylbenzene | <2.5 | <0.5 |
| 2-Butanone (MEK) | 16 | 5.5 | Naphthalene | 0.073 j | 0.014 j |
| 1,2-Dichloroethane (EDC) | 0.093 | 0.023 | Hexachlorobutadiene | <0.21 | <0.02 |
| 1,2,3-Trimethylbenzene | <49 L | <10 L | | | |
| 1-Butanol | <30 L | <10 L | | | |
| Acetaldehyde | <90 L | <50 L | | | |
| Acetonitrile | <17 L | <10 L | | | |
| Acrylonitrile | <11 L | <5 L | | | |
| Chlorodifluoromethane | <35 L | <10 L | | | |
| Cyclopentane | <29 L | <10 L | | | |
| Isobutene | <23 L | <10 L | | | |
| Isoprene | <28 L | <10 L | | | |
| Methyl vinyl ketone | <29 L | <10 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-A3 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-18 |
| Date Analyzed: | 01/16/20 | Data File: | 011527.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 | <0.69 | <0.4 | 1,1,1-Trichloroethane | <0.55 | <0.1 |
| Dichlorodifluoromethane | 2.4 | 0.49 | Carbon tetrachloride | <0.63 | <0.1 |
| Chloromethane | <2.1 | <1 | Benzene | 0.64 | 0.20 |
| Vinyl chloride | <0.26 | <0.1 | Cyclohexane | <6.9 | <2 |
| 1,3-Butadiene | <0.022 | <0.01 | 1,2-Dichloropropane | 0.25 | 0.055 |
| Chloroethane | <2.6 | <1 | Bromodichloromethane | <0.067 | <0.01 |
| Acrolein | <0.92 | <0.4 | Trichloroethene | <0.27 | <0.05 |
| Pentane | 130 ve | 44 ve | 4-Methyl-2-pentanone | <4.1 | <1 |
| Trichlorofluoromethane | <2.2 | <0.4 | Toluene | <19 | <5 |
| 2-Propanol | 140 ve | 59 ve | 1,1,2-Trichloroethane | <0.11 | <0.02 |
| 1,1-Dichloroethene | <0.4 | <0.1 | Tetrachloroethene | <6.8 | <1 |
| trans-1,2-Dichloroethene | 4.7 | 1.2 | 1,2-Dibromoethane (EDB) | <0.077 | <0.01 |
| Methylene chloride | <87 | <25 | Ethylbenzene | 0.46 | 0.11 |
| CFC-113 | <0.77 | <0.1 | m,p-Xylene | 1.6 | 0.36 |
| Carbon disulfide | <6.2 | <2 | o-Xylene | 0.53 | 0.12 |
| 1,1-Dichloroethane | <0.4 | <0.1 | Styrene | <0.85 | <0.2 |
| cis-1,2-Dichloroethene | <0.4 | <0.1 | Benzyl chloride | <0.052 | <0.01 |
| Hexane | 4.5 | 1.3 | 1,3,5-Trimethylbenzene | <2.5 | <0.5 |
| Chloroform | 1.9 | 0.40 | 1,2,4-Trimethylbenzene | <2.5 | <0.5 |
| 2-Butanone (MEK) | 47 | 16 | Naphthalene | 0.14 j | 0.026 j |
| 1,2-Dichloroethane (EDC) | 0.11 | 0.026 | Hexachlorobutadiene | <0.21 | <0.02 |
| 1,2,3-Trimethylbenzene | <49 L | <10 L | | | |
| 1-Butanol | <30 L | <10 L | | | |
| Acetaldehyde | <90 L | <50 L | | | |
| Acetonitrile | <17 L | <10 L | | | |
| Acrylonitrile | <11 L | <5 L | | | |
| Chlorodifluoromethane | <35 L | <10 L | | | |
| Cyclopentane | <29 L | <10 L | | | |
| Isobutene | <23 L | <10 L | | | |
| Isoprene | <28 L | <10 L | | | |
| Methyl vinyl ketone | <29 L | <10 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | IA-A1 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-19 |
| Date Analyzed: | 01/16/20 | Data File: | 011528.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 | <0.69 | <0.4 | 1,1,1-Trichloroethane | <0.55 | <0.1 |
| Dichlorodifluoromethane | 2.2 | 0.45 | Carbon tetrachloride | <0.63 | <0.1 |
| Chloromethane | <2.1 | <1 | Benzene | 0.74 | 0.23 |
| Vinyl chloride | <0.26 | <0.1 | Cyclohexane | <6.9 | <2 |
| 1,3-Butadiene | <0.022 | <0.01 | 1,2-Dichloropropane | <0.23 | <0.05 |
| Chloroethane | <2.6 | <1 | Bromodichloromethane | <0.067 | <0.01 |
| Acrolein | <0.92 | <0.4 | Trichloroethene | <0.27 | <0.05 |
| Pentane | 80 ve | 27 ve | 4-Methyl-2-pentanone | <4.1 | <1 |
| Trichlorofluoromethane | <2.2 | <0.4 | Toluene | <19 | <5 |
| 2-Propanol | 230 ve | 94 ve | 1,1,2-Trichloroethane | <0.11 | <0.02 |
| 1,1-Dichloroethene | <0.4 | <0.1 | Tetrachloroethene | <6.8 | <1 |
| trans-1,2-Dichloroethene | 2.8 | 0.71 | 1,2-Dibromoethane (EDB) | <0.077 | <0.01 |
| Methylene chloride | <87 | <25 | Ethylbenzene | 0.44 | 0.10 |
| CFC-113 | <0.77 | <0.1 | m,p-Xylene | 1.4 | 0.33 |
| Carbon disulfide | <6.2 | <2 | o-Xylene | 0.47 | 0.11 |
| 1,1-Dichloroethane | <0.4 | <0.1 | Styrene | <0.85 | <0.2 |
| cis-1,2-Dichloroethene | <0.4 | <0.1 | Benzyl chloride | <0.052 | <0.01 |
| Hexane | 4.2 | 1.2 | 1,3,5-Trimethylbenzene | <2.5 | <0.5 |
| Chloroform | 1.3 | 0.28 | 1,2,4-Trimethylbenzene | <2.5 | <0.5 |
| 2-Butanone (MEK) | 26 | 8.7 | Naphthalene | 0.2 j | 0.039 j |
| 1,2-Dichloroethane (EDC) | 0.097 | 0.024 | Hexachlorobutadiene | <0.21 | <0.02 |
| 1,2,3-Trimethylbenzene | <49 L | <10 L | | | |
| 1-Butanol | <30 L | <10 L | | | |
| Acetaldehyde | <90 L | <50 L | | | |
| Acetonitrile | <17 L | <10 L | | | |
| Acrylonitrile | <11 L | <5 L | | | |
| Chlorodifluoromethane | <35 L | <10 L | | | |
| Cyclopentane | <29 L | <10 L | | | |
| Isobutene | <23 L | <10 L | | | |
| Isoprene | <28 L | <10 L | | | |
| Methyl vinyl ketone | <29 L | <10 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-03-011420 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-20 1/2.7 |
| Date Analyzed: | 01/17/20 | Data File: | 011638.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 | <1.9 | <1.1 | 1,1,1-Trichloroethane | <1.5 | <0.27 |
| Dichlorodifluoromethane | 2.2 | 0.44 | Carbon tetrachloride | <1.7 | <0.27 |
| Chloromethane | <5.6 | <2.7 | Benzene | <0.86 | <0.27 |
| Vinyl chloride | <0.69 | <0.27 | Cyclohexane | <19 | <5.4 |
| 1,3-Butadiene | <0.06 | <0.027 | 1,2-Dichloropropane | <0.62 | <0.13 |
| Chloroethane | <7.1 | <2.7 | Bromodichloromethane | <0.18 | <0.027 |
| Acrolein | <2.5 | <1.1 | Trichloroethene | <0.73 | <0.13 |
| Pentane | <8 | <2.7 | 4-Methyl-2-pentanone | <11 | <2.7 |
| Trichlorofluoromethane | <6.1 | <1.1 | Toluene | <51 | <13 |
| 2-Propanol | 41,000 ve | 17,000 ve | 1,1,2-Trichloroethane | <0.29 | <0.054 |
| 1,1-Dichloroethene | <1.1 | <0.27 | Tetrachloroethene | <18 | <2.7 |
| trans-1,2-Dichloroethene | <1.1 | <0.27 | 1,2-Dibromoethane (EDB) | <0.21 | <0.027 |
| Methylene chloride | <230 | <67 | Ethylbenzene | <1.2 | <0.27 |
| CFC-113 | <2.1 | <0.27 | m,p-Xylene | 3.8 | 0.88 |
| Carbon disulfide | <17 | <5.4 | o-Xylene | 1.3 | 0.29 |
| 1,1-Dichloroethane | <1.1 | <0.27 | Styrene | <2.3 | <0.54 |
| cis-1,2-Dichloroethene | <1.1 | <0.27 | Benzyl chloride | <0.14 | <0.027 |
| Hexane | <9.5 | <2.7 | 1,3,5-Trimethylbenzene | <6.6 | <1.3 |
| Chloroform | 0.29 | 0.059 | 1,2,4-Trimethylbenzene | <6.6 | <1.3 |
| 2-Butanone (MEK) | 15 | 5.1 | Naphthalene | <0.71 | <0.13 |
| 1,2-Dichloroethane (EDC) | <0.11 | <0.027 | Hexachlorobutadiene | <0.58 | <0.054 |
| 1,2,3-Trimethylbenzene | <130 L | <27 L | | | |
| 1-Butanol | <81 L | <27 L | | | |
| Acetaldehyde | <240 L | <130 L | | | |
| Acetonitrile | <46 L | <27 L | | | |
| Acrylonitrile | <30 L | <14 L | | | |
| Chlorodifluoromethane | <95 L | <27 L | | | |
| Cyclopentane | <78 L | <27 L | | | |
| Isobutene | <62 L | <27 L | | | |
| Isoprene | <76 L | <27 L | | | |
| Methyl vinyl ketone | <78 L | <27 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-03-011420 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-20 1/34 |
| Date Analyzed: | 01/17/20 | Data File: | 011636.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 103 | 70 | 130 |

| Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|
| Propene | <23 | <14 |
| Dichlorodifluoromethane | <17 | <3.4 |
| Chloromethane | <70 | <34 |
| Vinyl chloride | <8.7 | <3.4 |
| 1,3-Butadiene | <0.75 | <0.34 |
| Chloroethane | <90 | <34 |
| Acrolein | <31 | <14 |
| Pentane | <100 | <34 |
| Trichlorofluoromethane | <76 | <14 |
| 2-Propanol | 140,000 ve | 57,000 ve |
| 1,1-Dichloroethene | <13 | <3.4 |
| trans-1,2-Dichloroethene | <13 | <3.4 |
| Methylene chloride | <3,000 | <850 |
| CFC-113 | <26 | <3.4 |
| Carbon disulfide | <210 | <68 |
| 1,1-Dichloroethane | <14 | <3.4 |
| cis-1,2-Dichloroethene | <13 | <3.4 |
| Hexane | <120 | <34 |
| Chloroform | <1.7 | <0.34 |
| 2-Butanone (MEK) | <100 | <34 |
| 1,2-Dichloroethane (EDC) | <1.4 | <0.34 |
| 1,2,3-Trimethylbenzene | <1,700 L | <340 L |
| 1-Butanol | <1,000 L | <340 L |
| Acetaldehyde | <3,100 L | <1700 L |
| Acetonitrile | <580 L | <340 L |
| Acrylonitrile | <370 L | <170 L |
| Chlorodifluoromethane | <1,200 L | <340 L |
| Cyclopentane | <990 L | <340 L |
| Isobutene | <780 L | <340 L |
| Isoprene | <950 L | <340 L |
| Methyl vinyl ketone | <990 L | <340 L |

| Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|
| 1,1,1-Trichloroethane | <19 | <3.4 |
| Carbon tetrachloride | <21 | <3.4 |
| Benzene | <11 | <3.4 |
| Cyclohexane | <230 | <68 |
| 1,2-Dichloropropane | <7.9 | <1.7 |
| Bromodichloromethane | <2.3 | <0.34 |
| Trichloroethene | <9.1 | <1.7 |
| 4-Methyl-2-pentanone | <140 | <34 |
| Toluene | <640 | <170 |
| 1,1,2-Trichloroethane | <3.7 | <0.68 |
| Tetrachloroethene | <230 | <34 |
| 1,2-Dibromoethane (EDB) | <2.6 | <0.34 |
| Ethylbenzene | <15 | <3.4 |
| m,p-Xylene | <30 | <6.8 |
| o-Xylene | <15 | <3.4 |
| Styrene | <29 | <6.8 |
| Benzyl chloride | <1.8 | <0.34 |
| 1,3,5-Trimethylbenzene | <84 | <17 |
| 1,2,4-Trimethylbenzene | <84 | <17 |
| Naphthalene | <8.9 | <1.7 |
| Hexachlorobutadiene | <7.3 | <0.68 |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-04-011420 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-21 1/2.7 |
| Date Analyzed: | 01/17/20 | Data File: | 011631.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 | <1.9 | <1.1 | 1,1,1-Trichloroethane | <1.5 | <0.27 |
| Dichlorodifluoromethane | 3.3 | 0.66 | Carbon tetrachloride | <1.7 | <0.27 |
| Chloromethane | <5.6 | <2.7 | Benzene | <0.86 | <0.27 |
| Vinyl chloride | <0.69 | <0.27 | Cyclohexane | <19 | <5.4 |
| 1,3-Butadiene | <0.06 | <0.027 | 1,2-Dichloropropane | <0.62 | <0.13 |
| Chloroethane | <7.1 | <2.7 | Bromodichloromethane | <0.18 | <0.027 |
| Acrolein | <2.5 | <1.1 | Trichloroethene | <0.73 | <0.13 |
| Pentane | <8 | <2.7 | 4-Methyl-2-pentanone | <11 | <2.7 |
| Trichlorofluoromethane | 43 | 7.7 | Toluene | <51 | <13 |
| 2-Propanol | 320 ve | 130 ve | 1,1,2-Trichloroethane | <0.29 | <0.054 |
| 1,1-Dichloroethene | <1.1 | <0.27 | Tetrachloroethene | <18 | <2.7 |
| trans-1,2-Dichloroethene | <1.1 | <0.27 | 1,2-Dibromoethane (EDB) | <0.21 | <0.027 |
| Methylene chloride | <230 | <67 | Ethylbenzene | <1.2 | <0.27 |
| CFC-113 | <2.1 | <0.27 | m,p-Xylene | <2.3 | <0.54 |
| Carbon disulfide | <17 | <5.4 | o-Xylene | <1.2 | <0.27 |
| 1,1-Dichloroethane | <1.1 | <0.27 | Styrene | <2.3 | <0.54 |
| cis-1,2-Dichloroethene | <1.1 | <0.27 | Benzyl chloride | <0.14 | <0.027 |
| Hexane | <9.5 | <2.7 | 1,3,5-Trimethylbenzene | <6.6 | <1.3 |
| Chloroform | 1.6 | 0.34 | 1,2,4-Trimethylbenzene | <6.6 | <1.3 |
| 2-Butanone (MEK) | <8 | <2.7 | Naphthalene | <0.71 | <0.13 |
| 1,2-Dichloroethane (EDC) | <0.11 | <0.027 | Hexachlorobutadiene | <0.58 | <0.054 |
| 1,2,3-Trimethylbenzene | <130 L | <27 L | | | |
| 1-Butanol | <81 L | <27 L | | | |
| Acetaldehyde | <240 L | <130 L | | | |
| Acetonitrile | <46 L | <27 L | | | |
| Acrylonitrile | <30 L | <14 L | | | |
| Chlorodifluoromethane | <95 L | <27 L | | | |
| Cyclopentane | <78 L | <27 L | | | |
| Isobutene | <62 L | <27 L | | | |
| Isoprene | <76 L | <27 L | | | |
| Methyl vinyl ketone | <78 L | <27 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-11-011420 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-22 1/3.1 |
| Date Analyzed: | 01/17/20 | Data File: | 011632.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 102 | 70 | 130 |

| Compounds: | Concentration ug/m3 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <2.1 | <1.2 | 1,1,1-Trichloroethane | <1.7 | <0.31 |
| Dichlorodifluoromethane | 1.8 | 0.36 | Carbon tetrachloride | <2 | <0.31 |
| Chloromethane | <6.4 | <3.1 | Benzene | 2.4 | 0.76 |
| Vinyl chloride | <0.79 | <0.31 | Cyclohexane | <21 | <6.2 |
| 1,3-Butadiene | <0.069 | <0.031 | 1,2-Dichloropropane | <0.72 | <0.15 |
| Chloroethane | <8.2 | <3.1 | Bromodichloromethane | <0.21 | <0.031 |
| Acrolein | <2.8 | <1.2 | Trichloroethene | 2.5 | 0.47 |
| Pentane | <9.1 | <3.1 | 4-Methyl-2-pentanone | <13 | <3.1 |
| Trichlorofluoromethane | <7 | <1.2 | Toluene | <58 | <15 |
| 2-Propanol | 140 | 57 | 1,1,2-Trichloroethane | <0.34 | <0.062 |
| 1,1-Dichloroethene | <1.2 | <0.31 | Tetrachloroethene | <21 | <3.1 |
| trans-1,2-Dichloroethene | <1.2 | <0.31 | 1,2-Dibromoethane (EDB) | <0.24 | <0.031 |
| Methylene chloride | <270 | <77 | Ethylbenzene | <1.3 | <0.31 |
| CFC-113 | <2.4 | <0.31 | m,p-Xylene | <2.7 | <0.62 |
| Carbon disulfide | <19 | <6.2 | o-Xylene | 1.9 | 0.44 |
| 1,1-Dichloroethane | 2.2 | 0.55 | Styrene | <2.6 | <0.62 |
| cis-1,2-Dichloroethene | 1.5 | 0.38 | Benzyl chloride | <0.16 | <0.031 |
| Hexane | <11 | <3.1 | 1,3,5-Trimethylbenzene | <7.6 | <1.5 |
| Chloroform | <0.15 | <0.031 | 1,2,4-Trimethylbenzene | <7.6 | <1.5 |
| 2-Butanone (MEK) | <9.1 | <3.1 | Naphthalene | <0.81 | <0.15 |
| 1,2-Dichloroethane (EDC) | <0.13 | <0.031 | Hexachlorobutadiene | <0.66 | <0.062 |
| 1,2,3-Trimethylbenzene | <150 L | <31 L | | | |
| 1-Butanol | <93 L | <31 L | | | |
| Acetaldehyde | <280 L | <160 L | | | |
| Acetonitrile | <53 L | <31 L | | | |
| Acrylonitrile | <34 L | <16 L | | | |
| Chlorodifluoromethane | <110 L | <31 L | | | |
| Cyclopentane | <90 L | <31 L | | | |
| Isobutene | <71 L | <31 L | | | |
| Isoprene | <87 L | <31 L | | | |
| Methyl vinyl ketone | <90 L | <31 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-110-011420 | Client: | Floyd-Snider |
| Date Received: | 01/14/20 | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | 01/13/20 | Lab ID: | 001177-23 1/2.7 |
| Date Analyzed: | 01/17/20 | Data File: | 011633.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 104 | 70 | 130 |

| Compounds: | Concentration ug/m3 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <1.9 | <1.1 | 1,1,1-Trichloroethane | <1.5 | <0.27 |
| Dichlorodifluoromethane | 1.8 | 0.37 | Carbon tetrachloride | <1.7 | <0.27 |
| Chloromethane | <5.6 | <2.7 | Benzene | 2.3 | 0.73 |
| Vinyl chloride | <0.69 | <0.27 | Cyclohexane | <19 | <5.4 |
| 1,3-Butadiene | <0.06 | <0.027 | 1,2-Dichloropropane | <0.62 | <0.13 |
| Chloroethane | <7.1 | <2.7 | Bromodichloromethane | <0.18 | <0.027 |
| Acrolein | <2.5 | <1.1 | Trichloroethene | 2.4 | 0.45 |
| Pentane | <8 | <2.7 | 4-Methyl-2-pentanone | <11 | <2.7 |
| Trichlorofluoromethane | <6.1 | <1.1 | Toluene | <51 | <13 |
| 2-Propanol | 140 | 56 | 1,1,2-Trichloroethane | <0.29 | <0.054 |
| 1,1-Dichloroethene | <1.1 | <0.27 | Tetrachloroethene | <18 | <2.7 |
| trans-1,2-Dichloroethene | <1.1 | <0.27 | 1,2-Dibromoethane (EDB) | <0.21 | <0.027 |
| Methylene chloride | <230 | <67 | Ethylbenzene | <1.2 | <0.27 |
| CFC-113 | <2.1 | <0.27 | m,p-Xylene | 2.3 | 0.54 |
| Carbon disulfide | <17 | <5.4 | o-Xylene | 2.0 | 0.45 |
| 1,1-Dichloroethane | 2.2 | 0.55 | Styrene | <2.3 | <0.54 |
| cis-1,2-Dichloroethene | 1.5 | 0.37 | Benzyl chloride | <0.14 | <0.027 |
| Hexane | <9.5 | <2.7 | 1,3,5-Trimethylbenzene | <6.6 | <1.3 |
| Chloroform | <0.13 | <0.027 | 1,2,4-Trimethylbenzene | <6.6 | <1.3 |
| 2-Butanone (MEK) | <8 | <2.7 | Naphthalene | <0.71 | <0.13 |
| 1,2-Dichloroethane (EDC) | <0.11 | <0.027 | Hexachlorobutadiene | <0.58 | <0.054 |
| 1,2,3-Trimethylbenzene | <130 L | <27 L | | | |
| 1-Butanol | <81 L | <27 L | | | |
| Acetaldehyde | <240 L | <130 L | | | |
| Acetonitrile | <46 L | <27 L | | | |
| Acrylonitrile | <30 L | <14 L | | | |
| Chlorodifluoromethane | <95 L | <27 L | | | |
| Cyclopentane | <78 L | <27 L | | | |
| Isobutene | <62 L | <27 L | | | |
| Isoprene | <76 L | <27 L | | | |
| Methyl vinyl ketone | <78 L | <27 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | Method Blank | Client: | Floyd-Snider |
| Date Received: | Not Applicable | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | Not Applicable | Lab ID: | 00-0133 mb |
| Date Analyzed: | 01/15/20 | Data File: | 011519.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 106 | 70 | 130 |

| Compounds: | Concentration ug/m3 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <0.69 | <0.4 | 1,1,1-Trichloroethane | <0.55 | <0.1 |
| Dichlorodifluoromethane | <0.49 | <0.1 | Carbon tetrachloride | <0.63 | <0.1 |
| Chloromethane | <2.1 | <1 | Benzene | <0.32 | <0.1 |
| Vinyl chloride | <0.26 | <0.1 | Cyclohexane | <6.9 | <2 |
| 1,3-Butadiene | <0.022 | <0.01 | 1,2-Dichloropropane | <0.23 | <0.05 |
| Chloroethane | <2.6 | <1 | Bromodichloromethane | <0.067 | <0.01 |
| Acrolein | <0.92 | <0.4 | Trichloroethene | <0.27 | <0.05 |
| Pentane | <3 | <1 | 4-Methyl-2-pentanone | <4.1 | <1 |
| Trichlorofluoromethane | <2.2 | <0.4 | Toluene | <19 | <5 |
| 2-Propanol | <8.6 | <3.5 | 1,1,2-Trichloroethane | <0.11 | <0.02 |
| 1,1-Dichloroethene | <0.4 | <0.1 | Tetrachloroethene | <6.8 | <1 |
| trans-1,2-Dichloroethene | <0.4 | <0.1 | 1,2-Dibromoethane (EDB) | <0.077 | <0.01 |
| Methylene chloride | <87 | <25 | Ethylbenzene | <0.43 | <0.1 |
| CFC-113 | <0.77 | <0.1 | m,p-Xylene | <0.87 | <0.2 |
| Carbon disulfide | <6.2 | <2 | o-Xylene | <0.43 | <0.1 |
| 1,1-Dichloroethane | <0.4 | <0.1 | Styrene | <0.85 | <0.2 |
| cis-1,2-Dichloroethene | <0.4 | <0.1 | Benzyl chloride | <0.052 | <0.01 |
| Hexane | <3.5 | <1 | 1,3,5-Trimethylbenzene | <2.5 | <0.5 |
| Chloroform | <0.049 | <0.01 | 1,2,4-Trimethylbenzene | <2.5 | <0.5 |
| 2-Butanone (MEK) | <2.9 | <1 | Naphthalene | <0.073 | <0.014 |
| 1,2-Dichloroethane (EDC) | <0.04 | <0.01 | Hexachlorobutadiene | <0.21 | <0.02 |
| 1,2,3-Trimethylbenzene | <49 L | <10 L | | | |
| 1-Butanol | <30 L | <10 L | | | |
| Acetaldehyde | <90 L | <50 L | | | |
| Acetonitrile | <17 L | <10 L | | | |
| Acrylonitrile | <11 L | <5 L | | | |
| Chlorodifluoromethane | <35 L | <10 L | | | |
| Cyclopentane | <29 L | <10 L | | | |
| Isobutene | <23 L | <10 L | | | |
| Isoprene | <28 L | <10 L | | | |
| Methyl vinyl ketone | <29 L | <10 L | | | |

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | Method Blank | Client: | Floyd-Snider |
| Date Received: | Not Applicable | Project: | Ave 55-Taylor Way, F&BI 001177 |
| Date Collected: | Not Applicable | Lab ID: | 00-0135 mb |
| Date Analyzed: | 01/17/20 | Data File: | 011616.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 104 | 70 | 130 |

| Compounds: | Concentration ug/m3 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | <0.69 | <0.4 | 1,1,1-Trichloroethane | <0.55 | <0.1 |
| Dichlorodifluoromethane | <0.49 | <0.1 | Carbon tetrachloride | <0.63 | <0.1 |
| Chloromethane | <2.1 | <1 | Benzene | <0.32 | <0.1 |
| Vinyl chloride | <0.26 | <0.1 | Cyclohexane | <6.9 | <2 |
| 1,3-Butadiene | <0.022 | <0.01 | 1,2-Dichloropropane | <0.23 | <0.05 |
| Chloroethane | <2.6 | <1 | Bromodichloromethane | <0.067 | <0.01 |
| Acrolein | <0.92 | <0.4 | Trichloroethene | <0.27 | <0.05 |
| Pentane | <3 | <1 | 4-Methyl-2-pentanone | <4.1 | <1 |
| Trichlorofluoromethane | <2.2 | <0.4 | Toluene | <19 | <5 |
| 2-Propanol | <8.6 | <3.5 | 1,1,2-Trichloroethane | <0.11 | <0.02 |
| 1,1-Dichloroethene | <0.4 | <0.1 | Tetrachloroethene | <6.8 | <1 |
| trans-1,2-Dichloroethene | <0.4 | <0.1 | 1,2-Dibromoethane (EDB) | <0.077 | <0.01 |
| Methylene chloride | <87 | <25 | Ethylbenzene | <0.43 | <0.1 |
| CFC-113 | <0.77 | <0.1 | m,p-Xylene | <0.87 | <0.2 |
| Carbon disulfide | <6.2 | <2 | o-Xylene | <0.43 | <0.1 |
| 1,1-Dichloroethane | <0.4 | <0.1 | Styrene | <0.85 | <0.2 |
| cis-1,2-Dichloroethene | <0.4 | <0.1 | Benzyl chloride | <0.052 | <0.01 |
| Hexane | <3.5 | <1 | 1,3,5-Trimethylbenzene | <2.5 | <0.5 |
| Chloroform | <0.049 | <0.01 | 1,2,4-Trimethylbenzene | <2.5 | <0.5 |
| 2-Butanone (MEK) | <2.9 | <1 | Naphthalene | <0.26 | <0.05 |
| 1,2-Dichloroethane (EDC) | <0.04 | <0.01 | Hexachlorobutadiene | <0.21 | <0.02 |
| 1,2,3-Trimethylbenzene | <49 L | <10 L | | | |
| 1-Butanol | <30 L | <10 L | | | |
| Acetaldehyde | <90 L | <50 L | | | |
| Acetonitrile | <17 L | <10 L | | | |
| Acrylonitrile | <11 L | <5 L | | | |
| Chlorodifluoromethane | <35 L | <10 L | | | |
| Cyclopentane | <29 L | <10 L | | | |
| Isobutene | <23 L | <10 L | | | |
| Isoprene | <28 L | <10 L | | | |
| Methyl vinyl ketone | <29 L | <10 L | | | |

Date of Report: 01/22/20
Date Received: 01/14/20
Project: Ave 55-Taylor Way 1514 Taylor Way Tacoma, WA, F&BI 001177

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

Laboratory Code: 001177-01 1/2.9 (Duplicate)

| Analyte | Reporting Units | Sample Result | Duplicate Result | RPD (Limit 30) |
|---|---|---|---|---|
| APH EC5-8 aliphatics | ug/m3 | 710 | 700 | 1 |
| APH EC9-12 aliphatics | ug/m3 | 380 | 420 | 10 |
| APH EC9-10 aromatics | ug/m3 | <72 | <72 | nm |

Laboratory Code: Laboratory Control Sample

| Analyte | Reporting Units | Spike Level | Percent Recovery LCS | Acceptance Criteria |
|---|---|---|---|---|
| APH EC5-8 aliphatics | ug/m3 | 23 | 86 | 70-130 |
| APH EC9-12 aliphatics | ug/m3 | 23 | 122 | 70-130 |
| APH EC9-10 aromatics | ug/m3 | 23 | 108 | 70-130 |

Date of Report: 01/22/20
Date Received: 01/14/20
Project: Ave 55-Taylor Way 1514 Taylor Way Tacoma, WA, F&BI 001177

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

Laboratory Code: 001177-23 1/2.7 (Duplicate)

| Analyte | Reporting Units | Sample Result | Duplicate Result | RPD (Limit 30) |
|---|---|---|---|---|
| APH EC5-8 aliphatics | ug/m3 | 620 | 660 | 6 |
| APH EC9-12 aliphatics | ug/m3 | 1,600 | 1,600 | 0 |
| APH EC9-10 aromatics | ug/m3 | <67 | <67 | nm |

Laboratory Code: Laboratory Control Sample

| Analyte | Reporting Units | Spike Level | Percent Recovery LCS | Acceptance Criteria |
|---|---|---|---|---|
| APH EC5-8 aliphatics | ug/m3 | 23 | 87 | 70-130 |
| APH EC9-12 aliphatics | ug/m3 | 23 | 120 | 70-130 |
| APH EC9-10 aromatics | ug/m3 | 23 | 103 | 70-130 |

Date of Report: 01/22/20
Date Received: 01/14/20
Project: Ave 55-Taylor Way 1514 Taylor Way Tacoma, WA, F&BI 001177

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

Laboratory Code: 001177-01 1/2.9 (Duplicate)

| Analyte | Reporting Units | Sample Result | Duplicate Result | RPD (Limit 30) |
|---|---|---|---|---|
| Propene | ppbv | 11 | 10 | 10 |
| Dichlorodifluoromethane | ppbv | 2.5 | 2.4 | 3 |
| Chloromethane | ppbv | <2.9 | <2.9 | nm |
| Vinyl chloride | ppbv | <0.29 | <0.29 | nm |
| 1,3-Butadiene | ppbv | <0.027 | <0.027 | nm |
| Chloroethane | ppbv | <2.9 | <2.9 | nm |
| Acrolein | ppbv | <1.2 | <1.2 | nm |
| Pentane | ppbv | <2.9 | <2.9 | nm |
| Trichlorofluoromethane | ppbv | 63 | 62 | 2 |
| 2-Propanol | ppbv | <10 | <10 | nm |
| 1,1-Dichloroethene | ppbv | <0.29 | <0.29 | nm |
| trans-1,2-Dichloroethene | ppbv | <0.29 | <0.29 | nm |
| Methylene chloride | ppbv | <73 | <73 | nm |
| CFC-113 | ppbv | <0.29 | <0.29 | nm |
| Carbon disulfide | ppbv | <5.8 | <5.8 | nm |
| 1,1-Dichloroethane | ppbv | <0.29 | <0.29 | nm |
| cis-1,2-Dichloroethene | ppbv | <0.29 | <0.29 | nm |
| Hexane | ppbv | <2.9 | <2.9 | nm |
| Chloroform | ppbv | 0.17 | 0.17 | 2 |
| 2-Butanone (MEK) | ppbv | <2.9 | <2.9 | nm |
| 1,2-Dichloroethane (EDC) | ppbv | 0.049 | 0.049 | 0 |
| 1,1,1-Trichloroethane | ppbv | 1.3 | 1.2 | 2 |
| Carbon tetrachloride | ppbv | <0.29 | <0.29 | nm |
| Benzene | ppbv | <0.29 | <0.29 | nm |
| Cyclohexane | ppbv | <5.8 | <5.8 | nm |
| 1,2-Dichloropropane | ppbv | 0.24 | 0.24 | 0 |
| Bromodichloromethane | ppbv | <0.029 | <0.029 | nm |
| Trichloroethene | ppbv | 0.32 | 0.32 | 0 |
| 4-Methyl-2-pentanone | ppbv | <2.9 | <2.9 | nm |
| Toluene | ppbv | <15 | <15 | nm |
| 1,1,2-Trichloroethane | ppbv | <0.058 | <0.058 | nm |
| Tetrachloroethene | ppbv | <2.9 | <2.9 | nm |
| 1,2-Dibromoethane (EDB) | ppbv | <0.029 | <0.029 | nm |
| Ethylbenzene | ppbv | <0.29 | <0.29 | nm |
| m,p-Xylene | ppbv | <0.58 | <0.58 | nm |
| o-Xylene | ppbv | <0.29 | <0.29 | nm |
| Styrene | ppbv | <0.58 | <0.58 | nm |
| Benzyl chloride | ppbv | <0.029 | <0.029 | nm |
| 1,3,5-Trimethylbenzene | ppbv | <1.5 | <1.5 | nm |
| 1,2,4-Trimethylbenzene | ppbv | <1.5 | <1.5 | nm |
| Naphthalene | ppbv | 11 | 10 | 3 |
| Hexachlorobutadiene | ppbv | 2.5 | 2.4 | 3 |

Date of Report: 01/22/20
Date Received: 01/14/20
Project: Ave 55-Taylor Way 1514 Taylor Way Tacoma, WA, F&BI 001177

## 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 | ppbv | 5 | 100 | 70-130 |
| Dichlorodifluoromethane | ppbv | 5 | 103 | 70-130 |
| Chloromethane | ppbv | 5 | 102 | 70-130 |
| Vinyl chloride | ppbv | 5 | 104 | 70-130 |
| 1,3-Butadiene | ppbv | 5 | 112 | 70-130 |
| Chloroethane | ppbv | 5 | 103 | 70-130 |
| Acrolein | ppbv | 5 | 103 | 70-130 |
| Pentane | ppbv | 5 | 102 | 70-130 |
| Trichlorofluoromethane | ppbv | 5 | 103 | 70-130 |
| 2-Propanol | ppbv | 5 | 101 | 70-130 |
| 1,1-Dichloroethene | ppbv | 5 | 106 | 70-130 |
| trans-1,2-Dichloroethene | ppbv | 5 | 103 | 70-130 |
| Methylene chloride | ppbv | 5 | 94 | 70-130 |
| CFC-113 | ppbv | 5 | 103 | 70-130 |
| Carbon disulfide | ppbv | 5 | 98 | 70-130 |
| 1,1-Dichloroethane | ppbv | 5 | 101 | 70-130 |
| cis-1,2-Dichloroethene | ppbv | 5 | 103 | 70-130 |
| Hexane | ppbv | 5 | 117 | 70-130 |
| Chloroform | ppbv | 5 | 100 | 70-130 |
| 2-Butanone (MEK) | ppbv | 5 | 99 | 70-130 |
| 1,2-Dichloroethane (EDC) | ppbv | 5 | 104 | 70-130 |
| 1,1,1-Trichloroethane | ppbv | 5 | 99 | 70-130 |
| Carbon tetrachloride | ppbv | 5 | 102 | 70-130 |
| Benzene | ppbv | 5 | 99 | 70-130 |
| Cyclohexane | ppbv | 5 | 97 | 70-130 |
| 1,2-Dichloropropane | ppbv | 5 | 93 | 70-130 |
| Bromodichloromethane | ppbv | 5 | 91 | 70-130 |
| Trichloroethene | ppbv | 5 | 90 | 70-130 |
| 4-Methyl-2-pentanone | ppbv | 5 | 102 | 70-130 |
| Toluene | ppbv | 5 | 99 | 70-130 |
| 1,1,2-Trichloroethane | ppbv | 5 | 96 | 70-130 |
| Tetrachloroethene | ppbv | 5 | 92 | 70-130 |
| 1,2-Dibromoethane (EDB) | ppbv | 5 | 98 | 70-130 |
| Ethylbenzene | ppbv | 5 | 98 | 70-130 |
| m,p-Xylene | ppbv | 10 | 102 | 70-130 |
| o-Xylene | ppbv | 5 | 98 | 70-130 |
| Styrene | ppbv | 5 | 105 | 70-130 |
| Benzyl chloride | ppbv | 5 | 103 | 70-130 |
| 1,3,5-Trimethylbenzene | ppbv | 5 | 106 | 70-130 |
| 1,2,4-Trimethylbenzene | ppbv | 5 | 112 | 70-130 |
| Naphthalene | ppbv | 5 | 98 | 70-130 |
| Hexachlorobutadiene | ppbv | 5 | 94 | 70-130 |

Date of Report: 01/22/20
Date Received: 01/14/20
Project: Ave 55-Taylor Way 1514 Taylor Way Tacoma, WA, F&BI 001177

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

Laboratory Code: 001177-23 1/2.7 (Duplicate)

| Analyte | Reporting Units | Sample Result | Duplicate Result | RPD (Limit 30) |
|---|---|---|---|---|
| Propene | ppbv | <1.1 | <1.1 | nm |
| Dichlorodifluoromethane | ppbv | 0.37 | 0.39 | 6 |
| Chloromethane | ppbv | <2.7 | <2.7 | nm |
| Vinyl chloride | ppbv | <0.27 | <0.27 | nm |
| 1,3-Butadiene | ppbv | <0.027 | <0.027 | nm |
| Chloroethane | ppbv | <2.7 | <2.7 | nm |
| Acrolein | ppbv | <1.1 | <1.1 | nm |
| Pentane | ppbv | <2.7 | <2.7 | nm |
| Trichlorofluoromethane | ppbv | <1.1 | <1.1 | nm |
| 2-Propanol | ppbv | 56 | 54 | 2 |
| 1,1-Dichloroethene | ppbv | <0.27 | <0.27 | nm |
| trans-1,2-Dichloroethene | ppbv | <0.27 | <0.27 | nm |
| Methylene chloride | ppbv | <68 | <68 | nm |
| CFC-113 | ppbv | <0.27 | <0.27 | nm |
| Carbon disulfide | ppbv | <5.4 | <5.4 | nm |
| 1,1-Dichloroethane | ppbv | 0.55 | 0.55 | 0 |
| cis-1,2-Dichloroethene | ppbv | 0.37 | 0.37 | 0 |
| Hexane | ppbv | <2.7 | <2.7 | nm |
| Chloroform | ppbv | <0.027 | <0.027 | nm |
| 2-Butanone (MEK) | ppbv | <2.7 | <2.7 | nm |
| 1,2-Dichloroethane (EDC) | ppbv | <0.027 | <0.027 | nm |
| 1,1,1-Trichloroethane | ppbv | <0.27 | <0.27 | nm |
| Carbon tetrachloride | ppbv | <0.27 | <0.27 | nm |
| Benzene | ppbv | 0.73 | 0.74 | 1 |
| Cyclohexane | ppbv | <5.4 | <5.4 | nm |
| 1,2-Dichloropropane | ppbv | <0.14 | <0.14 | nm |
| Bromodichloromethane | ppbv | <0.027 | <0.027 | nm |
| Trichloroethene | ppbv | 0.45 | 0.46 | 3 |
| 4-Methyl-2-pentanone | ppbv | <2.7 | <2.7 | nm |
| Toluene | ppbv | <14 | <14 | nm |
| 1,1,2-Trichloroethane | ppbv | <0.054 | <0.054 | nm |
| Tetrachloroethene | ppbv | <2.7 | <2.7 | nm |
| 1,2-Dibromoethane (EDB) | ppbv | <0.027 | <0.027 | nm |
| Ethylbenzene | ppbv | <0.27 | <0.27 | nm |
| m,p-Xylene | ppbv | 0.54 | <0.54 | nm |
| o-Xylene | ppbv | 0.45 | 0.42 | 7 |
| Styrene | ppbv | <0.54 | <0.54 | nm |
| Benzyl chloride | ppbv | <0.027 | <0.027 | nm |
| 1,3,5-Trimethylbenzene | ppbv | <1.4 | <1.4 | nm |
| 1,2,4-Trimethylbenzene | ppbv | <1.4 | <1.4 | nm |
| Naphthalene | ppbv | <1.1 | <1.1 | nm |
| Hexachlorobutadiene | ppbv | 0.37 | 0.39 | 6 |

Date of Report: 01/22/20
Date Received: 01/14/20
Project: Ave 55-Taylor Way 1514 Taylor Way Tacoma, WA, F&BI 001177

## 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 | ppbv | 5 | 97 | 70-130 |
| Dichlorodifluoromethane | ppbv | 5 | 100 | 70-130 |
| Chloromethane | ppbv | 5 | 90 | 70-130 |
| Vinyl chloride | ppbv | 5 | 99 | 70-130 |
| 1,3-Butadiene | ppbv | 5 | 108 | 70-130 |
| Chloroethane | ppbv | 5 | 99 | 70-130 |
| Acrolein | ppbv | 5 | 100 | 70-130 |
| Pentane | ppbv | 5 | 97 | 70-130 |
| Trichlorofluoromethane | ppbv | 5 | 98 | 70-130 |
| 2-Propanol | ppbv | 5 | 98 | 70-130 |
| 1,1-Dichloroethene | ppbv | 5 | 101 | 70-130 |
| trans-1,2-Dichloroethene | ppbv | 5 | 98 | 70-130 |
| Methylene chloride | ppbv | 5 | 88 | 70-130 |
| CFC-113 | ppbv | 5 | 98 | 70-130 |
| Carbon disulfide | ppbv | 5 | 94 | 70-130 |
| 1,1-Dichloroethane | ppbv | 5 | 97 | 70-130 |
| cis-1,2-Dichloroethene | ppbv | 5 | 100 | 70-130 |
| Hexane | ppbv | 5 | 115 | 70-130 |
| Chloroform | ppbv | 5 | 96 | 70-130 |
| 2-Butanone (MEK) | ppbv | 5 | 94 | 70-130 |
| 1,2-Dichloroethane (EDC) | ppbv | 5 | 100 | 70-130 |
| 1,1,1-Trichloroethane | ppbv | 5 | 95 | 70-130 |
| Carbon tetrachloride | ppbv | 5 | 97 | 70-130 |
| Benzene | ppbv | 5 | 94 | 70-130 |
| Cyclohexane | ppbv | 5 | 91 | 70-130 |
| 1,2-Dichloropropane | ppbv | 5 | 91 | 70-130 |
| Bromodichloromethane | ppbv | 5 | 89 | 70-130 |
| Trichloroethene | ppbv | 5 | 88 | 70-130 |
| 4-Methyl-2-pentanone | ppbv | 5 | 104 | 70-130 |
| Toluene | ppbv | 5 | 96 | 70-130 |
| 1,1,2-Trichloroethane | ppbv | 5 | 94 | 70-130 |
| Tetrachloroethene | ppbv | 5 | 89 | 70-130 |
| 1,2-Dibromoethane (EDB) | ppbv | 5 | 95 | 70-130 |
| Ethylbenzene | ppbv | 5 | 106 | 70-130 |
| m,p-Xylene | ppbv | 10 | 98 | 70-130 |
| o-Xylene | ppbv | 5 | 94 | 70-130 |
| Styrene | ppbv | 5 | 101 | 70-130 |
| Benzyl chloride | ppbv | 5 | 101 | 70-130 |
| 1,3,5-Trimethylbenzene | ppbv | 5 | 101 | 70-130 |
| 1,2,4-Trimethylbenzene | ppbv | 5 | 107 | 70-130 |
| Naphthalene | ppbv | 5 | 98 | 70-130 |
| Hexachlorobutadiene | ppbv | 5 | 92 | 70-130 |

# Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria. 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.

001177

# SAMPLE CHAIN OF CUSTODY ME 01-14-20

Page # 1 of 3

Report To Tom Colligan
Company Floyd Snider
Address 600 Union St. #601
City, State, ZIP Seattle, WA 98101
Phone 206.292.2078 Email Tom.Colligan@floydsnider.com

SAMPLERS (signature): Tyler Scott

PROJECT NAME & ADDRESS: Ave 55 - Taylor Way
1514 Taylor Way Tacoma, WA

PO # Vapor

NOTES: cc. Kristin Anderson

INVOICE TO

TURNAROUND TIME
☒ Standard
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Archive Samples
☐ Other

| 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 cVOCs | APH | Helium | | Notes |
| VP-01-011320 | 01 | 3667 | 243 | IA / (SG) | 01/13/20 | 28" | 1004 | 2" | 1010 | X | X | X | X | | | project specific |
| VP-02-011320 | 02 | 2436 | 255 | IA / (SG) | 1/13/20 | 30" | 1041 | 2" | 1048 | X | | | X | | | list |
| VP-05-011320 | 03 | 2439 | 109 | IA / (SG) | 1/13/20 | 29" | 1136 | 2" | 1140 | X | | | X | | | |
| VP-07-011320 | 04 | 4177 | 242 | IA / (SG) | 1/13/20 | 29" | 1207 | 2" | 1212 | X | | | X | | | |
| VP-08-011320 | 05 | 4183 | 244 | IA / (SG) | 1/13/20 | 29" | 1231 | 2" | 1236 | X | | | X | | | |
| VP-13-011320 | 06 | 3671 | 07 | IA / (SG) | 1/13/20 | 29" | 1344 | 2" | 1350 | X | | | X | | | |
| VP-12-011320 | 07 | 2298 | FB35 | IA / (SG) | 1/13/20 | 28" | 1410 | 2" | 1417 | X | | | X | | | |
| ~~VP-120-011320~~ | | ~~3230~~ | ~~229~~ | IA / (SG) | 1/13/20 | 30" | 1410 | 2" | 1421 | X | | | X | | | KS |

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

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: Tyler Scott | Tyler Scott | F/S | 1/14/20 | 1315 |
| Received by: | Ethan Rhan | FEB T | 1/14/20 | 13:52 |
| Relinquished by: | | | | |
| Received by: | | Samples received at 17 °C | | |

FORMS\COC\COCTO-15.DOC

001177

# SAMPLE CHAIN OF CUSTODY

ME 01-14-20

Page # 2 of 3

Report To Tom Colligan
Company Floyd Snider
Address 600 Union St. #601
City, State, ZIP Seattle, WA 98101
Phone 206.292.2078 Email

SAMPLERS (signature): Tyler Scott

PROJECT NAME & ADDRESS: Ave 55 - Taylor Way
1514 Taylor Way Tacoma WA

PO #

NOTES: CC: Kristin Anderson

INVOICE TO

TURNAROUND TIME
☑ Standard
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Archive Samples
☐ Other

| 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 cVOCs | APH | Helium | | Notes |
| VP-14-011320 | 08 | 4181 | 105 | IA / (SG) | 1/13/20 | 30" | 1452 | 2" | 1458 | X | | | X | | | Project-specific |
| VP-10-011320 | 09 | 2302 | 101 | IA / (SG) | 1/13/20 | 29" | 1519 | 2" | 1525 | X | | | X | | | list |
| VP-09-011320 | 10 | 2297 | 258 | IA / (SG) | 1/13/20 | 29" | 1543 | 2" | 1549 | X | | | X | | | |
| Ambient | 11 | 18573 | 06607 | (IA) / SG | 1/13/20 | 29" | 0736 | 8" | 1533 | X | | | X | | | |
| IA-B2 | 12 | 20547 | 08183 | (IA) / SG | 1/13/20 | 30" | 0745 | 23" | 1543 | X | | | X | | | |
| IA-B1 | 13 | 20550 | 06606 | (IA) / SG | 1/13/20 | 29" | 0753 | 12" | 1601 | X | | | X | | | |
| IA-B3 | 14 | 20554 | 05354 | (IA) / SG | 1/13/20 | 29" | 0759 | 5" | 1604 | X | | | X | | | |
| IA-A2 | 15 | 20549 | 07852 | (IA) / SG | 1/13/20 | 30" | 0814 | 6" | 1614 | X | | | X | | | |

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: Tyler Scott | Tyler Scott | F/S | 1/14/20 | 1350 |
| Received by: | Nhan Phan | FLBT | 1/14/20 | 1350 |
| Relinquished by: | | | | |
| Received by: | | Samples received at 17 °C | | |

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

001177

# SAMPLE CHAIN OF CUSTODY

ME 01-14-20

Page # 3 of 3

Report To Tom Colligan
Company Floyd Snider
Address 600 Union St. #601
City, State, ZIP Seattle, WA 98101
Phone 206.292.2078 Email

SAMPLERS (signature): Tyler Scott

PROJECT NAME & ADDRESS: Ave 55 - Taylor Way
1514 Taylor Way Tacoma, WA

PO #

NOTES: cc. Kristin Anderson

INVOICE TO

TURNAROUND TIME
☒ Standard
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Archive Samples
☐ Other

| 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 cVOCs | APH | Helium | | Notes |
| IA-A4 | 16 | 18571 | 08182 | (IA) / SG | 1/13/20 | 30" | 0820 | 7" | 1621 | X | | | X | | | |
| IA-A5 | 17 | 21442 | 06605 | (IA) / SG | 1/13/20 | 30" | 0839 | 9" | 1626 | X | | | X | | | |
| IA-A3 | 18 | 20556 | 05352 | (IA) / SG | 1/13/20 | 29" | 0845 | 8" | 1633 | X | | | X | | | |
| IA-A1 | 19 | 20542 | 07850 | (IA) / SG | 1/13/20 | 29" | 0853 | 7" | 1641 | X | | | X | | | |
| VP-03-011420 | 20 | 3287 | 117 | IA / (SG) | 1/14/20 | 30" | 1103 | 2" | 1109 | X | | | X | | | |
| VP-04-011420 | 21 | 23089 | 259 | IA / (SG) | 1/14/20 | 29" | 1132 | 2" | 1139 | X | | | X | | | |
| VP-11-011420 | 22 | 3386 | 106 | IA / (SG) | 1/14/20 | 29" | 1232 | 2" | 1236 | X | | | X | | | |
| VP-110-011420 | 23 | 3344 | 108 | IA / (SG) | 1/14/20 | 29" | 1232 | 2" | 1237 | X | | | X | | | Field Dup. |

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: | Tyler Scott | F/S | 1/14/20 | 1350 |
| Received by: | Nhan Pham | FBI | 1/14/20 | 1350 |
| Relinquished by: | | | | |
| Received by: | | Samples received at 17 °C | | |

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

February 28, 2020

Tom Colligan, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

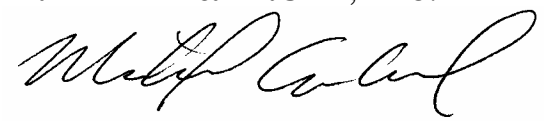
Dear Mr Colligan:

Included are the results from the testing of material submitted on February 18, 2020 from the Ave 55 Taylor Way 1415 Taylor Way Tacoma WA, F&BI 002243 project. There are 8 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Kristin Anderson
FDS0228R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 18, 2020 by Friedman & Bruya, Inc. from the Floyd-Snider Ave 55 Taylor Way 1415 Taylor Way Tacoma WA, F&BI 002243 project. Samples were logged in under the laboratory ID's listed below.

| Laboratory ID | Floyd-Snider |
|---|---|
| 002243 -01 | VP-3 |
| 002243 -02 | VP-3-D |

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

All quality control requirements were acceptable.

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-3 | Client: | Floyd-Snider |
| Date Received: | 02/18/20 | Project: | Ave 55 Taylor Way 1415 Tacoma WA |
| Date Collected: | 02/18/20 | Lab ID: | 002243-01 1/5.4 |
| Date Analyzed: | 02/21/20 | Data File: | 022029.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 103 | 70 | 130 |

| Compounds: | Concentration ug/m3 |
|---|---|
| APH EC5-8 aliphatics | 240 |
| APH EC9-12 aliphatics | 310 |
| APH EC9-10 aromatics | <130 |

## Analysis For Volatile Compounds By Method MA-APH

| | | | |
|---|---|---|---|
| Client Sample ID: | Method Blank | Client: | Floyd-Snider |
| Date Received: | Not Applicable | Project: | Ave 55 Taylor Way 1415 Tacoma WA |
| Date Collected: | Not Applicable | Lab ID: | 00-0419 mb |
| Date Analyzed: | 02/20/20 | Data File: | 022014.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 98 | 70 | 130 |

| Compounds: | Concentration ug/m3 |
|---|---|
| APH EC5-8 aliphatics | <30 |
| APH EC9-12 aliphatics | <35 |
| APH EC9-10 aromatics | <25 |

# FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | VP-3 | Client: | Floyd-Snider |
| Date Received: | 02/18/20 | Project: | Ave 55 Taylor Way 1415 Tacoma WA |
| Date Collected: | 02/17/20 | Lab ID: | 002243-01 1/5.4 |
| Date Analyzed: | 02/21/20 | Data File: | 022029.D |
| Matrix: | Air | Instrument: | GCMS7 |
| Units: | ug/m3 | Operator: | bat |

| Surrogates: | % Recovery: | Lower Limit: | Upper Limit: |
|---|---|---|---|
| 4-Bromofluorobenzene | 101 | 70 | 130 |

| Compounds: | Concentration ug/m3 | Concentration ppbv | Compounds: | Concentration ug/m3 | Concentration ppbv |
|---|---|---|---|---|---|
| Propene | 7.0 | 4.1 | 1,1,1-Trichloroethane | <2.9 | <0.54 |
| Dichlorodifluoromethane | 3.5 | 0.71 | Carbon tetrachloride | <3.4 | <0.54 |
| Chloromethane | <11 | <5.4 | Benzene | <1.7 | <0.54 |
| Vinyl chloride | <1.4 | <0.54 | Cyclohexane | <37 | <11 |
| 1,3-Butadiene | <0.12 | <0.054 | 1,2-Dichloropropane | <1.2 | <0.27 |
| Chloroethane | <14 | <5.4 | Bromodichloromethane | <0.36 | <0.054 |
| Acrolein | <5 | <2.2 | Trichloroethene | <1.5 | <0.27 |
| Pentane | <16 | <5.4 | 4-Methyl-2-pentanone | <22 | <5.4 |
| Trichlorofluoromethane | 83 | 15 | Toluene | <100 | <27 |
| 2-Propanol | <46 | <19 | 1,1,2-Trichloroethane | <0.59 | <0.11 |
| 1,1-Dichloroethene | <2.1 | <0.54 | Tetrachloroethene | <37 | <5.4 |
| trans-1,2-Dichloroethene | <2.1 | <0.54 | 1,2-Dibromoethane (EDB) | <0.41 | <0.054 |
| Methylene chloride | <470 | <130 | Ethylbenzene | <2.3 | <0.54 |
| CFC-113 | <4.1 | <0.54 | m,p-Xylene | <4.7 | <1.1 |
| Carbon disulfide | <34 | <11 | o-Xylene | <2.3 | <0.54 |
| 1,1-Dichloroethane | <2.2 | <0.54 | Styrene | <4.6 | <1.1 |
| cis-1,2-Dichloroethene | <2.1 | <0.54 | Benzyl chloride | <0.28 | <0.054 |
| Hexane | <19 | <5.4 | 1,3,5-Trimethylbenzene | <13 | <2.7 |
| Chloroform | 0.53 | 0.11 | 1,2,4-Trimethylbenzene | <13 | <2.7 |
| 2-Butanone (MEK) | <16 | <5.4 | Naphthalene | <1.4 | <0.27 |
| 1,2-Dichloroethane (EDC) | <0.22 | <0.054 | Hexachlorobutadiene | <1.2 | <0.11 |
| 1,2,3-Trimethylbenzene | <260 L | <54 L | | | |
| 1-Butanol | <160 L | <54 L | | | |
| Acetaldehyde | <490 L | <270 L | | | |
| Acetonitrile | <90 L | <54 L | | | |
| Acrylonitrile | <60 L | <27 L | | | |
| Chlorodifluoromethane | <190 L | <54 L | | | |
| Cyclopentane | <160 L | <54 L | | | |
| Isobutene | <120 L | <54 L | | | |
| Isoprene | <150 L | <54 L | | | |
| Methyl vinyl ketone | <160 L | <54 L | | | |

# FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

## Analysis For Volatile Compounds By Method TO-15

| | | | |
|---|---|---|---|
| Client Sample ID: | Method Blank | Client: | Floyd-Snider |
| Date Received: | Not Applicable | Project: | Ave 55 Taylor Way 1415 Tacoma WA |
| Date Collected: | Not Applicable | Lab ID: | 00-0419 mb |
| Date Analyzed: | 02/20/20 | Data File: | 022014.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 | <0.69 | <0.4 | 1,1,1-Trichloroethane | <0.55 | <0.1 |
| Dichlorodifluoromethane | <0.49 | <0.1 | Carbon tetrachloride | <0.63 | <0.1 |
| Chloromethane | <2.1 | <1 | Benzene | <0.32 | <0.1 |
| Vinyl chloride | <0.26 | <0.1 | Cyclohexane | <6.9 | <2 |
| 1,3-Butadiene | <0.022 | <0.01 | 1,2-Dichloropropane | <0.23 | <0.05 |
| Chloroethane | <2.6 | <1 | Bromodichloromethane | <0.067 | <0.01 |
| Acrolein | <0.92 | <0.4 | Trichloroethene | <0.27 | <0.05 |
| Pentane | <3 | <1 | 4-Methyl-2-pentanone | <4.1 | <1 |
| Trichlorofluoromethane | <2.2 | <0.4 | Toluene | <19 | <5 |
| 2-Propanol | <8.6 | <3.5 | 1,1,2-Trichloroethane | <0.11 | <0.02 |
| 1,1-Dichloroethene | <0.4 | <0.1 | Tetrachloroethene | <6.8 | <1 |
| trans-1,2-Dichloroethene | <0.4 | <0.1 | 1,2-Dibromoethane (EDB) | <0.077 | <0.01 |
| Methylene chloride | <87 | <25 | Ethylbenzene | <0.43 | <0.1 |
| CFC-113 | <0.77 | <0.1 | m,p-Xylene | <0.87 | <0.2 |
| Carbon disulfide | <6.2 | <2 | o-Xylene | <0.43 | <0.1 |
| 1,1-Dichloroethane | <0.4 | <0.1 | Styrene | <0.85 | <0.2 |
| cis-1,2-Dichloroethene | <0.4 | <0.1 | Benzyl chloride | <0.052 | <0.01 |
| Hexane | <3.5 | <1 | 1,3,5-Trimethylbenzene | <2.5 | <0.5 |
| Chloroform | <0.049 | <0.01 | 1,2,4-Trimethylbenzene | <2.5 | <0.5 |
| 2-Butanone (MEK) | <2.9 | <1 | Naphthalene | <0.26 | <0.05 |
| 1,2-Dichloroethane (EDC) | <0.04 | <0.01 | Hexachlorobutadiene | <0.21 | <0.02 |
| 1,2,3-Trimethylbenzene | <49 L | <10 L | | | |
| 1-Butanol | <30 L | <10 L | | | |
| Acetaldehyde | <90 L | <50 L | | | |
| Acetonitrile | <17 L | <10 L | | | |
| Acrylonitrile | <11 L | <5 L | | | |
| Chlorodifluoromethane | <35 L | <10 L | | | |
| Cyclopentane | <29 L | <10 L | | | |
| Isobutene | <23 L | <10 L | | | |
| Isoprene | <28 L | <10 L | | | |
| Methyl vinyl ketone | <29 L | <10 L | | | |

Date of Report: 02/28/20
Date Received: 02/18/20
Project: Ave 55 Taylor Way 1415 Taylor Way Tacoma WA, F&BI 002243

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

Laboratory Code: Laboratory Control Sample

| Analyte | Reporting Units | Spike Level | Percent Recovery LCS | Acceptance Criteria |
|---|---|---|---|---|
| APH EC5-8 aliphatics | ug/m3 | 67 | 73 | 70-130 |
| APH EC9-12 aliphatics | ug/m3 | 67 | 106 | 70-130 |
| APH EC9-10 aromatics | ug/m3 | 67 | 107 | 70-130 |

Date of Report: 02/28/20
Date Received: 02/18/20
Project: Ave 55 Taylor Way 1415 Taylor Way Tacoma WA, F&BI 002243

## 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 | 97 | 70-130 |
| Dichlorodifluoromethane | ug/m3 | 67 | 104 | 70-130 |
| Chloromethane | ug/m3 | 28 | 102 | 70-130 |
| Vinyl chloride | ug/m3 | 35 | 98 | 70-130 |
| 1,3-Butadiene | ug/m3 | 30 | 101 | 70-130 |
| Chloroethane | ug/m3 | 36 | 100 | 70-130 |
| Acrolein | ug/m3 | 31 | 98 | 70-130 |
| Pentane | ug/m3 | 40 | 98 | 70-130 |
| Trichlorofluoromethane | ug/m3 | 76 | 102 | 70-130 |
| 2-Propanol | ug/m3 | 33 | 100 | 70-130 |
| 1,1-Dichloroethene | ug/m3 | 54 | 102 | 70-130 |
| trans-1,2-Dichloroethene | ug/m3 | 54 | 96 | 70-130 |
| Methylene chloride | ug/m3 | 94 | 87 | 70-130 |
| CFC-113 | ug/m3 | 100 | 99 | 70-130 |
| Carbon disulfide | ug/m3 | 42 | 97 | 70-130 |
| 1,1-Dichloroethane | ug/m3 | 55 | 96 | 70-130 |
| cis-1,2-Dichloroethene | ug/m3 | 54 | 99 | 70-130 |
| Hexane | ug/m3 | 48 | 104 | 70-130 |
| Chloroform | ug/m3 | 66 | 97 | 70-130 |
| 2-Butanone (MEK) | ug/m3 | 40 | 105 | 70-130 |
| 1,2-Dichloroethane (EDC) | ug/m3 | 55 | 100 | 70-130 |
| 1,1,1-Trichloroethane | ug/m3 | 74 | 97 | 70-130 |
| Carbon tetrachloride | ug/m3 | 85 | 102 | 70-130 |
| Benzene | ug/m3 | 43 | 93 | 70-130 |
| Cyclohexane | ug/m3 | 46 | 93 | 70-130 |
| 1,2-Dichloropropane | ug/m3 | 62 | 85 | 70-130 |
| Bromodichloromethane | ug/m3 | 90 | 86 | 70-130 |
| Trichloroethene | ug/m3 | 73 | 85 | 70-130 |
| 4-Methyl-2-pentanone | ug/m3 | 55 | 105 | 70-130 |
| Toluene | ug/m3 | 51 | 92 | 70-130 |
| 1,1,2-Trichloroethane | ug/m3 | 74 | 90 | 70-130 |
| Tetrachloroethene | ug/m3 | 92 | 86 | 70-130 |
| 1,2-Dibromoethane (EDB) | ug/m3 | 100 | 93 | 70-130 |
| Ethylbenzene | ug/m3 | 59 | 73 | 70-130 |
| m,p-Xylene | ug/m3 | 120 | 77 | 70-130 |
| o-Xylene | ug/m3 | 59 | 73 | 70-130 |
| Styrene | ug/m3 | 58 | 82 | 70-130 |
| Benzyl chloride | ug/m3 | 70 | 90 | 70-130 |
| 1,3,5-Trimethylbenzene | ug/m3 | 66 | 80 | 70-130 |
| 1,2,4-Trimethylbenzene | ug/m3 | 66 | 88 | 70-130 |
| Naphthalene | ug/m3 | 71 | 93 | 70-130 |
| Hexachlorobutadiene | ug/m3 | 140 | 88 | 70-130 |

# Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria. 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.

002243

# SAMPLE CHAIN OF CUSTODY ME 02/18/20

Page # 1 of ____

Report To Tom Colligan

Company Floyd Snider

Address ~~600~~ 601 Union St. #600 Seattle, WA

City, State, ZIP Seattle, WA 98101

Phone ~~206-292-2078~~ Email tom.colligan@floydsnider.com

SAMPLERS (signature) Tyler Scott

PROJECT NAME & ADDRESS: Ave 55 - Taylor Way 1415 Taylor Way Tacoma, WA

PO #

NOTES: cc: Kristin.Anderson@floydsnider.com

INVOICE TO Task 6

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 cVOCs | APH | Helium | | Notes |
| VP-3 | 01 | 3540 | 102 | IA / (SG) | 2-18-20 | 29 | 12:40 | 5 | 12:44 | | | X | X | | | ~~project~~ specific TO-15 |
| VP-3-D | 02 | 3249 | 88 | IA / (SG) | 2-18-20 | 29 | 13:15 | 5 | 13:21 | | | ~~X~~ | ~~X~~ | HOLD | | |
| | | | | IA / SG | | | | | | | | | | | | |
| | | | | IA / SG | | | | | | | | | | | | |
| | | | | IA / SG | | | | | | | | | | | | |
| | | | | IA / SG | | | | | | | | | | | | |
| | | | | IA / SG | | | | | | | | | | | | |
| | | | | IA / SG | | | | | | | | | | | | |

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

| | SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|---|
| Relinquished by: | Tyler Scott | Tyler Scott | F/S | 2-18-20 | 15:30 |
| Received by: | Hong | HONG NGUYEN | FBI | V | V |
| Relinquished by: | | | | | |
| Received by: | | | | | |

Samples received at 19 °C

FORMS\COC\COCTO-15.DOC

**Attachment 5**
**Site-Specific MTCA Method B**
**Cleanup Level Calculations**

## January 2020 Site-Specific TPH CUL Calculation

| Default Inputs | | |
|---|---|---|
| inhalation absorption fraction | $ABS_i$ (unitless) | 1 |
| average body weight | ABW (kg) | 16 |
| averaging time | AT (yr) | 6 |
| attenuation factor | AF (unitless) | 0.03 |
| breathing rate | BR (m3/day) | 10 |
| compound cleanup level | $CUL_i$ | (calc) |
| exposure duration | ED (yr) | 6 |
| esposure frequency | EF (unitless) | 1 |
| component fraction by weight | $F_i$ (unitless) | (calc) |
| hazard index | HI (unitless) | 1 |
| target hazard quotient | HQ (unitless) | 1 |
| inhalation reference dose | $RfD_i$ | (mg/ kg*day) |
| unit conversion factor | UCF (ug/mg) | 1000 |

**Equations**

$$CUL_i = \frac{RfD_i \times ABW \times UCF \times HQ \times AT}{BR \times ABS_i \times ED \times EF}$$

$CUL_{tph} = 1/sum(F_i/CUL_i)$

*where $F_i/CUL_i$ is summed for each TPH component compound below*

Sub Slab SL = $CUL_{tph}/AF$

| | |
|---|---|
| **Average Indoor Air $CUL_{tph}$** | **582** |
| **Calculated Soil Vapor SL** | **19401** |

| | | IA-A1 | | | | | IA-A2 | | | | | IA-A3 | | | | | IA-A4 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analyte** | **$RfD_i$** | result ($\mu g/m^3$) | halfND | $F_i$ | $CUL_i$ | $F_i/CUL_i$ | result ($\mu g/m^3$) | halfND | $F_i$ | $CUL_i$ | $F_i/CUL_i$ | result ($\mu g/m^3$) | halfND | $F_i$ | $CUL_i$ | $F_i/CUL_i$ | result ($\mu g/m^3$) | halfND | $F_i$ | $CUL_i$ | $F_i/CUL_i$ |
| APH EC5-8 aliphatics | 1.7 | 270 | 270 | 0.70445 | 2720 | 0.00026 | 260 | 260 | 0.807 | 2720 | 0.0003 | 350 | 350 | 0.793 | 2720 | 0.00029 | 260 | 260 | 0.8642 | 2720 | 0.00032 |
| APH EC9-10 aromatics | 0.114 | 25 U | 12.5 | 0.03261 | 182.4 | 0.00018 | 25 U | 12.5 | 0.039 | 182.4 | 0.00021 | 25 U | 12.5 | 0.0283 | 182.4 | 0.00016 | 25 U | 12.5 | 0.0415 | 182.4 | 0.00023 |
| APH EC9-12 aliphatics | 0.085 | 88 | 88 | 0.2296 | 136 | 0.00169 | 39 | 39 | 0.121 | 136 | 0.00089 | 66 | 66 | 0.1495 | 136 | 0.0011 | 35 U | 17.5 | 0.0582 | 136 | 0.00043 |
| Benzene | 0.00855 | 0.74 | 0.74 | 0.00193 | 13.68 | 0.00014 | 0.61 | 0.61 | 0.002 | 13.68 | 0.00014 | 0.64 | 0.64 | 0.0015 | 13.68 | 0.00011 | 0.66 | 0.66 | 0.0022 | 13.68 | 0.00016 |
| Toluene | 1.4 | 19 U | 9.5 | 0.02479 | 2240 | 1.1E-05 | 19 U | 9.5 | 0.029 | 2240 | 1.3E-05 | 19 U | 9.5 | 0.0215 | 2240 | 9.6E-06 | 19 U | 9.5 | 0.0316 | 2240 | 1.4E-05 |
| Ethylbenzene | 0.286 | 0.44 | 0.44 | 0.00115 | 457.6 | 2.5E-06 | 0.43 U | 0.215 | 7E-04 | 457.6 | 1.5E-06 | 0.46 | 0.46 | 0.001 | 457.6 | 2.3E-06 | 0.43 U | 0.215 | 0.0007 | 457.6 | 1.6E-06 |
| Xylenes | 0.029 | 1.9 | 1.9 | 0.00496 | 46.4 | 0.00011 | 0.87 U | 0.435 | 0.001 | 46.4 | 2.9E-05 | 2.1 | 2.1 | 0.0048 | 46.4 | 0.0001 | 0.87 U | 0.435 | 0.0014 | 46.4 | 3.1E-05 |
| Naphthalene | 0.00086 | 0.2 J | 0.2 | 0.00052 | 1.376 | 0.00038 | 0.073 J | 0.073 | 2E-04 | 1.376 | 0.00016 | 0.14 J | 0.14 | 0.0003 | 1.376 | 0.00023 | 0.073 UJ | 0.0365 | 0.0001 | 1.376 | 8.8E-05 |
| | | | | SUM ($F_i/CUL_i$) | | 0.00277 | | | SUM ($F_i/CUL_i$) | | 0.00175 | | | SUM ($F_i/CUL_i$) | | 0.0020 | | | SUM ($F_i/CUL_i$) | | 0.00127 |
| | | | | | **$CUL_{tph}$** | **361** | | | | **$CUL_{tph}$** | **573** | | | | **$CUL_{tph}$** | **501** | | | | **$CUL_{tph}$** | **788** |

| | | IA-A5 | | | | | IA-B1 | | | | | IA-B2 | | | | | IA-B3 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analyte** | **$RfD_i$** | result ($\mu g/m^3$) | halfND | $F_i$ | $CUL_i$ | $F_i/CUL_i$ | result ($\mu g/m^3$) | halfND | $F_i$ | $CUL_i$ | $F_i/CUL_i$ | result ($\mu g/m^3$) | halfND | $F_i$ | $CUL_i$ | $F_i/CUL_i$ | result ($\mu g/m^3$) | halfND | $F_i$ | $CUL_i$ | $F_i/CUL_i$ |
| APH EC5-8 aliphatics | 1.7 | 160 | 160 | 0.79421 | 2720 | 0.00029 | 230 | 230 | 0.825 | 2720 | 0.0003 | 250 | 250 | 0.6978 | 2720 | 0.00026 | 230 | 230 | 0.8497 | 2720 | 0.00031 |
| APH EC9-10 aromatics | 0.114 | 25 U | 12.5 | 0.06205 | 182.4 | 0.00034 | 30 U | 15 | 0.054 | 182.4 | 0.00029 | 67 U | 33.5 | 0.0935 | 182.4 | 0.00051 | 25 U | 12.5 | 0.0462 | 182.4 | 0.00025 |
| APH EC9-12 aliphatics | 0.085 | 35 U | 17.5 | 0.08687 | 136 | 0.00064 | 42 U | 21 | 0.075 | 136 | 0.00055 | 94 U | 47 | 0.1312 | 136 | 0.00096 | 35 U | 17.5 | 0.0646 | 136 | 0.00048 |
| Benzene | 0.00855 | 0.67 | 0.67 | 0.00333 | 13.68 | 0.00024 | 0.5 | 0.5 | 0.002 | 13.68 | 0.00013 | 0.86 U | 0.43 | 0.0012 | 13.68 | 8.8E-05 | 0.51 | 0.51 | 0.0019 | 13.68 | 0.00014 |
| Toluene | 1.4 | 19 U | 9.5 | 0.04716 | 2240 | 2.1E-05 | 23 U | 11.5 | 0.041 | 2240 | 1.8E-05 | 51 U | 25.5 | 0.0712 | 2240 | 3.2E-05 | 19 U | 9.5 | 0.0351 | 2240 | 1.6E-05 |
| Ethylbenzene | 0.286 | 0.43 U | 0.215 | 0.00107 | 457.6 | 2.3E-06 | 0.52 U | 0.26 | 9E-04 | 457.6 | 2E-06 | 1.2 U | 0.6 | 0.0017 | 457.6 | 3.7E-06 | 0.43 U | 0.215 | 0.0008 | 457.6 | 1.7E-06 |
| Xylenes | 0.029 | 1 | 1 | 0.00496 | 46.4 | 0.00011 | 1 U | 0.5 | 0.002 | 46.4 | 3.9E-05 | 2.3 U | 1.15 | 0.0032 | 46.4 | 6.9E-05 | 0.87 U | 0.435 | 0.0016 | 46.4 | 3.5E-05 |
| Naphthalene | 0.00086 | 0.073 J | 0.073 | 0.00036 | 1.376 | 0.00026 | 0.088 UJ | 0.044 | 2E-04 | 1.376 | 0.00011 | 0.2 UJ | 0.1 | 0.0003 | 1.376 | 0.0002 | 0.073 UJ | 0.0365 | 0.0001 | 1.376 | 9.8E-05 |
| | | | | SUM ($F_i/CUL_i$) | | 0.0019 | | | SUM ($F_i/CUL_i$) | | 0.00146 | | | SUM ($F_i/CUL_i$) | | 0.0021 | | | SUM ($F_i/CUL_i$) | | 0.00133 |
| | | | | | **$CUL_{tph}$** | **524** | | | | **$CUL_{tph}$** | **686** | | | | **$CUL_{tph}$** | **470** | | | | **$CUL_{tph}$** | **753** |